W. Jason Weiss

Edwards Distinguished Professor of Engineering, Oregon State University
Head of the School of Civil and Construction Engineering
Director of the Kiewit Institute for Transportation and Infrastructure

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Education

Ph.D. in Civil Engineering, Northwestern University, Evanston, IL, USA, 1997-1999
Thesis Title: Prediction of Early-Age Shrinkage Cracking in Concrete Elements
These Advisor: Professor Surendra P. Shah

M.S. in Civil Engineering, Northwestern University, Evanston, IL, USA, 1995-1997
Thesis Title: Shrinkage Cracking in Restrained Concrete Slabs: Test Methods, Material Compositions, Shrinkage Reducing Admixtures, and Theoretical Modeling
Thesis Advisor: Surendra P. Shah

B.A.E. in Architectural Engineering, Penn State University, University Park, PA, USA, 1990-1995

Positions Held

2015-Present	Head, School of Civil and Construction Engineering, Oregon State University
2015-Present	Edwards Distinguished Professor of Engineering, Oregon State University
2015-Present	Professor of Civil and Construction Engineering, Oregon State University
2015-Present	Director of the Kiewit Institute for Transportation and Infrastructure
2013-2015	Jack and Kay Hockema Professor of Civil Engineering, Purdue University
2011-2012	Guest Researcher, National Institute of Standards and Technology
2010-2015	Courtesy Appt., School of Material Science and Engineering, Purdue University
2009-2015	Director of the Pankow Materials Laboratories, Purdue University
2007-2015	Professor, School of Civil Engineering, Purdue University
2007-2009	Associate Head, School of Civil Engineering Purdue University
2005-2007	Assistant Head for Research, School of Civil Engineering, Purdue University
2004-2007	Associate Professor, School of Civil Engineering, Purdue University
2004-2015	Associate Director of the Center for Advanced Cement Based Materials
2004 (May-Oct)	Knud Højgaard Visiting Professor, Technical University of Denmark
2004 (Jan-Feb)	VBL Visiting Professor, Oita University Dept. of Architectural Engineering
2002	Interim Area Head for the Materials Area
1999-2004	Assistant Professor, School of Civil Engineering, Purdue University
1995-1999	Research Assistant, National Science Foundation Center for Science and Technology of Advanced Cement Based Materials, Northwestern University, Evanston, IL, USA

Licenses, Registrations, and Certificates

Two provisional patents submitted for cellulose nanocrystals research and one additional patent was submitted for soy methyl ester research (via Purdue)

Tao, B., Coates, K., Mohtar, S., Peled, A., and Weiss, W.J. U.S. Patent No. 12/592,336 – Soy Methyl Ester Polystyrene Blends for Use in Concrete

1995 Engineering in Training (Pennsylvania)

Skills Development Courses

Oregon State Advance Training (2016) – A two week program which focuses on educating university faculty and administrators about how gender, race/ethnicity, social class, and other aspects of identity combine to disadvantage women in academic Science, Technology, Engineering, and Mathematics (STEM).

Weekend Language (2016) – Two half-day sessions with Dave Yewman on Presentation Skills

Oregon State Search Advocate Program (2015) - To enhance integrity, effectiveness, and diversity in the university's hiring practices. Search advocates are trained as process experts in search and selection. The workshop addresses current research about diversity and cognitive bias, the changing legal landscape in hiring, inclusive employment principles, specific steps to strengthen each stage of the search process, and effective approaches to participation on search committees in the advocate role.

Oregon State Optimizing Philanthropic Opportunity (2015 and 2016)

Purdue Diversity Awareness Training (2004) – Two-Day Program

Honors and Awards

1. Walter P. Murphy Fellowship, Northwestern University, selected by faculty committee - 1995-96
2. Walter P. Murphy Fellowship, Northwestern University, selected by faculty committee - 1996-97
3. Roy G. and Myrna E. Wansik Teaching Award, as voted on by the undergraduate students in the School of Civil Engineering – 2001
4. Who's Who in Engineering Education – 2001
5. Harold Munson Teaching Award, as voted on by students in school of civil Engineering – 2002
6. National Science Foundation Early CAREER Award – 2002
7. Roy G. and Myrna E. Wansik Research Award, as selected by a faculty review committee in the School of Civil Engineering – 2003
8. Walter P. Moore Jr. Faculty Achievement Award, as selected by the American Concrete Institute to recognize an outstanding junior faculty member who has demonstrated excellence and innovation in teaching concrete design, materials, and construction – 2003
9. Edmund M. Burke Outstanding Civil Engineering Professor, as selected by the students of Chi Epsilon (the Civil Engineering Honor Society), 2004
10. Bengt Frieberg Award for Best Paper by a Young Author for Concrete Pavements, (co-authors Narayanan Neithalath and Rolando Garcia with Jan Olek), 2005
11. American Society for Engineering Education Midwest Section, Runner Up Best Paper, (co-authors F. Rajabipour, T. Schmit, and S. Fiat), 2005
12. Roy G. and Myrna E. Wansik Teaching Award, as voted on by the undergraduate students in the School of Civil Engineering – 2005
13. Bryant Mather Award for the Best Paper in the Concrete Materials Section of the Transportation Research Board, (co-authors Gaurav Sant and Pietro Lura), 2006
14. RILEM Curing, High Durability and Life-Cycle Evaluation of Concrete Structures Conference Award for the Best Scientific Paper Award, (co-authors Pietro Lura, Guy Mazzotta, and Farshad Rajabipour) 2006

15. Fred Bruggraf Best Paper Award, Transportation Research Board, (co-authors Gaurav Sant and Pietro Lura), 2006
16. Roy G. and Myrna E. Wansik Teaching Award, as voted on by the undergraduate students in the School of Civil Engineering –2006
17. ACI Young Member Award for Professional Achievement, 2007
18. Ross J. Buck undergrad counseling award, as voted on by the students in Civil Engineering, 2007
19. Elected to the ACI committee on Nominations for 2008 (one of six members in a national election)
20. Bryant Mather Award - Best Paper in the Concrete Materials Section of Transportation Research Board (co-authors A. Radlinska, F. Rajabipour, B.Bucher, R. Henkensefkien, and G. Sant), 2008
21. University Faculty Scholar (2008), Purdue University
22. Harold Munson Teaching Award (2008), as voted on by students in School of Civil Engineering
23. Robert L'Hermite Medal (2008) RILEM (International Union of Laboratories and Experts in Construction Materials, System and Structures)
24. Wason Medal for Materials Research (2009) American Concrete Institute – For the paper Pietro Lura, Brad Pease, Guy B. Mazzotta, Farshad Rajabipour, and Jason Weiss for their paper: "Influence of Shrinkage-Reducing Admixtures on Development of Plastic Shrinkage Cracks," ACI Materials Journal, March-April 2007, pgs. 187-194
25. Elected Fellow of the American Concrete Institute (2010)
26. Seeds for Success, Purdue Research Foundation Recognition of Awards (2010)
27. A.A. Potter Best Teacher Award, Purdue University of College of Engineering (2010)
28. Frank G. Erskine Award (2010), from the Expanded Shale Clay and Slate Institute for Outstanding Contributions to the Use of Lightweight Aggregate.
29. ASCE Walter L. Huber Civil Engineering Research Prize, (2011) "For outstanding contributions to the field of early-age concrete. He has pioneered the application of innovative materials, the development of testing methodologies, and design methodologies for use in crack mitigation and prevention"
30. Elected to the Purdue Teaching Academy, (2012)
31. Roy G. and Myrna E. Wansik Teaching Award, as voted on by the undergraduate students in the School of Civil Engineering –2013
32. Jack and Kay Hockema Professor of Civil Engineering (2013) as determined from a full international search and trustee approval
33. Concrete Producer – Named a 2013 Industry Influencer
34. Wason Medal for Materials Research (2014) American Concrete Institute – Kambiz Raoufi and W. Jason Weiss for their paper: Raoufi, K. and Weiss, J., "Using Internal Curing to Mitigate Early-Age Cracking and Increase the Performance of Reinforced Concrete with Respect to Corrosion", ACI SP on Economics, Performance, and Sustainability of Internally Cured Concrete, 2012
35. Edmund M. Burke Outstanding Civil Engineering Professor, as selected by the students of Chi Epsilon (the Civil Engineering Honor Society), 2014
36. Charles B. Murphy Outstanding Teaching Award 2013-2014, as selected by a university committee.
37. Elected Fellow, RILEM 2015 (International Union of Laboratories and Experts in Construction Materials, System and Structures).
38. Nominated as one of the 'Hive 100' (Housing Innovation, Vision and Economics) Innovations for 2016 with Y. Cao, R. Moon, J. Youngblood, P. Zavattieri
39. Elected to the American Concrete International 2017 committee on Officer and Board Nominations.

Editorial Board Service

- Editor in Chief ASTM Journal of Civil Engineering Materials, 2017-present, 2014 – 2016 co-editor in chief
- Editor in Chief, RILEM Journal of Materials and Structures, 2011 – 2015
- Associate Editor ASCE Journal of Materials In Civil Engineering 2001 – 2013
- Associate Editor RILEM Journal of Materials and Structures, 2005 – 2011, 2016 – present
- Associate Editor, International Journal of Ferrocement, 2006 – 2007
- Editorial Board, Architectural Science Review, 2008-2010
- Editorial Board, Cement and Concrete Research, 2009-Present

Memberships in Academic, Professional and Scholarly Societies

Professional Societies

- American Concrete Institute, 1998-Present
- American Society of Civil Engineers, 1995-Present
- RILEM, 1999-Present
- American Society for Engineering Education
- Transportation Research Board, 2000-Present
- Acoustic Emission Working Group, 2002-2005
- ASM International, the Materials Information Society, 2002-2007
- American Society for Testing and Materials, 2002-2007
- American Society for Testing and Materials, 2002-Present
- American Ceramics Society, 2003-2005, 2010

Honorary Societies

- Golden Key Honor Society, 1993
- Tau Beta Pi – National Engineering Honor Society, 1993
- Phi Alpha Epsilon – National Architectural Engineering Honor Society, 1994
- Chi Epsilon – National Civil Engineering Honor Society, 2001

National and International Committee Service

American Concrete Institute

- Committee 71 "Nominations" Elected to be a member in 2008
- Committee 123 "Research and Current Developments", member 1999-present Secretary, November 2000-January 2002, Committee Chair, 2002-2008
- Committee 209 "Creep and Shrinkage of Concrete, associate member 2001- 2003, member 2003-present, Secretary 2003 – 2005
- Committee 231 "Early-Age Properties" member 1999-present, Secretary March 2000-2005, Chair 2014 - present
- Committee 236 "Material Science of Concrete" member 2007-present
- Committee 318A, invited member 2010 - present
- Committee 365 "Service Life Prediction", member 2002-present
- Committee 446 "Fracture Mechanics of Concrete," member 2001- present
- Committee 522 "Enhanced Porosity Committee" member 2001-present

American Society of Civil Engineers

- Engineering Mechanics Division, "Committee on Experimental Analysis and Instrumentation," member 2000-2004, Secretary, June 2001-2003

Center for Advanced Cement Based Materials

- Education Committee Chair, 2001 - 2007
- Associate Director, 2004 - Present
- Early Age Properties Cluster Leader, 2006 and 2007

RILEM

- Technical Committee EAS, "Early-Age Shrinkage Cracking," member 1999-2002
- Technical Committee DTD, "Test Methods for Autogenous Deformation and Thermal Dilation of Early Age Concrete," member 2002 – 2004

- Technical Committee CCD, "Concrete cracking and its relation to durability: Integrating material properties with structural performance" (Committee Chair) 2006-Present
- Technical Committee EAC "Educational Activities Committee," (Committee Secretary) 2005-2011
- Technical Activities Committee Member – Cluster D Leader 2006-2011
- Committee on Nominations, 2008
- Bureau Member, 2009 - Present

Transportation Research Board

- AFN20 "Committee on Materials and Placement Techniques," – member since 2000, Chair 2007-2013, Member 2013-
- AFN40 "Committee on Emerging Technology," – member since 2001-2008
- I am not sure but I think I am a member of AFN 040 or AFN 030 I need to check

Statement of Teaching Interests

Dr. Weiss has been engaged in the scholarship of teaching in several areas. Most notably Dr. Weiss has tailored lectures to students with different learning styles, incorporated Mazur's[1] Peer Instruction approach in large lectures while documenting success and method for improvement, and utilized classroom survey methods (clickers). The use of Mazur's approach to Peer Instruction with classroom clickers has enabled Dr. Weiss to engage a larger number of students in active classroom activities; this is essential in the large freshman and sophomore classes and has been particularly effective with underrepresented groups and students who are historically 'C' students.

Dr. Weiss has also explored new delivery methods for teaching. He began by offering CE 530 (Properties, Production, and Performance of Concrete) via the internet through recorded lectures. This has enabled Dr. Weiss to provide continuing education content to students currently employed in the concrete construction industry. Furthermore, this has been well received by students where English is a second language. This course is also now available to students via DVD resulting in greater flexibility as to when students can take these courses. A similar approach was used for the REACT (Reducing Early Age Cracking in Concrete Today) course that was developed in the summer of 2008, and taught in Switzerland in 2009. This approach also enables very detail oriented classes to be provided with the limited number of faculty in a specialty area. Dr. Weiss is currently pursuing the development of course modules in service life and sustainability for construction materials.

Dr. Weiss believes that it is necessary for students to be equipped with the fundamental skills and understanding that will enable them to serve the civil engineering profession. A key component of this fundamental understanding is the interrelation between structural design, construction processes, and materials engineering. Dr. Weiss has focused on highlighting the importance of materials engineering, with applications to structural, transportation, environmental, and construction engineering. Further, Dr. Weiss strives to teach courses from first scientific principles and to use these principles to motivate the applications.

Dr. Weiss has taught a number of undergraduate classes during his time at Purdue including ENGR 106 (An Introduction to Civil Engineering), CE 231 (Civil Engineering Materials-I), CE 270 (Introduction to Structural Mechanics), and CE 331 (Civil Engineering Materials-II). In CE 231, students are taught basic strength of materials theory, atomic structure and bonding and its relation to material properties, the role of defects in materials, phase diagrams, corrosion, failure theories, and fatigue. In CE 270, students are taught basic concepts of cables, trusses, stresses, strains, shear and moment diagrams, flexural, torsional, and column behavior. In CE 331, students are taught basic concepts of linear elastic fracture mechanics, brittle strengthening mechanisms, composites, viscosity, viscoelasticity, hot-mix asphalt, portland cement concrete mixtures, and wood properties.

Dr. Weiss has developed and offered courses aimed at preparing graduate students with a basic physical, mechanical, and sensing knowledge in materials to complement the strong fundamental

[1] Mazur, E., "Peer Instruction," Prentice Hall © 1997

physical chemistry background and specialized courses that are offered by other faculty. In addition, Dr. Weiss has developed five new graduate courses including: Fracture Mechanics of Concrete Materials and Structures, Condition Assessment, Repair, and Life-Cycle Simulation for Civil Engineering Materials, Structure-Property Relationships and Mechanics in Heterogenous Materials for Civil Engineering, Philosophical Discussions of the Material Science of Concrete, and Reducing Early Age Cracking in Concrete Today (REACCT).

- Fracture Mechanics of Concrete Materials and Structures. This course was developed to provide civil engineering students with a description of Linear Elastic Fracture Mechanics (LEFM), Non-Linear Fracture Mechanics (NLFM), and fracture mechanics concepts as applied to different construction materials. The course was intended to meet the needs of civil engineering students who could benefit from using these concepts in their research. The specific issues addressed in this class are not covered in other fracture courses due to microcracking, viscoelastic effects and large grain size, which cause non-linearities in concrete and asphalt. Specifically, this course will include aspects of fluid transport through cracks in coming years.

- Condition Assessment, Repair, and Life-Cycle Simulation for Civil Engineering Materials. While the 20th Century saw civil engineers focus primarily on the development of new facilities, the challenge facing civil engineers for the 21st century is related to how these facilities can be repaired and upgraded. This course integrated fundamentals of materials science, engineering design, and economic modeling. The course was divided into three components. The first component included the presentation of various approaches to assessing a facility, various causes and mechanisms for damage development, and different non-destructive and non-invasive tools for use in condition survey. The second component of the course included a description of various repair approaches including overlays, strengthening, shotcrete, and other emerging materials. The final component of this course included economic analysis and specification development. This information can be used for service life predictions as well as sustainability calculations.

- Philosophical Discussions on the Material Science of Concrete. The primary goal of this course was for the students to gain experience in open and frank critical discussions of recent papers as they are being published. In addition, instructional lectures included various specific topics: paper writing, presentation development, proposal development, the scientific method, reviewing a paper, modern servo-hydraulic equipment operation, acoustic emission equipment operation and theory, electrical impedance operation and theory, and the art of writing a consulting report.

- Structure-Property Relationships and Mechanics in Heterogeneous Materials for Civil Engineering. Civil engineers have long used composite materials (concrete, wood, and asphalt); however, the last two centuries have seen a rise in the recognition of the composite nature of materials in construction. Recently, there has been additional interest in describing the behavior of such composite materials due to the availability of advanced computational tools. This course described the fundamental physics, mechanics, and physical chemistry of many heterogeneous materials. Specific topics included: proportioning, statistical descriptors, elastic behavior, computation of engineering parameters and material properties, stress transformations for laminae, fiber - matrix interactions, failure theories, fracture, multi-directional laminates, short-random fiber composites, hygral-thermal effects, durability, cementitious composites, processing of cementitious composites, ferrocement, and fiber reinforced polymers.

- REACCT – Reducing Early Age Cracking in Concrete Today. Early age cracking is a problem that impacts many construction projects. Many innovative strategies have been developed to

reduce the potential for cracking including the development of new chemical additives that alter the properties of fluids, new chemical additives that cause expansion, or porous materials that can supply water for internal curing. In addition, several new testing methods have been developed to evaluate the properties of concrete as it transitions from a fluid to a solid. This course was developed in conjunction with Dale Bentz from (National Institute of Science and Technology) NIST and Pietro Lura from EMPA (Swiss Federal Laboratories for Materials Testing and Research) to train students on the latest developments in early age concrete behavior. The course was also placed on a DVD so that it can be widely disseminated.

- Properties, Production, and Performance of Concrete. This course was substantially revised when Dr. Weiss took over teaching it. The course was further developed when it was offered as a distance learning course and is now available for wide dissemination on DVD.

- Electrical Properties of Concrete. Civil engineers are being increasingly asked to estimate the service life of concrete and to measure properties related to fluid transport. The electrical response of concrete is related to fluid transport. During the Fall of 2012 a new 1 credit course was introduced that described the theory, test methods and applications.

- Shrinkage and Internal Curing These 1.5 credit courses will complement one another and will address new developments in early age shrinkage of concrete and internally curing concrete respectively. During the Spring of 2013 these courses were introduced.

Teaching Evaluations

Dr. Weiss has been recognized with several awards for outstanding teaching including the Wansik Teaching Award (2001, 2005, 2006), Munson Teaching Award (2002, 2008), Buck Advising Award, (2007), Burke Outstanding Civil Engineering Professor Award (2004), the Potter award (2010) and Walter P. Moore Jr. Faculty Achievement Award (2003). He has also been elected to the Purdue Teaching Academy (2012). Participated in the IMPACT faculty Cohort Fall of 2013.

The following section provides a summary of the Quantitative Student Evaluation Data as obtained from the Purdue University center for instructional excellence course reviews from the students taking the class. The scores below are on a 5.0 base with 5 as the highest and 1 as the lowest.

Year	Semester	Course Number	Course Title	Credits	Percent Responsibility	Number of Students	Instructor Evaluation	Course Evaluation
1999-2000	F99	CE 270	Introduction to Structural Mechanics	4	100	39	4.7	4.3
	S00	CE 231	Civil Engineering Materials I	3	100	90	4.3	3.7
2000-2001	F00	CE 270	Introduction to Structural Mechanics	4	100	41	4.9	4.3
	F00	CE 597k	Fracture Mechanics of Construction Materials	3	100	23	4.2	3.9
	S01	CE 231	Civil Engineering Materials I	3	100	59	4.8	4.1
2001-2002	F01*	CE 231	Civil Engineering Materials I	3	50	61	4.3	3.7
	F01	CE 597r	Condition Assessment, Repair, and Life-Cycle Modeling of CE Materials	3	100	14	4.8	4.9
	S02	CE 530	Properties, Production, and Performance of Concrete	3	100	25	4.9	4.9
2002-2003	F02	CE 231	Civil Engineering Materials I	3	100	67	4.8	4.2
	F02	CE 597y	Philosophical Discussions on the Material Science of Concrete	1	100	17	4.8	4.8
	F02	CE 631	Advanced Concrete and Aggregates	3	100	12	4.7	4.7
	S03	CE 231	Civil Engineering Materials I	3	100	95	4.5	4.0
	S03$	CE 333	Civil Engineering Materials for Construction Engineers	3	33	35	4.8	4.2
	S03	CE 530	Properties, Production, and Performance of Concrete	3	100	25	4.9	4.9
	S03	CE597w	Philosophical Discussions on the Material Science of Concrete	1	100	12	4.9	4.8
2003-2004	F03&	CE 331	Civil Engineering Materials II	3	50	85	4.8	4.0
	F03	CE 597y	Structure Property Relations for Heterogeneous Materials	3	100	24	4.8	4.2
	S04	CE 231	Civil Engineering Materials I	3	100	85	4.7	4.0
	S04	CE 530	Properties, Production, and Performance of Concrete	3	100	41	4.8	4.7
2004-2005	F04£	CE 231	Civil Engineering Materials I	3	50	65	4.9	4.1
	F04	CE 331	Civil Engineering Materials II	3	100	80	4.5	4.5
	F04	CE 597	Fracture Mechanics of Construction Materials	1	100	8	~	~
	S05£	CE 231	Civil Engineering Materials I	3	50	70	4.8	4.0
	S05	CE 331	Civil Engineering Materials II	3	100	65	4.5	4.5
	S05	CE 530	Properties, Production, and Performance of Concrete	3	100	20	5.0	4.9
2005-2006	F05	CE 231	Civil Engineering Materials I	3	100	62	4.7	4.1
	S06	CE 331	Civil Engineering Materials II	3	100	70	4.9	4.5
	S06	CE 530	Properties, Production, and Performance of Concrete	3	100	15	4.8	4.8
2006-2007	F06	CE 597	Modeling Behavior of Heterogenous Materials	3	100	14	4.9	4.7
	S07	CE 530	Properties, Production, and Performance of Concrete	3	100	33	5.0	4.7

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Year	Semester	Course Number	Course Title	Credits	Percent Responsibility	Number of Students	Instructor Evaluation	Course Evaluation
2007-2008	F07	CE 331	Civil Engineering Materials II	3	100	62	5.0	4.9
	F07	ENGR 103	Architectural Engineering	1	100	14	4.9	4.8
	F07	ENGR 103	CO2 Reduction in Cementtitous Materials	1	100	7	5.0	5.0
	S08	CE 231	Civil Engineering Materials I	3	50	135	4.8	4.0
	S08	CE 331	Civil Engineering Materials II	3	50	61	4.8	4.1
	S08	CE 530	Properties, Production, and Performance of Concrete	3	100	23	4.9	4.6
	S08	CE 530Q	Properties, Production, and Performance of Concrete	3	100	6	5.0	4.0
2008-2009	F08	CE 331	Civil Engineering Materials II	3	50	118	4.2	4.0
	F08	CE 597	Modeling Behavior of Heterogenous Materials	3	100	18	5.0	4.9
	S09	CE 331	Civil Engineering Materials II £	3	50	88	4.9	4.3
	S09	CE 530	Properties, Production, and Performance of Concrete	3	100	22	4.9	4.7
2009-2010	F09	CE 331	Civil Engineering Materials II	3	100	135	4.8	4.5
	S10	CE 231	Civil Engineering Materials I	3	100	158	4.7	4.3
	S10	CE 530	Properties, Production, and Performance of Concrete	3	100	21	4.9	4.7
2010-2011	F10	CE 331	Civil Engineering Materials II	3	100	118	4.9	4.5
	S11	CE 331	Civil Engineering Materials II	3	50	71	4.8	4.5
	S11	CE 530	Properties, Production, and Performance of Concrete	3	100	45	4.9	4.7
2011-2012 (Sabbatical)	F11	CE 530	Properties, Production, and Performance of Concrete	3	100	4	&&	&&
	S12	CE 530	Properties, Production, and Performance of Concrete	3	100	4	&&	&&
2012-2013	F12	CE 331	Civil Engineering Materials II	3	100	196	4.7	4.5
	F12	CE 597	Electrical Properties of Concrete	1	100	19	4.7	4.5
	S13	CE 331	Civil Engineering Materials II	3	100	60	4.8	4.6
	S13	CE 530	Properties, Production, and Performance of Concrete	3	100	38	4.9	4.6
2013-2014	F13	CE 331	Civil Engineering Materials II	3	100	72	4.8	5.0
	F13	CE 597	Early Age Shrinkage of Concrete	1.5	100	21	&&	&&
	F13	CE 597	Internal Curing of Concrete	1.5	100	20	4.7	4.9
	S14	CE 331	Civil Engineering Materials II	3	100	55	4.9	4.8
	S14	CE 530	Properties, Production, and Performance of Concrete	3	100	30	5.0	4.8
2014-2015	F14	CE 331	Civil Engineering Materials II	3	100	75	4.8	4.4
	F14	CE 597	Transport and Service Life of Concrete	1	100	24	4.7	4.2
	S15	ENGR 103	Building Big	1	100	9	~	~
	S15	CE 331	Civil Engineering Materials II	3	100	57	~	~
	S15	CE 530	Properties, Production, and Performance of Concrete	3	100	37	~	~
Total	~	~	Total Number of Students and Average Evaluations	~	~	3175	4.8	4.5
*		50% Responsibility - Shared with M. Cohen (Evaluation based on my component of the course)						
$		33% Responsibility - Shared with A. Elsherief (Evaluation based on my component of the course)						
&		50% Responsibility - Shared with T. Pellinen (Evaluation based on my component of the course)						
		50% Responsibility - Shared with J. Haddock (Evaluation based on the overall course)						
£		50% Responsibility - Shared with J. Olek (Evaluation based on my component of the course)						
¥		Responsibility shared with B. Hubbard (Note Evaluation was done late due to late receipt of forms)						
		Responsibility shared with a hired instructor						
&&		Civil Engineering Did not request these evaluations, therefore none exist						

- During 2015-16 I taught a graduate course on internal curing in concrete

Short Courses and Workshops Taught

Australian Concrete Institute

- Developed a series of workshops and seminars in the Fall of 2007 for the Australian Concrete Institute on Cracking in Concrete at Early Ages. (3 Seminars)

Center For Advanced Cement Based Materials Faculty Enhancement Workshop

- Shah, S. P., and Weiss, W. J., "Tutorial and Lab Demonstration on Fiber Reinforced Concrete." Fourth Annual Undergraduate Faculty Enhancement Workshop, Lehigh University, Bethlehem, PA, July 1997 (50 participants, primarily university professors)
- Weiss, W. J., Wang, K., and Shah, S. P., "Coupling Laboratory Experiments and Problem-Based-Education to Teach Independent Learning", Proceedings from the Fifth Annual Undergraduate Faculty Enhancement Workshop, University of California at Berkeley, Berkeley CA, July 1998, pp. 83-92 (80 participants, primarily university professors)
- Organizing Committee for the Seventh Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Purdue University, West Lafayette IN, July 2000 (90 participants, primarily university professors)
- Organizing Committee for the Eighth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", University of Colorado, Boulder CO, 2001
  - Weiss, W. J., "Life-Cycle Cost Analysis: Tutorial Session: Implementing Life-Cycle Cost for Cement Based Materials in the Classroom," ACBM Faculty Enhancement Workshop (85 participants, primarily university professors)
- Organizing Committee for the Ninth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Northwestern University, Evanston IL, 2002
  - Weiss, W. J., "General Lecture Resources for Teaching the Causes and Prevention of Early-Age Cracking," ACBM Faculty Enhancement Workshop (60 Participants, primarily university professors)
- Organizing Committee for the Tenth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", University of Texas at Austin, Austin TX, 2003
  - Weiss, W. J., "General Lecture Resources for Teaching Quality Control," ACBM Faculty Enhancement Workshop (60 Participants, primarily university professors)
- Organizing Committee for the Eleventh Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2004 (40 Participants, primarily university professors)
  - Weiss, W. J., "Mixture Proportioning," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Volumetric Stability and Cracking," ACBM Faculty Enhancement Workshop
- Organizing Committee for the Twelfth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2005 (40 Participants, primarily university professors)
  - Weiss, W. J., "Cement and Hydration," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Fresh Properties of Concrete," ACBM Faculty Enhancement Workshop
- Organizing Committee for the Thirteenth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2006 (35 Participants, primarily university professors)
  - Weiss, W. J., "An Introduction to Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties of Concrete," ACBM Faculty Enhancement Workshop
- Organizing Committee for the Thirteenth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2007 (30 Participants, primarily university professors)
  - Weiss, W. J., "An Introduction to Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Volumetric Stability and Cracking," ACBM Faculty Enhancement Workshop

- Organizing Committee for the Fourteenth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2008 (32 Participants, primarily university professors)
  - Weiss, W. J., "An Introduction to Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Mechanical Properties of Concrete," ACBM Faculty Enhancement Workshop
- Organizing Committee for the Fifteenth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2009 (32 Participants, primarily university professors)
  - Weiss, W. J., "An Introduction to Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Mechanical Properties of Concrete," ACBM Faculty Enhancement Workshop
- Organizing Committee for the Sixteenth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2010 (20 Participants, primarily university professors)
  - Weiss, W. J., "An Introduction to Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Mechanical Properties of Concrete," ACBM Faculty Enhancement Workshop
- Organizing Committee for the Seventeenth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2011 (60/15 Participants, primarily university professors)
  - Weiss, W. J., "Plenary-Concrete Durability," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Mechanical Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "High Performance Concrete," ACBM Faculty Enhancement Workshop
- Organizing Committee for the Eighteenth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2012 (80/20 Participants, primarily university professors)
  - Weiss, W. J., "Plenary-Concrete Durability," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Aggregates," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Mechanical Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties," ACBM Faculty Enhancement Workshop
- Organizing Committee for the Eighteenth Annual Undergraduate Faculty Enhancement Workshop on "Teaching the Material Science, Engineering and Field Aspects of Concrete", Skokie IL, 2013 (80/20 Participants, primarily university professors)
  - Weiss, W. J., "Plenary-Concrete Durability," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Aggregates," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Mechanical Properties of Concrete," ACBM Faculty Enhancement Workshop
  - Weiss, W. J., "Early Age Properties," ACBM Faculty Enhancement Workshop

<u>Indiana Chapter of the American Concrete Paving Association</u>

- Weiss, W. J., "Guidelines to Effective Sawcutting," Indianapolis, IN (2007) (75 industry participants)
- Internal Curing (2011) (60 people)
- Deicing Salts and Their Role in Concrete Performance (60 people)
- Quality Control (2014)

<u>National Ready Mixed Concrete Association</u>

- Webinar on Strategies to Reduce Unwanted Cracking (2009-2010) (20 industry participants)

Purdue Road School – Continuing Education

- An Overview of Performance Related Specifications for Concrete Pavements in Indiana, 2000
- An Update on the Implementation of Performance Related Specifications for Concrete Pavements in Indiana, 2002
- Co-developed (With Professor J. Olek) Purdue Road School "High Performance Concrete: Material Design, Production, and Testing", West Lafayette, IN (80 industry participants)
- Raoufi, K., Nantung, T., Weiss, W. J., (2007) "Guidelines to Sawcutting", West Lafayette, IN (110 industry participants)
- Weiss, W.J., (2012) "Overview of Internal Curing Concepts", West Lafayette, IN (150 participants)
- Weiss, W.J., (2013) "Electrical Properties of Concrete", West Lafayette, IN
- Weiss, W.J., (2014) "Internal Curing", West Lafayette, IN
- Weiss, W.J., (2014) "Portland Limestone Cement", West Lafayette, IN

Transportation Research Board

- Workshop Organizer – Annual Meeting of the Transportation Research Board – 2002 "Curing of Concrete" (100 Participants, primarily from industry)
- Workshop Organizer – Annual Meeting of the Transportation Research Board - 2003 "Cracking of Concrete" (120 Participants, primarily from industry)
- Workshop Organizer – Annual Meeting of the Transportation Research Board - 2007 "Cracking of Concrete" (100 Participants, primarily from industry)
- Workshop Organizer – Annual Meeting of the Transportation Research Board - 2012 "Internal Curing of Concrete" (120 Participants, primarily from industry)
- Workshop Organizer – Annual Meeting of the Transportation Research Board - 2013 "Service Life Modeling of Concrete (100 Participants)"
- Workshop Presenter – Annual Meeting of the Transportation Research Board - 2014 "The Past Present and Future of Concrete"

Center for Advanced Cement Based Materials – Technology Transfer Days

- Weiss, W. J., "Resources and Guidelines for Condition Assessment of Concrete Facilities," Technology Transfer Day on Assessment and Rehabilitation of Concrete Structure, Evanston, IL, October 2002 (40 Participants, primarily from industry)
- Weiss, W.J., and Olek, J., "Recent Trends to Reduce Highway Noise with Portland Cement Concrete Pavements" Technology Transfer Day on Materials Issues for Concrete Pavement, Evanston, IL, November 2000 (40 Participants, primarily from industry)
- Weiss, W. J., "Blended Fiber Reinforcement," ACBM Semi-Annual Meeting, Technology Transfer to Departments of Transportation (20 Participants, primarily from industry)
- Organizing Committee for the Concrete Cracking Workshop Northwestern University, Evanston, IL, August 2005 (70 participants, primarily industry participants)
- 17th ACBM/NIST Computer Modeling Workshop – Lecture on Experiments and Models for Concrete at an Early Age (35 Participants, mostly students and people from industry)
- 2011 ACBM NIST Computer Modeling Workshop
- 2012 ACBM NIST Computer Modeling Workshop

China – SBT-SEU-RILEM Short Course on Early Age Cracking

- Lecturer SBT-SEU-RILEM Doctoral Courses – "Concrete Curing: From the Research Lab to the Construction Site", China. October 2008 (approximately 60 students)
    - Restraint in Concrete Elements
    - The Maturity Method
    - Plastic Shrinkage Cracking
    - Thermal Effects and Fracture Mechanics
- Lecturer SBT-SEU-RILEM Doctoral Courses – "Concrete Durability", China. August 2011 (approximately 80 students)
    - Cracking in Concrete

- Non-Destructive Testing and Insitu Monitoring
- Performance Simulation Techniques

Danish Technological University

- Lecturer DTU-RILEM Doctoral Courses - Transport and Fixation of Matter in Cement Based Materials, Lyngby, Denmark. June 2006 (23 Students)
    - Crack Formation in Concrete
    - Transport and Healing in Cracked Concrete
- Lecturer DTU-RILEM Doctoral Courses – "Concrete Curing: From the Research Lab to the Construction Site", Lyngby, Denmark. August 2006 (approximately 25 students)
    - Restraint in Concrete Elements
    - Early Property Development and the Maturity Method
    - Influence of Material Variability on Early Age Cracking
- Lecturer SBT-SEU-RILEM Doctoral Courses – "Concrete Durability", Denmark, 2010
    - Cracking in Concrete
    - Non-Destructive Testing and Insitu Monitoring
    - Performance Simulation Techniques

BASF (Formerly Master Builders or Degussa) Chemical Corporation

- Weiss, W. J., "Ongoing Research Investigating the Role of Fiber Reinforcement for Mitigating Early-Age Cracking," Presented at Master Builders Technologies, Cleveland, OH, February 2002 (60 Participants, from industry)
- Weiss, W. J., "The Move Toward Linking Insitu Monitoring with Life Cycle Performance Modeling and the Impact on Material Selection and Specification", Degussa Chemical Corporation, Cleveland, OH, July 2003 (30 Participants, from industry)
- Weiss, W. J., "The Role of SRA in Plastic Shrinkage Cracking", Degussa Chemical Corporation, Cleveland, OH, July 2004 (40 Participants, from industry)
- Weiss, W. J., "Recent Shrinkage and Early-Age Cracking Research: The Role of SRA", Degussa Chemical Corporation, Cleveland, OH, July 2007 (40 Participants, from industry)
- Weiss, W. J., "Internal Curing", BASF the Chemical Corporation, Cleveland, OH, July 2009 (40 Participants, from industry)

Indiana Local Technical Assistance Program

- Weiss, W. J., "SCC, Is it for Me: A Primer on the Design and Use of Self-Consolidating Concrete", West Lafayette IN, January 2005 (approximately 120 Participants, from industry)
- Weiss, W. J., "Shrinkage Cracking and How to Avoid It", West Lafayette IN, January 2007 (approximately 140 Participants, from industry)
- Weiss, W. J., "Internal Curing", West Lafayette IN, January 2009 (approximately 140 Participants, from industry)

National Precast Concrete Association

- Weiss, W. J., "Don't Just Add Water," Continuing Education Course for the National Precast Concrete Association, February 2004, Atlanta GA (30 industry participants)
- Weiss, W. J., "Producing Quality Precast Concrete: Quality Control for Constituent Materials and Production," Continuing Education Course for the National Precast Concrete Association, February 2004, Atlanta GA (50 industry participants)
- Weiss, W. J., "Concrete Repair," Continuing Education Course for the National Precast Concrete Association, February 2005, Indianapolis, IN (50 industry participants)
- Weiss, W. J., "Admixtures and Mixture Proportioning," Continuing Education Course for the National Precast Concrete Association, February 2005, Indianapolis, IN (80 industry participants)
- Weiss, W. J., "An Introduction into Self Consolidating Concrete," Continuing Education Course for the National Precast Concrete Association, February 2005, Anaheim, CA (60 industry participants)

- Weiss, W. J., “Mixture Proportioning,” Continuing Education Course for the National Precast Concrete Association, February 2006, Anaheim, CA (60 industry participants)
- Weiss, W. J., “Production Quality School Level II – Materials and Mixture Proportioning,” One Day Short Course for the National Precast Concrete Association, June 2006, Philadelphia PA (40 industry participants)
- Weiss, W. J., “PQS Level II, “Continuing Education Course for the National Precast Concrete Association, February 2008, Denver CO (40 industry participants)
- Weiss, W. J., “Mixture Proportioning,” Continuing Education Course for the National Precast Concrete Association, February 2008, Denver CO (40 industry participants)
- Weiss, W. J., “Innovations in Quality Control “Continuing Education Course for the National Precast Concrete Association, February 2009, Denver CO (40 industry participants)
- Weiss, W. J., “Production Quality Control School 2 “Continuing Education Course for the National Precast Concrete Association, February 2010, Phoenix AZ
- Weiss, W. J., “Using the Maturity Method “Continuing Education Course for the National Precast Concrete Association, February 2011, Charlotte NC (planned)
- Weiss, W. J., “Production Quality Control School 2 “Continuing Education Course for the National Precast Concrete Association, Planned

Advising and Mentoring

Since arriving at Purdue in 1999, Dr. Weiss has worked to develop a research group that is nationally recognized in two main areas: early age material behavior and transport in pristine and damaged concrete. Dr. Weiss has worked with approximately 15 doctoral students, 34 masters students and 40 undergraduate students. He has also had numerous post-doctoral researchers, visiting professors, and visiting scholars.

Of the nine doctoral students, seven are in tenure track faculty positions (Hossain – University of South Alabama, Yang – Middle Tennessee State University, Neithalath – Clarkson/Arizona State University, Rajabipour – Penn State University, Radlinska – Villanova University, Sant- UCLA, Pour-Ghaz, NC State University and Castro, Catholic University of Chile. The remaining students are researchers in industrial or governmental research labs. The masters students that have worked with Dr Weiss work for consulting companies, materials producers, and material suppliers.

Name	Degree	Graduation Date	Name of Coadvisor	Thesis Title	Pubs.
Cole Graveen	MSCE	2001	N/A	Evaluation of Non-Destructive Techniques for Evaluation of Pavement Strength and Their Implementation into Performance Related Specifications	RC26, RC27, R11
Sunil Puri	MSCE	2003	N/A	Determining the Size of the Damage Zone in the Compressive Failure of Concrete	J25, RC25
Akhter Hossain	Ph.D.	2003	N/A	Assessing the Residual Stress Development in the Restrained Ring Test	J14, J15, J19, RC20, RC23, RC36, UC13, UC14
Chengqing Qi	Ph.D.	2003	Jan Olek	Plastic Shrinkage Cracking in Fiber Reinforced Materials	J13, J20, RC21, RC43, RC58
Erik Falker	MSCE	2003	Dulcy Abraham	Assessing the Impact of Performance Related Specifications on Concrete Pavement Construction	R11
Farshad Rajabipour	MS	2003	Dulcy Abraham	Integrating Sensing with Life-Cycle Modeling	J22, J32, J33, J34, J35, J36, J38, J40, J41, RC31, RC33, RC35, RC37, RC44, RC 45, RC 47, RC49, RC51, RC52, RC54, RC56, RC60, RC61, RC70, RC72, RC73, RC84, RC87, RC93, UC 19
Zhifu Yang	Ph.D.	2003	Jan Olek	Relating Damage with Long-Term Durability in Cementitous Systems	J26, RC39, RC42, RC66, R6
Amit Barde	MSCE	2003	N/A	The Role of Aggregates on Early-Age Flexure-Maturity Predictions	UC15, R8, R10, BC3
Swathi Param-eswaran	MS	2003	Dulcy Abraham	Life-Cycle Modeling for Repair Materials	UC17, R8
Hardik Shah	MS	2003	N/A	Shrinkage Cracking in Fiber Reinforced Concrete	J30, RC32, RC34, RC36, UC13, UC14
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Name	**Degree**	**Graduation Date**	**Name of Coadvisor**	**Thesis Title**	**Pubs.**
Tony Their	MSCE	2004	N/A	Using Non-Linear Elastic Fracture Mechanics To Determine the Time and Depth of Saw-Cuts in Concrete - Part I Field Survey and Experiments	R12
Marc Neimuth	MS	2004	Jan Olek	Using Impedance Spectroscopy to Determine Flaw Characteristics in Concrete	J94, RC67
Tom Schmit	MS	2005	N/A	A Fundamental Investigation on Utilizing Error Propagation, Monte Carlo Simulations and Measurement Interpretation Techniques to Design Efficient Insitu Covercrete Sensing	RC44, RC45, RC50, RC51, UC19, UC20
Bradley Pease	MSCE	2005	N/A	Fundamental Aspects of Early-Age Volume Change In Concretes With Surface Tension Reducing Admixtures	J14, J31, J32, J33, J67, RC20, RC22, RC23, RC34, RC35, RC36, RC37, RC46, RC 59, RC68, RC85
JaeHeum Moon	Ph.D.	2006	N/A	Shrinkage, residual stress, and cracking in heterogeneous materials	J29, J33, RC33, RC35, RC37,RC 54, RC56
Vinit Barde	MSCE	2006	Menashi Cohen	Developing Acceptance Standards for Bridge Deck Concrete Mixtures in the State of Indiana based on Performance Simulation Results	R10
Farshad Rajabipour	Ph.D	2006	N/A	Using Electical Sensors for Improving Life-Cycle Models	J22, J32, J33, J34, J35, J36, J38, J40, J41, RC31, RC33, RC35, RC37, RC44, RC 45, RC 47, RC49, RC51, RC52, RC54, RC56, RC60, RC61, RC70, RC72, RC73, RC84, RC87, RC93, UC 19
Kambiz Raoufi	MSCE	2007	N/A	Using Non-Linear Elastic Fracture Mechanics To Determine the Time and Depth of Saw-Cuts in Concrete - Part II Simulation	J37, J63, J68, J77, RC71, RC75, RC88, RC99, RC105, R12, R14, R6
Gaurav Sant	MSCE	2007	N/A	Examining Volume Changes, Stress Development and Cracking in Cement Based Systems	J27, J36, J39, J40, J41, J42, J44, J45, J51, J58, J69, J75, RC49, RC52, RC54, RC57, R60, RC61, RC63, RC67, RC72, RC74, RC77, RC78, RC80, RC82, RC83, RC96
Anand Krishnan	MSCE	2002	Jan Olek	Durability of Concretes Made Using Fly Ash During the Late Fall Construction Season	RC19, R9
Narayanan Neithalath	Ph.D.	2003	Jan Olek	Concrete Mixtures that Incorporate Inclusions to Reduce the Sound Generated on Portland Cement Pavements	RJ16, RJ17, RJ21, RJ24, RJ28, RC29, RC35, RC40, UC16, R11
Jinesh Mehta	MSCE	2004	Jan Olek	Scaling in Concrete Mixtures Containing Supplementary Materials	RC41, R9
Rolando Garcia	MSCE	2003	Jan Olek	Methods to Reduce the Sound Generated on Portland Cement Pavements	RJ24, RC40
Mukul Dehadrai	MS	2008	N/A	Material Health Monitoring of Concrete Structures	RJ44, RJ45, RC78, RC82
Aleksandra Radlinska	Ph.D.	2008	N/A	Reliability Based Analysis of Early-Age Cracking in Concrete	RJ31, RJ36, RJ37, RJ47, RJ79, RC46, RC48, RC53, RC56, RC60, RC63, RC67, RC71, RC72, RC91, R10
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Name	**Degree**	**Graduation Date**	**Name of Coadvisor**	**Thesis Title**	**Pubs.**
Ryan Henkensifkien	MSCE	2008	N/A	Internal Curing in Cementitious Systems Made Using Saturated Lightweight Aggregate	RJ36, RJ50, RJ52, RJ53, RJ54, RJ55, RC72, RC74, RC76, RC77, RC89, RC91, RC93, R14
Kevin Coates	MSCE	2008	N/A	Evaluation of Soy Methyl Ester Polystyrene Blends for Use in Concrete	RJ49, RC81, Patent
Mike Norfleet	MSCE	2008	N/A	Toward a New Model for Prediction of Plastic Shrikage Cracking Efficieny for Fibers	~
Brooks Bucher	MSCE	2009	N/A	Shrinkage and Cracking and its Relation to Cement and Filler Composition	RJ36, RJ47, RJ57, RJ59, RJ66, RC63, RC72, RC79
Gaurav Sant	PhD	2010	N/A	Mitigation of Volume Changes and the Role of Curing Conditions at Early-Ages in Cement-Based Materials	J27, J36, J39, J40, J41, J42, J44, J45, J51, J58, J69, J75, RC49, RC52, RC54, RC57, R60, RC61, RC63, RC67, RC72, RC74, RC77, RC78, RC80, RC82, RC83, RC96
John Schlitter	MSCE	2010	N/A	Assessing the Performance of Internal Curing in Full Scale Concrete Specimens	RJ64, RJ77, RJ100, RC 99, R14, R17, B5
Brad Pease	PhD	2010	Mette Geiker	Ingress and Corrosion Initiation Behavior of Cracked Reinforced Concrete	RJ14, RJ31, RJ32, RJ33, RJ67, RC20, RC22, RC23, RC34, RC35, RC36, RC37, RC46, RC 59, RC68, RC85
Javier Castro	PhD	2011	N/A	Transport Tests for Plain and Cracked Concrete	RJ52, RJ55, RJ61, RJ72, RJ73, RJ81, RJ82, RJ84, RJ87, RJ90, RJ91, RJ92, RJ93, RJ96, RC84, RC91, RC92, RC93, RC97, RC101, R13, R14, B5
Kambiz Raoufi	PhD	2011	N/A	Damage Localization and its Impact on Cracking of Fiber Reinforced Concrete	RJ37, RJ63, RJ68, RJ77, RC71, RC75, RC88, RC99, RC105, R12, R14, R6
Mohammad Pour-Ghaz	PhD	2011	N/A	New Methods for Using Electrical Property Measurement to Detect Damage	RJ65, RJ68, RJ72, RJ74, RJ76, RJ80, RJ81, RJ84, RJ85, RJ86, RJ87, RJ94, RJ95 RC94, RC106, B5
Steve Scheaf	MS	2011	N/A	Predicting the Shrinkage and Shrinkage Cracking Potential of Concrete	~
Dan Votjko	MS	2011	N/A	Control of Shrinkage Cracking with Macrosynthetic Fibers	~
Micheal Golias	MS	2011	N/A	THE USE OF SOY METHYL ESTER-POLYSTYRENE SEALANTS AND INTERNAL CURING TO ENHANCE CONCRETE DURABILITY	J82, J90, J93, RC 92, B5
Mark Niemuth	PhD	2012	N/A	EFFECT OF FLY ASH ON THE OPTIMUM SULFATE OF PORTLAND CEMENT	J94, RC67
Carmelo DiBella	MS	2012	N/A	CHLORIDE TRANSPORT AND SHRINKAGE PROPERTIES IN PLAIN AND INTERNALLY CURED CONCRETE	RC 102, RC 104, UC 22, R17
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Name	Degree	Graduation Date	Name of Coadvisor	Thesis Title	Pubs.
Igor De La Varga	PhD	2013	N/A	~	RJ86,R J91, RJ95, RJ97, RJ 111, RJ 136, RC 92, RC 97, RC 101, RC 103,
Mitch House	MSCE	2013	N/A	~	RJ 118, RJ 142, RC 119
Robert Spragg	MSCE	2013	N/A	~	RJ72, RJ84, RJ85, RJ92, RJ102, RJ 108, RJ 111, RJ 120, RJ 124, RJ 130, RJ 145, RC 95, RC 106, RC 107, RC 112, RC 117, RC 118, RC 130, RC 133
Jeff Spiro	MSCE	2013	N/A	~	None
Tim Barrett	MSCE	2013	N/A	~	RJ 95, RJ 107, RJ 112, RJ 117, RJ 119, RJ 121, RJ 125, RJ 148, RJ 150, RC 103, RC 111, RC 123, RC 130, RC 132
Yizheng Cao	PhD	2014	~~Handwerker~~ Zavatteri Youngblood Moon	~	RJ 104, RJ 129, RJ 149
Yiwen Bu	PhD	2014	~~Handwerker Blendell~~	~	RJ 120, RJ 122, RJ 124, RJ 126, RJ 145, RC 113
Chiarra Villani	PhD	2014	N/A	~	RJ102, RJ 108, RJ 110, RJ 112, RJ116, RJ 124, RJ 138, Rj 140, RJ 144, RJ 145, RC 102, RC 104, RC 107, RC 108, RC 112, RC 117, RC 129
Wes Jones	MSCE	2013	N/A		RJ 134, RC 116, RC 137
Albert Miller	MSCE	2014	N/A	~	RJ 119, RJ 121, RC 119, RC 123
Catherine Lucero	MSCE	2015	N/A	~	RJ 128, RJ 135,
Andrew Weise	MSCE	2015	N/A	~	RJ 133, RJ 137, RJ 139
Phil Kompare	MSCE	2015	N/A	~	~
Yaghoob Farnam	PhD	2015	N/A	~	RJ 114, RJ 115, RJ 127, RJ 130, RJ 132, RJ 133, RJ 138, RJ 139, RJ 141, RJ 143, RJ 148, RJ 149, RC 114, RC 115, RC 120, RC 121, RC 132,
Tim Barrett	PhD	2015	N/A	~	RJ 95, RJ 107, RJ 112, RJ 117, RJ 119, RJ 121, RJ 125, RJ 148, RJ 150, RC 103, RC 111, RC 123, RC 130, RC 132
Heather Todak	MSCE	2015	N/A	~	RJ 128, RJ 130, RJ 150, RC 127, RC 128, RC 130
Nathan Todd	MSCE	2015	N/A	~	None
D'Shawn Thomas	MSCE	2016	N/A	~	None
Xiu Liu	MSCE	2016	N/A	~	None

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Name	**Degree**	**Graduation Date**	**Name of Coadvisor**	**Thesis Title**	**Pubs.**
Current Students					
Paul Imbrok	MSCE	~	N/A	~	RC 122
Jeddiah Burroughs	PhD	~	N/A		None to Date
Robert Spragg	PhD	~	N/A	~	RJ72, RJ84, RJ85, RJ92, RJ102, RJ 108, RJ 111, RJ 120, RJ 124, RJ 130, RJ 145, RC 95, RC 106, RC 107, RC 112, RC 117, RC 118, RC 130, RC 133
Current Students at Oregon State					
Alex Coyle	MS	~	N/A	Concrete Resistivity and Formation Factor: Role of Testing Temperature	RC 133
Luca Montanari	MS	~	N/A	Toward the Use of Internal Curing in CRC Pavements	~
Cody Tibits	MS	~	N/A	Chloride Binding due to Calcium Oxychloride	~
Marisol Tsui-Chang	MS	~	N/A	Use of X-Ray Flourescence in Concrete Materials Durability Testing	RC 124, RC 125

Research Interests

Dr. Weiss has focused the research of his group on the development of a scientifically based performance models and specifications that can link fundamental material properties and exposure conditions with long-term performance. This can enable the life cycle performance of these systems to be evaluated for use in triple bottom line predictions currently being used by the construction industry to quantify sustainability.

Dr. Weiss has conducted projects for a wide range of supporters as described in the following pages. The sponsors for this research have included governmental agencies (National Science Foundation, the Indiana Department of Transportation, the Federal Highway Administration, the National Cooperative Highway Research Program, and the Army Corps of Engineers), as well as Industry (Center for Advanced Cement Based Materials, Cemex, FRC Industries, BASF, Solidia, Compass Minerals, Cemex, and Lafarge North America).

Facilities Development

Dr. Weiss conducts a systematic approach to update and revitalize the existing equipment while building new capabilities for mechanical testing, volume change testing, non-destructive testing, fluid transport testing, and full scale element testing with realistic boundary conditions. A major development in this process was overseeing the one-million-dollar renovation of the Pankow materials laboratories. The following provides an overview of the main areas of laboratory development:

Mechanical Testing – Dr. Weiss secured funds for a state-of-the art closed-loop 110-kip capacity servo-hydraulic testing machine including digital controller, frame, and pump. He secured funds, and oversaw the reconditioning of a 30 kip testing actuator. Dr. Weiss initiated the purchase of a temperature and relative humidity environmental chamber that will be placed around the 30 kip testing frame (with Professor J. Olek, J. Haddock and Professor A. Hand). Dr. Weiss has been involved in the procurement and development of a wide range of testing fixtures, platens, and data conditioning systems for use with this equipment. In addition, LVDT's, load cells, and extensometers have been purchased along with data conditioning/acquisition systems. Most recently Dr. Weiss has purchased a 700K compression testing machine with a flexural beam attachment and has reconditioned a 250K compression testing machine as

a part of the Pankow Laboratory Renovation.

Non-Destructive Testing – Dr. Weiss secured funding and commissioned a six-channel fully automated acoustic emission monitoring system with three channels for full waveform recording. In addition, equipment was acquired for ultrasonic and resonant frequency testing (in a collaborative proposal with Professor J. Olek). Dr. Weiss took the lead on developing a proposal that secured funds for an A.C. electrical impedance gain-phase analyzer. Recent developments have enabled this equipment to be 'automatically switched' which enables increased testing throughput. Dr. Weiss has developed a remote sensing and monitoring system as a part of his NSF Career grant. The acoustic emission system was updated to a 12 channel system in collaboration with Professor J Liu.

Plastic Shrinkage, Early Age Volume Change, and Restrained Shrinkage Testing Equipment – Dr. Weiss secured funds to develop state-of-the-art volume change and cracking equipment. Dr. Weiss has worked to develop test methods and accompanying ASTM Standards. This system is automated and enables approximately eighteen restrained shrinkage tests to be performed simultaneously.

- Dr. Weiss has developed a testing equipment to perform plastic shrinkage cracking tests. Dr. Weiss has worked to develop a standardized testing approach for plastic shrinkage which has become ASTM C-1579.
- Dr. Weiss has developed testing equipment to perform restrained shrinkage testing in hardened concrete. In addition to fundamental tests, Dr. Weiss has worked to develop standardized testing approaches which have become ASTM C-1581.
- Dr. Weiss has conducted significant testing to understand the complexities with conducting volume change tests on materials as they transition from fluid to solid. Dr. Weiss has worked with a consortium of researchers to propose a new standard testing procedure which is currently under ballot.
- Dr. Weiss is currently working on the development of new testing equipment that will enable temperature to be considered in much of this early age testing which is vital as the programs move forward.
- Dr. Weiss has also added very unique capabilities for measuring the relative humidity and humidity provides in concrete.
- Dr. Weiss has developed a unique test device called a 'dual ring test'.

Environmental Simulation Chambers – Dr. Weiss secured funding and has commissioned eight small environmental chambers (relative humidity and temperature) that can be programmed to work in harmony with one another for use in shrinkage model development and service life modeling. In addition, he has recently added two stability chamber (50% RH, 23°C) for large scale specimens, two reach in conditioning chambers (relative humidity and temperature), and two large scale reach in freezing and thawing chamber. Most recently Dr. Weiss has developed a full scale simulation chamber (5 m x 5 m x 15 m) which will provide a unique opportunity to conduct carefully controlled full scale tests with well-defined boundary conditions which are essential for the interpretation of the data and the development of computer models.

X-Ray Absorption and 3D Tomography – Dr. Weiss has worked on developing and commissioning a very unique piece of testing equipment that uses x-ray absorption to image building materials focusing specifically on cracking and moisture transport in building materials. This facility is extremely unique. This equipment has enabled new research thrusts to be developed which have been well received in new projects from governmental agencies as well as private companies.

Calorimetry – Dr. Weiss has added three calorimeters to the laboratory. This includes an isothermal calorimeter, a semi adiabatic calorimeter and a near adiabatic calorimeter which are used for assessing early age reactions in cement based systems.

Vapor Sorption and Desorption – Dr. Weiss added a dynamic vapor sorption desorption analyze which

has been used to assess the drying of LWA, pavement joint materials and diffusion coefficients with shrinkage reducing admixtures. In addition, Dr. Weiss has added a high pressure, pressure plate apparatus which is demonstrating potential for use in freeze-thaw testing and well as aggregate characterization.

Fluid Transport Testing – As a part of the pooled fund study on fluid transport Dr. Weiss has added substantial equipment for testing fluid transport in concrete including several systems for measuring gas permeability under a variety of conditions, electrical transport under steady state and non-steady state conditions, and a suite of methods that can be taken to the field. This also includes service life modeling software.

Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility
FHWA/ JTRP/INDOT	Performance Related Specifications for Concrete Pavements in Indiana	PI	Olek	1999-Present	67%	$ 133,825	$ 199,739
ACBM	Blended Fiber Reinforcement for Improving the Cracking Resistance of Concrete Slabs, Bridge Decks, and Industrial Floors	PI	Shah (NWU), Olek	1999-2002	70%	$ 94,500	$ 135,000
Deans Office	Improving the Laboratory Equipment in the Undergraduate Civil Engineering Materials Courses	PI	Olek	1999-2000	50%	$ 7,370	$ 14,739
SQDH	Development of Quiet and Durable Porous Portland Cement Concrete Pavements	PI	Olek	2000-2003	50%	$ 37,000	$ 74,000
INDOT/JTRP	Technical Issues Related to the Use of Fly Ash and Slag During the Late Fall Construction Season	Co-PI	PI - Olek	2000-2003	50%	$ 60,000	$ 120,000
Kresge Challeng Grant	Real Time Data Acquisition System (Co-Principal Investigator with J. Olek)	Co-PI	Olek	2000	50%	$ 2,293	$ 4,585
INDOT/JTRP	Interaction Between Micro-Cracking, Cracking, and Reduced Durability in Concrete	PI	Olek	2000-2003	67%	$ 120,600	$ 180,000
ACBM	Acquisition of a 110 kip State of the Art Testing Frame	PI	~	2000	100%	$ 30,000	$ 30,000
Technology Fee	Acquisition of a 110 kip State of the Art Testing Frame	PI	Olek	2000	90%	$ 52,200	$ 58,000
SQDH	Mixtures that Incorporate Inclusions to Reduce the Sound Generated on Portland Cement Concrete Pavements	Co-PI	Olek	2001-2003	50%	$ 60,738	$ 121,475
Deans Office	Development oof Laboratory Modules for the Electrical Characterization of Construction Materials	PI	Olek, Cohen, Diamond		67%	$ 6,365	$ 9,500
ACBM	Acquisition of an Impedance Gain-Phase Analyzer	PI	Olek, Cohen, Diamond	2001	67%	$ 5,025	$ 7,500
PRF	Prediction of Early-Age Damage in Fiber Reinforced Concrete For Use in Life-Cycle Performance Simulations	PI	~	2000-2001	100%	$ 13,070	$ 13,070
INDOT/JTRP	Performance Evaluation of Ultra-thin White Topping Using Full Scale Accelerated Pavement Testing	Co-PI	Olek, Nantung	2001-present	7%	$ 12,942	$ 184,890
Kresge Challeng Grant	A Non Contact Laser Displacement Measuring System	PI	Weiss		100%	$ 3,000	$ 3,000
PRF	Prediction of Early-Age Damage in Fiber Reinforced Concrete For Use in Life-Cycle Performance Simulations - Extension	PI	~	2002-2003	100%	$ 13,070	$ 13,070
NSF	Career: Linking Insitu Monitoring with Damage Modeling for Life Cycle Performance Simulations in the Concrete Infrastructure	PI	~	2002-2007	100%	$ 374,998	$ 374,998

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility
Match	Career: Linking Insitu Monitoring with Damage Modeling for Life Cycle Performance Simulations in the Concrete Infrastructure	PI	~	2002-2007	100%	$ 217,025	$ 217,025
Match	Career: Linking Insitu Monitoring with Damage Modeling for Life Cycle Performance Simulations in the Concrete Infrastructure	PI	~	2002-2007	100%	$ 3,788	$ 3,788
INDOT/JTRP		PI	Cohen	2002-2004	50%	$ 47,500	$ 95,000
Degussa	Analytical Approach for Assessing the Creep Compliance of Early-Age Concrete	PI	~	2002	100%	$ 5,000	$ 5,000
INDOT/JTRP	Comparison of Various INDOT Testing Methods and Procedures to Quantify Variability in Measured Obtain Bituminous and Concrete Mix Properties	Co-PI	Pellinen	2002-2004	15%	$ 19,500	$ 130,000
NCHRP	Interim Planning Activities for a Future Strategic Highway Research Program: Study I - Detailed Planning for Research on the Renewal of America's Highways	Co-PI	Cackler, Olek, Hastak, Pellinen, McDaniel	2002-2003	2%	$ 7,000	$ 350,000
INDOT/JTRP	Expansion of Concrete Technology to the INDOT Districts and Concrete Industry in Indiana	Co-PI	Olek	2000-Present	15%	$ 7,500	$ 50,000
ACBM	Relating Damage, Transport, and Long-term Performance for Use in Life-Cycle Modeling	PI	~	2002-2004	100%	$ 60,000	$ 60,000
FRC Industries	Using the Restrained Ring Test to Quantify the Performance of Steel and Polypropylene Fiber Hybrids	PI	~	2002-2003	100%	$ 10,000	$ 10,000
CEMEX	Assessing the Influence of Cement Composition on Early-Age Shrinkage and Cracking	PI	~	2003	100%	$ 6,000	$ 6,000
Kresge	Chiller for the Development of Precise Environmental Conditions ($5,750 of $31,750)	Pi	~	2003	100%	$ 5,750	$ 5,750
PCA	Reducing Noise of Concrete by Modifying Surface Characteristics	Co-PI	Neithenalth, Olek	2003-2004	50%	$ 10,000	$ 20,000
INDOT/JTRP	Saw-cutting Guidelines for Concrete Pavements: Examining the Requirements for Time and Depth of Saw-Cutting	PI	Olek	2003-present	85%	$ 102,000	$ 120,000
NSF	Travel Reimbursement to the Brittle Matrix Conference in Poland	awardee	Li	2003	10%	$ 1,500	$ 15,000
Degussa	Phase I The Influence of Surface Tension Reducing Agents on Evaporation, Thermal Contraction, and Cracking at Early Ages	PI	~	2004	100%	$ 5,500	$ 5,500
INDOT/JTRP	Mixture Optimization	Co-PI	Olek	2003-present	33%	$ 40,000	$ 120,000
Kresge	Development of Sensing and Monitoring Modulues	PI	Haddock	2004	67%	$ 11,093	$ 11,093

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility
Degussa	Phase II Assessing the Analytical Foundations of the Time of Cracking on the Stress Rate Relationship	PI	~	2004	100%	$ 6,000	$ 6,000
Degussa	Phase III Assessing the Role of Shrinkage Reducing Admixtures on Microcrack Development and the Time of Cracking	PI	~	2004	100%	$ 6,800	$ 6,800
OITA	VBL Laboratories/Modeling the Shrinkage of Concrete	awardee	Sato	2004	100%	$ 4,150	$ 4,150
PRF	Prediction Of Residual Stress Development And Cracking In Heterogeneous Media Caused By Uniform And Non-Uniform Volume Change	PI	~	2004	100%	$ 14,530	$ 14,530
NSF	Travel Reimbursement to the Preservation of Historic Structures Workshop in Italy	awardee	Nanni	2004	11%	$ 1,700	$ 15,000
ACBM	Research on Early Age Concrete	PI	~	2004-2005	100%	$ 5,000	$ 5,000
Hojgarrd Foundation	Cracking in Heterogenous Media Caused by Uniform and Non-Uniform Loading	awardee	Stang, Geiker	2004	100%	$ 70,000	$ 70,000
FHWA	Innovative Methods For Creating Texture On Pavements	Co-PI	Transtec	2004	10%	$ 3,000	$ 30,000
Differential Technology	Instrumentation and Software to Improve Structure Property Relations for Heterogenous Materials	PI	~	2004	100%	$ 17,750	$ 17,750
NSF	Travel Reimbursement to the Indo-US workshop on High Performance Cement Based Concrete Composites	awardee	Biernacki, Shah	2004	13%	$ 2,500	$ 20,000
ACBM	Cement Studies	PI	~	2004	100%	$ 30,000	$ 30,000
ERIC	Moisture Thrust in Infrastructure and Building Materials Characterization: Moisture Movement, Damage Detection, and Performance Simulation	PI	~	2005	100%	$ 620,000	$ 620,000
INDOT/JTRP	Modifying the Selection Process of Concrete Mixture Proportions for INDOT	Co-PI	Cohen	2005-Present	50%	$ 50,000	$ 100,000
PRF	Prediction Of Residual Stress Development And Cracking In Heterogeneous Media Caused By Uniform And Non-Uniform Volume Change	PI	~	2005	100%	$ 14,530	$ 14,530
Danish Scholarship Office	Modeling Liquid and Ion Transport in Cracked Reinforced Concrete Structures	Co-PI	Geiker, Stang	2005-2007	33%	$ 80,000	$ 240,000
Degussa	Phase IV: The Development of a Unified Analytical Model to Predict Stress Development and Cracking in the Restrained Ring	PI	~	2005	100%	$ 9,500	$ 9,500
ACBM	Research on Early Age Concrete	PI	~	2005-2006	100%	$ 4,000	$ 4,000

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility
INDOT/JTRP	Field Trials of Rapid Setting Repair Materials	Co-PI	Olek	2005-2010	10%	$ 8,500	$ 85,000
ACBM	Cement Studies	PI	~	2005-2006	100%	$ 30,000	$ 30,000
USACoE	Predicting the Behavior of Cracked Concrete Exposed to Contamination SBIR Phase I	Co-PI	RJ Lee, SIMCO	2005-2006	18%	$ 12,500	$ 70,000
Kresge	Development of Data Acuqisition for the Sensing Laboratory	PI	Haddock	2004	67%	$ 4,643	$ 6,930
Private	Transport in Cement Based Materials	PI	~	2006	100%	$ 14,778	$ 14,778
USACoE	Predicting the Behavior of Cracked Concrete Exposed to Contamination SBIR Phase II	Co-PI	RJ Lee, SIMCO	2006-2008	10%	$ 72,500	$ 730,000
ACBM	Research on Early Age Concrete	PI	~	2006-2007	100%	$ 4,000	$ 4,000
NPCA	Development of Teaching Materials for a Level II Production and Quality School Course (PQS-II)	Co-PI	Rajabipour	2006-2007	100%	$ 8,768	$ 8,768
ACBM	Cement Studies	PI	~	2006-2007	100%	$ 30,000	$ 30,000
Kresge	A Proposal to Improve the Facilities for the Development of Self-Curing Materials and Early Age Shrinkage Measurements on Binders with Improved Sustainability	PI	~		100%	$ 6,455	$ 6,455
INDOT/JTRP	Portland Cement Concrete Pavement Performance Relative to Permeability	PI	~	2007-2010	100%	$ 150,000	$ 150,000
ITAP	Integrating Observations from Remote Locations in Real Time through a Web-based Interface	Co-PI	Connor	2007-2008	50%	$ 7,500	$ 15,000
PCA	Using limestone fillers to reduce cracking potential and improve shrinkage performance of low w/c mixtures	PI	Radlinska	2007-2008	100%	$ 20,000	$ 20,000
NSF	NEESR-SG: Damage Detection and Health Monitoring of Buried Pipelines after Earthquake-Induced Ground Movement	Co-PI	Michalowski, Lynch, Green, Bradshaw	2007-2010	16%	$ 240,000	$ 1,500,000
Indiana Soybean Alliance	Investigating the Use of Soy Bean Derivatives for a Concrete Sealer and Evaporation Retarder	PI	Tao	2007	100%	$ 23,527	$ 23,527
Propex	Quantifying the Role of Fiber Reinforcement in Improving the Plastic Shrinkage Performance of Concrete Mixtures	PI	~	2007	75%	$ 7,200	$ 9,600
Saint Gobain	Quantifying the Role of Fiber Reinforcement in Improving the Plastic Shrinkage Performance of Concrete Mixtures	PI	~	2007	100%	$ 9,800	$ 9,800

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility
Propex	Quantifying the Role of Fiber Reinforcement in Improving the Plastic Shrinkage Performance of Concrete Mixtures	PI	~	2007	100%	$ 2,400	$ 2,400
Propex	Quantifying the Role of Fiber Reinforcement in Improving the Plastic Shrinkage Performance of Concrete Mixtures	PI	~	2007	100%	$ 3,600	$ 3,600
Saint Gobain	Quantifying the Role of Fiber Reinforcement in Improving the Plastic Shrinkage Performance of Concrete Mixtures	PI	~	2007	100%	$ 5,000	$ 5,000
PRF	REACCT - Reducing Early Age Concrete Cracking Today	PI	~	2007	100%	$ 14,600	$ 14,600
Indiana Soybean Alliance	Proposal for the Evaluation of SME-PS for Use in the Concrete Construction Industry - Phase I	PI	~	2007	50%	$ 22,000	$ 44,000
ADS	Evaluation of Fly Ash Content in Reinforced Concrete Pipe	CoPI	Marchand	2007	21%	$ 6,500	$ 31,525
BASF	Graduate Student Support for Research in the Concrete Area (In Kind Money Paid Directly through tuition and student support)	Advisor	~	2007	100%	$ 60,000	$ 60,000
JTRP	Development of Self-Curing Concrete for Increased Service Life	PI	~	2007-2010	100%	$ 150,000	$ 150,000
JTRP	Saw Cutting and Curing of Concrete Pavements	PI	~	2007-2009	100%	$ 100,000	$ 100,000
FHWA	Evaluation of Test Methods for Permeability (Transport) and Development of Performance Guidelines for Durability	PI	Olek	2008-2012	80%	$ 706,400	$ 883,000
STE	Phase I: Proposed Work to Assess Large Scale Restrained Ring Tests for the Evaluation of Fiber Reinforced Concrete Materials	PI	~	2008	100%	$ 7,475	$ 7,475
Indiana Soybean Alliance	Proposal for the Evaluation of SME-PS for Use in the Concrete Construction Industry - Phase II	PI	~	2008	50%	$ 26,300	$ 52,600
Indiana Soybean Alliance	Proposal for the Evaluation of SME-PS for Use in the Concrete Construction Industry - Phase III	PI	~	2008	50%	$ 24,300	$ 48,600
NPCA	Development of Teaching Materialsfor an Advanced Qualtiy Control Course	PI	~	2008	100%	$ 9,730	$ 9,730
ACBM	Research on Advanced Cement Based materials	PI	~	2008	100%	$ 34,000	$ 34,000

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility
Nova Chemicals	Fracture Toughness Testing and Shrinakge Cracking Resistance in Concrete Containing Polymeric Spheres	Co-Pi	Liu	2008	50%	$ 30,917	$ 61,834
BASF	Quantifying the Role of A New Series of Fiber Reinforcement in Improving the Plastic Shrinkage Performance of Concrete Mixtures	PI	~	2008	100%	$ 9,916	$ 9,916
FHWA via PSI	Fundamental Studies in the Mitigation of Alkali Silica Reaction	Co-PI	Olek	2008-2012	40%	$ 240,184	$ 600,461
BASF	******Support and Inkind Support for Dan Votjko and Steve Scheaf Thesis	Advisor	BASF	2008-2011	~	$ 150,000	$ 150,000
Lafarge North America	******Support and Inkind Support for Mark Niemuth Thesis	Advisor	Lafarge North Americal	2008-2012	~	$ 150,000	$ 150,000
JTRP	Implementation of Saw-Cutting Guidelines	PI	~	2008-2009	100%	$ 5,356	$ 5,356
FHWA	Exploratory Advanced Research Program - Greatly Increased Use of Fly Ash in Hydraulic Cement Concrete for Pavement Layers and Transportation Structures	PI	Olek, Tao, Nantung, Schindler, Obla, Bentz	2009-2011	34%	$ 178,500	$ 525,000
Cebustone	Testing support of split face concrete block veneer (TAP)	PI	Castro	2009	100%	$ 6,600	$ 6,600
BASF	Relating Ring Results with Full Scale Slab Behavior in Fiber Reinforced Concrete	PI	~	2009-2010	100%	$ 9,800	$ 9,800
INDOT/JTRP	Extension of Scope - Development of Self Curing Concrete for increased service Life	PI	~	2009-2010	100%	$ 23,827	$ 23,827
Berns Construction	Evaluation of Concrete Materials For Use In Airfield Paving Considering Deleterious Reactions (TAP)	PI	Castro	2009-2010	90%	$ 6,000	$ 6,000
Expanded Slate Clay and Shale Institute	Extending Internal Curing Concepts: Robustness in Batching and Placing and Improved Long-Term Durability	PI	~	2009-2010	100%	$ 62,750	$ 62,750
LTAP	Implementation of a Test Site To Evaluate Concrete Performance: Self Curing Concrete as a New Material for Indiana Applications	PI	~	2009-2010	100%	$ 47,500	$ 47,500
Concrete Pavement Technology Center	Pavment Joint Deterioration Research	Co-Pi	Olek	2009-2010	50%	$ 25,000	$ 50,000
Compass Materials	Examining Potential Pitfalls in Testing for Deicing Salt/Concrete Pavement Interactions	PI	Olek	2009-2010	50%	$ 21,000	$ 42,000
Compass Materials	Examining the influence of common deicers on the potential deterioration of concrete pavements	PI	Olek	2009-2010	50%	$ 4,000	$ 8,000

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility
LTAP	A Review of Roller Compacted Concrete for Applications to Cities and Towns	PI	~	2009-2010	100%	$ 35,000	$ 35,000
USACoE	Nano-modified Cement for High Strength Concrete with Improved Mechanical Performance and Blast Resistance (In negotiation at SPS)	PI	Handwerker, Stach	2010-2011	33%	$ 330,000	$ 1,000,000
JTRP	Removing Obstacles for Pavement Cost Reduction by Examining Early Age Opening Requirements	PI	Zavatteri	2010-2012	50%	$ 125,000	$ 250,000
Propex Concrete Systems	Testing Plastic Shrinkage Tendency for Fiber Reinforced Concrete	PI	~	2009-2010	100%	$ 6,750	$ 6,750
IceStone	Shrinkage Cracking Resistance Testing of Concrete Countertop Mixtures	PI	~	2009-2010	100%	$ 3,965	$ 3,965
Propex Concrete Systems	Expansion of Scope	PI	~	2010	100%	$ 3,975	$ 3,975
JTRP	Evaluation of Sealers and Waterproofers for Extending the Life of Concrete Pavements and Joints	PI	Tao and Nantung	2010-2012	85%	$ 127,500	$ 150,000
IOWA DOT	Concrete Pavement Joint Deterioration Phase I	Co-PI	Olek	2010-2011	50%	$ 25,000	$ 50,000
Digital Site Systems	In Kind Donation of Semi_Adiabatic Calorimeters	PI	~	2010	100%	$ 32,000	$ 32,000
Digital Site Systems	In Kind Donation of Quadrel Software	PI	~	2010	100%	$ 25,000	$ 25,000
BASF	Extension of Scope - Restrained Shrinkage Testing I	PI	~	2010	100%	$ 2,450	$ 2,450
BASF	Extension of Scope - Restrained Shrinkage Testing II	PI	~	2010	100%	$ 2,450	$ 2,450
Portland Cement Association	The Use of Increased Volumes of Limestone Filler	PI	~	2010	100%	$ 21,500	$ 21,500
Continental Cement	Evaluation of Cement Characteristics on Shrinkage	PI	~	2010	100%	$ 1,500	$ 1,500
Expanded Slate Clay and Shale Institute	Diffusion Testing of Internally Cured Concrete Decks vs Conventional Decks	PI	~	2010	100%	$ 8,100	$ 8,100
Berns Construction	In Kind Donation ** Concrete Slabs	PI	~	2010	100%	$ 5,000	$ 5,000

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility
Brown	In Kind Donation ** Endoermic Deck	PI	~	2010-2011	100%	$ 2,500	$ 2,500
IOWA DOT	Concrete Pavement Joint Deterioration: Phase III – Mitigation, Remediation, and Service Life Extension	PI	Jan Olek	2010-2012	50%	$ 50,000	$ 100,000
JTRP	Maturity Method for Prediction of Concrete's Resistance to Chloride Ion Penetration	PI	~	2011-2012	100%	$ 100,000	$ 100,000
Owens Corning	Plastic Shrinkage Testing of Glass Fibers in Concrete	PI	~	2011	100%	$ 3,750	$ 3,750
Carolina Stalite	Quantifying Sustainability of Internally Cured Concrete- Time Dependent Chloride Diffusivity	PI	~	2011	100%	$ 9,875	$ 9,875
Big River	Quantifying Sustainability of Internally Cured Concrete- Difusion and Life Cycle Costs	PI	~	2011	100%	$ 9,875	$ 9,875
TXI Industries	Quantifying Sustainability of Internally Cured Concrete- Time Dependent Chloride diffusivity for High Volume Fly Ash	PI	~	2011	100%	$ 9,875	$ 9,875
Gift	Used Equipment Gift (Estimated Value) - FT Machine, Mixers, Block Frame, Actuators, Load Frames, Rings, Charpy	PI	~	2011	100%	$ 135,000	$ 135,000
PRF	Increasing the Service Life & Sustainability of the Built Infrastructure with Internally Cured Concrete	PI	_	2011	100%	$ 16,795	$ 16,795
Savannah River National Laboratory	A Review of Current Practices on Characterizing and Modeling transport through Cracked Porous Media with Emphasis on Concrete	PI	~	2011	100%	$ 64,218	$ 64,218
JTRP	Performance of More Sustainable Cements that Include Interground Limestone Additions of up to 15%	PI	~	2011-2012	100%	$ 150,000	$ 150,000
JTRP	Early Detection of Joint Distress in Portland Cement Concrete Pavements	PI	~	2011-2012	100%	$ 150,000	$ 150,000
Lafarge North America	Gift - Evaluating the Potential Use of Slag Aggregate for Internal Curing	PI	~	2012	100%	$ 19,000	$ 19,000
NPCA	The Evaluation of Precast Concrete Sewer Pipes, Tanks and Vaults Exposed to Microbially Induced Concrete Corrosion (MICC)	PI	Banks and Schwab	2011-2012	34%	$ 45,900	$ 135,000

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility
Lafarge North America	Gift - Cracking Behavior of Limestone Cements	PI	~	2012	100%	$ 22,500	$ 22,500
LTAP	Development of an Economical Method to Improve Sidewalk Performance for Local Agencies	PI	~	2012-2013	100%	$ 24,600	$ 24,600
LTAP	Assuring Durable Concrete in Bridge Deck Elements for Local Agencies	PI	~	2012-2013	100%	$ 28,600	$ 28,600
NSF	High Performance Cement Composites with Nanocrystalline and Nanofibrillated Cellulose	Co-PI	Zavatteri, Moon, and Youngblood	2012-2014	25%	$ 115,500	$ 350,000
ISA	Evaluation of Soy Methyl Esther Field Sites	PI	Tao	2012-2013	50%	$ 37,500	$ 75,000
Lafarge North America	Gift - Early Age Concrete	PI	~	2012	100%	$ 17,500	$ 17,500
JTRP	Electrical Property Imlementation	PI	~	2011-2012	100%	$ 58,840	$ 58,840
Nuclear Regulatory Commision	Sensors and Monitoring to Assess Ground and Vault Behavior for Performance Assessments (NIST Support)	Co-PI	Snyder	2011-2012	50%	$ 35,000	$ 70,000
Nextrans	Internal Curing as a New Tool for Infrastrucure Renewal: Reducing Repair Congestion, Increasing Service Life, and Improving Sustainability	PI	Peeta	2012-2013	50%	$ 51,368	$ 51,368
BASF	Freeze-Thaw Testing	PI	~	2012	100%	$ 8,700	$ 8,700
FHWA	Expansion - Evaluation of Test Methods for Permeability (Transport) and Development of Performance Guidelines for Durability	PI		2012-2013	100%	$ 95,000	$ 95,000
Lafarge North America	Early Age Sulfate Measurements	PI	~	2012	100%	$ 3,500	$ 3,500
Solidia	Investigation of the Water Induced Changes in the Bonding Mechanisms of Carbonated Calcium Silicates	Co-PI	Olek	2012-2013	50%	$ 100,000	$ 200,000
Colorado DOT	Internal Curing of HPC Using Light-weight Aggregate and Other Techniques	PI	~	2012-2013	100%	$ 60,000	$ 60,000
INDOT/JTRP	Documentation of the construction of INDOT's Experience with the Bridge Deck's Containing Internal Curing in 2013	PI	~	2013	100%	$ 150,000	$ 150,000

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility	
INDOT/JTRP	Documentation of the construction of INDOT's Experience with the Bridge Deck's Containing Internal Curing in 2013	PI	~	2013	100%	$ 150,000	$ 150,000	
Lafarge North America	Study on the Influence of Cement Grinding Aids on Early Age Shrinkage	PI	~	2013	100%	$ 7,500	$ 7,500	
US AIR FORCE (Illinois Rocstar)	Field Assessment of Materialso for Use in Ultra High Performance Concrete (Subcontract to Illinois Rocstar)	PI	Zavatteri	2013	50%	$ 32,500	$ 65,000	
INDOT/JTRP	Toward Performance Related Specifications for Concrete Pavements	PI	Zavetteri, Mannering	2013-2015	34%	$ 119,000	$ 350,000	
ISA	Soy-based Luminescent Concrete Sealant ♂("Glow in the Dark Concrete")	PI	Tao	2013-2014	50%	$ 32,500	$ 65,000	
Solidia	Phase II Work Plan for Solidia Expansion July 1, 2013 to December 31, 2013	Co-PI	Olek	2013	50%	$ 62,500	$ 125,000	
ConSeal	Assessing the Performance of Antimicrobial Concrete Admixture for Microbially Induced Concrete Corrosion	PI	Blatchley	2013-2014	50%	$ 57,373	$ 114,746	$ 1,627,346
INDOT/JTRP	Using Field Electrical Conductivity Measurements for Scheduling Chip Seal Spreading/Sweeping Operation	Co-PI	Haddock	2013-2015	50%	$ 75,000	$ 150,000	
Norlite	Gift for Internal Curing Work	PI	~	2013	100%	$ 3,000	$ 3,000	
BASF	Superabsorbent Polymers	PI	Erk	2013	50%	$ 4,250	$ 8,500	
FAA	PEGASAS: Task C-Investigating the Potential to Use Phase Change Materials (PCM) to Store Heat in Concrete Pavement Thereby reducing the Need for Anti-Icing	PI	Erk (MSE), Tao (ABE) 50% Match	2013-2015	34%	$ 132,124	$ 388,600	
FHWA via ARA Consultants	Develop and Deploy Performance Related Specifications (PRS) for Pavement Construction (*Notification was received to proceed)	Co-Pi	~	2013-2017	100%	$ 200,000	$ 200,000	

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Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility	
OKDOT - Pooled Fund	Improving Specifications to Resist Frost Damage in Modern Concrete (*notification was received to proceed)	Co-Pi	Ley (Oklahoma State)	2014-2015	50%	$ 240,000	$ 525,000	
LTAP	Develop and Deploy A Mobile Concrete Testing Laboratory	PI	~	2014-2015	100%	$ 160,000	$ 160,000	
INDOT/JTRP	Synthesis: Accelerating the Implementation of Research Findings to Reduce the Potential for Concrete Pavement Joint Deterioration	PI	Olek	2014	50%	$ 40,031	$ 80,062	
Gift	Mobile Concrete Testing Laboratory	PI	~	2014	100%	$ 10,000	$ 10,000	
FHWA via ARA Consultants	Best Practices for Portland Cement Concrete Pavements (Indefinite Contract Amount)	~	~	2014-2018	100%	$ 160,023	$ 160,023	
Kresge	Autosampler for the TA Q2000 Differential Scanning Calorimeter	PI	~	2014	100%	$ 14,000	$ 14,000	
Propex	Plastic Shrinkage Testing	PI	~	2014	100%	$ 5,000	$ 5,000	
BASF	Autogenous Shrinkage	PI	~	2014	100%	$ 2,600	$ 2,600	
Solida	Phase III Work Plan for Solidia Expansion January 1, 2014 to June 30th, 2014	Co-Pi	olek	2014	50%	$ 125,000	$ 250,000	$ 2,489,356
PCA	Damage in Cementitious Materials Exposed to Deicing Salts	PI	~	2014	100%	$ 20,000	$ 20,000	
FAA PEGASAS	Phase Change Materials for Deicing Asphalt Pavements	PI	Tao, Erk, Haddock, Zavetteirri	2014	20%	$ 90,000	$ 450,000	
JTRP	Effect of Deicing Salts and Deicing Salt Cocktails on Concrete Pavement Durability	PI	~	2014	100%	$ 85,000	$ 85,000	
JTRP	A Mobile Concrete Laboratory to Support Testing in 2014 on Internal Curing and High Early Strength Patches	PI	~	2014	100%	$ 62,864	$ 62,864	
JTRP	Concrete Patching Materials And Techniques and Guidelines for Cold Weather Concreting	PI	Zavattieri, Olek	2014-2016	34%	$ 81,600	$ 240,000	
Illinois Tollway	Subcontact U of I - Innovative Structural and Material Design for Continuously Reinforced Concrete Pavement (CRCP) - Phase I	~	Roessler (Illinois), Zollinger (Texas A&M)	2014	34%	$ 50,000	$ 75,000	
P3Nano	Use of Cellulose NanoCrystals (CNC) as a Sustainable Value Added Material for Portland Cement and Concrete	PI	Zavattieri, Youngblood	2014-2016	34%	$ 118,934	$ 349,807	
Total for Awarded Proposals						**$ 9,640,823**	**$ 17,580,301**	

* Note the entire funding was not available from ACBM due to low member fees
** Due to a error this project was never billed for
*** This was a portion of a larger proposal
**** Took over project during Professor Cohens Sabbatical and Retirement
***** Due to a SPS billing error only $9514 was billed
****** Estimated Inkind Industrial Support
*******SPS failed to sign a contract given 4 months so this was not awarded

Projects at Oregon State								
Agency	**Title**	**Role**	**Collaborators**	**Duration**	**Responsibility**	**Direct Funding Responsibility**	**Total Funding Responsibility**	
Transferred to Oregon State								
OKDOT - Pooled Fund	Improving Specifications to Resist Frost Damage in Modern Concrete - year 1	Co-Pi	Ley (Oklahoma State)	2014-2015	50%	$ 53,868	$ 525,000	
OKDOT - Pooled Fund	Improving Specifications to Resist Frost Damage in Modern Concrete year 2	Co-Pi	Ley (Oklahoma State)	2014-2015	50%	$ 115,000	$ 525,000	
INDOT/JTRP	Synthesis: Accelerating the Implementation of Research Findings to Reduce the Potential for Concrete Pavement Joint Deterioration	Co-Pi	Olek	2015-2016	50%	$ 13,671	$ 80,062	
INDOT/JTRP	Using Field Electrical Conductivity Measurements for Scheduling Chip Seal Spreading/Sweeping Operation	Co-Pi	Haddock	2015-2016	50%	$ 13,671	$ 150,000	
INDOT/JTRP	Effect of Deicing Salts and Deicing Salt Cocktails on Concrete Pavement Durability	PI	~	2015-2016	100%	$ 65,000	$ 85,000	
INDOT/JTRP	Toward Performance Related Specifications for Concrete Pavements	PI	Zavetteri	2015-2016	34%	$ 51,539	$ 350,000	
JTRP	Concrete Patching Materials And Techniques and Guidelines for Cold Weather Concreting	PI	Zavattieri, Olek	2014-2016	34%	$ 52,995	$ 240,000	
Solida	Phase III Work Plan for Solidia Expansion January 1, 2014 to June 30th, 2014	Co-Pi	olek	2014	50%	$ 125,000	$ 250,000	$ 1,115,052
PCA	Damage in Cementitious Materials Exposed to Deicing Salts	PI	~	2014	100%	$ 20,000	$ 20,000	
FAA PEGASAS	Phase Change Materials for Deicing Asphalt Pavements	PI	Tao, Erk, Haddock, Zavetteirri	2014	20%	$ 90,000	$ 450,000	
FHWA via ARA Consultants	Develop and Deploy Performance Related Specifications (PRS) for Pavement Construction Part I	Co-Pi	~	2013-2017	100%	$ 44,214	$ -	
FHWA via ARA Consultants	Develop and Deploy Performance Related Specifications (PRS) for Pavement Construction Part II	Co-Pi	~	2013-2017	100%	$ 155,801	$ 200,000	
Illinois Tollway	Subcontact U of I - Innovative Structural and Material Design for Continuously Reinforced Concrete Pavement (CRCP) - Phase I	~	ARA	2016	34%	$ 52,962	$ 52,969	
Illinois Tollway	Subcontact U of I - Innovative Structural and Material Design for Continuously Reinforced Concrete Pavement (CRCP) - Total Estimated	~	Roessler (Illinois), Zollinger (Texas A&M)	2014	34%	$ 92,823	$ 650,000	
P3Nano	Use of Cellulose NanoCrystals (CNC) as a Sustainable Value Added Material for Portland Cement and Concrete	PI	Zavattieri, Youngblood	2014-2016	34%	$ 168,508	$ 349,807	
Total for Projects Transferred						**$ 1,115,052**	**$ 3,927,838**	

New Projects Since Arriving at Oregon State

Agency	Title	Role	Collaborators	Duration	Responsibility	Direct Funding Responsibility	Total Funding Responsibility	
PCA	Gift for Research on Freeze Thaw Performance of Cracked Concrete with the CSH Hub at MIT	PI	~	2015-2017	100%	$ 94,500	$ 94,500	
NRMCA	Gift for Research on Freeze Thaw Performance of Cracked Concrete with the CSH Hub at MIT	PI	~	2015-2017	100%	$ 94,500	$ 94,500	
ESCSI	Toward Improved Use of Internal Curing	PI	~	2015-2016	100%	$ 22,000	$ 22,000	
INDOT/JTRP	Specifying the Formation Factor for INDOT	PI	~	2016	100%	$ 80,000	$ 80,000	
INDOT/JTRP	A Recipie Specification for Internally Cured Concrete for INDOT	PI	~	2016	100%	$ 50,000	$ 50,000	
P3Nano	Evaluating Cellulose Nano Crystals Made Using Materials from Yreka CA	PI	Zavattieri, Youngblood	2014-2016	34%	$ 50,000	$ 100,000	$ 714,677
Snyder	Sample Exchange for the Formation Factor - Part I	PI	~	2016	100%	$ 62,200	$ 62,200	
Snyder	Sample Exchange for the Formation Factor - Part II	PI	~	2016	100%	$ 35,000	$ 35,000	
Snyder	Sample Exchange for the Formation Factor - Part III	PI	~	2016	100%	$ 15,000	$ 15,000	
PCA	Graduate Student Scholarship - For Research In the Area of Formation Factor	Co-PI	Ideker, Isgor	2015-2016	34%	$ 11,900	$ 35,000	
ConSeal	PERFORMANCE EVALUATION OF ANTIMICROBIAL ADDITIVES/COATINGS FOR PERFORMANCE EVALUATION OF ANTIMICROBIAL ADDITIVES/COATINGS FOR CONCETE AND CEMENTITIOUS PRODUCTS	PI	Isgor	2016	50%	$ 63,239	$ 126,477	
Total for Awarded Proposals at Oregon State						**$ 578,339**	**$ 714,677**	
Total Transferred and Awarded Proposals						**$ 1,693,391**	**$ 1,829,729**	
Career Total Proposals						**$ 11,334,213**	**$ 19,410,030**	

Program Level Gifts at Oregon State			
Agency	**Title**	**Amouont**	
Kiewit	2015 Distinguished Lecture Series	$ 25,000.00	
AGC	2016 Distinguished Lecture Series	$ 25,000.00	
AGC	2016 Staff Support	$ 50,000.00	$ 185,000.00
AGC	2015 Staff Support	$ 50,000.00	
Private Gift	Founders Kiosk	$ 35,000.00	
Total		**$ 185,000.00**	

PUBLICATIONS

As of July 15th, 2016 Google Scholar reports 5845 citations, an h index of 42 (largest number h such that at least h publications have at least h citations), and an i10 index of 140 (number of papers with at least 10 citations).

Refereed Journal Publications (RJ)

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13. Castro, J., Spragg, R., Kompare, P. and Weiss, W.J. (2010), "Portland Cement Concrete Pavement Permeability Performance", Final Report, FHWA/IN/JTRP-2010/29, Joint Transportation Research Program.
14. Schlitter, J., Henkensiefken, R., Castro, J., Raoufi, K. and Weiss, J. (2010), "Development of Internally Cured Concrete for Increased Service Life", Final Report, FHWA/IN/JTRP-2010/10, Joint Transportation Research Program.

15. Bentz, D. P., and Weiss, W. J., (2011) "Internal Curing: A 2010 State of the Art Review," NIST IR 7765, 82 pp.
16. Tennis, P. Thomas, M. D. A., and Weiss, W. J., (2011) "State of the Art Report on Use of Limestone in Cements at Levels up to 15%, PCA SN 3148, 74 pp.
17. Di Bella, C., Schlitter, J., Carboouneau, N., Weiss, J. (2012) "Documenting the Construction of a Plain Concrete Bridge Deck and an Internally Cured Bridge Deck", Publication JTRP.
18. Langton, C., and Weiss, W.J., (2012) "Transport in Cracked Concrete," Savannah River Report
19. Snyder, K., and Weiss, W. J., (2012) "Sensors and Monitoring to Assess Grout and Vault Behavior for Performance Assessments", Office of Nuclear Regulatory Research

Chapters in Books (BC)

1. Chapter 6.1, Weiss, W. J., "Experimental Determination of 'Time-Zero' (t_0)" Early Age Cracking in Cementitious Systems" – RILEM State of the Art Report TC-EAS, ed. A. Bentur, © 2002Chapter 7.5, Weiss, W. J., and Berke, N.S., "Admixtures for Reduction of Shrinkage and Cracking", Early Age Cracking in Cementitious Systems – RILEM State of the Art Report TC-EAS, ed. A. Bentur, © 2002
2. Barde, A., Mazzotta, G., Weiss, W. J., 2005 "Early-Age Flexural Strength: The Role of Aggregates and their Influence on Maturity Predictions," Special Volume of the Material Science of Concrete VII, American Ceramic Society, Wiley Publishers, © 2005
3. Weiss, W.J., "Chapter 19 - Elastic Properties, Creep, and Relaxation," ASTM 169D, Significance of Tests and Properties of Concrete and Concrete Making Materials, ASTM International, West Conshohocken, PA, ©2006, pp. 194-206
4. Shin, K., Castro, J., Schlitter, J., Golias, M., Pour-Ghaz, M., Henkensiefken, R., Peled, A., and Weiss (2010) "Chapter 9: The Role of Internal Curing as a Method to Improve Durability," Handbook on Concrete Durability, Ed S H Kim and K Y Ann, Middleton Publishing, p 379-428
5. Raoufi, K., and J. Weiss, Chapter 6: The Role of Fiber Reinforcement on Mitigating Shrinkage Cracks in Concrete, Fibrous and Composite Materials for Civil Engineering Applications, edited by: R. Fangueiro, Woodhead Publishing Ltd., 2010, pp. 168-188
6. Castrol, J., Lura, P., Rajabipour, F., Henkensiefken, R., and Weiss, W. J. (2010) "A Discussion of the Role of Pore Solution on Relative Humidity Measurements and the Desorption of LWA," ACI SP 270 Advances in the Material Science of Concrete, American Concrete Institute, Editors: Ideker, J., and Radlinska, A, pp. 89-100.
7. Bu, Y., Saldana, C., Handwerker, C., and Weiss. W.J. (2015) "The Role of Calcium Hydroxide in the Elastic and Viscoelastic Response of Cementitious Materials: A Nanoindentation and SEM-EDS Study," Nanotechnology in Construction, Edited by: Sobolev, K. and Shah, S., Springer International Publishing, pp. 25-34
8. Spragg, R., Qiao, C., Barrett, T., Weiss, W.J. (2016) "Chapter 11: Assessing a concrete's resistance to chloride ion ingress using the formation factor," Corrosion of Steel in Concrete Structures, Edited by: A. Poursaee, Woodhead Publishing, pp. 211-238. DOI: 10.1016/B978-1-78242-381-2.00011-0
9. O'Connor, S., Lynch, J., Pour-Ghaz, M., Nadukuru, S., Michalowski, R.L., Green, R., Bradshaw, A, Weiss, W.J. (2017) "Chapter 8: Underground Sensing Strategies for the Health Assessment of Buried Pipelines," Underground Sensing: Monitoring and Hazard Detection for Environment and Infrastructure, Edited by: S. Pamukcu and L. Cheng, Academic Press, pp. 417-453.

PRESENTATIONS

Dr. Weiss has given three keynote or plenary lectures at international conferences:

- Pease, B., Shah, H. R., Hossain, A. B., and Weiss, W. J., (2005) "Restrained Shrinkage Behavior of Mixtures Containing Shrinkage Reducing Admixtures and Fibers" ICACS 2005 Intl Conference on Advances in Concrete Composites and Structures, Chennnai, India, 2005, pp. 265-274
- Sant G., Radlinska A., Bucher B., and Weiss J., (2007) "Minimizing the Risk of Early Age Cracking in Concrete Through the Use of Comprehensive Experimental Techniques, Computer Simulations, and New Materials" Concrete 2007: Design, Materials and Construction Concrete for the Future, Adelaide, Australia
- Sant, G., and Weiss, W. J., (2008) "Applications that Require a Correction Before the Maturity Concept is Applied", RILEM International Conference on Microdurability 2008, Nanjing, China

In addition, Dr. Weiss has given over 300 presentations or seminars since 1999. The institutes include, but are not limited to: Tufts University, Howard University, Johns Hopkins University, University of Colorado, Lehigh University, Cornell University, Danish Technical University, Lund University, University of Cincinnati, Penn State University, Northwestern University, Georgia Tech, Princeton, Polytechnique University of Catalunya, Oita University, Vanderbilt University, University of Illinois, Oregon State, MIT, ETH, the Precast Concrete Institute, the National Precast Concrete Institute, the American Concrete Institute, the American Concrete Paving Association, the Ohio Concrete Association, Indiana Concrete Paving Association, the American Society of Testing Methods, Indiana Concrete Paving Association, Federal Highway Administration, American Concrete Institute, the National Institute of Science and Technology, The Nuclear Regulatory Commission, Portland Cement Association, Grace Construction Products, several ACI chapters, and Master Builders Technologies.

SCHOOL OF CIVIL AND CONSTRUCTION ENGINEERING

O R E G O N S T A T E U N I V E R S I T Y
College of Engineering

YIM, Solomon C. **CITIZENSHIP**
Glenn Willis Holcomb Chair Professor of Structural Engineering U.S.

DEGREES

B.S., Civil Engineering, Rice University (with highest honor: Summa cum Laude), 1976
M.S., Civil Engineering (Struct. Engr., Mech. & Mat.), University of California, Berkeley, 1977
M.A., Mathematics (Computational Fluid Dynamics), University of California, Berkeley, 1981
Ph.D., Civil Engineering (Struct. Engr., Mech. & Mat.), University of California, Berkeley, 1983

ACADEMIC POSITIONS

University of California, Berkeley

1976-77	Earle Anthony University Graduate Fellow
1977-81	Graduate Research Assistant, Department of Civil Engineering
1982-83	Acting Instructor, Department of Civil Engineering
1983-84	Visiting Lecturer and Assistant Research Engineer, Department of Civil Engineering
1993-94	Visiting Associate Professor, Dept. of Naval Architecture and Offshore Engineering

Oregon State University

1987-91	Assistant Professor of Civil Engineering
	Adjunct Assistant Professor of Mathematics and Mechanical Engineering
1991-97	Associate Professor of Civil Engineering
	Adjunct Associate Professor of Mathematics and Mechanical Engineering
1992-2012	Structural Engineering Program Coordinator, School of Civil Engineering
1997-	Professor of Civil Engineering
	Adjunct Professor of Mathematics and Mechanical Engineering
1998-2000	Assistant Head, Department of Civil, Construction and Environmental Engineering
1999-2002	Director of Transportation Research Institute
2007-	Adjunct Professor of College of Oceanic and Atmospheric Sciences
2010-11	Interim Director of Hinsdale Wave Researcher Laboratory
2012-	Glenn Willis Holcomb Professor of Structural Engineering

Harbin Engineering University

2012-17	Guest Professor of College of Shipbuilding Engineering

NON-ACADEMIC POSITIONS

1984-85	Research Engineer, Exxon Production Research Company, Houston, TX
1986-87	Senior Research Engineer, Exxon Production Research Company, Houston, TX
1984-	Consultant to industry and government agencies

FIELDS OF SPECIALIZATION

Continuum, structural and fluid mechanics
Fluid-structure interaction (FSI), contact and impact mechanics
Ocean environmental nonlinear wave-field modeling, analysis and simulation
Large-scale physical, analytical and numerical wave-basin modeling and analysis, wavemaker theory development and operation
High-performance-computing based simulation of multi-physics, multi-scale and multi-domain FSI systems

Naval, offshore and coastal hydrodynamics and marine hydrokinetics, and wave-energy system modeling, analysis and simulation
Resilient structural systems to extreme natural hazard and manmade events
Applications in deterministic and stochastic environmental fluid loading and structural response prediction, analysis and design for operational and extreme loads including wave, current, storm-surge, tsunami, vehicle reentry, debris flow-induced slamming problems for naval, civil, mechanical and marine energy conversion systems (floating/submerged/moored vessels and buoys, high-speed crafts, ships, wave energy conversion devices, and ocean and coastal infrastructure)

PROFESSIONAL ACTIVITIES

Registration

Professional Engineer, State of Oregon, No. 18645PE

Professional Societies

American Society of Mechanical Engineers (No.1358084), Member 1986-2007, Fellow 2007-
American Society of Civil Engineers (No.00211014), Member 1982-2009, Fellow 2009-
International Society of Offshore and Polar Engineers (ISOPE), Charter Member, 1991-
American Society of Engineering Education (ASEE), Member (26545), 1991-97
Society of Naval Architects and Marine Engineers (SNAME), Member, 1994-
Consortium of Universities for Research in Earthquake Engineering (CUREE), Member, 2001-16
Earthquake Engineering Research Institute (EERI), Member, 2002-
Network for Earthquake Engineering Simulations Consortium, 2003-14
U.S. Association for Computational Mechanics, 2003-
International Towing Tank Conference, Member and Oregon State University Representative, 2017-present

Commissions and Professional Executive Committees

State of Oregon Governor's Task Force on Shear-Cracked Bridges, Oregon Department of Transportation, 2002
United States and Japan Cooperative Program in Natural Resources (UJNR), Panel on Wind and Seismic Effects, Task Committee H – Storm Surge and Tsunamis, US co-Chair, 2003-2014
United States and Japan Cooperative Program in Natural Resources (UJNR), Panel on Wind and Seismic Effects, Task Committee G – Transportation Systems, US Member, 2005-06
National Science Foundation Sponsored Independent New Orleans Levee Investigation Team, 2006
Permanent International Association of Navigation Congresses (PIANC) MarCom Work Group 53 – "Recommendations on Design and Construction of Maritime Structures in Tsunami Prone Areas" 2005-09
National Research Council Study Committee on Naval Engineering in the 21st Century, 2009-11

<u>Executive Committee</u>
International Conference on Hydrodynamics, Executive Committee, 2009-15
American Society of Mechanical Engineers, Ocean, Offshore and Arctic Engineering Division, Executive Committee, member 2011-12
American Society of Mechanical Engineers, Ocean, Offshore and Arctic Engineering Division, Executive Committee, secretary 2013-14
American Society of Mechanical Engineers, Ocean, Offshore and Arctic Engineering Division, Executive Committee, treasurer 2014-15

American Society of Mechanical Engineers, Ocean, Offshore and Arctic Engineering Division, Executive Committee, vice chair 2015-2016
American Society of Mechanical Engineers, Ocean, Offshore and Arctic Engineering Division, Executive Committee, chair 2016-17
American Society of Mechanical Engineers, Ocean, Offshore and Arctic Engineering Division, Extended Executive Committee: member 2003-present

Boards

Consortium of Universities for Research in Earthquake Engineering (CUREE), Board of Directors, 2000-02
National Science Foundation Network for Earthquake Engineering Simulation Consortium, Founding Board of Directors, 2003-05
American Society of Mechanical Engineering Board of Journal Editors, 2007-17

Panels

International Professional Advisory Panel, Department of Ocean Resource Engineering, University of Hawaii, Manoa, 2015-

Editorship and Editorial Boards

Journal of Offshore Mechanics and Arctic Engineering, American Society of Mechanical Engineers, Editor-in-Chief, 2007-17
Journal of Offshore Mechanics and Arctic Engineering, American Society of Mechanical Engineers, Associate Editor, 2000-present
International Journal of Ocean Engineering, Associate Editor, 2006-
Development and Application of Oceanic Engineering, Editorial Board, 2012-
Journal of Ocean Engineering and Marine Energy, Associate Editor, 2014-
Journal of Waterway, Port, Coastal and Ocean Engineering Division, American Society of Civil Engineers, Editorial Board, 1996-2005; 2017-present
International Journal of Ocean and Coastal Engineering, 2017-present
International Journal on Advances in Civil Engineering, Editorial Board, 2008-2014

Natural Hazard Surveys

Indian Ocean Tsunami Survey, Southeast India, 10-15 JAN 2005 (focused on tsunami inundation measurement)
Hurricane Katrina Survey, Gulf Coast of Louisiana, Mississippi, and Alabama, 2-6 NOV 2005 (focused on storm surge damages to coastal buildings, bridges and soil foundations)
Post Katrina Recovery Survey, New Orleans, Louisiana, 18-20 MAY 2006 (team leader, focused on storm surge effects on bridge structures, earthen levees, I-walls, and steel-sheet pilings)
Crescent City Tsunami Survey, Del Norte County, CA, 17-19 NOV 2006 (focused on damage to boat dock, information transmission between government agencies, and warning to citizens and boat operators)
Indian Ocean Post Tsunami Survey, Southeast Sri Lanka, 11&14 FEB 2007 (focused on recover from tsunami damage to coastal structures and ports due to the DEC 26, 2004 Indian Ocean Tsunami)
Indian Ocean Tsunami Disaster Prevention and Earthquake Damages, Yogyakarta, Java, Indonesia, 23 JUL 2008 (focused on mangrove planning and development, and recovery from damage due to the 27 MAY 2006 earthquake and the 17 JUL 2006 tsunami)
Samoa Islands Tsunami Survey, American Samoa and Western Samoa Islands, 2-6 NOV 2009 (team leader, focused on structural damage and sediment scour)

Chile Earthquake and Tsunami Survey, 18-24 APR 2010 (team leader, focused on structural damage and sediment scour)
Japan Earthquake and Tsunami Survey, 26-29 APR 2011 (focused on tsunami damage to coastal seawalls, breakwaters and port structures)
Japan Earthquake and Tsunami Survey, 23 JUN - 4 JUL 2011 (coordinator, focused on LiDAR survey of tsunami damage to buildings and port structures)
Japan Earthquake and Tsunami Survey, 31 SEP – 1 OCT 2011 (focused on tsunami damage to port and bridge structures)

International Research Collaborations

University College London, Center for Nonlinear Dynamics, London, United Kingdom (OSU-UCL MOU technical representative, 1991-96)
National Maritime Research Institute, Ministry of Transportation, Mitaka, Japan, (OSU-NMRI MOU technical representative, 2000-05)
Port and Airport Research Institute, Marine and Environmental Engineering Department, Storm Surge and Tsunami Research Division, Yokosuka, Japan (OSU-PARI MOU technical representative, 2003-13)
Tainan Hydraulic Laboratory, Physical Modeling Division and Numerical Modeling Division, Taiwan, Republic of China (OSU-THL MOU technical representative, 2004-09)
Nonlinear Wave Research Corporation, Turin, Italy, 2015-present

National Research Collaborations

Livermore Software Technology Corporation, Joint Academic-Industrial Research, Livermore, CA (OSU-LSTC Non-Disclosure Research Agreement representative, 2004-present)

Committees

British Hydromechanics Research Association, England, Steering Committee, Joint Industrial Project on Vortex-Induced Vibrations of Flexible Structures, 1985-87
American Society of Civil Engineers, Engineering Mechanics Division, Dynamics Committee, 1987-95
Department of Defense, Science and Engineering Graduate Fellowship Panel, 1989-99; Chair, 1994-95
National Research Council, Marine Board, Ship Structures Design Work Group, 1990-94
American Society of Civil Engineers, Waterway, Port, Coastal and Ocean Engineering Division, Publications Committee, 1991-96
International Society of Offshore and Polar Engineers, Student Activities Committee, Chair, 1991-93
National Research Council, Marine Board, Ship Structures Committee, Project Technical Committee, 1992-96
American Society of Civil Engineers, Structural Engineering Division, Reliability of Offshore Structures Committee, 1992-98
International Society of Offshore and Polar Engineers, Mechanics and Structures Committee, 1992-95
National Research Council, Marine Board, Symposium and Workshop on the Prevention of Fracture in Ship Structures, Technical Program Committee, 1993-94
Pacific Earthquake Engineering Research Center, Graduate Course Module Sub-Committee, Chair, 1997-2001
Pacific Earthquake Engineering Research Center Affiliate Representative, 1997-2007
Pacific Earthquake Engineering Research Center, Education Committee, 1997-2007

Pacific Earthquake Engineering Research Center, Undergraduate Scholarship Sub-Committee, 1997-2002
Oregon Department of Transportation, Research Technical Advisory Committee Expert Task Group, 2000-present
Consortium of Universities for Research in Earthquake Engineering, Oregon State University Representative, 2001-05; Member 2001-2016
National Oceanographic and Atmospheric Administration, Pacific Marine Environmental Laboratory Tsunami Research Advisory Committee, 2002-2006
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Site Council, 2001-05 (Chair 2003)
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Consortium, Oregon State University Institution Representative, 2003-2014
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Consortium, Nomination Committee, 2003
American Society of Civil Engineers, Engineering Mechanics Division, Fluids Committee, 2004-09
China Working Group, Office of International Education and Outreach, Oregon State University, 2005-07
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Inc., Site Operations Committee, 2005-09
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Inc., Equipment Site Policies Compliance Check Work Group, 2006-07
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Inc., Equipment Site Metrics Work Group, 2006-07
American Society of Mechanical Engineers, Ocean, Offshore and Arctic Engineering Division, Extended Executive Committee, 2006-present
International Electro-technical Commission, Technical Committee 114 PT62600-2 US Shadow Committee, 2010-14
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Comm, Equipment Site Forum, Member 2009-14; Chair Elect 2011-12; Chair 2012-13; Immediate Past Chair 2013-14.
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Comm, Site Operations Subcommittee, Member 2011-14.
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Consortium, NEES-MCEER Annual Meeting Program Committee, 2011-12
FEMA National Institute of Building Sciences, Tsunami Advisory Committee, 2011-13
ASCE7-16 Standard "Minimum Design Loads for Building and Other Structures" Tsunami Design Code Specifications Committee, 2011-16
National Science Foundation Natural Hazards Engineering Research Infrastructure, Science Plan Development Task Group, 2016-present
International Towing Tank Conference (ITTC) Specialist Committee on Modeling of Environmental Conditions, 2017-present
International Ships and Offshore Structures (ISSC) and International Towing Tank Conference (ITTC) Joint Committee on Uncertainty Analysis, 2017-present

Conference, Workshop and Short Course Organization

International Conference Technical Program Chair

Twenty-Sixth Offshore Mechanics and Arctic Engineering International Conference, San Diego, California, Technical Program Chair, 2006-07 (over 1,000 attendees)

Thirty-Seventh Offshore Mechanics and Arctic Engineering International Conference, Madrid, Spain, Technical Program Chair, 2017-present (over 1,200 attendees)

Conference Technical Symposium Coordinator

Thirty-First Offshore Mechanics and Arctic Engineering International Conference, Rio de Janeiro, Brazil, Ronald W. Yeung Honoring Symposium on Offshore and Ship Hydrodynamics, 2011-12 (Co-Coordinator)

Thirty-Sixth Offshore Mechanics and Arctic Engineering International Conference, Trondheim, Norway, Ocean Engineering Symposium Co-Coordinator, 2016-17

Thirty-Seventh Offshore Mechanics and Arctic Engineering International Conference, Madrid, Spain, Ocean Engineering Symposium Co-Coordinator, 2017-present

Thirty-Eighth Offshore Mechanics and Arctic Engineering International Conference, Glasgow, Scotland, Ocean Engineering Symposium Coordinator, 2018-present

Conference Scientific/Technical Committee

Second International Offshore and Polar Engineers Conference, San Francisco, USA, Technical Program Committee, 1991-92

Third International Offshore and Polar Engineers Conference, Singapore, Technical Program Committee, 1992-93

Fourth International Offshore and Polar Engineers Conference, Technical Program Committee, Osaka, Japan, 1993-94

Fifth International Offshore and Polar Engineers Conference, Hague, the Netherlands, Technical Program Committee, 1994-95

Sixth International Offshore and Polar Engineers Conference, Los Angeles, USA, Technical Program Committee, 1995-96

Seventh International Offshore and Polar Engineers Conference, Honolulu, HI, Technical Program Committee, 1996-97

International Society of Offshore and Polar Engineers, Hydrodynamics Committee, 1997-99

Twenty-Third Offshore Mechanics and Arctic Engineering International Conference, Vancouver, British Columbia, Canada, Offshore Technology Symposium Technical Program Committee and Ocean Engineering Symposium Technical Program Committee, 2003-04

Twenty-Fourth Offshore Mechanics and Arctic Engineering International Conference, Halkidiki, Greece, Offshore Technology Scientific Committee and Ocean Engineering Technology Scientific Committee, 2004-05

Twenty-Fifth Offshore Mechanics and Arctic Engineering International Conference, Hamburg, Germany, Ocean Engineering Symposium Scientific Committee and Offshore Technology Scientific Committee, 2005-06

Twenty-Sixth Offshore Mechanics and Arctic Engineering International Conference, San Diego, USA, Robert Dean Specialty Symposium Scientific Committee, 2006-07

Twenty-Sixth Offshore Mechanics and Arctic Engineering International Conference, San Diego, USA, Ocean Engineering Symposium Scientific Committee and Offshore Technology Scientific Committee, 2006-07

Twenty-Seventh Offshore Mechanics and Arctic Engineering International Conference, Estoril, Portugal, Ocean Engineering Symposium Scientific Committee and Offshore Technology Symposium Scientific Committee, 2007-08

Ninth US National and Tenth Canadian Conference on Earthquake Engineering: Research beyond Borders (2010), Technical Committee, 2008-09

Twenty-Eighth Offshore Mechanics and Arctic Engineering International Conference, Honolulu, USA, Ocean Engineering Symposium Scientific Committee and Offshore Technology Symposium Scientific Committee, 2008-09

International Conference in Ocean Engineering, 2009, IIT Madras, India, International Scientific Committee, 2008-09.

International Conference on Hydrodynamics, Scientific Committee, 2009-2015

Twenty-Ninth Offshore Mechanics and Arctic Engineering International Conference, Shanghai, China, Ocean Engineering Symposium Scientific Committee and Offshore Technology Symposium Scientific Committee, 2009-10

Ninth International Conference on Hydrodynamics, Shanghai, China, International Scientific Committee, 2009-10

Thirtieth Offshore Mechanics and Arctic Engineering International Conference, Rotterdam, the Netherlands, Ocean Engineering Symposium Scientific Committee and Offshore Technology Symposium Scientific Committee, 2010-11

Thirty-First Offshore Mechanics and Arctic Engineering International Conference, Rio de Janeiro, Brazil, Ocean Engineering Symposium Scientific Committee and Offshore Technology Symposium Scientific Committee, 2011-12

Thirty-First Offshore Mechanics and Arctic Engineering International Conference, Rio de Janeiro, Brazil, Ronald W. Yeung Symposium on Offshore and Ship Hydrodynamics Scientific Committee, 2011-12

One Year after the Great East Japan Earthquake International Symposium on Engineering Lessons Learned from the Giant Earthquake, International Advisory Committee, 2012-13

Thirty-Second Offshore Mechanics and Arctic Engineering International Conference, Nantes, France, Ocean Engineering Symposium Scientific Committee, 2012-13

Thirty-Third Offshore Mechanics and Arctic Engineering International Conference, San Francisco, USA, Ocean Engineering Symposium Scientific Committee, 2013-14

Tenth US National Conference on Earthquake Engineering, Technical Program Committee, 2013-14

Thirty-Fourth Offshore Mechanics and Arctic Engineering International Conference, St. Johns, Canada, Ocean Engineering Symposium Scientific Committee, 2014-15

Thirty-Fifth Offshore Mechanics and Arctic Engineering International Conference, Pusan, Korea, Ocean Engineering Symposium Scientific Committee, 2015-16

Thirty-Sixth Offshore Mechanics and Arctic Engineering International Conference, Trondheim, Norway, Ocean Engineering Symposium Scientific Committee, 2016-17

Thirty-Seventh Offshore Mechanics and Arctic Engineering International Conference, Madrid, Spain, Ocean Engineering Symposium Scientific Committee, 2017-present

Conference Session Chair/Moderator

First International Society of Offshore and Polar Engineers Conference, Edinburgh, United Kingdom, Nonlinear Dynamics Session, 1991

Second International Society of Offshore and Polar Engineers Conference, San Francisco, CA, USA, Floating Structures Session, 1992

Third International Society of Offshore and Polar Engineers Conference, Singapore, Nonlinear Dynamics Session, 1993

Sixth International Society of Offshore and Polar Engineers Conference, Los Angeles, CA, USA, Hydrodynamics Session, 1996

Seventh International Society of Offshore and Polar Engineers Conference, Honolulu, Hawaii, USA, Hydrodynamics Session, 1997

Seventh International Conference on Computing in Civil and Building Engineering, Seoul, Korea, Ocean Engineering Session I, 1997

Fourth International Conference on Stochastic Structural Dynamics, Notre Dame, Indiana, USA, Numerical Solutions and Simulation Session, 1998
North West Transportation Conference, Oregon State University, Corvallis, OR, USA, Bridge Technology Session, 2000
The Revolution in General Aviation Conference, Oregon State University, Corvallis, OR, USA, General Aviation in Higher Education Session, 2000
North West Transportation Conference, Oregon State University, Corvallis, OR, USA, Bridge Technology Session, 2002
Twenty-Second Offshore Mechanics and Arctic Engineering International Conference, Cancun, Mexico, Offshore Technology Symposium, Hydrodynamics Session, 2003
Twenty-Second Offshore Mechanics and Arctic Engineering International Conference, Cancun, Mexico, Offshore Technology Symposium, Wave Forces Session, 2003
Twenty-Third Offshore Mechanics and Arctic Engineering International Conference, Vancouver, Canada, Offshore Technology Symposium, Isaacson Special Session I, 2004
Twenty-Third Offshore Mechanics and Arctic Engineering International Conference, Vancouver, Canada, Offshore Technology Symposium, Isaacson Special Session II, 2004
Second International Workshop on Coastal Disaster Mitigation, Kobe, Japan, Countermeasures Session, 2005
Twenty-Fourth Offshore Mechanics and Arctic Engineering International Conference, Halkidiki, Greece, Offshore Technology Symposium, Floating Systems Session I, 2005
Twenty-Fourth Offshore Mechanics and Arctic Engineering International Conference, Halkidiki, Greece, Offshore Technology Symposium, Floating Systems Session II, 2005
The Second International Workshop on Coastal Disaster Prevention, Tokyo, Japan, Session 1 – Tsunami I, Experiments, 2006
Twenty-Fifth Offshore Mechanics and Arctic Engineering International Conference, Hamburg, Germany, Offshore Technology Symposium, Probabilistic Models of Motions and Loads Session II, 2006
Twenty-Fifth Offshore Mechanics and Arctic Engineering International Conference, Hamburg, Germany, Offshore Technology Symposium, Model Tests Session II, 2006
Third International Workshop on Coastal Disaster Mitigation, Colombo, Sri Lanka, Session (1c) Tsunami Disasters and Initiatives for Prevention/Mitigation around the World, 2007
Twenty-Sixth Offshore Mechanics and Arctic Engineering International Conference, San Diego, CA, Robert Dean Symposium, Wave-Structure Interaction Session I, 2007
Twenty-Sixth Offshore Mechanics and Arctic Engineering International Conference, San Diego, CA, Robert Dean Symposium, Wave-Structure Interaction Session II, 2007
Twenty-Sixth Offshore Mechanics and Arctic Engineering International Conference, San Diego, CA, Structures, Safety and Reliability Symposium, Probability Models of Forces and Motions Session I, 2007
Fifth Annual Network for Earthquake Engineering Simulations, Snowbird, Utah, Tsunami Research Session, 2007
Twenty-Seventh Symposium on Naval Hydrodynamics, Seoul, Korea, Fluid-Structure Interaction Session, 2008
Twenty-Seventh Offshore Mechanics and Arctic Engineering International Conference, Estoril, Portugal, Ocean Wave Mechanics Session I, 2008
Twenty-Seventh Offshore Mechanics and Arctic Engineering International Conference, Estoril, Portugal, Ocean Wave Mechanics Session II, 2008
Twenty-Seventh Symposium on Naval Hydrodynamics, Seoul, Korea, Fluid-Structure Interaction Session, 2008
Twenty-Eighth Offshore Mechanics and Arctic Engineering International Conference, Honolulu, USA, Wave Energy Session II, 2009

Twenty-Eighth Offshore Mechanics and Arctic Engineering International Conference, Honolulu, USA, Wave Energy Session III, 2009

Particle-Based Methods, Fundamentals and Applications, Barcelona, Spain, SPH Techniques in Fluid Dynamics Session, 2009

Twenty-Ninth Offshore Mechanics and Arctic Engineering International Conference, Shanghai, China, Model Tests Session III, 2010

Twenty-Ninth Offshore Mechanics and Arctic Engineering International Conference, Shanghai, China, Computational Mechanics and Design Applications Session II, 2010

Twenty-Ninth Offshore Mechanics and Arctic Engineering International Conference, Shanghai, China, Model Tests Session III, 2010

Twenty-Ninth Offshore Mechanics and Arctic Engineering International Conference, Shanghai, China, Wave Energy Session III, 2010

Twenty-Ninth Offshore Mechanics and Arctic Engineering International Conference, Shanghai, China, Wave Energy Session IV, 2010

Quake Summit 2011, Network for Earthquake Engineering Simulation and Multidisciplinary Center Earthquake Engineering Research Annual Meeting, Buffalo, NY, Tsunami Research II Session, 2011

Thirtieth Offshore Mechanics and Arctic Engineering International Conference, Rotterdam, the Netherlands, Advanced Ship-Hydromechanics/Marine Technology Session I, 2011

Thirtieth Offshore Mechanics and Arctic Engineering International Conference, Rotterdam, the Netherlands, Wave Energy Session III, 2011

Thirtieth Offshore Mechanics and Arctic Engineering International Conference, Rotterdam, the Netherlands, Computational Mechanics and Design Applications, 2011

Thirty-First Offshore Mechanics and Arctic Engineering International Conference, Rio de Janeiro, Brazil, Ronald W. Yeung Symposium on Offshore and Ship Hydrodynamics, Dedication and Introduction – I, 2012

Thirty-First Offshore Mechanics and Arctic Engineering International Conference, Rio de Janeiro, Brazil, Ronald W. Yeung Symposium on Offshore and Ship Hydrodynamics, Ocean Renewable Energy II – Wave Energy, 2012

Quake Summit 2012, Network for Earthquake Engineering Simulation and Multidisciplinary Center Earthquake Engineering Research Annual Meeting, Boston, MA Tsunami Research Session, 2012

Thirty-Second Offshore Mechanics and Arctic Engineering International Conference, Nantes, France, Computational Mechanics and Design Applications Session II, 2013

Thirty-Second Offshore Mechanics and Arctic Engineering International Conference, Nantes, France, Wave Energy Session II, 2013

Quake Summit 2013, Network for Earthquake Engineering Simulation and Multidisciplinary Center Earthquake Engineering Research Annual Meeting, Reno, NV Tsunami Research Session, 2013

Thirty-Third Offshore Mechanics and Arctic Engineering International Conference, San Francisco, USA, Wave Energy Sessions I and II, 2014

Thirty-Fourth Offshore Mechanics and Arctic Engineering International Conference, St. Johns, Newfoundland, Canada, Ocean Engineering Sessions I and II, 2015

Thirty-Fifth Offshore Mechanics and Arctic Engineering International Conference, Pusan, Korea, Ocean Engineering Sessions I and II, 2016

Thirty-Sixth Offshore Mechanics and Arctic Engineering International Conference, Trondheim, Norway, Ocean Engineering Sessions I and II, 2017

Thirty-Seventh Offshore Mechanics and Arctic Engineering International Conference, Madrid, Spain, Ocean Engineering Symposium Session Organizer, 2017-present

Conference and Workshop Organizer

ONR Workshop on Reliability of Nonlinear Ocean Structures under Stochastic Excitation, Arlington, Virginia, 7-8 July 1993

Nonlinear Dynamics and Stochastic Responses Short Course, Naval Facilities Engineering Service Center, Port Hueneme, CA, Dec. 28 1993 – Jan. 4, 1994

ONR Workshop on Reliability of Nonlinear Ocean Structures under Stochastic Excitation, Arlington, Virginia, 18-19 July 1994

ONR Workshop on Reliability of Nonlinear Ocean Structures under Stochastic Excitation, Arlington, Virginia, 24-25 July 1995

National Science Foundation Workshop on Research with NEES Tsunami Facility, Oregon State University, Corvallis, Oregon, 6-7 April 2001 (Co-Organizer).

National Science Foundation September 2003 Network for Earthquake Engineering Simulations Awardees Meeting, Oregon State University, 11-12 Sept. 2003

Joint National Oceanographic and Atmospheric Administration and National Science Foundation Workshop to Develop a Strategic Plan for Tsunami Research in the US, Oregon State University, 25-26 July, 2006 (Co-Organizer)

Joint National Science Foundation Network for Earthquake Engineering Simulation (NEES) and Inundation Science and Engineering Society Workshop on Tsunami Research Using the OSU NEES Tsunami Research Facility, Oregon State University, 8-10 July, 2009 (Co-Organizer)

Department of Homeland Security Workshop on Current and Future Tsunami Research, University of North Carolina, Chapel Hill, 19-20 Oct., 2009 (Co-Organizer)

Office of Naval Research Workshop on Nonlinear Nonlinear Fourier Analysis, 22-23 July 2017 (Co-Organizer)

Workshop Organizing Committee

International Workshops on Reliability of Ocean Structures, 1996-2000

North West Transportation Conference, Oregon State University, Corvallis, OR, USA, 2000

The Revolution in General Aviation Conference, Oregon State University, Corvallis, OR, 2000

North West Transportation Conference, Oregon State University, Corvallis, OR, 2002

National Science Foundation Integrated Tsunami Scenario Simulations Workshop, Seattle, WA, 2003

Network for Earthquake Engineering Simulation Consortium, Second Annual Meeting, 2004

Earthquake Engineering Vision 2020 Workshop, St. Louis, MO, 2010

The 9th US National and 10th Canadian Conference on Earthquake Engineering, Toronto, Ontario, Canada, 2010

International Conference on Hydrodynamics (ICHD), Scientific Committee, Shanghai, China, 2010

International Conference on Hydro-science and Engineering (ICHE), International Scientific Committee, Chennai, India, 2010

Quake Summit 2011, Network for Earthquake Engineering Simulation and Multidisciplinary Center Earthquake Engineering Research Annual Meeting, Buffalo, NY, 2011

International Conference on Particle-Based Method, International Scientific Advisory Committee, Barcelona, Spain, 2011

Society of Naval Architecture and Marine Engineering, Pacific Northwest Chapter Annual Meeting (Jan 25-26, 2013), Local Organizer, Oregon State University, 2013

Quake Summit 2013, Network for Earthquake Engineering Simulation and Multidisciplinary Center Earthquake Engineering Research Annual Meeting, Reno, Nevada, 2013

Workshop Participant

Grand Challenges in Earthquake Engineering Research Community Workshop, National

Research Council, the National Academics, 2011
Extreme Environmental Conditions Modeling for Hydrokinetic Energy Conversion Workshop, Sandia National Laboratory, May 13-14, 2014
Uncertainty Quantification, Stanford University, June 1-4, 2014
International Towing Tank Conference – International Ship and Offshore Structure Conference Joint Committee Workshop on Uncertainty Analysis, September 16, 2017

External Examiner

India Institute of Technology, Hauz Khas, New Delhi, India 1999-2000
Norwegian University of Science and Technology, Norway 2006
India Institute of Technology, Madras, Chennai, India 2012
India Institute of Technology, Madras, Chennai, India 2015
India Institute of Technology, Madras, Chennai, India 2016

Reviewer

Earthquake Spectra, Earthquake Engineering Research Institute
Journal of Computational Physics
Journal of Engineering Mechanics, ASCE
Journal of Structural Engineering, ASCE
Journal of Waterway, Port, Coastal, and Ocean Engineering, ASCE
Journal of Applied Mechanics, ASME
Journal of Dynamical Systems, Measurement and Control, ASME
Journal of Offshore Mechanics and Arctic Engineering, ASME
Journal of Engineering for the Maritime Environment, Institution of Mechanical Engineers, UK
Journal of Seismology and Earthquake Engineering
Journal of Ship Research, SNAME
Journal of Ocean Engineering, IEEE
International Journal of Applied Mathematical Modeling
International Journal of Applied Ocean Research
International Journal of Computer Methods in Applied Mechanics and Engineering
International Journal of Earthquake Engineering
International Journal of Earthquake Engineering and Structural Dynamics
International Journal of Energies
International Journal of Engineering Structures
International Journal of Environmental Fluid Mechanics
International Journal of Finite Element Analysis and Design
International Journal of Microcomputers in Civil Engineering
International Journal of Non-Linear Dynamics
International Journal of Non-Linear Mechanics
International Journal for Numerical Methods in Fluids
International Journal of Ocean Engineering
International Journal of Offshore and Polar Engineering
International Journal of Pure and Applied Geophysics
International Journal of Sound and Vibrations
Oceanic Engineering International
Quarterly Journal of Mechanics and Applied Mathematics
Royal Society of London Series A
Structures and Infrastructure Engineering
United States Department of the Interior

National Science Foundation (Natural Hazards, Environmental Engineering, Geology and Paleontology)
German-Israeli Foundation for Scientific Research and Development
Gulf Coast Region Maritime Technology Center
Israel Science Foundation, the Israel Academy of Science and Humanities
California Sea Grant Program
Hawaii Sea Grant Program
John Wiley College Text Division (Structural Analysis)
McGraw-Hill College Division (Mechanics and Structures)
Addison Wesley Longman (Computer and Engineering Group)
U.S. Civilian Research and Development Foundation
San Diego State University Research Foundation

AWARDS AND RECOGNITION

Fellow

American Society of Mechanical Engineers, elected 2007
American Society of Civil Engineers, elected 2009

Research and Professional Awards

US Office of Naval Research Young Investigator Award, 1988-91
US Navy/American Society of Engineering Education Senior Faculty Research Fellow, 1993
The Royal Norwegian Research Council Senior Visiting Research Scientist, 1994
Oregon State University College of Engineering Research Leadership Award, 2002
Oregon State University Principal Investigator of the Month, January 2005
US Navy/American Society of Engineering Education Senior Faculty Research Fellow, 2010
Oregon State University College of Engineering Alumni Professor Award, 2010
Society of Naval Architecture and Marine Engineers, Pacific Northwest Section, Outstanding Scholar Award, 2013
American Society of Mechanical Engineering Ocean, Offshore and Arctic Engineering Division Special Service Award, 2013
Network for Earthquake Engineering Simulation, Best Research Project Award, 2014
American Society of Mechanical Engineering Ocean, Offshore and Arctic Engineering Division Special Achievement Award, 2017
American Society of Mechanical Engineering Ocean, Offshore and Arctic Engineering Division Special Service Award, 2017

Scholarships and Fellowships

George Brown Engineering Scholar, Rice University, 1973-76
Mary Parker Gieske Scholar, Rice University, 1974-75
Herman Blum Scholar, Rice University, 1975-76
Summa cum Laude, Rice University 1976
Earle Anthony University Graduate Fellow, University of California, Berkeley, 1976-77
William & Helena Popert Civil Engineering Fellow, University of California, Berkeley, 1977-79

National and International Recognition

Who's Who in Science and Engineering, first appeared in 1996
Who's Who in America, 1997
The International Directory of Distinguished Leadership, 1997
Who's Who in the World, 1998

Who's Who in the West, 1998
Dictionary of International Biography, Cambridge, England, 1998
Who's Who in Engineering Education, 2002

Honor Societies

Tau Beta Pi, elected 1975
Phi Beta Kappa, elected 1976
Xi Epsilon, elected 1977

Invited Conference, Workshop and Seminar Speaker

1. *Structural Engineering Seminar*, Ohio State University, Apr. 23, 1983. "Effects of Transient Foundation Uplift on Earthquake Response of Structures"
2. *Structural Engineering Seminar*, University of Utah, May 4, 1983. "Dynamic Response of Structures with Transient Foundation Uplift"
3. *Civil Engineering Seminar*, California Institute of Technology, Oct. 12, 1983. "Dynamic Analysis of Multi-Story Structures to Earthquake Excitations"
4. *Mechanical Engineering Seminar*, University of California, Santa Barbara, Apr. 4, 1984. "Dynamic Analysis of Nonlinear Structural Systems to Earthquake Excitations"
5. *Structural Engineering and Structural Mechanics Seminar*, University of California, Berkeley, May 25, 1984. "Nonlinear Response of Multi-Degrees-of-Freedom Systems to Seismic Excitations"
6. *Civil Engineering and Engineering Mechanics Seminar*, University of Arizona, Mar. 14, 1987. "Fatigue Analysis of a Compliant Floating Production System,"
7. *Civil Engineering Seminar*, Oregon State University, Mar. 16, 1987. "Design Calibration of Compliant Ocean Structural Systems Using Field Data"
8. *Structural Engineering, Mechanics and Materials Seminar*, University of California, Berkeley, Apr. 7, 1987. "Calibration of Fatigue Design of a Single-Anchor Leg Mooring System"
9. *NCEL Nonlinear Systems Identification Research and Development Workshop*, Naval Civil Engineering Laboratory, Port Hueneme, California, Mar. 8-9, 1989. "Review of State-of-the-Art on Stochastic Analysis Methods"
10. *Civil Engineering Seminar*, North Carolina State University, Feb. 12, 1990. "Chaotic Response and Stability of Offshore Equipment"
11. *Fluid Mechanics Division Seminar*, Naval Research Laboratory, Center for Advanced Space Sensing, Washington, D.C., Oct. 1-2, 1990. "Chaotic and Stochastic Response of Multi-Point Mooring Systems"
12. *Electrical Power Research Institute Workshop on Applications of Chaos*, Electric Power Research Institute, San Francisco, California, Dec. 6-8, 1990. "Some Stochastic Aspects of Chaotic Response of Free-Standing Objects"
13. *Ocean Engineering Seminar*, Oregon State University, Jan. 10, 1991. "Stochastic Aspects of Chaos in Offshore Systems"
14. *NCEL Nonlinear Systems Identification Research and Development Workshop*, Naval Civil Engineering Laboratory, Port Hueneme, California, Dec. 10-15, 1991. "Practical Applications of Adomian Solution Method to Stochastic Nonlinear Differential Equations, Phase 1: Analysis of Steady-State System Responses"
15. *ONR-URI Seminar*, Oregon State University, Nov. 17, 1991. "Adomian Solution Method to Stochastic Nonlinear Differential Equations: Analysis of Steady-State System Responses"
16. *Naval Architecture and Offshore Engineering Seminar*, University of California, Berkeley, Apr. 1, 1992. "Chaotic and Stochastic Responses of Ocean Structural Systems"
17. *Ocean Engineering Division Seminar*, Naval Civil Engineering Laboratory, Port Hueneme, California, July 29, 1992. "Nonlinear Stochastic Response of Ocean Structural Systems"
18. *Center for Reliability of Marine Structures*, Stanford University, Aug. 7, 1992. "Nonlinear

Deterministic and Stochastic Responses of Sensitive Systems"

19. *Ocean Engineering Seminar*, Oregon State University, Mar. 9, 1993. "Deterministic, Chaotic, and Stochastic Behavior of a Nonlinear Mooring System"

20. *Ocean Engineering Division Seminar*, Naval Civil Engineering Laboratory, Port Hueneme, California, Mar. 26, 1993. "Nonlinear Oscillations and Chaos in a Submerged Mooring System Experiment"

21. *Ocean Engineering Division Seminar*, Naval Civil Engineering Laboratory, Port Hueneme, California, Mar. 26, 1993. 20. "Stochastic Analysis of Nonlinear Oscillations and Chaos in a Mooring System"

22. *Civil Engineering Seminar*, University of Connecticut, Storrs, Connecticut, Apr. 30, 1993. 21. "Analytical and Experimental Studies of Nonlinear Submerged Mooring Systems"

23. *Office of Naval Research Workshop on Reliability of Nonlinear Ocean Structures under Stochastic Excitation*, Arlington, Virginia, July 7-8, 1993. "Chaos and Extremes"

24. *Naval Architecture and Offshore Engineering Seminar*, University of California, Berkeley, California, Nov. 8, 1993. "Estimation of Mid-Range Extreme Values Based on Measured Time Series"

25. *Reliability Analysis Seminar, Structural Engineering, Mechanics, and Materials*, Department of Civil Engineering, University of California, Berkeley, California, Nov. 9, 1993. "Meso-Scale Extreme Value Estimators, Theory and Applications"

26. *Nonlinear Dynamics Seminar*, Department of Physics, University of California, Berkeley, California, Nov. 17, 1993. "Unified Deterministic and Stochastic Approach to Analysis of Chaotic Systems -- A Preliminary Study"

27. *NFESC Workshop on Nonlinear Dynamics*, Ocean Structures Division, Naval Facilities Engineering Service Center, Port Hueneme, California, Dec. 28-30, 1993, and Jan. 2-4, 1994. "Nonlinear Dynamics and Chaos – Lecture Series"

28. *Nonlinear Dynamics Seminar Series*, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Jan. 17, 1994. "Characteristic Behavior of Nonlinear and Chaotic Systems"

29. *Nonlinear Dynamics Seminar Series*, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Jan. 31, 1994. "Geometric and Computational Aspects of Nonlinear and Chaotic Systems"

30. *Nonlinear Dynamics Seminar Series*, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Feb. 14, 1994. "Application of Averaging Methods in the Analysis of Nonlinear Systems,"

31. *Nonlinear Dynamics Seminar Series*, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Feb. 28, 1994. "Application of Perturbation Methods in the Analysis of Nonlinear Systems"

32. *International Workshop on Numerics for Perturbed Dynamical Systems*, Department of Mathematics, Iowa State University, Mar. 8, 1994. "A Path Integral Numerical Procedure for the Fokker-Planck Equation"

33. *Industry Liaison Program*, 16th Annual Conference, University of California, Berkeley, Mar. 9, 1994. "Chaotic Dynamics of Nonlinear Marine Systems"

34. *Nonlinear Dynamics Seminar Series*, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Mar. 11, 1994. "Harmonic, Subharmonic and Chaotic Responses of Nonlinear Systems"

35. *Nonlinear Dynamics Seminar Series*, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Mar. 21, 1994. "Methods of Stability Analysis of Harmonic, Subharmonic and Chaotic Responses of Nonlinear Systems"

36. *Nonlinear Dynamics Seminar Series*, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Apr. 11, 1994. "Existence Theorems of Periodic Responses of

Nonlinear Systems"

37. *Nonlinear Dynamics Seminar Series*, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Apr. 25, 1994. "Bifurcations, Structural Stability and Chaos of Nonlinear Systems"
38. *The Twenty-Fifth Israel Conference on Mechanical Engineering*, Technion City, Haifa, Israel, May 25-26, 1994, Keynote Speaker, Nonlinear Dynamics Session. “Stochastic Aspects of Nonlinear Dynamical Systems”
39. *Department of Structural Engineering*, Faculty of Civil Engineering, The Norwegian Institute of Technology, University of Trondheim, Norway, June 23, 1994. "Chaotic and Stochastic Behavior of Nonlinear Structural Systems"
40. *Office of Naval Research Workshop on Reliability of Nonlinear Ocean Structures under Stochastic Excitation*, Arlington, Virginia, July 18-19, 1994. "Stochastic Aspects of Chaos"
41. *Identification of Nonlinear Operators from Stochastic Data Workshop*, Ocean Structures Division, Naval Facilities Engineering Service Center, Port Hueneme, California, Aug. 2-3, 1994. "State-of-the-Art Stochastic Analysis of Nonlinear Ocean Structural Systems -- A Selective Review"
42. *International Union of Theoretical and Applied Mechanics (IUTAM) Symposium on Advances in Nonlinear Stochastic Mechanics*, Trondheim, Norway, July 3-7, 1995. “Unified Analysis of Complex Nonlinear Motions via Densities”
43. *Office of Naval Research Workshop on Reliability of Nonlinear Ocean Structures under Stochastic Excitation, Arlington*, Virginia, July 24-25, 1995. "Unifying Analysis of Complex Nonlinear Motions via Densities"
44. *Mechanical Engineering Department Seminar*, University of Hong Kong, Dec. 19, 1995. "Analysis of Complex Nonlinear Motions via Densities"
45. *Office of Naval Research Investing in the Future*, 1946-1996, Fiftieth Anniversary Volume. Presentation, ONR Washington, D.C., May 1995. “Chaotic Roll Motion and Capsizing of Ships under Periodic Excitation with Random Noise”
46. *Civil Engineering Department Seminar*, National University of Singapore, Dec. 6, 1996. "Probabilistic Analysis of Complex Nonlinear Motions of Ocean Structures Under Combined Periodic and Random Excitations"
47. *Civil Engineering Department Seminar*, Bandung Institute of Technology, Dec. 13, 1996. "Stochastic Analysis of Complex Nonlinear Motions of Moored Structures in Regular and Random Seas"
48. *Civil and Structural Engineering Department Seminar*, Hong Kong University of Science and Technology, Dec. 20, 1996. "Stochastic Dynamic Analysis of Ocean Systems"
49. *Civil Engineering Department Seminar*, University of Hawaii, Honolulu, Hawaii, May 27, 1997. "Analysis of Dynamic Response of Sensitive Nonlinear Ocean Systems,"
50. *Office of Naval Research Workshop on Flow/Wave Structure Interactions*, Brown University, Providence, Rhode Island, June 2-3, 1997. "Methodology for Analysis and Design of Sensitive Nonlinear Ocean Systems"
51. *Civil and Structural Engineering Department*, Korea University, Seoul, Korea, Aug. 22, 1997. "Stochastic Analysis of Response of Nonlinear Structural Systems"
52. *Eleventh Structural Research Seminar*, Structural Systems and Computer Aided Engineering Department, Chungbuk National University, Cheongju, Korea, Aug. 23, 1997. "Application of Chaos Theory for Response Analysis of Ocean Structures"
53. *Civil Engineering Department*, Yonsei University, Seoul, Korea, Aug. 25, 1997. "A Unified Analysis Methodology for Sensitive Nonlinear Structural Systems"
54. *Mathematics Department*, North Carolina State University, North Carolina, Feb. 6, 1998. "Analysis of Complex Nonlinear Motions of Engineering Systems via Densities"
55. *Mechanical Engineering Department*, Hong Kong University, Hong Kong SAR, China, July 13, 1998. "Active Control of Noisy Oscillations in Sensitive Nonlinear Structural Systems"

56. *Civil Engineering Department*, South China University of Technology, Guangzhou, China, July 14, 1998. "Experimental Analysis and Control of Nonlinear Structural Systems,"

57. *Engineering Mechanics Department*, Zhongshan University, Guangzhou, China, July 15, 1998. "A Methodology for Analysis and Control of Sensitive Nonlinear Structural Systems"

58. *National Science Foundation Network for Earthquake Engineering Simulations (NEES) System Integration Workshop*, University of Southern California, Los Angeles, CA, Nov. 16-17, 2000. "Multi-Directional Wave Basin for Remote Tsunami Research"

59. *National Science Foundation Network for Earthquake Engineering Simulations (NEES) Awardees Meeting*, National Science Foundation, Arlington, VA, Feb. 22-23, 2001. "Upgrading Oregon State's Multi-Directional Wave Basin Facility"

60. *National Science Foundation Workshop on Research with NEES Tsunami Facility*, Oregon State University, Corvallis, Oregon, Apr. 6-7, 2001. "Research with the OSU NEES Tsunami Facility"

61. *National Science Foundation NEES Phase 2 Workshop*, University of California at San Diego, La Jolla, CA, May 14-15, 2001. "NSF NEES Tsunami Wave Basin Facility"

62. *Pacific Marine Environmental Laboratory Review Panel Meeting*, Port of Portland, Portland, Oregon, May 17-18, 2001. "Future Tsunami Research Using Oregon State's Multi-Directional Wave Basin Facility"

63. *Office of Naval Research Northwest Region Progress Review*, College of Oceanographic and Atmospheric Sciences, Oregon State University, Corvallis, OR, June 19, 2001. "Deterministic and Stochastic Analyses of Nonlinear Moored Ocean Structures"

64. *National Science Foundation Network for Earthquake Engineering Simulations (NEES) Awardees Meeting*, National Science Foundation, Arlington, VA, Dec. 6-7, 2001. "Upgrading Oregon State's Multi-Directional Wave Basin for Tsunami Research"

65. *National Research Council Committee on Future Earthquake Engineering Research*, Washington, DC, Mar. 25-26, 2002. 16. "Collaborative Tsunami Research Using Oregon State's Multidirectional Wave Basin"

66. *Chemical Engineering Department*, Oregon State University, May 15, 2002. "A Large-Scale Multidisciplinary Research Project: the NSF NEES Wave Research Basin"

67. *National Science Foundation Network for Earthquake Engineering Simulations (NEES) Awardees Meeting*, University of Nevada, Reno, NV, Nov. 14-15, 2002. "Oregon State's Early Adopter Experience, Training and Education"

68. *Science Connections*, Oregon State University, May 15, 2003. "Collaborative Experimental Tsunami Research Using Oregon State's Multi-Directional Wave Basin"

69. *First National Science Foundation Network for Earthquake Engineering Simulations Consortium Annual Meeting*, Park City, UT, May 21-23, 2003. "Upgrading Oregon State's Multi-Directional Wave Basin for Collaboratory Tsunami Research"

70. *Civil Engineering Department*, University of Hawaii at Manoa, Oahu, Hawaii, May 30, 2003. "Research on Shear-Cracked Reinforced Concrete Deck-Girder Bridges in Oregon"

71. *Submarine Mass Slide Generated Tsunami Workshop*, Honolulu, Hawaii, May 30-June 1, 2003. "Collaborative Experimental Tsunami Research Using Oregon State's Multi-Directional Wave Basin"

72. *National Science Foundation Integrated Tsunami Scenario Simulations Workshop*, Oregon State University, Aug. 8, 2003. "NSF Networks for Earthquake Engineering Simulations Grand Challenge"

73. *National Science Foundation Network for Earthquake Engineering Simulations (NEES) Awardees Meeting*, Oregon State University, Corvallis, OR, Sept. 11-12, 2003. "Oregon State's Tsunami Wave Basin - The User Experience"

74. *National Science Foundation Integrated Tsunami Scenario Simulations Workshop*, University of Washington, Seattle, WA, Sept. 20, 2003. "Tsunami-Structure Interaction Simulation and Experimentation"

75. *Physics Department*, Oregon State University, Nov. 3, 2003. "Analytical, Numerical and Experimental Research at the Oregon State Tsunami Wave Basin"

76. *Space Warfare Systems (SPAWARS)*, US Navy, San Diego, Nov. 24, 2003. "Experimental Fluid-Structure Interaction Systems Research at the Oregon State University Using the Tsunami Wave Basin"

77. *Structural Engineering Department*, University of California at San Diego, Nov. 24, 2003. "Analytical, Numerical and Experimental Studies of Fluid-Structure Interaction Systems"

78. *National Science Foundation Simulation and Visualization Workshop*, University of Kansas, Lawrence, Kansas, Dec. 1-3, 2003. "Numerical Simulations of Tsunami Generation, Propagation, and Coastal Fluid-structure Interaction Effects"

79. *Sandia National Laboratory*, Albuquerque, New Mexico, Dec. 17, 2003. "A State-of-the-Art Virtual Tsunami Wave Basin for Experiment Design, Calibration and Coastal Structures Performance Prediction"

80. *Los Alamo National Laboratory*, Los Alamo, New Mexico, Dec. 18, 2003. "State-of-the-Art Tsunami Wave-Structure Interaction and Visualization Tools for Experiment Design and Calibration and Prototype Structural Performance Prediction,"

81. *Flow Science, Inc*., Santa Fe, New Mexico, Dec. 18, 2003. "State-of-the-Art Tsunami Wave-Structure Interaction and Visualization Tools for Experiment Design and Calibration and Prototype Structural Performance Prediction"

82. *TeraScale, Inc*., Albuquerque, New Mexico, Dec. 19, 2003. "A Framework for High-Performance Tsunami Wave-Structure Interaction Computation and Visualization with Application to Experiment Design and Prototype Response Prediction"

83. *Civil Engineering Department*, Oregon State University, Corvallis, Oregon, Jan. 30, 2004. "Collaborative Research on Tsunami Wave-Structure Interaction"

84. *Tainan Hydraulic Research Laboratory*, National Cheng Kung University, Tainan, Taiwan, Apr. 8, 2004. "International Collaborative Research Using the Oregon State Tsunami Wave Basin"

85. *Tainan Hydraulic Research Laboratory*, National Cheng Kung University, Tainan, Taiwan, Apr. 8, 2004. "The Future of Coastal Engineering and Tsunami Research at Oregon State University"

86. *Coastal and Naval Engineering Department*, National Taiwan Ocean University, Keelung, Taiwan, Apr. 9, 2004. "International Collaborative Research Using the Oregon State Tsunami Wave Basin"

87. *Coastal and Naval Engineering Department*, National Taiwan Ocean University, Keelung, Taiwan, Apr. 9, 2004. "The Future of Coastal Engineering and Tsunami Research at Oregon State University"

88. *Thirty-Sixth Joint Panels Meeting on Wind and Seismic Effects*, National Institute of Standards and Technology, Washington, D.C., May 17-20, 2004. "International Collaborative Tsunami, Storm Surge, and Wave Structure Interaction Research Opportunities Using the Oregon State Multidirectional Wave Basin and Large Wave Flume"

89. *Second NSF NEES Consortium Annual Meeting*, San Diego, CA, May 20-21, 2004. "The NEES Multi-Directional/Tsunami Wave Basin Upgrade"

90. *Third International Workshop on Long-Wave Runup Models*, Catalina Island, CA, and June 17-18, 2004. "The NEES Multi-Directional/Tsunami Wave Basin Update and Future Plans"

91. *Lawrence Livermore National Laboratory*, July 13, 2004. "National Collaborative Research Opportunities in Fluid-Structure Interaction Using the NSF NEES Tsunami Wave Basin at Oregon State University"

92. *Livermore Software Technology Corporation*, July 16, 2004. "Industrial Collaborative Research Opportunities in Fluid-Structure Interaction Using the NSF NEES Tsunami Wave Basin at Oregon State University"

93. *Civil Engineering, Department*, University of Hawaii, Manoa, HI, July 21, 2004. "Collaborative Research Opportunities Using the NSF NEES Tsunami Wave Basin at Oregon State University"

94. *NSF Tsunami Scenario Workshop*, San Francisco, CA, Oct. 29-30, 2004. "Tsunami-Structure-Foundation Interaction, Modeling and Simulation"
95. *84th Annual Meeting of the Transportation Research Board*, Washington, DC, January 5, 2005. "Assessment and Risk-Ranking of Conventionally Reinforced Concrete Bridges for Shear"
96. *First International Workshop on Coastal Disaster Mitigation*, Kobe, Japan, Jan. 17-18, 2005. "Numerical Model on Tsunami Behavior of Deformable Bodies"
97. *Civil and Construction Engineering Department*, Oregon State University, Corvallis, OR, May 4, 2005. "Analytical, Numerical and Experimental Studies of Fluid-Structure Interaction Systems"
98. *Mathematics Department*, Oregon State University, Corvallis, OR, May 6, 2005. "Recent Research on Fluid-Structure Interaction and Tsunami Wave Basin Modeling"
99. *NSF NEES Site Operation and Maintenance Managers Workshop*, Minneapolis, MN, May 11-12, 2005. "NSF NEES Tsunami Wave Basin Operation and Maintenance"
100. *Thirty-Seventh US-Japan Natural Resources Joint Panel on Wind and Seismic Effects Workshop*, Tsukuba, Japan, May 16-17, 2005. "Experimental and Numerical Simulations of Tsunami-Structure Interaction"
101. *National Maritime Research Institute*, Mitaka, Japan, May 23, 2005. "Experimental and Numerical Simulations of Tsunami-Structure Interaction"
102. *Mechanical Engineering Department*, Oregon State University, Corvallis, OR, June 3, 2005. "A Survey of Challenging Topics in Numerical Simulation of Fluid-Structure Interaction Systems"
103. *Leichtweiss Institute for Hydraulic Engineering*, Department of Hydromechanics and Coastal Engineering, Technical University of Braunschweig, Braunschweig, Germany, June 17, 2005. "Numerical Modeling and Simulations of Tsunami-Structure Interaction at Oregon State's Wave Research Laboratory"
104. *Office of Naval Research Northwest Region Progress Review*, College of Oceanographic and Atmospheric Sciences, Oregon State University, Corvallis, OR, June 30, 2005. "An Arbitrary Lagrangian-Eulerian Based Numerical Method for Complex Coupled Fluid-Structure Interaction Systems"
105. *First US-Portugal International Workshop on Grant Challenges in Earthquake Engineering*, Lamego City, Portugal, July 11-14, 2005. "International Collaborative Experimental Research Using the NEES Tsunami Wave Basin"
106. *International Center for Numerical Methods in Engineering*, Barcelona, Spain, July 15, 2005. "Experimental and Numerical Modeling and Simulation of Coupled Fluid-Flexible Structure Systems at the Oregon State University Wave Research Laboratory"
107. *ChevronTexaco Energy Technology Company*, San Ramon, CA, Aug. 11, 2005. "Numerical and Experimental Simulation of Wave-Structure Interaction Systems Using Oregon State University's Wave Basin Facilities"
108. *Twenty-Fist US-Japan Bridge Engineering Workshop*, Tsukuba, Japan, Oct. 4-6, 2005. "Tsunami and Storm Surge Hydrodynamic Loads on Coastal Bridges"
109. *Ocean Engineering Symposium*, Oregon State University, Corvallis, OR, Nov. 19, 2005. "Finite-Element Analysis of Nonlinear Wave Effects on Bridge Structures"
110. *Structural Engineering Department*, University of California, San Diego, CA, Nov. 28, 2005. "Development of Advanced Finite-Element Methods for the Analysis of Nonlinear Coupled Fluid-Structure Interaction Systems"
111. *Scripps Institute of Oceanography*, University of California, San Diego, CA Nov. 29, 2005. "Numerical Simulation of Tsunami Propagation and Coastal Inundation"
112. *California Department of Transportation*, Sacramento, CA, Nov. 30, 2005. "Development of Advanced Finite-Element Methods for the Analysis of Nonlinear Coupled Fluid-Structure Interaction Systems"
113. *California Department of Transportation*, Sacramento, CA, Nov. 30, 2005. "Numerical Simulation of Tsunami Propagation and Coastal Inundation"

114. *Wave Force Symposium*, Turner-Fairbank Highway Research Center, Federal Highway Administration, McLean, VA, Dec. 5-7, 2005. "Field and Experimental Calibration of Wave Forces on Bridge Structures"

115. *Second International Workshop on Coastal Disaster Prevention*, Tokyo, Japan, Jan. 18-19, 2006. "Numerical Simulation of Storm Surge and Tsunami Interaction with Fixed and Movable Coastal Structures"

116. *Ocean Engineering Series*, University of California at Berkeley, CA, Feb. 17, 2006. "Numerical and Experimental Modeling of Tsunami and Storm Surge Effects on Coastal Structures"

117. *Life Long Learning*, Oregon State University Outreach Seminar, Corvallis, OR, Feb. 23, 2006. "Effects of Storm Surge and Tsunami on the Built Environment"

118. *Network for Earthquake Engineering Simulations World Forum on Collaborative Research in Earthquake Engineering*, San Francisco, CA, March 17-18, 2006. "Barriers and Challenges in International Collaborative Simulation"

119. *100th Anniversary Earthquake Conference*, San Francisco, CA, April 18-22, 2006. "Tsunami and Storm Wave Interaction with Structures"

120. *NSF/NOAA National Tsunami Research Workshop*, Oregon State University, Corvallis, OR, July 25-26, 2006. "Overview of NEES Tsunami Facility at Oregon State University"

121. *Network for Earthquake Engineering Simulations Training and Tsunami Modeling W*orkshop, Oregon State University, Corvallis, OR, July 27-28, 2006. "A Review of Experimental Capabilities at the NSF NEES Tsunami Wave Basin Facility"

122. *Notre Dame University REU Site Visit Seminar*, Oregon State University, Corvallis, OR, Aug. 1, 2006. "Numerical Modeling of Fluid-Structure Interaction Experiments at the Oregon State NEES Tsunami Wave Basin"

123. *NEES Board of Director Visit Seminar*, Oregon State University, Corvallis, OR, Aug. 24, 2006. "Overview of NEES Tsunami Facility at Oregon State University"

124. *NSF Tsunami Workshop*, Hilo, HI, Dec. 26-28, 2006. "The Physics of Structure-Structure Impact in Free-Surface Flow"

125. *Third International Workshop on Coastal Disaster Prevention*, Colombo, Sri Lanka, Feb. 12-13, 2007. "Structure-Structure Impact Modeling for Tsunami Debris Flow"

126. *Civil Engineering Capstone Design Seminar, Oregon State University*, Corvallis, OR, Feb. 28, 2007. "Numerical and Experimental Tsunami Research at Oregon State University"

127. *Second World Forum on Collaborative Research in Earthquake Engineering*, Ispra, Italy, March 26-27, 2007. "Hybrid Testing and Distributed Simulation of Tsunami-Structure-Soil Interaction"

128. *Oregon Department of Transportation Bridge Design Conference*, Salem, OR, May 9-10, 2007. "Tsunami Loads on Coastal Structures: A Case Study of Spencer Creek Bridge"

129. *International Hydraulics Research Forum*, Turner-Fairbank Highway Research Center, Federal Highway Administration, McLean, VA, June 5-6, 2007. "Hurricane Wave Loads on Highway Bridge Superstructures"

130. *National Science Foundation Network for Earthquake Engineering Simulation Information Technology Site Review*, University of California at San Diego, La Jolla, CA, July 25-27, 2007. "Tsunami Community Development Efforts and Needs"

131. *28th American Towing Tank Conference*, Ann Arbor, Michigan, Aug. 9-10, 2007. "Ocean and Coastal Engineering Research at Oregon State University Wave Basin Facility"

132. *National Science Foundation Network for Earthquake Engineering Simulation Inc. Simulation Development Workshop*, Hilton Airport Hotel, Chicago, IL, September 13, 2007. "Computational Models Calibration and Validation"

133. *Naval Facilities Engineering Service Center*, Port Hueneme, CA, Oct. 4, 2007. "Recent Research on Extreme Loads and Nonlinear Responses of Ocean and Coastal Structures"

134. *Fourth International Workshop on Coastal Disaster Prevention*, Yokohama, Japan, Nov. 30-Dec. 1, 2007. "Physical and Numerical Fluid-Structure Interaction Impact Simulations"

135. *Fifth International Workshop on Coastal Disaster Prevention*, Yogyakarta, Indonesia, July 22, 2008. "Recent Advances in Tsunami Research and Practice in the United States"

136. *National Science Foundation Civil, mechanical and Manufacturing Innovation/Network for Earthquake Engineering Simulation Annual Meeting Plenary Session*, Waikiki, HI, June 22-25, 2009. "NEES without Borders – International Research Efforts on Water-Wave Related Multi-Hazards Mitigations"

137. *National Science Foundation Civil, mechanical and Manufacturing Innovation/Network for Earthquake Engineering Simulation Annual Meeting Emerging Frontiers Session*, Waikiki, HI, June 22-25, 2009. "The Oregon State University NEES Tsunami Research Facility for Multi-Hazards Experimental Research"

138. *Joint National Science Foundation Network for Earthquake Engineering Simulation (NEES) and Inundation Science and Engineering Society Workshop on Tsunami Research Using the OSU NEES Tsunami Research Facility*, Oregon State University, 8-10 July, 2009.. "NEES/ISEC Tsunami Research Summary and Plans for the Future",

139. *Joint National Science Foundation Network for Earthquake Engineering Simulation (NEES) and Inundation Science and Engineering Society Workshop on Tsunami Research Using the OSU NEES Tsunami Research Facility*, Oregon State University, 8-10 July, 2009. "ISEC Tsunami Inundation Benchmark 1 Predictions and Comparisons"

140. *Joint National Science Foundation Network for Earthquake Engineering Simulation (NEES) and Inundation Science and Engineering Society Workshop on Tsunami Research Using the OSU NEES Tsunami Research Facility*, Oregon State University, 8-10 July, 2009. "Fluid-Structure Interaction Modeling and Design with Application to Tsunami Wave Basin Experiments"

141. *Joint National Science Foundation Network for Earthquake Engineering Simulation (NEES) and Inundation Science and Engineering Society Workshop on Tsunami Research Using the OSU NEES Tsunami Research Facility*, Oregon State University, July 9, 2009. "Planning a NEES Tsunami Wave Basin Research Project"

142. *Joint National Science Foundation Network for Earthquake Engineering Simulation (NEES) and Inundation Science and Engineering Society Workshop on Tsunami Research Using the OSU NEES Tsunami Research Facility*, Oregon State University, July 10, 2009. "NEES/ISEC Tsunami Training Workshop Survey Summary"

143. *Hydro Colloquium*, Naval Surface Warfare Center Carderock Division, 28 July, 2009 "Towards a Multi-Physics Multi-Scale Coupled Fluid-Structure Interaction Software for Naval Applications"

144. *Department of Homeland Security Tsunami Research Workshop*, University of South Carolina, Chapel Hill, 20 Oct. 2009, "Fluid-Structure Interaction Analysis for Tsunami Applications"

145. *American Society of Naval Engineers Annual Meeting*, Golden Gate Section, University of California at Berkeley, 11 March 2010 "Progress in Computational and Experimental Research in Tsunamis"

146. *Ocean Engineering Seminar*, University of California at Berkeley, 12 March 2010 "A Multi-Physics/Multi-Scale Computational Approach to Coupled Fluid-Structure-Sediment Interaction Analysis"

147. *Society of American Military Engineers Section Meeting*, Portland, Oregon, 1 Sept. 2010. "The OSU Wave Research Laboratory and Recent NSF Network for Earthquake Engineering Simulation Experimental and Numerical Research Activities"

148. *Ocean Engineering Seminar*, Aerospace and Ocean Engineering Department, Virginia Technical Institute and State University, Blacksburg, VA, 15 Oct. 2010 "Recent Advances in Numerical Wave Basin Development"

149. *Coastal Engineering Conference*, Gunsan, Korea, 5 Nov. 2010. "Research and Testing at the Hinsdale Wave Research Laboratory"

150. *Wave Energy Center Seminar Kwandong University*, Gangneung, Korea, 9 Nov. 2010. "Some Recent Research on Wave Energy Conversion Systems at Oregon State University"

151. *Korean Ocean Research and Development Institute*, Ansan, Korea, 10 Nov. 2010. "Recent

Advances in Experimental and Numerical Wave Basin Testing at Oregon State University"

152. *Korea Ocean and Coastal Engineering Development Wave Simulation and Research Laboratory*, Chonnam University, Yeosu, Korea, 11 Nov. 2010. "Recent Research Activities at the Oregon State University Hinsdale Wave Research Laboratory"

153. *Korea Ocean Engineering Research Institute*, Daejun, Korea, 12 Nov. 2010. "Recent Advances in Experimental and Numerical Wave Basin Testing at Oregon State University"

154. *Office of Naval Research T-Craft Program Review*, Florida Atlantic University, Fort Lauderdale, FL, Jan. 14, 2011. "Multi-Physics, Multi-Scale Modeling and Simulation of Coupled Fluid-Structure Interaction Problems"

155. *Mathematics Department*, Oregon State University, Jan. 21, 2011. "Multi-Physics, Multi-Scale Modeling and Simulation of Fluid-Structure Interaction Systems"

156. *Ocean Engineering Seminar*, University of California at Berkeley, 18 March 2011 "Oregon State University Collaborative Research on Wave Energy Conversion"

157. *Thirtieth Offshore Mechanics and Arctic Engineering International Conference*, Rotterdam, The Netherlands, Computational Fluid Dynamics and Vortex-Induced Vibration Symposium, Panel on CFD and VIV Benchmarking, 23 June 2011 "Numerical Wave Basin Modeling" and "Recent Developments in Numerical and Experimental Capabilities at the NEES Tsunami Research Facility"

158. *The 2011 NSF Workshop on Fundamental Research and Technology in Wave and Hydrokinetic Power Systems*, Waikoloa, Hawaii, USA, September 19-22, 2011, Keynote Speaker. "Applied Research and Applications at the Northwest National Marine Renewable Energy Center in Support of US Government Initiatives"

159. *Network for Earthquake Engineering Simulation Annual Meeting*, Boston, MA, July 11-12, 2012, Plenary Session Speaker "Multi-Scale Tsunami Impact Modeling and Simulation: 3-D LiDAR Scanning and Load Estimation"

160. *Rotary Club*, Corvallis, Oregon, Sept. 6, 2012. "The Oregon State University Wave Research Laboratory and NSF Network for Earthquake Engineering Simulation Tsunami Research Activities"

161. *The 28th US-Japan Bridge Engineering Workshop*, Portland, OR, USA, October 7-12, 2012 "The Oregon Spencer Creek Bridge Tsunami Loads Estimation and Construction"

162. *The 28th US-Japan Bridge Engineering Workshop*, Portland, OR, USA, October 7-12, 2012 "Tsunami Loads Estimation and US-Japan Collaborative Research Opportunities"

163. *College of Shipbuilding Engineering*, Harbin Engineering University, 19 Nov 2012 "Large-Scale Wave Basin Experiments and Field Data Calibration"

164. *College of Shipbuilding Engineering*, Harbin Engineering University, 20 Nov 2012 "High Fidelity Numerical Modeling of Large-Scale Wave Basin Experiments and Field Observations"

165. *National Renewable Energy Laboratory*, Golden, CO, December 17, 2012 "Numerical Modeling of a Floating Point Absorber Using Potential Flow Models"

166. *National Renewable Energy Laboratory*, Golden, CO, December 17, 2012 "Numerical Modeling of a Floating Point Absorber Using Computational Fluid Dynamic Models"

167. *National Renewable Energy Laboratory*, Golden, CO, December 17, 2012 "Coupled Fluid-Structure Interaction Using Domain Decomposition"

168. *Society of Naval Architecture and Marine Engineers*, Pacific Northwest Section, January 26, 2013, Key Note Speaker "The Hinsdale Wave Research Laboratory, the NSF Network for Earthquake Engineering Simulation, and Recent Large-Scale Experiments"

169. *Ocean Engineering Seminar*, University of California at Berkeley, 22 February 2013 "Physical and Numerical Modeling and Simulations of Oregon State University Large-Scale Wave Basin Experiments"

170. *Ten Year LabOceano Celebration Workshop*, LabOceano and LOC, COPPE/Federal University of Rio de Janeiro, Rio de Janeiro, Brazil, April 29-30, 2013, Key Note Speaker "Experimental and Numerical Modeling of Fluid-Structure Interaction Problems in Large-Scale Wave Basins"

171. *Quake Summit 2013*, Reno, Nevada, Aug. 8, 2013. "Numerical Wave Tank Modeling and

Simulation of Tsunami Impact Loads and Fluid-Structure Interaction,"

172. *College of Shipbuilding Engineering*, Harbin Engineering University, 5 Sept 2013 "Journal Article Development and Publication"
173. *College of Shipbuilding Engineering*, Harbin Engineering University, 6 Sept 2013 "Some Recent Experiments on Fluid-Structure Interaction and Contact-Impact Hydroelasticity at the Oregon State University Large-Scales Wave Basins"
174. *International Workshop on the Application of Fluid Mechanics to Disaster Reduction*, Tohoku University, Tohoku, Japan, 21-22 Feb 2014 "Tsunami and Hurricane Wave Loads on Bridge Superstructures"
175. *College of Shipbuilding Engineering*, Harbin Engineering University, 14 March 2014 "Fundamentals of Continuum Mechanics and Applications to Analysis of Ocean Structures"
176. *Civil Engineering Department Seminar, University of Illinois at Urbana-Champagne*, 21 APR 2014, "Experimental and Numerical Modeling of Tsunami and Wave Impact Problems in Large-Scale Wave Basins"
177. *Ocean Engineering Seminar*, University of California at Berkeley, 2 May 2014 "Experimental and Numerical Modeling and Analysis of Wave Impact Loads on Structures"
178. *Pacific Earthquake Engineering Research Center Tsunami Workshop*, Oregon State University, 11 Dec. 2014, "Fluid-Structure Interaction Contact-Impact Modeling Problems Using LS-DYNA"
179. *Ocean Engineering Seminar*, University of California at Berkeley, 1 May 2015 "Effect of Compressibility on Peak Impact Pressure and Pressure Distribution During Water Entry of a Wedge"
180. *Naval Architecture and Marine Engineering Department*, University of Michigan, 28 Sept. 2015, "Physical and Numerical Large-Scale Wave Basin Modeling of Fluid Structure Interaction Problems"
181. *Ocean Engineering Seminar*, University of California at Berkeley, 29 April 2016 "Hydrodynamic Contact/Impact Modeling and Applications in Ocean Engineering"
182. *ONR Nonlinear Ocean Waves Workshop*, SRI Corporation Michigan, 28 JUL 2016, "Nonlinear Wave Characteristics and Wave Basin Performance Analysis"
183. *ONR Nonlinear Ocean Waves Workshop*, University of Torino, Italy, 7 DEC 2016, "Nonlinear Fourier Transform Application and Analysis of Ocean Waves"
184. *ONR/DOE Water Power Research Roundtable*, Department of Energy, 5 JAN 2017, "Nonlinear Ocean Waves and Impact Loads on WEC System Performance and Survival"
185. *Ocean Engineering Seminar*, University of California at Berkeley, 28 April 2017 "Nonlinear Ocean Wave Models and Laboratory Simulation of High Seastates and Rogue Waves"
186. *Naval Architecture and Ocean Engineering Summer School*, Shanghai Jiao Tong University, 27 JUL 2017 "Nonlinear Ocean Wave Modeling and Laboratory Simulation of High Sea States and Rogue Waves"
187. *International Naval Architecture and Marine Engineering Multi-Conference*, Qingdao, China, 8 SEP 2017 "Nonlinear High Sea States and Rogue Waves Modeling, Simulation and Analysis Via Virtual and Physical Basin Experiments"

Invited Panellist

1. *Seventh National Conference on Earthquake Engineering*, Boston, MA, July 21-25, 2002. "Use of Experimental Facilities in NEES Collaboratory Research"
2. *First World Conference on Disaster Reduction*, Kobe, Japan, Jan. 18-22, 2005. "Disaster Reduction Due to Tsunami Inundation"
3. *Wave Force Symposium*, Turner-Fairbank Highway Research Center, Federal Highway Administration, McLean, VA, Dec. 5-7, 2005. "Identification of Gaps and Opportunities for Collaboration"
4. *Second International Workshop on Coastal Disaster Prevention*, Tokyo, Japan, Jan. 18-19, 2006. "Disaster Reduction Due to Tsunami and Storm Surge Inundation"

5. *Third International Workshop on Coastal Disaster Prevention*, Colombo, Sri Lanka, Feb. 12-13, 2007. "Tsunami Hazard Map Seminar"
6. *International Hydraulics Research Forum*, Turner-Fairbank Highway Research Center, Federal Highway Administration, McLean, VA, June 5-6, 2007. "Research Focus in Coastal, Inland Hydraulics and Environmental Hydraulics"
7. *First International Workshop of the Theory Advisory Panel for Numerical Tank*, Harbin Engineering University, March 15-16, 2014
8. *Tenth National Conference on Earthquake Engineering*, Anchorage, AK, July 21-25, 2014. "Research Impact on Tsunami Engineering" (Moderator)
9. *Second International Workshop of the Theory Advisory Panel on Numerical Tank*, Harbin Engineering University, Sept 13-14, 2014
10. *International Advisory Panel on Advancement of Harbin Engineering University Among Leading International Research Institutions*, Qingdao, China, Sept. 9, 2017

SYMPOSIUM/WORKSHOP/SHORT COURSE PARTICIPATIONS

1. "Correlation and Spectral Analysis for Scientific and Engineering Applications," University of Southern California Short Course, Monterey, CA, Mar. 17-20, 1986.
2. "Practical Applications of Reliability in Engineering," University of Arizona Short Course, Tucson, AZ, Jan. 12-16, 1987.
3. "Second International Workshop on Structural Control -- Next Generation of Intelligent Structures," Hong Kong University of Science and Technology, Hong Kong, Dec. 18-21, 1996.
4. "Numerical Wave Tank I," International Society of Offshore and Polar Engineers Workshop, Honolulu, HI, May 30, 1997.
5. "Numerical Wave Tank II," International Society of Offshore and Polar Engineers Workshop, Montreal, Quebec, May 31, 1998.
6. "Natural Hazard Mitigation - Earthquake Engineering Design," a Federal Emergency Management Agency Workshop, Emmitsburg, VA, July 26-30, 1999.
7. "Network for Earthquake Engineering Simulations," National Science Foundation Workshop, Feb. 14, 2000.
8. "Numerical Wave Tank IV," International Society of Offshore and Polar Engineers Workshop, Seattle, WA, May 31, 2000.
9. "Network for Earthquake Engineering Simulations NEESgrid," Nation Science Foundation Workshop, Nov. 11, 2000.
10. "The NEES Consortium," Earthquake Engineering Research Institute Workshop, San Francisco, CA, Jan. 16-17, 2001.
11. "Earthquake and Tsunami Vulnerability," Oregon State University Workshop, Newport, Oregon, Feb. 27-Mar. 1, 2001.
12. "Network for Earthquake Engineering Simulations," National Science Foundation Workshop, Seattle, WA, March 15, 2002 and Portland, OR, March 19, 2002.
13. "Pacific Earthquake Engineering Research Annual Meeting," National Science Foundation, Palm Spring, CA, March 13-15, 2003.
14. "Mesh Generation and Automated Simulation," US National Conference on Computational Mechanics Short Course, Albuquerque, NM, July 27, 2003.
15. "High Performance Computing in Finite Element Analysis," National Science Foundation Workshop, Manchester Research Center for Computation Science, University of Manchester, Manchester, England, Sept. 1-5, 2003.
16. "National Science Foundation Network for Earthquake Engineering Simulations (NEES) Awardees Semi-Annual Meeting, Rensselaer Polytechnique Institute, Troy, NY, Mar. 11-12, 2004.

17. "Partnership to Build Enduring Understandings – A P-12 Outreach Workshop," Oregon State University, Corvallis, OR, Apr. 15, 2004.
18. "TRUCHAS: A Tutorial and Peer Review Workshop for the Truchas Metal Processing Project," Los Alamos National Laboratory, Los Alamos, NM, June 21-24, 2004.
19. "LS-DYNA: ALE/Eulerian & Fluid/Structure Interaction Workshop," Livermore Software Technology Corporation, Livermore, CA, July 14-16, 2004.
20. "Twenty Fifth Symposium on Naval Hydrodynamics," St. John, Newfoundland and Labrador, Canada, Aug. 8-13, 2004.
21. "OpenSees and NEESgrid Simulation Component User Workshop," University of California, Berkeley, Sept. 2-3, 2004.
22. "National Science Foundation Network for Earthquake Engineering Simulation Grant Opening," National Science Foundation, Arlington, VA, Nov. 15, 2004.
23. "Nonlinear Finite Element Analysis Short Course," San Diego, CA, Dec. 13-17, 2004.
24. "International Symposium on Tsunami Disaster Mitigation in Future," (invited special participant), United Nations World Conference on Disaster Reduction, Kobe, Japan, Jan. 18-22, 2005.
25. "LS-DYNA: Introduction," Livermore Software Technology Company Short Course, Livermore, CA, Feb. 1-4, 2005.
26. "LS-DYNA: Composite Materials," Livermore Software Technology Company Short Course, Livermore, CA, Mar. 15-16, 2005.
27. "LS-DYNA: User Defined Material Modeling," Livermore Software Technology Company Short Course, Livermore, CA, Mar. 17-18, 2005.
28. "College of Engineering Collaborative Research Workshop," Oregon State University, Apr. 9, 2005.
29. "LS-DYNA: Contact," Livermore Software Technology Company Short Course, Livermore, CA, Aug. 9-11, 2005.
30. "Fourth NEES Annual Meeting – Broadening Participation Throughout NEES," NEES Annual Meeting, Arlington, VA, June 21-23, 2006.
31. "What's New in Bridge Design," Oregon Department of Transportation Bridge Design Conference, Salem, OR May 9-10, 2007.
32. "Computational Fluid Dynamics," Offshore Mechanics and Arctic Engineering Conference Short Course, San Diego, CA, June 10, 2007.
33. "Uncertainty Quantification in Mechanics: Theoretical and Computational Aspects," 9th US National Congress on Computational Mechanics, San Francisco, CA, July 22, 2007.
34. Ninth International Conference in Numerical Ship Hydrodynamics, Ann Arbor, Michigan, USA, Aug. 6-8, 2007.
35. Twenty-Eighth American Towing Tank Conference, Ann Arbor, Michigan, USA, Aug. 9-10, 2007.
36. "LS-DYNA: Blast and Penetration," Livermore Software Technology Company Short Course, Livermore, CA, Sept. 24-25, 2007.
37. "LS-DYNA: Impact Analysis," Livermore Software Technology Company Short Course, Livermore, CA, Aug. 5-8, 2008.
38. "LS-DYNA: Contact," Livermore Software Technology Company Short Course, Livermore, CA, Aug. 14-15, 2008.
39. "LS-DYNA: Concrete and Geomaterials," Livermore Software Technology Company Short Course, Livermore, CA, Sept. 25-26, 2008.
40. "LS-DYNA: Implicit," Livermore Software Technology Company Short Course, Livermore, CA, June 29-30, 2009.
41. "AQWA Training Course," ANSYS Inc., Houston, TX, Oct. 19-21, 2010.
42. "LS-DYNA: Smoothed-Particle Hydrodynamics," Livermore Software Technology Company

Short Course, Livermore, CA, Nov. 14-15, 2011.

43. "LS-DYNA: Advanced Arbitrary Lagrangian-Eulerian Method," Livermore Software Technology Company Short Course, Livermore, CA, Nov. 16-17, 2011.
44. "Computational Fluid-Structure Interaction," ASME Specialty Conference, San Diego, CA, Feb 23-24, 2013.
45. "High-Order Spectral Numerical Wave Tank," Ecole Central Nantes Computational Workshop, Nantes, France, May 26-27, 2015.
46. International Towing Tank Conference, Wuxi, China, Sept. 18-22, 2017

PUBLICATIONS

Books and Chapters

1. Yim, S.C. and Lin, H. (1992) "Probabilistic Analysis of a Chaotic Dynamical System," Chapter 9, *Applied Chaos*, edited by J.H. Kim and J. Stringer, John Wiley and Son, New York, pp.219-241.
2. Lin, H. and Yim, S.C. (1996) "Chaotic Roll Motion and Capsizing of Ships under Periodic Excitation with Random Noise," *ONR Investing in the Future - 1946-1996, 50th Anniversary Volume*, Ed. M. Pelaez, pp.221-231.
3. Yim, S.C. and Lin, H. (1998) "A Methodology for Analysis and Design of Sensitive Nonlinear Ocean Systems," Chapter 4, *Stochastically Excited Nonlinear Ocean Structures*, Eds. M. Shlesinger and T.F. Swean, World Scientific Publisher, pp.105-128.
4. D. Yuk, S.C. Yim and P.L-F. Liu. (2003) "Numerical Modeling of Submarine-Movement Generated Waves Using RANS Model," *Submarine Mass Movements and Their Consequences*, Springer Netherlands, pp.183-191.
5. Dengler, L., Kelly, A., Uslu, B., Barberopoulou, B. and Yim, S.C. (2009) "Tsunami Damage in Crescent City, California from the November 15, 2006 Kuril Islands Mw 8.3 Earthquake," Eds. P. Cummins, L. Kong and K. Satake, *Tsunami Science Four Years after the 2004 Indian Ocean Tsunami: Part II: Observation and Data Analysis, PAGEOPH Topical Volumes in Geosciences*, Birkhauser.
6. Permanent International Association of Navigation Congresses (PIANC) MarCom Work Group 53. (2009) "Recommendations on Design and Construction of Maritime Structures in Tsunami Prone Areas".
7. Oda, Y., Ito, K. and Yim, S.C. (2010) "Construction Techniques for Deep Water Immersed Tunnel Using Real-Time Current Forecast," Chapter 32, *Macro-engineering Seawater in Unique Environments: Arid Lowlands and Water Bodies Rehabilitation*, Eds. V. Badescu and R.B. Cathcart, Springer-Verlag, ISBN 10:364214778X/ISBN 13:9783642147784.
8. Riggs, H.R. and Yim, S.C. (2016) "Chapter 42: Structural Dynamics," *Ocean Engineering Handbook*, M.R. Dhanak and N.I. Xiros, editors, Springer, NY, ISBN: 978-3-319-16648-3, eISBN: 978-3-319-16649-0, DOI: 10.1007/978-3-319-16649-0.
9. Yim, S.C. and Sphaier, S. (in press) *Special Symposium on Offshore and Ship Hydrodynamics in Honor of Professor R.W. Yeung & His Selected Works, ASME*.
10. Yim, S.C., Nimmala, S.B. and Grilli, S.T. (in press) "Development and Performance Study of a Parallel 3D Numerical Wave Tank for Large-Scale Wave Basin Simulation," *Special Symposium on Offshore and Ship Hydrodynamics in Honor of Professor R.W. Yeung & His Selected Works, ASME*, Eds. S.C. Yim and S. Sphaier.

Technical Journals

1. S.C. Yim, A.K. Chopra, and J. Penzien. (1980) "Rocking Response of Rigid Blocks to Earthquake," *Earthquake Engineering and Structural Dynamics*, Vol.8, No.6, pp.565-587.

2. S.C. Yim and A.K. Chopra. (1984) "Earthquake Response of Structures with Partial Uplift on Winkler Foundation," *Earthquake Engineering and Structural Dynamics*, Vol.12, No.2, pp.263-281.
3. S.C. Yim and A.K. Chopra. (1984) "Dynamics of Structures on Two-Spring Foundation Allowed to Uplift," *Engineering Mechanics*, ASCE, Vol.110, No.7, pp.1124-1146.
4. A.K. Chopra and S.C. Yim. (1985) "Simplified Earthquake Analysis of Structures with Foundation Uplift," *Structural Engineering*, ASCE, Vol.111, No.4, pp.906-930.
5. S.C. Yim and A.K. Chopra, "Simplified Earthquake Analysis of Multistory Structures with Foundation Uplift," *Structural Engineering*, ASCE, Vol.111, No.12, 1985, pp.2708-2731.
6. S.C. Yim and H. Lin. (1991) "Chaotic Behavior and Stability of Free-Standing Offshore Equipment," *Ocean Engineering*, Vol.18, No.3, pp.225-250.
7. S.C. Yim and H. Lin. (1991) "Nonlinear Impact and Chaotic Response of Slender Rocking Objects," *Engineering Mechanics*, ASCE, Vol.117, No.9, pp.2079-2100.
8. O. Gottlieb, S.C. Yim, and R.T. Hudspeth. (1992) "Analysis of Nonlinear Response of Articulated Tower," *International Journal of Offshore and Polar Engineering*, Vol.2, No.1, pp.61-66.
9. S.C. Yim, R.M. Burton, and M.R. Goulet. (1992) "Practical Methods of Extreme Value Estimation Based on Measured Time-Series for Ocean Systems," *Ocean Engineering*, Vol.19, No.3, pp.219-238.
10. S.C. Yim and H. Lin. (1992) Closure to Discussion on "Nonlinear Impact and Chaotic Response of Slender Rocking Objects," *Engineering Mechanics*, ASCE, Vol.118, No.11, pp.2333-2334.
11. O. Gottlieb and S.C. Yim. (1992) "Nonlinear Oscillations, Bifurcations, and Chaos in a Multi-Point Mooring System," *Applied Ocean Research*, Vol.14, No.6, pp.241-257.
12. O. Gottlieb and S.C. Yim. (1993) "Drag Induced Instabilities and Chaos in Mooring Systems," *Ocean Engineering*, Vol.29, No.6, pp.569-599.
13. E.B. Carpenter, J.W. Leonard, and S.C. Yim. (1995) "Experimental and Numerical Investigations of Tethered Spar and Sphere Buoys in Irregular Waves," *Ocean Engineering*, Vol.22, No.8, pp.765-784.
14. H. Lin and S.C. Yim. (1995) "Chaotic Roll Motion and Capsizing of Ships under Periodic Excitation with Random Noise," *Applied Ocean Research*, Vol.17, No.3, pp.185-204.
15. O. Gottlieb, M. Feldman and S.C. Yim. (1996) "Parameter Identification of Nonlinear Ocean Mooring Systems Using the Hilbert Transform," *Offshore Mechanics and Arctic Engineering*, ASME, Vol.118, No.1, pp.29-36.
16. A. Naess and S.C. Yim (1996) "Stochastic Response Analysis of Dynamically Sensitive Offshore Structures Excited by Drag Forces," *Engineering Mechanics*, ASCE, Vol.122, No.5, pp.442-448.
17. H. Lin and S.C. Yim. (1996) "Nonlinear Rocking Motions I: Chaos under Noisy Periodic Excitations," *Engineering Mechanics*, ASCE, Vol.122, No.8, pp.719-727.
18. H. Lin and S.C. Yim. (1996) "Nonlinear Rocking Motions II: Overturning under Random Excitations," *Engineering Mechanics*, ASCE, Vol.122, No.8, pp.728-735.
19. H. Lin and S.C. Yim. (1996) "Deterministic and Stochastic Analyses of Chaotic and Overturning Responses of a Slender Rocking Object," *Nonlinear Dynamics*, Vol.11, May-Aug., pp.83-106.
20. H. Lin and S.C. Yim. (1996) "Analysis of a Nonlinear System Exhibiting Chaotic, Noisy Chaotic and Random Behaviors," *Applied Mechanics*, ASME, Vol.63, No.2, pp.509-516.
21. K. Idris, J.W. Leonard, and S.C. Yim. (1997) "Coupled Dynamics of Tethered Buoy Systems," *Ocean Engineering*, Vol.24, No.5, pp.445-464.
22. O. Gottlieb and S.C. Yim. (1997) "Nonlinear Dynamics of a Coupled Surge-Heave Small-Body Ocean Mooring Systems," *Ocean Engineering*, Vol.24, No.5, pp.479-495.
23. P.E. King and S.C. Yim. (1997) "Control of Noisy Chaotic Motion in a System with Nonlinear Excitation and Restoring Forces," *Chaos, International Journal of Nonlinear Science*, American Institute of Physics, Vol.7, No.2, pp.290-299.

24. H. Lin, and S.C. Yim. (1997) “Noisy Nonlinear Motions of a Moored System, Part I: Analysis and Simulation,” *Waterway, Port, Coastal and Ocean Engineering*, ASCE, Vol.123, No.5, pp.287-295.
25. O. Gottlieb, S.C. Yim and H. Lin. (1997) “Analysis of Bifurcated Superstructure of Nonlinear Ocean System,” *Engineering Mechanics*, ASCE, Vol.123, No.11, pp.1180-1187.
26. H. Lin, S.C. Yim and O. Gottlieb. (1998) “Experimental Investigation of Response Stability and Transition Behavior of a Nonlinear Ocean Structural System,” *Ocean Engineering*, Vol.25, No.4-5, pp.323-343.
27. H. Lin and S.C. Yim. (1998) “An Experimental Calibration of Bifurcation Superstructure of Nonlinear System,” *Engineering Mechanics*, ASCE, Vol.124, No.4, pp.471-475.
28. W.C. Su, A.G. Hernried and S.C. Yim (2000) “Seismic Response of Rotating Machine-Structure-RFBI Systems,” *Earthquake Engineering and Structural Dynamics*, Vol.29, pp.213-240.
29. S.C. Yim, and H. Lin. (2000) “Noisy Nonlinear Motions of a Moored System, Part II: An Experimental Study,” *Waterway, Port, Coastal and Ocean Engineering*, ASCE, Vol.126, No.3, pp.113-120.
30. J.W. Leonard, K. Idris and S.C. Yim. (2000) “Large Angular Motions of Tethered Surface Buoys,” *Ocean Engineering*, Vol.27, No.12, pp.1345-1371.
31. S.C. Yim and H. Lin. (2001) "Unified Analysis of Complex Nonlinear Motions via Densities," *Nonlinear Dynamics*, Vol.24, No.1, pp.103-127.
32. M.Y. Jeong, K. Suzuki and S.C. Yim. (2003) “Chaotic Rocking Behavior of Freestanding Objects with Sliding Motion,” *Sound and Vibration*, Vol.262, No.5, pp.1091-1112.
33. H. Lin and S.C. Yim. (2004) “Stochastic Analysis of a SDOF Nonlinear Moored Experimental System Using an IFF Model,” *Engineering Mechanic*, ASCE, Vol.130, doi:10.1061/(ASCE)0733-9399(2004)130:2(1), No.2, pp.161-169.
34. S. Narayanan and S.C. Yim. (2004) “Modeling and Identification of a Nonlinear SDOF Moored Structure, Part 1, Analytical Models and Identification Algorithms” *Offshore Mechanics and Arctic Engineering*, ASME, Vol.126, doi:10.1115/1.1710875, pp.175-182.
35. S.C. Yim and S. Narayanan. (2004) “Modeling and Identification of a Nonlinear SDOF Moored Structure, Part 2, Results and Sensitivity Study” *Offshore Mechanics and Arctic Engineering*, ASME, Vol.126, doi:10.1115/1.1710874, pp.183-190.
36. S.C. Yim, T. Nakhata, W.A. Bartel and E.T. Huang. (2005) “Coupled Nonlinear Barge Motions, Part I: Deterministic Models Development, Identification and Calibration,” *Offshore Mechanics and Arctic Engineering*, ASME, Vol.127, doi:10.1115/1.1854700, pp.1-10.
37. S.C. Yim, T. Nakhata and E.T. Huang. (2005) “Coupled Nonlinear Barge Motions, Part II: Stochastic Models and Stability Analysis,” *Offshore Mechanics and Arctic Engineering*, ASME, Vol.127, doi:10.1115/1.1884617, pp.83-95.
38. M.J. Donahue, S.E. Dickenson, T.H. Miller and S.C. Yim. (2005) “Implication of the Observed Seismic Performance of a Pile Supported Wharf for Numerical Modeling,” *Earthquake Spectra, EERI*, Vol.21, No.3, pp.617-634.
39. S. Raman, S.C. Yim and P.A. Palo. (2005) “Nonlinear Model for Sub and Superharmonic Motions of a MDOF Moored Structure, Part 1 – System Identification,” *Offshore Mechanics and Arctic Engineering*, ASME, Vol.127, No.4, pp.283-290.
40. S.C. Yim, S. Raman and P.A. Palo. (2005) “Nonlinear Model for Sub and Superharmonic Motions of a MDOF Moored Structure, Part 2 – Sensitivity Analysis and Comparison,” *Offshore Mechanics and Arctic Engineering*, ASME, Vol.127, doi:10.1115/1.2073187, pp.291-299.
41. C. Higgins, T.K. Daniels, D.V. Rosowsky, T.H. Miller and S.C. Yim. (2005) “Assessment and Risk Ranking of Conventionally Reinforced Concrete Bridges for Shear,” *Transportation Research Record: Journal of the Transportation Research Board*, No.1928, Transportation Research Board of the National Academies, pp.110-117.
42. K. Chansawat, S.C. Yim and T.H. Miller. (2006) “Non-Linear Finite Element Analysis of an

FRP-Strengthened RC Bridge," *Bridge Engineering*, ASCE, Vol.11, No.1, doi:10.1061/(ASCE)1084-0702(2006)11:1(21), Jan.-Feb. pp.21-32.

43. S.C. Yim and H. Lin. (2006) "An IFF Model for a SDOF Nonlinear Structural System, Part I: Modeling and Comparisons," *Offshore Mechanics and Arctic Engineering*, ASME, Vol.128, No.1, doi:10.1115/2151200, pp.17-22.
44. H. Lin and S.C. Yim. (2006) "An IFF Model for a SDOF Nonlinear Structural System, Part II: Analysis of Complex Responses," *Offshore Mechanics and Arctic Engineering*, ASME, Vol.128, No.1, doi:10.1115/1.2151201, pp.23-30.
45. H. Lin and S.C. Yim. (2006) "Coupled Surge-Heave Motions of a Moored System, I: Model Calibration and Parametric Study," *Engineering Mechanics*, ASCE, Vol.132, No.6, pp.671-680.
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RESEARCH FUNDING

Current Research

"Advanced Laboratory and Field Arrays (ALFA) for Marine Energy – Improved Models for Design of Offshore Anchoring and Mooring Systems," Department of Energy No. DE-EE0006816, $127,859, 2017-18.

"A Numerical Simulator for Large-Scale Wave Basin Wave and Hydro-Elastic Model Test Design and Parametric Studies," (PI: Solomon Yim), Office of Naval Research, ONR-N00014-15-1-2686, $359,999, 2015-18.

"A Unified Stochastic Modeling and Experiment Methodology for Analysis of Complex Nonlinear Marine Structures," (PI: Solomon Yim), Office of Naval Research, ONR-N00014-13-1-0849 (N0287A), $600,000, 2013-17.

"NNMREC ALFA Project Task 11: Nonlinear Ocean Waves and PTO Control Strategy," Department of Energy, approved, $612,626, 2018-20 (Yim share: $312K).

"Multiresolution, Multiscale Modeling for Scalable Macroalgae Production", PI: Zhaoqing Yang (PNNL), Pacific Northwest National Laboratory, Local PI: Daniel Cox, co-I: Yim (approved OSU share: $542,929).

Prior Research

"Improving the Seismic Resilience of the Federal-Aid Highway System," (PI: Solomon Yim), Federal Highway Administration and University of Nevada, Reno, $192,000, 2014-15, $49,500 2016.

"CC-NIE Networking Infrastructure: Network Infrastructure and DMZ for Oregon State University," (PI: Brett Tyler, Co-PI: Joe Beckman, Solomon Yim, Rick Spinrad and Sourabh Apte), National Science Foundation, (S1595A), $499,954, 2013-16.

"Northwest National Marine Renewable Energy Center," (PI: Robert Paasch, co-Investigator: Solomon Yim, Annette von Jouanne and Ted Brekken), Department of Energy DE-FG36-08GO18179-M001 (G0107G), $13,545,481, 2008-15.

"Generation and Validation of Tsunami in a Large-Scale Wave Flume," National Aeronautics and Space Administration, (PI: Solomon Yim), $100,000, 2012-15.

"Operation and Maintenance of NEES Tsunami Wave Research Facility," (PI: Solomon Yim, Co-PI: Cherri Pancake and Harry Yeh), NEEScomm (NSF CMMI-0402490), $5,000,000, 2009-14.

"Integration of Multi-Institutional NICOP Research on T-Craft via Complementary Computational Models and Physical Experiment," (PI: Solomon Yim), Office of Naval Research, ONR-N00014-11-1-0094 (N0266A), $900,000, 2010-13.

"Vulnerability of California's Bridges to Tsunami: Phase I. Preliminary Scope Study," (PI: Solomon Yim), California Department of Transportation (Y0323A), $128,785, 2010-13.

"Modeling and Simulation of Wave Energy Conversion Devices," (PI: Solomon Yim), National Renewable Energy Laboratory (NL182B), $100,000, 2010-12.

"RAPID: Survey of Structural and Scour Damage Under 2010 Chile Earthquake and Tsunami Loads," (PI: Solomon Yim), National Science Foundation, CMMI-1037861 (S1275A), $39,950, 2010-13.

"An International Travel Grant for Survey of Structural and Scour Damage from Samoa Islands Tsunami," (PI: Solomon Yim), National Science Foundation, CMMI-1005740, $24,950, 2009-10.

"Impact Dynamics and Interaction of Naval Structures with Waves and Sea Bottom," (PI: Solomon Yim), Office of Naval Research, $168,993, 2009-10.

"Design of a Large-Scale Commercial Wave Energy Conversion System," (PI: Ted Brekken, co-PI: Solomon Yim, Annette von Jouanne and Ken Rhinefrank), $219,954, 2009-10.

"Tsunami Forces on Bridges," (PI: Solomon Yim), Oregon Department of Transportation, $119,500, 2009-10.

"Coupled Hydraulic-Structural Testing to Improve Highway Bridge Reliability under Extreme Hurricane Wave Loads," (PI: Dan Cox, co-PI: Chris Higgins and Solomon Yim), National Science Foundation. $100,000, 2008-10.

"Use of the NEES Tsunami Wave Basin to Demonstrate the Design-Build-Test Process for Tsunami-Resistant Structures," (PI: H. Ronald Riggs, Co-PI: Solomon Yim and Dan Cox), National Science Foundation, CMMI-0530759 supplement, $30,673, 2008-09.

"A Domain Decomposition Analysis of 3-D Near-Field Sediment Scour and Mine Burial," (PI: Solomon Yim), Office of Naval Research, ONR-N0014-07-1-0207, $199,980, 2007-09.

"MRI: Acquisition of a Large-Stroke, Piston-Type Wavemaker for Coastal Hazards Research and Education," (PI: Daniel Cox, Co-PI: Solomon Yim, Annette von Jouanne and Tube Ozkan-Haller), National Science Foundation, CMMI-0723277, $1,132,800, 2007-09.

"Modeling of Complex Coupled Fluid-Structure Interaction System in Arbitrary Water Depth," (PI: Solomon Yim), Office of Naval Research, ONR-N0014-07-1-0207, $375,000, (cumulative total $2,495,558), 2006-09.

"Development of Performance Based Tsunami Engineering, PBTE," (PI: H. Ronald Riggs, Co-PI: Solomon Yim, Ian Robertson, Julie Young and Kwok F. Cheung), National Science Foundation, CMMI-0530759, $1,300,000, 2005-09.

"Operation and Maintenance of NEES Tsunami Wave Research Facility," (PI: Solomon Yim, Co-PI: Dan Cox, Cherri Pancake and Harry Yeh), NEES Consortium, Inc. (NSF CMMI-0402490), $4,547,906, 2004-09.

"Hurricane Wave Forces on Highway Bridge Superstructure: Repair and Retrofit of Existing Bridges," (PI: Dan Cox, Co-PI: Solomon Yim), OTREC, $100,000, 2007-08.

"Wave Energy laboratory and Ocean Test Beds," (PI: Annette von Jouanne, Co-PI: Ted Brekken, Solomon Yim and Alexander Yokochi), Bonneville Power Administration (No.00032715), $466,100, 2007-08.

"Modeling and Simulation of 3-D Seabed-Structure Interaction in Coastal Sediments," (PI: Solomon Yim), Office of Naval Research, ONR-N0014-06-1-0326, $218,370, 2005-07.

"A Workshop to Develop a Strategic Plan for Tsunami Research in the US," (PI: Solomon Yim), National Science Foundation, CMMI-0636344, $20,835, 2006-07.

"An Integrated High Performance Computing Cluster to Facilitate High-Fidelity Simulation, visualization, Education and Innovation/Discovery through Large-Scale Parallel Computing," (PI. Sourabh V. Apte, Co-PI: Solomon Yim, James Liburdy and Michael Quinn), Oregon State University, $50,000, 2006-07.

"Collaborative Research on Landslide Generated Tsunami and Tsunami-Structure Interactions Using NEES Tsunami Basin Facilities," (PI: Philip Liu, Cornell University, Co-PI Solomon Yim), National Science Foundation, (subcontract under) CMMI-0217744, $250,000, 2002-07.

"Tsunami Design Criteria," (PI: Solomon Yim), Oregon Department of Transportation, $19,994, 2006.

"SGER: Damage Survey from Hurricane Katrina," (PI: Ian Robertson, Co-I: Solomon Yim, Ronald Riggs and Julie Young), National Science Foundation, (subcontract under) CMS-0553966, $12,266, 2005-06.

"Electric Energy Extraction from the Ocean," (PI: Annette von Jouanne, Co: PI: Alan Wallace, Solomon Yim, Stel Walker, and R. L. Koenigs, Energy Northwest, Richland, WA), National Science Foundation GOALI Program, ECCS-0300386, $281,986, 2003-06.

"Modeling and Simulation of Nonlinear Dynamic Responses of Marine Platform Systems in Shallow Water and Surf Zone," (PI: Solomon Yim), Office of Naval Research, $379,300, 2003-06.

"Upgrading Oregon State's Multidirectional Wave Basin to Support Remote Tsunami Research," (PI: Solomon Yim, Co- PIs: Cherri Pancake, Daniel Cox and Harry Yeh), National Science Foundation NEES Program, CMS-0086571, $4,775,832, 2001-04.

"Supplement Funding Request for High Performance Local Area Networking to the NEESgrid," (PI

Solomon Yim, Co-PIs: Cherri Pancake), National Science Foundation, CMS-0086571, $211,813, 2002-04.

"Supplement Funding Request for Tsunami Basin Construction," (PI Solomon Yim, Co-PIs: Cherri Pancake and Charles Sollitt), National Science Foundation, CMS-0086571, $200,000, 2002-04.

"September 2003 NEES Awardees Meeting at Oregon State University, Supplement Funding Request for Tsunami Basin Construction," (PI Solomon Yim), National Science Foundation, CMS-0086571, $5,042, 2003-04.

"Strength Deterioration Models and Repair Methods for Shear-Cracked Reinforced Concrete Bridges**,"** (PI: Christopher Higgins, Co-PI: Solomon Yim and Thomas Miller) Oregon Department of Transportation and Federal Highway Administration, $1,650,000, 2002-04.

"Remaining Life of Shear Cracked Reinforced Concrete Bridge Girders," (PI: Christopher Higgins, Co-PI: Solomon Yim and Thomas Miller) Oregon Department of Transportation and Federal Highway Administration, $160,000, 2002-03.

"Sensitive Nonlinear Dynamic Responses of Ocean Structures: Large-Body Theory Hydrodynamic Models," Office of Naval Research Ocean Engineering Program, $380,003, 2000-03.

"Assessment of Reinforced Concrete Girders with Corrosion-Damaged Shear Reinforcement," (PI: Christopher Higgins, Co-PI: Solomon Yim and Thomas Miller) Oregon Department of Transportation and Federal Highway Administration, $92,000, 2001-02.

"Oregon Center for Earthquake Engineering Research," (PI: Solomon Yim, Co-PIs: Chris Higgins, Tom Miller, David Rosowsky, John Gambatese, and Steve Dickenson), College of Engineering, Oregon State University, $10,000, 2000-02.

"Identification and Computation Techniques for Sensitive Nonlinear MDOF Ocean Structures," Office of Naval Research, $101,753, 1997-2002.

"Monitoring the Development of Graduate Course Modules in Earthquake Engineering, Phase I," Pacific Earthquake Engineering Research Program, National Science Foundation, (subcontract under) EEC-9701568, $7,500, 1999-00.

"Monitoring the Development of Graduate Course Modules in Earthquake Engineering, Phase II," Pacific Earthquake Engineering Research Program, National Science Foundation, (subcontract under) EEC-9701568, $9,510, 2000-01.

"Instructional Shake Tables: A Cooperative Effort in Earthquake Engineering Education," National Science Foundation, (subcontract under) DUE-9851198, $12,000, 1999-2001.

"Strengthening Bridges Using Composite Materials, Phase 2, Part 2," (Co-PI with Damian Kachlakev), Oregon Department of Transportation, $30,475, 1998-2000.

"Finite-Element Method (FEM) Modeling for Composite Strengthening/Retrofit of Bridges," (Co-PI with Damian Kachlakev and Thomas H. Miller), Oregon Department of Transportation, $93,979, 1998-2000.

"Chaotic and Random Responses of Nonlinear Ocean Structures – Analysis of Medium Scale Experiment," Office of Naval Research, $368,876, 1997-2000.

"Random and Chaotic Response of Nonlinear Ocean Structures – Analysis of MDOF Systems," Office of Naval Research, $365,075, 1995-97.

"Third Workshop on Reliability of Nonlinear Ocean Structures Under Stochastic Excitation," Office of Naval Research, $11,310, 1995.

"Effects of Large-Angle Motions on Moored-Buoy Response," (Yim PI, J.W. Leonard Co-PI), Naval Facilities Engineering Service Center, $34,836, 1994-95.

"Stochastic Analysis of Nonlinear Systems, Phase 3 – New Approaches and Software Development," Naval Facilities Engineering Service Center, $24,976, 1993-95.

"Validation of Stochastic and Chaotic Motions of Ocean Systems," Office of Naval Research, $41,925, 1993-95.

"Nonlinear Methods for Statistical Analysis of Forces and Motions of Floating Offshore Structures," (Co-PI with Prof. Arvid Naess of Norwegian Institute of Technology), Norwegian Research Council, $7,500, 1994.

"Second Workshop on Reliability of Nonlinear Ocean Structures Under Stochastic Excitation," Office of Naval Research, $9,912, 1994.

"Workshop on Stochastic Analysis of Ocean Systems," Office of Naval Research, $8,691, 1993.

"Senior Faculty Research Fellowship – Nonlinear Stochastic Analysis of Naval Ocean Structural Systems," US Navy/ASEE, $13,500, 1993.

"Advanced Ocean Range Technology, Expeditious Installation Technology for Cable/Lumped-Mass Systems B Phase III; Extension 2: Parametric Study and Comparisons of Decrement Method Enhancement," (Co-PI with J.W. Leonard), Naval Civil Engineering Laboratory, $2,487, 1992-93.

"Chaotic and Random Response of Nonlinear Ocean Structures – Stochastic Analysis and Control," Office of Naval Research, $408,904, 1992-95.

"Advanced Ocean Range Technology, Expeditious Installation Technology for Cable/Lumped-Mass Systems B Phase III; Extension 1: Decrement Method Enhancement," (Co-PI with J.W. Leonard), Naval Civil Engineering Laboratory, $9,999, 1992-93.

"Advanced Ocean Range Technology Expeditious Installation Technology for Cable/Lumped-Mass Systems C Phase III," (Co-PI with J.W. Leonard), Naval Civil Engineering Laboratory, $79,936, 1992-93.

"Stochastic Analysis of Nonlinear Systems, Phase 2 – State-of-the-Art Review," Naval Civil Engineering Laboratory, $24,972, 1992-93.

"Stochastic Analysis of Nonlinear Systems, Phase 1 – Practical Applications of Adomian Solution Method," Naval Civil Engineering Laboratory, $23,401, 1991-92.

"Development of Computer Methodology for Advanced Ocean Range Technology, Phase II," (Co-PI with J.W. Leonard), Naval Civil Engineering Laboratory, $71,980, 1991-92.

"Matching Funds for Chaotic and Random Response of Nonlinear Ocean Structures," ONR Young Investigator Award, Office of Naval Research, $104,446, 1991.

"Development of Computer Methodology for Advanced Ocean Range Technology, Phase I," (Co-PI with J.W. Leonard), Naval Civil Engineering Laboratory, $74,336, 1990-91.

"Computer Equipment Needs for ONR-YI Project: Chaotic and Random Dynamic Response of Ocean Structures," Office of Naval Research, $31,649, 1989-91.

"Frequency Domain Stochastic Analysis of Nonlinear Dynamic Systems," Naval Civil Engineering Laboratory, $15,055, 1989.

"Chaotic and Random Response of Nonlinear Ocean Structures," ONR Young Investigator Award, Office of Naval Research, $150,000, 1988-91.

Revised 2/2018

Section VIII. Promotion and Tenure Vita

A. Education and Employment Information

A1. Education

2008	Ph.D., Civil Engineering University of Washington Advisor: Robert D. Holtz II
2003	M.S., Civil Engineering Syracuse University Advisor: Dawit Negussey
2000	B.S., Environmental Resource and Forest Engineering State University of New York, College of Environmental Science and Forestry

A2. Professional Experience

Sept. 2015–current	Associate Professor School of Civil and Construction Engineering Oregon State University
Sept. 2009–2015	Assistant Professor School of Civil and Construction Engineering Oregon State University

Mar. 2008–June 2009	Geotechnical Engineer (IV); *full time employee*
	Shannon & Wilson, Inc., Seattle, WA
	• Managed junior staff; typically one to four engineers and geologists per project, depending on scope;
	• Managed clients and subcontractors;
	• Planned and executed subsurface investigations, laboratory test programs, and instrumentation programs;
	• Served as design engineer for transportation infrastructure, port and harbor infrastructure, temporary excavation support, among other geotechnical structures.
	• **Example Projects (**Design/Build**)**:
	  • Bid preparation for $1.26 Billion South Fraser Perimeter Road, Vancouver, BC (with Kiewit & Sons);
	  • $125 Million Beck Street/I-15 Widening 500 North to I-215, Salt Lake City, UT (with Kiewit & Sons);
	  • $191 Million Pioneer Crossing Connector Project, Lehi, UT (with Kiewit & Sons).

June 2004–Mar. 2008	Project Engineer; *full time employee* Hart Crowser, Inc., Seattle, WA

- Managed junior staff; typically one to four engineers and geologists per project, depending on scope;
- Managed clients and subcontractors;
- Planned and executed subsurface investigations, laboratory test programs, and instrumentation programs;
- Planned and executed foundation load tests;
- Served as design engineer for transportation infrastructure, port and harbor infrastructure, temporary excavation support, among other geotechnical structures.
- **Example Projects (**Design/Bid/Build**)**:
  - $1.6 Billion Third Runway Expansion Project, Seatac International Airport, Seatac, WA;
  - $162 Million Pier B CVN Replacement, Puget Sound Naval Shipyard, Bremerton, WA.

May 2000–Aug. 2000

Civil Engineer Intern II; *full time employee*
Utah Department of Transportation, Research Division, Salt Lake City, UT

- Monitored and evaluated field performance of a variety of innovative ground improvement and embankment technologies;
- Planned and executed instrumentation programs for expanded polystyrene geofoam fill embankments;
- Research liaison for UDOT and Syracuse University.

B. Teaching, Advising, and Other Assignments

B1. Instructional Summary

B1.1. Credit Courses

Number	Course Title	Term/Year	Credits	Enrollment
CE 471 / 571	Foundations for Structures[1]	Fall 2009	4	35 / 13
CE 372	Geotechnical Engineering I[2]	Winter 2010	4	116
CE 571	Adv. Foundation Engineering	Fall 2010	4	22
CE 372	Geotechnical Engineering I	Winter 2011	4	114
CE 575	Earth Retention and Support	Spring 2011	4	15
CE 571	Adv. Foundation Engineering	Fall 2011	4	24
CE 372	Geotechnical Engineering I	Winter 2012	4	112
CE 575	Earth Retention and Support	Spring 2012	4	18
CE 571	Adv. Foundation Engineering	Winter 2013	4	15
CE 372	Geotechnical Engineering I	Winter 2013	4	135
CE 575	Earth Retention and Support	Spring 2013	4	18
CE 571	Adv. Foundation Engineering	Winter 2014	4	10
CE 372	Geotechnical Engineering I	Winter 2014	4	113
CE 575	Earth Retention and Support	Spring 2014	4	10
CE 372	Geotechnical Engineering I	Winter 2015	4	137
CE 571	Adv. Foundation Engineering	Winter 2015	4	22
CE 575	Earth Retention and Support	Spring 2015	4	13
CE 372	Geotechnical Engineering I	Winter 2016	4	82
CE 571	Adv. Foundation Engineering	Winter 2016	4	10
CE 575	Earth Retention and Support	Spring 2016	4	7
CE 372	Geotechnical Engineering I	Spring 2016	4	39
CE 571	Adv. Foundation Engineering	Winter 2017	4	9
CE 372	Geotechnical Engineering I	Winter 2017	4	88
CE 576	Ground Improvement	Spring 2017	4	11
CE 372	Geotechnical Engineering I	Spring 2017	4	53

[1] Initially scheduled for and instructed (first 3 weeks) by Jerry Yamamuro, deceased.

[2] Students taking CE 372 include Civil Engineering majors (CEs), Construction Engineering Management majors (CEMs), Environmental Engineering majors (ENVEs, School of Chemical, Biological, and Environmental Engineering), and Ecological Engineering majors (EEs, School of Biological and Ecological Engineering), with representation from three Schools and two Colleges across the Oregon State University campus.

B1.2. Non-Credit Courses and Workshops

- **Founder/Organizer, Oregon State University Geotechnical Lecture Series, January 2010 – present.** This lecture series brings nationally- and internationally-recognized academic and professional (i.e., consultants and contractors) speakers to the OSU campus

once a month to present research findings or professional case histories to the School of the Civil and Construction Engineering. The lecture series is attended by undergraduate students, graduate students, and professionals coming in from Eugene, OR to Vancouver, WA. We have hosted four Geo-Institute Cross Country Lecturers, and have been selected to host the fourth Cross Country Lecturer next year. In total, we have hosted over 70 visiting lecturers since the start of this series.

- **Organizer and Speaker, Seminar: Recent Advances in Soil Stabilization for Slopes and Embankments, Portland, OR, May 5, 2016.** This seminar was attended by professional consultants and public agency officials from a broad swath of the professional community, and provided 7 Professional Development Hours (PDHs), required by many State Departments of Licensing to maintain professional registration. 31 attendees.
- **Organizer and Speaker, Short Course and Seminar: Advances in Geotechnical Earthquake Engineering, Corvallis, OR, March 22 and 23, 2013.** This short course and seminar was attended by professional consultants from a broad swath of the professional community, and provided 14 Professional Development Hours (PDHs), required by many State Departments of Licensing to maintain professional registration. Short course: 85 attendees; Seminar: 74 attendees.
- **Organizer and Speaker, Ground Improvement Seminar, Corvallis, OR, January 15, 2011.** This one day seminar was attended by professional consultants practicing in the Contiguous United States and Canada, and provided 7.5 Professional Development Hours (PDHs), required by many State Departments of Licensing to maintain professional registration. 93 attendees.
- **Organizer, Basics of Design of Pile Foundations Workshop, Corvallis, OR, May 20 – 21, 2010**. This two day seminar was attended by professional consultants practicing in the Contiguous United States and Canada, and provided 11.5 Professional Development Hours (PDHs), required by many State Departments of Licensing to maintain professional registration. 31 attendees.

B1.3. Course and Curriculum Development

Program Development following Spring 2014

I have continued to improve the geotechnical curriculum following promotion to Associate Professor by coordinating improvements to existing courses in a collaborative effort with geotechnical faculty, as well as by developing a new course, as described in the text that immediately follows.

CE 576 – Ground Improvement: Course Development (2017)

I have developed this course, a geotechnical graduate class, to add a critical elective course that supplements the existing curriculum. This course addresses….[to be completed]

Program Development between Fall 2009 and Spring 2014

I have coordinated curriculum adjustments and new course offerings with geotechnical and structural engineering faculty in the School of Civil and Construction Engineering (CCE, College of Engineering) and in the Department of Forest Engineering, Resources, and Management (FERM, College of Forestry) in both the undergraduate and graduate programs. At the undergraduate level, close coordination between CCE and FERM provides the continuity between shared curriculum sequences (CE 372 – CE 373) that is essential for effective undergraduate education.

The curriculum development I have undertaken at the graduate level has stemmed from a confluence of external factors that had resulted in my position becoming the sole effective geotechnical engineering faculty member for my first two years in CCE; this has required that each course be developed from scratch. During the first two years and with the welcome support of the CCE School Head, I have significantly reorganized the graduate geotechnical curriculum, which included: (1) development of a core curriculum, (2) modernizing curriculum content, (3) increasing credit hours for critical courses, (4) renaming courses and improving course description, (5) assisted the development of a structural engineering course (CE 531) critical for geotechnical student researchers, and (6) coordinated with structural engineering faculty to improve cross-training of students to reflect real-world professional interaction. I have prepared five Category II curriculum proposals to produce a modern graduate geotechnical engineering program. The addition of new geotechnical faculty over the last several years has resulted in welcome changes to the program and it is expected that further evolution of the program will continue.

CE 372 – Geotechnical Engineering I: Course Re-structuring and Development

This course is an ABET-accredited course with five lab sections that OSU has offered for many decades. Due to demands of the previously limited geotechnical engineering staff, the course had suffered some reductions in content and impact. For example, a degree in Civil Engineering used to require several geology courses, but now requires none; I have expanded the lecture session to include a background in geological processes that provide the engineering material we call soil. The last time the course had been taught at OSU prior to my arrival, the lab sections included four laboratory exercises; I have expanded the number of laboratory exercises to seven, resulting in a significant increase in the impact of hands-on learning. Although my request to increase the number of course credits from four to five, to provide an extra hour for recitation, was denied, I provide an extra weekly recitation on my own time for those students who are interested in extra exposure to the course material. *The changes made in this course have led to significantly increased interest of undergraduate students in the graduate geotechnical program offered by OSU.*

CE 571 – Advanced Foundation Engineering: Course Development

Based in part on curriculum needs, my personal research program needs, and the experience of teaching a slash course, I have successfully split CE 471/571 into two separate courses following the successful review of a Category II curriculum proposal. When I taught the slash course in Fall 2009, I found that the geotechnical graduate students were not obtaining half of the material required to be successful geotechnical practitioners, let alone researchers. I created CE 571 from scratch, drawing on a broad, theoretical framework with applications to practical, project-based problems that I drew on from my own consulting experiences. I have introduced modern reliability theory including First Order Second Moment and Monte Carlo modeling techniques so that the full range in geotechnical property variability can be incorporated into critical structure foundation design. I have incorporated sophisticated statistical modeling techniques, modern software packages in use by consultants, and assignments that center on bridge substructure design project that starts with a subsurface characterization and ends with full axial and lateral foundation design evaluation.

CE 575 – Earth Retention and Support: Course Development

I have developed this course, a core geotechnical graduate class, to address a critical analytical and design need. The first five weeks of this course has been designed within the framework of theoretical lateral earth pressure theory with a strong emphasis on continuum mechanics, where

students learn all of the rules and governing boundary conditions that fundamentally govern soil behavior under artificially-induced (i.e., manmade) stress states. The second five weeks of the course then focus on the systematic adaptation (i.e., breaking of the theoretical rules) of earth pressure theory for practical design scenarios in consideration of earth compaction, and retention of filled and excavated systems. Special emphasis is placed on the effect of construction on anticipated earth behavior, including loading of structural elements and resulting ground movements. Modern software is introduced to aid design of excavated systems. I plan on continuing to develop this course to include the incorporation of numerical modeling techniques (i.e., Finite Element Analyses) to provide students a prestigious capability that employers seek in new geotechnical hires.

CE 572 – Advanced Geotechnical Laboratory: Course Redevelopment
I have prepared and supervised a Category II curriculum proposal to redefine the content of this course, which included generating a new set of learning outcomes, developing the course scope, and working with an interim instructor (Fall 2010) and new faculty (Fall 2011) to implement the course within the new graduate curriculum. The course has been significantly revised and improved since the Fall 2012 term under the supervision of another new faculty member (Evans).

CE 573 – Seepage and Consolidation: Course Redevelopment
I have prepared and supervised a Category II curriculum proposal to redefine the content of this course, which included generating a new set of learning outcomes and working with the current instructor to implement the course within the new graduate curriculum. Since the addition of new faculty, this course has been discontinued and the content folded into new and/or existing classes.

CE 577 – Shear Strength and Slope Stability: Course Initiation
I have prepared and supervised a Category II curriculum proposal to define the content of this new course, which included generating a set of learning outcomes and establishing the course scope and content. I have assisted the instructor in Winter 2010 and 2011 by generating software laboratory exercises and leading these in class. Since the addition of new faculty, this course has been discontinued as originally listed, and the content folded into new and/or existing classes.

CE 578 – Geotechnical Earthquake Engineering: Course Improvement
I have generated a Category II curriculum proposal to redefine the content of this course, which included generating a set of learning outcomes and establishing the course scope and content. The curriculum proposal also increased the number of credits from 3 to 4, allowing more time to present critical material to graduate students. In Spring 2012, a new faculty member (Mason) picked up the course responsibility and has continued to improve the course.

B1.4. Team or Collaborative Efforts

Guest Lecturer, CE 599 – Intelligent Transportation Systems, "Geotechnical Instrumentation in Transportation Infrastructure," November 11, 2009.

Guest Lecturer, CCE 101 – Civil and Construction Engineering Orientation, "Geotechnical Engineering," October 22, 2012.

B1.5. International Teaching

None.

B2. Student and Participant Evaluations

Course No. (credits)	Term	Enroll-ment	# Re-spond-ing	Student Evaluation (#1 / #2)	College Median* (#1 / #2)	Required /Elective
CE 471/571	Fall 2009**	35 / 13	30 / 7	3.9 / 4.3 (471) 4.6 / 4.9 (571)	4.6 / 4.9 (471) 4.9 / 5.2 (571)	Elective
CE 372	Winter 2010	116	91	3.1 / 3.4	4.5 / 4.8	Required
CE 571	Fall 2010	22	21	4.7 / 5.2	4.9 / 5.2	Required
CE 372	Winter 2011	114	90	4.7 / 5.3	4.4 / 4.7	Required
CE 575	Spring 2011	15	15	5.0 / 5.6	5.0 / 5.2	Required
CE 571	Fall 2011	24	20	4.8 / 4.9	4.6 / 4.8	Required
CE 372	Winter 2012	112	117	4.8 / 5.2	4.5 / 4.7	Required
CE 575	Spring 2012	18	14	4.9 / 5.1	4.9 / 5.1	Required
CE 571	Winter 2013	15	8	5.7 / 5.5	5.0 / 5.2	Required
CE 372	Winter 2013	135	69	4.8 / 5.0	4.3 / 4.4	Required
CE 575	Spring 2013	18	10	5.8 / 5.8	4.9 / 5.0	Required
CE 571	Winter 2014	10	7	5.8 / 5.9	4.9 / 5.0	Required
CE 372	Winter 2014	113	75	4.5 / 5.0	4.4 / 4.5	Required
CE 575	Spring 2014	10	6	5.3 / 5.3	5.1 / 5.2	Required
CE 372	Winter 2015	137	TBC	TBC	TBC	TBC
CE 571	Winter 2015	22	TBC	TBC	TBC	TBC
CE 575	Spring 2015	13	TBC	TBC	TBC	TBC
CE 372	Winter 2016	82	TBC	TBC	TBC	TBC
CE 571	Winter 2016	10	TBC	TBC	TBC	TBC
CE 575	Spring 2016	7	TBC	TBC	TBC	TBC
CE 372	Spring 2016	39	TBC	TBC	TBC	TBC
CE 571	Winter 2017	9	8	5.8 / 5.8	5.0 / 5.2	Required
CE 372	Winter 2017	88	63	5.0 / 5.2	5.0 / 5.2	Required
CE 576	Spring 2017	11	9	5.6 / 5.9	5.1 / 5.3	Elective
CE 372	Spring 2017	53	33	4.3 / 4.6	5.1 / 5.3	Required

* Prior to Fall 2011, COE averages are shown separately for each level (e.g., 400, 500) taught; from Fall 2011 to Fall 2013, the averages are drawn from all levels; following Fall 2013, COE averages are again shown for each level (due to changes in COE score reporting).

** Initially scheduled for and instructed by Jerry Yamamuro, deceased. Candidate received responsibility in Week 4 (of 10).

B3. Peer Teaching Evaluations

[This information will be provided by the unit]

B4. Advising

B4.1. Graduate Advisees – Completed

Student	Degree	Thesis	Graduated
1. Qiang Li	PhD	*Investigation of Drilled Shafts under Axial, Lateral, and Torsional Loading*	Fall 2017
2. Marissa Rauthause	MS	*Interface Shear Strength of Some Sand-Timber Pile Interfaces*	Fall 2017
3. Andrew Strahler	PhD	*An Experimental and Numerical Investigation of Tall Mechanically Stabilized Earth Walls*	Spring 2016
4. Youssef Bougataya	MS	*Static and Wave Equation Analyses and Development of Region-specific Resistance Factors for Driven Piles*	Spring 2016
5. Tygh Gianella	MS	*Timber Pile Ground Improvement for Liquefaction Mitigation*	Spring 2015
6. Chris Newton	MS	*Drained Response of Uncemented and Cemented Aggregates used with Aggregate Pier Ground Improvement*	Winter 2014
7. Seth Reddy	PhD	*Ultimate and Serviceability Limit State Reliability-based Axial Capacity of Deep Foundations*	Winter 2014
8. Travis Kraupa[1]	MS	*Static and Cyclic Response of Ecoroof Soil*	Fall 2013
9. Nasim Adami	MS	*Development of an Augered Cast-in-place Pile-Specific Load-Displacement Model*	Fall 2013
10. James Walters	MS	*Characterization of Reinforced Fill Soil, Soil-Reinforcement Interaction, and Internal Stability of Very Tall Mechanically Stabilized Earth Walls*	Summer 2013
11. Tadesse Meskele	PhD	*Engineering Analysis and Design of Pipe Ramming Installations*	Winter 2013
12. Jessica Young	MS	*Uplift Capacity and Displacement of Helical Anchors in Cohesive Soil*	Spring 2012
13. Andrew Strahler	MS	*Bearing Capacity and Immediate Settlement of Shallow Foundations on Clay*	Winter 2012

[1] *Co-advised with H. Benjamin Mason*

B4.2. Graduate Advisees – Current

Student	Degree	Expected Graduation	Advanced to Candidacy (Y/N)
1. Jonathan Huffman	PhD	Spring 2018	Y
2. Wenwen Li; co-advised with Yumin Chen, Hohai University, PRC	PhD	Fall 2018	Y
3. Ali Dadashi; co-advised with T. Matthew Evans, COE	PhD	Spring 2021	N
4. Amalesh Jana	PhD	Spring 2021	Y
5. Hao Wang; co-advised with Arijit Sinha, COF	PhD	Spring 2021	N
6. John Martin	MS	Winter 2018	--
7. Aleyna Donaldson; co-advised with T. Matthew Evans, COE	MS	Spring 2019	--

B4.3. Graduate Thesis or Project Committees

MEng Advisor:

Graduated

1. David Bailey, MEng, 2016
2. Chris Landau, MEng, 2015
3. Jordan Melby, MEng, 2013
4. Stephan Stys, MEng, 2013
5. Greg Thibeaux, MEng, 2013
6. Camille Wilson, MEng, 2012
7. Thomas Keatts, MEng, 2011
8. Mark Delcambre, MEng, 2011
9. Wasim Nohad, MEng, 2010
10. Megan Higgins, MEng, 2010
11. Jim Aydelott, MEng, 2010
12. Kevin Severson, MEng, 2010
13. Matthew Mason, MEng, 2010
14. Logan Allender, MEng, 2010

Current

1. Tyson Fennern, MEng
2. Kelsey Stewart, MEng

Minor Professor or Committee Member:

Graduated

1. Yongui Xie, PhD, *Geotechnical Engineering*, 2018
2. Lei Zhang, PhD, *Geotechnical Engineering*, 2017
3. Andre Belejo, PhD, *Structural Engineering*, 2017
4. Josiah Baker, MS, *Geotechnical Engineering*, 2016
5. Michael Bunn, MS, *Geotechnical Engineering*, 2015
6. Spencer Ambauen, MS, *Geotechnical Engineering*, 2014
7. Deepak Rayamajhi, PhD, *Geotechnical Engineering*, 2014
8. Daniel Simpson, MS, *Geotechnical Engineering*, 2014
9. Mikael Koiv, MEng, *Structural Engineering*, 2014

10. Sohaila Starks, MEng, *Structural Engineering*, 2014
11. Robyn Mills, MEng, *Structural Engineering*, 2012
12. Skyler Warner, MS, *Structural Engineering*, 2012
13. Paul Barker, MS, *Geotechnical Engineering*, 2012
14. Brandon Johnson, MS, *Structural Engineering*, 2011
15. Francisco Galanbran, MEng, *Structural Engineering*, 2011
16. Tony Rikli, MS, *Geotechnical Engineering*, 2011
17. Nontapat Nimityongskul, PhD, *Geotechnical Engineering*, 2010
18. J. Michael Eller, MS, *Geotechnical Engineering*, 2010

Current

1. Nan Zhang, PhD, *Geotechnical Engineering*
2. Ali Khoubani, PhD, *Geotechnical Engineering*
3. Michael Bunn, PhD, *Geotechnical Engineering*
4. Amy Nguyen, MS, *Geotechnical Engineering*

Graduate Council Representative:

1. Austin Fox, PhD, *Material Science*, 2018 (exp.)
2. Lu Wang, PhD, *Statistics*, 2016
3. Bosong Li, MS, *Material Science*, 2015
4. Adam Burke, MS, *Forest Engineering*, 2015
5. Pamela Lundeberg, MAIS, *Psychology*, 2014
6. Sarah Bromley, MS, *Geology*, 2011

B4.4. Undergraduate Research Assistants

1. Nicholas Kolstad (Summer 2017 – Fall 2017)
2. Eric North (Spring 2017)
3. Xiaomin (Jacky) Chen (Fall 2014 – Spring 2016)
4. Robert Leaf (Summer 2013 – Fall 2013)
5. Trevor Bineham (Spring 2013)
6. Kyle Fortner (Fall 2012)
7. Stefan Stys (Summer 2012)
8. James Walters (Summer 2011 – Spring 2012)
9. Mitch Madsen (Spring 2010 – Summer 2010)
10. Lee Bissinger (Summer 2010)

B4.5. Postdoctoral Trainees

1. Taeho Bong, PhD, 2016 - current

B4.6. Other Advising

Faculty Sponsor/Advisor, Geo-Institute Graduate Student Organization, ASCE, Fall 2010-present. Helped students to form the first American Society of Civil Engineers (ASCE) Geo-Institute chapter in Oregon, develop regular group activities, and raise significant funds to support group operations. Since its formation, the student group has participated in:

- 2011 Geo-Institute (ASCE) GeoPrediction event at the Annual Meeting of the Geo-Institute; OSU members placed 2nd among 26 international groups;
- 2012 Geo-Institute (ASCE) GeoPrediction event at the Annual Meeting of the Geo-Institute; one OSU group placed in the top 5, another in the top 10;

- 2014 Geo-Institute (ASCE) GeoPrediction event at the Annual Meeting of the Geo-Institute; **OSU placed first**;
- 2014 Pacific Northwest Graduate Student Symposium, May 8 – 10th, 2014, University of Washington, Seattle, WA. Advisors of student organizations at various universities in the Pacific Northwest collaborated in kicking off this student-led and –attended research symposium. Sixteen OSU graduate students participated in the symposium, which included student presentations of research, research poster sessions, engineering field trips to various sites, and other activities. Member universities included OSU, UW, WSU, and UBC;
- 2015 Pacific Northwest Graduate Student Symposium, April 23 – 25th, 2015, Oregon State University, Corvallis, OR: Twenty OSU graduate students participated. See 2014 event above for description;
- 2016 Geo-Institute (ASCE) GeoPrediction event at the Annual Meeting of the Geo-Institute; **OSU placed first**;
- 2016 Pacific Northwest Graduate Student Symposium, May 5 – 7th, 2016, University of British Columbia, Vancouver, BC, Canada: Twelve OSU graduate students participated. See 2014 event above for description.
- 2017 Geo-Institute (ASCE) GeoPrediction event at the Annual Meeting of the Geo-Institute; **OSU placed first**;

B5. Other Instruction Related Assignments

None.

C. Scholarship and Creative Activity

C1. Publications

Note: student and post-doctoral researchers that are, or have been, advised by the promotion candidate are underlined.

C1.1. Books & Book Chapters

1. Li, D.-Q., Cao, Z.-J., Dasaka, S.M., Huang, J., Jaksa, M., Nishimura, S., **Stuedlein, A.W.**, Vessia, G. (2017) Chapter 7: Incorporating Spatial Variability into Geotechnical Reliability-based Design, Statistical and Reliability Methods for Eurocodes, Joint TC205/TC304 Working Group. September 2017.

2. **Stuedlein, A.W.** and Christopher, B.R., *Editors*, "Sound Geotechnical Research to Practice" Geotechnical Special Publication No. 230, American Society of Civil Engineers, Reston, VA. 600 pp. (Co-Editor, refereed all papers, reviewed papers, coordinated with publisher)

C1.2. Refereed Journal Publications

1. Xiao, P., Liu, H., Xiao, Y., **Stuedlein, A.W.,** Evans, T.M., Jiang, X. (*In Press*) "Liquefaction Resistance of Bio-cemented Calcareous Sand," *Soil Dynamics and Earthquake Engineering*, Vol. TBD, No. TBD., pp. TBD.
   (Co-author, analyzed some of the data) [accepted in 2018]

2. Li, Q., **Stuedlein, A.W.**, and Marinucci, A. (*In Press*) "Axial Load Transfer of Drilled Shaft Foundations with and without Steel Casing," *Journal of the Deep Foundations Institute*, Vol. TBD, No. TBD., pp. TBD.
   (Co-author with PhD Student, PI of funded project) [accepted in 2017]

3. Ching, J., Wu, T.-J., **Stuedlein A.W.**, Bong, T., (*In Press*) "Estimating Horizontal Scale of Fluctuation with Limited CPT Soundings," *Geoscience Frontiers*, Vol. TBD, No. TBD, pp. TBD.
   (Co-author with advised Post-Doc, PI of funded project that produced the data)
   [accepted in 2017]

4. Strahler, A.W., **Stuedlein A.W.**, and Arduino, P. (*In Press*) "Three-Dimensional Stress-Strain Response and Stress-Dilatancy of Well-graded Gravel," *International Journal of Geomechanics*, ASCE, Vol. TBD, No. TBD
   (Co-author with PhD Student, PI of funded project) [accepted in 2017]

5. Bong, T. and **Stuedlein, A.W.** (*In Press*) "Effect of Cone Penetration Conditioning on Random Field Model Parameters and Impact of Spatial Variability on Liquefaction-induced Differential Settlements," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. TBD, No. TBD, pp. TBD
   (Co-author with Post-Doc, supervised analysis, PI of funded project that produced the data)
   [accepted in 2017]

6. Xiao, Y., **Stuedlein, A.W.**, Chen, Q., Liu, H., Liu, P. (2017) "Stress-Strain-Strength Response and Ductility of Gravels Improved by Polyurethane Foam Adhesive," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 144, No. 2, 04017108
(Co-author, analyzed some of the data)

7. Bong, T. and **Stuedlein, A.W.** (2017) "Spatial Variability of CPT Parameters and Silty Fines in Liquefiable Beach Sands," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 143, No. 12, 04017093
(Co-author with Post-Doc, supervised analysis, PI of funded project that produced the data)

8. Reddy, S.C. and **Stuedlein, A.W.** (2017) "Serviceability Limit State Reliability-Based Design of Augered Cast-in-Place Piles in Granular Soils," *Canadian Geotechnical Journal*, Vol. 54, No. 12, 1704-1715
(Co-author with PhD Student, supervised analysis)

9. Reddy, S.C. and **Stuedlein, A.W.** (2017) "Ultimate Limit State Reliability-Based Design of Augered Cast-in-Place Piles Considering Lower-Bound Capacities," *Canadian Geotechnical Journal*, Vol. 54, No. 12, 1693-1703.
(Co-author with PhD Student, supervised analysis)

10. Gianella, T.N., and **Stuedlein, A.W.**, (2017) "Performance of Driven Displacement Pile-Improved Ground in Controlled Blasting Field Tests," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 143, No. 9, 04017047.
(Co-author with MS Student, analyzed half of the data, PI of funded project)

11. Li, Q., **Stuedlein, A.W.**, and Barbosa, A.R. (2017) "Torsional Load Transfer of Drilled Shaft Foundations," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 143, No. 8, 04017036.
(Co-author with PhD Student, PI of funded project)

12. Bougataya, Y. and **Stuedlein, A.W.** (2017) "Region-Specific Calibration of Resistance Factors for use with Static and Wave Equation Analyses of Driven Piles," *Journal of the Deep Foundations Institute*, Vol. 10, No. 3, 143-152.
Merited the 2016 DFI Student Paper Award.
(Co-author with MS Student, supervised analysis)

13. **Stuedlein, A.W.** and Gianella, T.N. (2016) "Observations on the Effect of Driving Sequence and Spacing on Displacement Pile Capacity," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 143, No. 3, 06016026
(Co-author with MS Student, PI of funded project)

14. Huffman, J.C., Martin, J.P., and **Stuedlein, A.W.** (2016) "Calibration and Assessment of Reliability-based Serviceability Limit State Procedures for Foundation Engineering," *Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards*, Vol. 10, No. 4, 280-293.
(Co-author with PhD and MS Student, supervised analysis)

15. **Stuedlein, A.W.**, Gianella, T.N., and Canivan, G.J. (2016) "Densification of Granular Soils using Conventional and Drained Timber Displacement Piles," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 142, No. 12, 04016075.

Designated "Editor's Choice" for JGGE 142(12).
(Co-author with MS Student, PI of funded project)

16. Kraupa, T.J., **Stuedlein A.W.**, Mason, H.B., Higgins, C.C. (2016) "Engineered Ecoroof Systems: Geotechnical Considerations," *Journal of Infrastructure Systems*, ASCE, Vol. 22, No. 3, 04016015.
(Co-author with co-advised MS student, Co-PI of funded project)

17. Strahler, A.W., Walters, J.J., and **Stuedlein A.W.** (2016) "Frictional Resistance of Closely-Spaced Steel Reinforcement Strips used in MSE Walls," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 142, No. 8, 04016030.
(Co-author with PhD and MS Students, PI of funded project)

18. Choi, Y., Lee, M.-H., Nam, M.S., Kim, T.-H., and **Stuedlein A.W.** (2016) "Development and Implementation of a High-Pressure, Double-Acting, Bi-Directional Loading Cell for Drilled Shafts," *Geotechnical Testing Journal*, Vol. 39, No. 2, 20140166.
Merited the "ASTM Award for Outstanding Article on the Practice of Geotechnical Testing" in 2017
(Co-author, analyzed half of the data)

19. Meskele, T. and **Stuedlein A.W.** (2015) "Attenuation of Pipe Ramming-Induced Ground Vibrations," *Journal of Pipeline Systems Engineering and Practice*, ASCE, Vol. 7, No. 1, 04015021.
(Co-author with PhD Student, PI of funded project)

20. Strahler, A.W., **Stuedlein A.W.**, and Arduino, P. (2015) "Stress-Strain Response and Dilatancy of Sandy Gravel in Triaxial Compression and Plane Strain," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 142, No. 4, 04015098.
(Co-author with PhD Student, PI of funded project)

21. Huffman, J.C.. Strahler, A.W., and **Stuedlein, A.W.** (2015) "Reliability-based Serviceability Limit State Design for Immediate Settlement of Spread Footings on Clay," *Soils and Foundations*, Vol. 55, No. 4, 798-812.
(Co-author with PhD students)

22. Meskele, T. and **Stuedlein A.W.** (2015) "Drivability Analyses for Pipe Ramming Installations," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 141, No. 3, 04014107.
(Co-author with PhD Student, PI of funded project)

23. Meskele, T. and **Stuedlein A.W.** (2015) "Static Soil Resistance to Pipe Ramming in Granular Soils," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 141, No. 3, 04014108.
(Co-author with PhD Student, PI of funded project)

24. Huffman, J.H. and **Stuedlein, A.W.** (2014) "Reliability-based Serviceability Limit State Design of Spread Footings on Aggregate Pier Reinforced Clay," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 140, No. 10, 04014055.
(Co-author with PhD Student, generated all data)

25. **Stuedlein, A.W.**, Huffman, J.C., and Reddy, S.C. (2014) "Ultimate Limit State Reliability-based Design of Spread Footings on Aggregate Pier-Reinforced Clay," *Ground Improvement*, Thomas Telford Press, London, UK., Vol. 167, No. 4, 291-300.
(Co-author with PhD students, lead contributor to all analysis and development)

26. **Stuedlein, A.W.** and Uzielli, M. (2014) "Serviceability Limit State Design for Uplift of Helical Anchors in Clay," *Geomechanics and Geoengineering*, Taylor and Francis, Vol. 9, No. 3, 173-186.
(Co-author, co-contributor to all analysis and development)

27. **Stuedlein, A.W.**, Reddy, S.C., and Evans, T.M. (2014) "Interpretation of Augered Cast-In-Place Pile Capacity Using Static Loading Tests," *Journal of the Deep Foundations Institute*, Vol. 8, No. 1, 39-47.
(Primary author, lead contributor to all analysis, PI of funded project)

28. **Stuedlein, A.W.** and Holtz, R.D. (2014) "Displacement of Spread Footings on Aggregate Pier Reinforced Clay," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 140, No. 1, 36-45.
(Primary author; generated all data and analysis)

29. Meskele, T. and **Stuedlein, A.W.** (2014) "Analysis of a 610-mm Diameter Pipe Installed Using Pipe Ramming," *Journal of Performance of Constructed Facilities*, ASCE, Vol. 28, No. 4, 04014009
(Co-author with PhD student; PI of funded project)

30. **Stuedlein, A.W.** and Reddy, S.C. (2014) "Factors Affecting the Reliability of Augered Cast-In-Place Piles in Granular Soils at the Serviceability Limit State," *Journal of the Deep Foundations Institute*, Vol. 7, No. 2, 46-57.
(Co-author with PhD student, supervised analysis)
Merited the "2013 DFI Young Professor Paper Award"

31. Reddy, S.C. and **Stuedlein, A.W.** (2013) "Accuracy and Reliability-based Region-Specific Recalibration of Dynamic Pile Formulas" *Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards*, Vol. 7, No. 3, 163-183.
(Co-Author with PhD Student, supervised analysis)

32. **Stuedlein, A.W.** and Holtz, R.D. (2013) "Bearing Capacity of Spread Footings on Aggregate Pier Reinforced Clay," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 139, No. 1, 49-58.
(Primary author; generated all data and analysis)

33. **Stuedlein, A.W.** and Young, J. (2013) "Uplift Performance of Multi-Helix Anchors in Desiccated Clay," *Journal of the Deep Foundations Institute*, Vol. 6, No. 2, 13-25.
(Co-Author with MS student, supervised analysis)

34. **Stuedlein, A.W.** and Meskele, T. (2012) "Preliminary Design and Engineering of Pipe Ramming Installations," *Journal of Pipeline Engineering Systems and Practice*, ASCE, Vol. 3, No. 4, 125-134.
(Co-author with PhD student; PI of funded project)

35. **Stuedlein, A.W.**, Kramer, S.L., Arduino, P., and Holtz, R.D. (2012) "Reliability of Spread Footing Performance in Desiccated Clay," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 138, No. 11, 1314-1325.
(Primary author; generated all data and analysis)

36. **Stuedlein, A.W.**, Kramer, S.L., Arduino, P., and Holtz, R.D. (2012) Geotechnical Characterization and Random Field Modeling of Desiccated Clay, *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 138, No. 11, 1301-1313.
(Primary author; generated all data and analysis)

37. **Stuedlein, A.W.**, and Holtz, R.D. (2012) "Analysis of Footing Load Tests on Aggregate Pier Reinforced Clay," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 138, No. 9, 1091-1103.
(Primary author; generated all data and analysis)

38. **Stuedlein, A.W.**, Neely, W.J., and Gurtowski, T.G. (2012) "Reliability-based Design of Augered Cast-In-Place Piles in Granular Soils," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 138, No. 6, 709-717.
(Primary author; generated some data and performed all analysis)

39. **Stuedlein, A.W.**, Allen, T.M., Holtz, R.D., and Christopher, B.R. (2012) "Assessment of Reinforcement Strains in Very Tall Mechanically Stabilized Earth Walls," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 138, No. 3, 345-356.
(Primary author; generated all data and analysis)

40. **Stuedlein, A.W.** (2010) "Shear Wave Velocity Correlation for Puyallup River Alluvium," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 136, No. 9, 1298-1304.
(Primary author, generated all data and analysis)

41. **Stuedlein, A.W.**, Bailey, M.J., Lindquist, D.D., Sankey, J., and Neely, W.J. (2010) "Design and Performance of a 46 m High Mechanically Stabilized Earth Wall," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 136, No. 6, 786-796.
(Primary author, generated all data and analysis)

42. Farnsworth, C.B., Bartlett, S.F., Negussey, D., and **Stuedlein, A.W.** (2008) "Rapid Construction and Settlement Behavior of Embankment Systems on Soft Foundation Soils," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 134, No. 3, 289-301.
(Co-author, generated data from and analysis of field observations)

C1.3. Peer-Reviewed Archival Conference Publications

The following papers appeared in archival proceedings that were distributed to libraries (the next section covers other types of proceedings). The acceptance rate is indicated as part of the entry whenever the selection process was rigorous.

1. Gianella, T.N. and **Stuedlein, A.W.** (2017). "Simplified Modeling of Driven Displacement Pile-Improved Ground Subjected to Controlled Blasting," *Proceedings, Performance-based Design III*, Vancouver, BC, 16-19 July, 2017, 8 pp.

2. **Stuedlein, A.W.** and Bong, T. (2017) "KEYNOTE LECTURE: Effect of Spatial Variability on Static and Liquefaction-Induced Differential Settlements," *Geo-Risk 2017: Keynote Lectures*, Geotechnical Special Publication[1] No. 282, pp. 31-51.

3. Reddy, S.C. and **Stuedlein, A.W.** (2017) "Impact of Resistance Distribution Selection on Foundation Reliability in Consideration of Lower-Bound Limits," *Geo-Risk 2017: Reliability-Based Design and Code Developments*, Geotechnical Special Publication[1] No. 283, pp. 445 - 458.

4. Bong, T. and **Stuedlein, A.W.** (2017) "CPT-based Random Field Model Parameters for Liquefiable Silty Sands," *Geo-Risk 2017: Geotechnical Risk Assessment and Management*, Geotechnical Special Publication[1] No. 285, pp. 478-487.

5. **Stuedlein, A.W.** (2017) "Role of Lower Bound Capacity and Shear Strength Anisotropy on Probabilistic Bearing Capacity of Plastic Fine-grained Soils," *Geotechnical Special Publication Honoring Wilson Tang*, Geotechnical Special Publication[1] No. 286, ASCE, pp. pp. 203 - 213.

6. Ganji, A., Li, Q., Arduino, P., and **Stuedlein, A.W.** (2017) "Performance Assessment of Laterally-Loaded Normal and High Strength Steel-reinforced Drilled Shafts using 1-D and 3-D Numerical Methods," Paper no. 4921, *16th World Conf. on Earthquake Engineering 16WCEE*, Santiago, Chile, 9 - 13 January 2017, 12 pp.

7. **Stuedlein, A.W.**, Li, Q., Zammataro, J., Belardo, D., Hertlein, B., and Marinucci, A. (2016) "Comparison of Non-Destructive Integrity Tests on Experimental Drilled Shafts," *Proceedings, 41st Annual Meeting of the Deep Foundations Institute*, New York, NY. 10 pp.

8. Mahvelati, S., Coe, J.T., **Stuedlein, A.W.**, Asabere, P., and Gianella, T.N. (2016) "Time-Rate Variation of Shear Wave Velocity (Site Stiffness) Following Blast-Induced Liquefaction," *GeoChicago: Sustainability, Energy, and the Geoenvironment*, Geotechnical Special Publication[1] No. 272, ASCE, Reston, VA. 10 pp.

9. Gianella, T.N., **Stuedlein, A.W.**, and Canivan, G.J. (2015) "Densification of Liquefiable Soils using Driven Timber Piles," *6th International Conference on Earthquake Geotechnical Engineering*, Christchurch, New Zealand, 1 to 4 Nov. 2015. 9 pp

10. Liu, W., Hutchinson, T.C., and **Stuedlein, A.W**. (2015) "Modeling of Foundation-Soil Systems Using Plane-Strain Elements," *6th International Conference on Earthquake Geotechnical Engineering*, Christchurch, New Zealand, 1 to 4 Nov. 2015. 10 pp.

11. Huffman, J.C., Martin, J.P., and **Stuedlein, A.W.** (2015) "Assessment of Reliability-based Serviceability Limit State Procedures using Full-Scale Loading Tests," *Proceedings, 5th International Symposium on Geotechnical Safety and Risk*, 5ISGSR, Rotterdam, The Netherlands, 13-16 November.

12. Huffman, J.C., and **Stuedlein, A.W.** (2015) "Effect of Correlation Structure Model on Geotechnical Reliability-based Serviceability Limit State Simulations," *Proceedings, 12th International Conference on Applications of Statistics and Probability in Civil Engineering*, ICASP12, Vancouver, Canada, July 12-15, 2015

13. **Stuedlein, A.W.**, Abdollahi, A., Mason, H.B., and French, R. (2015) "Shear Wave Velocity Measurements of Stone Column Improved Ground and Effect on Site Response," *Proceedings, 2015 International Foundation Congress and Equipment Expo*, Geotechnical Special Publication[1] No. 256, ASCE, San Antonio, March 17-21, 2015.

14. Favaretti, C., Lemnitzer, A., **Stuedlein, A.W.**, and Turner, J. (2015) "Recent Advances in p-y Formulations for Lateral Load Transfer of Deep Foundations based on Experimental Studies," *Proceedings, 2015 International Foundation Congress and Equipment Expo*, Geotechnical Special Publication[1] No. 256, ASCE, San Antonio, March 17-21, 2015.

15. Adami, N. and **Stuedlein, A.W.** (2015) "Region-specific Load Transfer Model for Augered Cast-in-Place Piles in Granular Soils," *Proceedings, 2015 International Foundation Congress and Equipment Expo*, Geotechnical Special Publication[1] No. 256, ASCE, San Antonio, March 17-21, 2015.

16. Reddy, S.C. and **Stuedlein, A.W.** (2014) "Time-Dependent Capacity Increase of Piles Driven in the Puget Sound Lowlands," *Soil Behavior Fundamentals to Innovations in Geotechnical Engineering*, Honoring Roy Olson, Geotechnical Special Publication[1] (GSP) No. 233, 464-474

17. Meskele, T., and **Stuedlein, A.W.** (2014) "Field Measurements of Pipe Ramming-Induced Ground Vibrations," *Proc., Pipelines 2014, From Underground to the Forefront of Innovation and Sustainability*, ASCE, Portland, OR, August 3 - 6, 10pp.

18. **Stuedlein, A.W.** and Meskele, T. (2014) "Drivability of an Instrumented 2440-mm Diameter Rammed Pipe," *No-Dig 2014*, North American Society for Trenchless Technology, Orlando, FL. 9 pp.

19. Kraupa, T.J., Mason, H.B., **Stuedlein, A.W.**, and Higgins, C.C. (2014) "Characterization of Ecoroofs and Ecoroof Materials," *Geo-Characterization and Modeling for Sustainability*, GeoCongress 2014, Geotechnical Special Publication[1] No. 234-235, ASCE, Atlanta, GA, February 23-26, 2014, 10 pp.

20. Strahler, A.W., and **Stuedlein, A.W.** (2014) "Accuracy, Uncertainty, and Reliability of the Bearing Capacity Equation for Shallow Foundations on Saturated Clay," *Geo-Characterization and Modeling for Sustainability*, GeoCongress 2014, Geotechnical Special Publication[1] No. 234-235, ASCE, Atlanta, GA, February 23-26, 2014, 12 pp.

21. Reddy, S.C., and **Stuedlein, A.W.** (2013) "Effect of Slenderness Ratio on the Reliability-based Serviceability Limit State Design of Augered Cast-in-place Piles," *Proceedings, 4th International Symposium on Geotechnical Safety and Risk*, Hong Kong, December 4 - 6, 6 pp.

22. **Stuedlein, A.W.** and Uzielli, M. (2013) "Stochastic Simulation of Uplift Load-Displacement Behavior of Helical Anchors in Clays," *Proceedings, 1st International Geotechnical Symposium on Helical Anchor Foundations*, International Society for Helical Foundations, University of Massachusetts, Amherst, August 8 - 10, 296-307.

23. Strahler, A.W., and **Stuedlein, A.W.** (2013) "Characterization of Model Uncertainty in Immediate Settlement Calculations for Spread Footings on Clays," *Proceedings, 18th Int. Conf. Soil Mech. and Geotech. Engrg.*, Paris 2013, 4 pp.

24. Meskele, T., and **Stuedlein, A.W.** (2013) "Hammer-Pipe Energy Transfer Efficiency for Pipe Ramming," *No-Dig 2013*, North American Society for Trenchless Technology, Sacramento, CA. 10 pp.

25. **Stuedlein, A.W.** and Negussey, D. (2013) "Use of EPS Geofoam for Support of a Bridge," *Sound Geotechnical Research to Practice*, Geotechnical Special Publication[1] No. 230, ASCE, Reston VA. 334-345.

26. **Stuedlein, A.W.** and Gurtowski, T.M. (2012) "Reliability of Shaft Resistance for Augered Cast-In-Place Piles in Granular Soils," *Full-Scale Testing and Foundation Design*, Geotechnical Special Publication[1] No. 227, ASCE, Reston VA. 722-736.

27. Cunningham, J.N., **Stuedlein, A.W.**, Casteneda, M.A. (2011) "Uplift Micropile Load Transfer in Unsaturated Missoula Flood Deposits," *36th Annual Meeting, Deep Foundations Institute*, Boston, MA. 8 pp.

28. **Stuedlein, A.W.** (2011) "Random Field Model Parameters for Columbia River Silt," *GeoRisk 2011*, Geotechnical Special Publication[1] No. 224, ASCE, Reston, VA. 8 pp.

29. Meskele, T., and **Stuedlein, A.W.** (2011) "Performance of an Instrumented Pipe Ramming Installation," *No-Dig 2011*, North American Society for Trenchless Technology, Washington, D.C. 11 pp.

30. **Stuedlein, A.W.**, Allen, T.M., Holtz, R.D., Christopher, B.R. (2010) "Factors Affecting the Development of Mechanically Stabilized Earth Wall Reinforcement Strain," *Earth Retention 2010*, Geotechnical Special Publication[1] No. 208, ASCE, Reston, VA. 502-511.

31. **Stuedlein, A.W.** and Holtz, R.D. (2010) "Undrained Displacement Behavior of Spread Footings in Clay," *The Art of Foundation Engineering Practice*, Geotechnical Special Publication[1] No. 198, ASCE, Reston, VA. 653-669.

32. **Stuedlein, A.W.**, Mikkelsen, P.E., and Bailey, M.J. (2007) "Instrumentation and Performance of the North Mechanically Stabilized Earth Wall at Sea-Tac International Airport," *Field Measurements in Geomechanics 2007*, Geotechnical Special Publication[1] No. 175, ASCE, Reston, VA. 14 pp.

[1] **From the Preface of ASCE Geotechnical Special Publications**: "All papers included in this publication were peer-reviewed for technical quality and content. Each paper received two positive reviews before being accepted and was revised to conform to any mandatory revisions of the reviewers. All of the papers are eligible for discussion in the *Journal of Geotechnical and Geoenvironmental Engineering* and are eligible for ASCE and Geo-Institute awards."

C1.4. Other Peer-Reviewed Publications

The following papers appeared in proceedings that were distributed primarily to attendees (as CDs, printed volumes, availability through a public website, etc.).

The following papers represent short, peer-reviewed technical communications in refereed journal publications.

1. **Stuedlein, A.W.**, Reddy, S.C., and Evans, T.M. (2015) Closure to "Interpretation of Augered Cast-in-place Pile Capacity using Static Loading Tests," *Journal of the Deep Foundations Institute*, Vol. 9, No. 2, 77-79.
   (Primary author with PhD Student)

2. **Stuedlein A.W.** (2015) Discussion, "Prediction of Stone Column Ultimate Capacity using Cavity Expansion Model," *Ground Improvement*, Vol. 168, No. 3, 231-234.
   (Primary author)

3. **Stuedlein, A.W.** and Holtz, R.D. (2013) *Discussion*, "A State-of-the-Art Review of Stone/Sand-Column Reinforced Clay Systems," *Geotechnical and Geological Engineering*, Vol. 35, No. 5, pp. 1617-1619.
   (Primary author)

4. **Stuedlein, A.W.**, Allen, T.M., Holtz, R.D., and Christopher, B.R. (2013) *Closure* to the *Discussion*, "Assessment of Reinforcement Strains in Very Tall Mechanically Stabilized Earth Walls," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 139, No. 10, pp. 1834-1835.
   (Primary author)

5. Olsen, M.J., and **Stuedlein, A.W.** (2010) *Discussion* "Use of Terrestrial Laser Scanning for the Characterization of Retrogressive Landslides in Sensitive Clay and Rotational Landslides in River Banks," *Canadian Geotechnical Journal*, Vol. 47, No. 10, pp. 1164-1168. (Co-author)

6. **Stuedlein, A.W.** (2010) *Discussion*, "Performance Monitoring of a Rammed Aggregate Pier Foundation Supporting a Mechanically Stabilized Earth Wall," *Journal of Performance of Constructed Facilities*, ASCE, Vol. 24, No. 3, pp. 289-292. (Primary author, synthesized original data/analysis)

7. **Stuedlein, A.W.** and Holtz, R.D. (2008) *Discussion*, "Load Transfer in Rammed Aggregate Piers," *International Journal of Geomechanics*, ASCE, Vol. 6, No. 6, pp. 389-398. (Primary author)

The following papers appeared in proceedings that were distributed primarily to attendees or to subscription holders (as CDs, printed volumes and magaizes, availability through a public website, etc.).

8. **Stuedlein, A.W.** (2016) "Meeting the Challenges of Drilled Shaft Design and Construction on the West Coast," Foundation Drilling, August/September, ADSC - The International Association of Foundation Drilling, Dallas, Tx., 46-48.

9. Bartlett, S. F., Negussey, D., Farnsworth, C., **Stuedlein, A.W.** (2011) "Construction and Long-Term Performance of Transportation Infrastructure Constructed Using EPS Geofoam on Soft Soil Sites in Salt Lake Valley, Utah," *EPS 2011, 4th International Conference on Geofoam*, Lillestrom, Norway. 10 pp.

10. **Stuedlein, A.W.**, Gibson, M.D., and Horvitz, G.E. (2008) "Tension and Compression Micropile Load Tests in Gravelly Sand," *6th International Conference on Case Histories in Geotechnical Engineering*, Washington D.C., 11 pp. {2 Citations}

11. **Stuedlein, A.W.**, Negussey, D., and Mathioudakis, M. (2004) "A Case History of the Use of Geofoam for Bridge Approach Fills," *5th International Conference on Case Histories In Geotechnical Engineering*, New York, NY., 10 pp. {3 Citations}

12. Negussey, D., **Stuedlein, A.W.**, Bartlett, S. F., Farnsworth, C. (2001) "Performance of A Geofoam Embankment At 100 South, I-15 Reconstruction Project, Salt Lake City, UT," *EPS 2001, 3rd International Conference on Geofoam*, Salt Lake City, UT, 22 pp.

13. Bartlett, S. F., Farnsworth, C., Negussey, D., **Stuedlein, A.W.** (2001) "Instrumentation and Long-term Monitoring of Geofoam Embankments, I-15 Reconstruction Project, Salt Lake City, UT," *EPS 2001, 3rd International Conference on Geofoam*, Salt Lake City, UT, 23 pp. {7 Citations}

C1.5. Papers Currently under Peer Review

1. Eight items presently; not listed at this time

C1.6. Other Publications

1. **Stuedlein, A.W.** and Li, Q., (2018) "Effects of High Strength Steel Bars and Steel Casing on the Response of Drilled Shafts," *Final Report*, SPR 765, Oregon Department of Transportation and Federal Highway Administration, Salem, OR, 274 pp.
2. **Stuedlein, A.W.**, Barbosa, A.R., and Li, Q., (2016) "Evaluation of Torsional Load Transfer for Drilled Shaft Foundations," *Final Report*, SPR 304-701, Oregon Department of Transportation and Federal Highway Administration, Salem, OR, 159 pp.
3. **Stuedlein, A.W.** and Gianella, T.N. (2016) "Drained Timber Pile Ground Improvement for Liquefaction Mitigation," *Final Report, NCHRP IDEA Project 180*, Transportation Research Board, The National Academies, Washington, D.C., 66 pp.
4. **Stuedlein, A.W.**, Li, Q., Arduino, P., and Ganji, A. (2015) "Behavior of Drilled Shafts with High-Strength Reinforcement and Casing," *Final Report, No. 2013-M-OSU-0024*, Pacific Northwest Transportation Consortium, University of Washington, Seattle, WA. 1378 pp.
5. **Stuedlein, A.W.**, Walters, J.J., and Strahler, A.W. (2014) "Characterization of Frictional Interference in Closely-spaced Reinforcements in MSE Walls," *Final Report, No. 2012-S-OSU-0009*, Pacific Northwest Transportation Consortium, University of Washington, Seattle, WA. 180 pp.
6. **Stuedlein, A.W.** and Meskele, T. (2013) "Analysis and Design of Pipe Ramming Installations," *Final Report*, Research Project SPR-710, Research Section, Oregon Department of Transportation, Salem, OR.
7. Negussey, D. and **Stuedlein, A.W.** (2003) "Geofoam Fill Performance Monitoring," *Research Report UT-03.17*, I-15 Test Bed Report, Utah Department of Transportation, Salt Lake City, UT. 45 pp.
8. Negussey, D. and **Stuedlein, A.W.** (2002) "Instrumentation Installation and Monitoring Results, North Geofoam Approach Fill at the New Route 85 Crossing over Normans Kill Creek, Albany, NY," *Report RRMB C-01-48 - Evaluation of Geofoam Embankments*,

Transportation Research Consortium, New York State Department of Transportation, Albany, NY. 40 pp.

C2. Professional Meetings, Symposia, and Conferences

C2.1. Presentations to Professional Groups (includes presentations of papers cited in C1.3)

Invited Talks

1. *"Driven Displacement Pile Ground Improvement for Liquefaction Mitigation,"* National Taiwan University, Taipei, Taiwan, 9 November, 2017
2. *"Effect of Spatial Variability on Static and Liquefaction-induced Differential Settlements,"* National Taiwan University, Taipei, Taiwan, 9 November, 2017
3. *"Effect of Spatial Variability on Static and Liquefaction-induced Differential Settlements,"* Geo-Structures Confluence 2017, St. Louis Geo-Institute Chapter and Structural Engineers Institute Chapter, St. Louis, Mo., 2 November, 2017
4. *"Driven Displacement Pile Ground Improvement for Liquefaction Mitigation,"* Cornell University, Ithaca, NY, 10 October, 2017
5. *"Recent Developments in the Axial, Lateral, and Torsional Response of Drilled Shaft Foundations,"* Syracuse University, Syracuse, NY, 9 October, 2017
6. *"Driven Displacement Pile Ground Improvement for Liquefaction Mitigation,"* UC Davis, Davis, CA, 29 September, 2017
7. *"Driven Displacement Pile Ground Improvement for Liquefaction Mitigation,"* Hohai University, Nanjing, China, 25 September, 2017
8. *"Effect of Spatial Variability on Static and Liquefaction-induced Differential Settlements,"* Nanjing Technical University, Nanjing, China, 24 September, 2017
9. ***Opening Plenary Lecture:*** *"Driven Displacement Pile Ground Improvement for Liquefaction Mitigation,"* SuperPile 2017, Deep Foundations Institute, San Diego, 15 June, 2017
10. **Keynote Lecture:** *"Effect of Spatial Variability on Static and Liquefaction-induced Differential Settlements,"* GeoRisk 2017 (6th ISGSR), ASCE, Denver, CO, 4 – 6 June, 2017
11. *"Developments in the Axial, Lateral, and Torsional Response of Drilled Shaft Foundations,"* University of South Florida, Tampa, FL, 24 May, 2017
12. *"Reliability-based Serviceability Limit State Procedures for Foundation Engineering,"* ASCE Geo-Institute Chapter of Tampa, Tampa, FL, 25 May, 2017
13. *"Update on Progress: ODOT-ADSC Drilled Shaft Study,"* West Coast Chapter Annual Meeting, San Diego, 19 May, 2017
14. *"Recent Developments in the Axial, Lateral, and Torsional Response of Drilled Shaft Foundations,"* Annual Kansas City Geotechnical Conference 2017, Overland Park, KS, 20 April, 2017
15. *"Ground Improvement and Liquefaction Mitigation using Driven Timber Piles,"* Vancouver Geotechnical Society, Vancouver, BC, September 14, 2016
16. *"Torsional Load Transfer of Drilled Shaft Foundations,"* Seminar, University of British Columbia, Vancouver, BC, September 13, 2016
17. *"Engineering of Pipe Ramming Installations,"* City University of Hong Kong, Hong Kong, August 10, 2016

18. **Keynote Lecture:** *"Sustainable Liquefaction Mitigation: Driven Timber Displacement Piles,"* 1st International Symposium on Soil Dynamics and Geotechnical Sustainability, Hong Kong University of Science and Technology, Hong Kong, August 9, 2016
19. "*Ground Improvement and Liquefaction Mitigation using Driven Timber Piles*," Innovations in Deep Foundations, 33rd Annual Spring Seminar, ASCE Seattle Section Geotechnical Group, Seattle, WA, April 2, 2016
20. "*Ground Improvement and Liquefaction Mitigation using Driven Timber Piles*," 7th Driven Pile Technical Seminar, South Carolina Chapter of the PDCA, Charleston, SC, March 31, 2016.
21. *"Ground Improvement and Liquefaction Mitigation using Driven Timber Piles,"* CH2M, Corvallis, OR January 4, 2016
22. *"Drained Timber Pile Ground Improvement for Liquefaction Mitigation,"* The National Academy of Science, Beckman Center, Irvine, CA December 9, 2015
23. *"Ground Improvement and Liquefaction Mitigation using Driven Timber Piles,"* University of California, Los Angeles, CA December 8, 2015
24. *"Ground Improvement and Liquefaction Mitigation using Driven Timber Piles,"* ASCE Portland Geotechnical Group Dinner Meeting, Lake Oswego, OR December 2, 2015
25. *"Seismic Considerations for Stone Columns and Aggregate Piers,"* Hart Crowser, Inc., Beaverton, OR, December 2, 2015
26. *"Ground Improvement and Liquefaction Mitigation using Driven Timber Piles,"* Korea University, Seoul, South Korea October 21, 2015
27. *"Trenchless Culvert and Pipeline Construction: Engineering of Pipe Ramming Installations,"* Korea Advanced Institute of Science and Technology, Daejon, South Korea October 21, 2015
28. *"Ground Improvement and Liquefaction Mitigation using Driven Timber Piles*," Korea Maritime and Ocean University, Busan, South Korea October 20, 2015
29. *"Ground Improvement and Liquefaction Mitigation using Driven Timber Piles,"* 16th Annual Design and Installation of Cost-Efficient Piles Conference, Pile Driving Contractors Association, Newark, NJ; September 3, 2015
30. "*Ground Improvement and Liquefaction Mitigation using Driven Timber Piles*," 40th NW Geotechnical Workshop, Federal Highway Administration, Gleneden Beach, OR; August 4, 2015
31. *"Stone Column Ground Improvement: Recent Developments for Static and Seismic Considerations,"* University of California, San Diego, CA, May 18, 2015
32. *"Static and Seismic Considerations of Aggregate Pier Reinforced Ground,"* Geotechnical Resources, Inc. (GRI), Beaverton, OR, October 16, 2014
33. "*Analysis and Design of Pipe Ramming Installations*," City of Portland, Portland, OR June 26, 2014
34. "*Behavior of Aggregate Pier Reinforced Ground: Static and Seismic Considerations*," Geobang 2014, International Gathering of CH2M Hill Geotechnical Engineers, Portland, OR May 3, 2014
35. *"Analysis and Design of Pipe Ramming Installations*," Geobang 2014, International Gathering of CH2M Hill Geotechnical Engineers, Portland, OR May 3, 2014
36. *"An Introduction to the Geotechnical Engineering Program at Oregon State University,"* Geobang 2014, International Gathering of CH2M Hill Geotechnical Engineers, Portland, OR May 3, 2014

37. *"Performance of Tall Mechanically Stabilized Earth Walls,"* Geotechnical Seminar Series, University of Colorado, Boulder, CO, April 16, 2014.
38. "*Performance of Tall MSE Walls*," National Chiao Tung University, Hsinchu, Taiwan, December 2, 2013.
39. *"Factors Affecting Reliability-Based Serviceability Limit State Design Of Augered Cast-In-Place Piles In Cohesionless Soils*," 38th Annual Conference on Deep Foundations, Phoenix, Arizona, September 26-28, 2013.
40. "*Characterization of Model Uncertainty in Immediate Settlement Calculations for Spread Footings on Clays*," 18th Int. Conf. Soil Mech. and Geotech. Engrg., Paris, France, September 2-6, 2013.
41. "*Reliability-based Ultimate and Serviceability Limit State Design of Augered Cast-in-Place Piles for Granular Soils*," Superpile 2013, Deep Foundations Institute, Minneapolis, MN, May 16th, 2013.
42. "*Analysis and Design of Pipe Ramming Installations*," 2013 Trenchless Symposium, Pacific Northwest Chapter of NASTT, SeaTac, WA, January 24th, 2013.
43. "*Reliability-based Design of Augered Cast-In-Place Piles in Granular Soils*," ASCE Portland Geotechnical Group, Lake Oswego, OR, November 7th, 2012.
44. "*Reliability-based Design of Augered Cast-In-Place Piles in Uplift for Granular Soils*," Role of Full-Scale Testing in Foundation Design, Symposium Honoring Bengt Fellenius, 2012 GeoCongress, Oakland, CA. March 26, 2012.
45. "*Innovations in Civil Infrastructure Construction: Pipe Ramming and Tall MSE Walls*," 2012 Granite Construction Company, Annual Construction Operations Meeting, Reno, NV. March 19, 2012.
46. "*Geotechnical Applications of EPS Geofoam*," Portland State University, Portland, OR. November 2, 2010.
47. "*Factors Affecting the Development of MSE Wall Reinforcement Strain*," Earth Retention 2010, American Society of Civil Engineers (ASCE), Bellevue, WA. August 2, 2010.
48. "*Instrumentation and Performance of the 3rd Runway MSE Walls, Sea-Tac International Airport*," ASCE Portland Geotechnical Group, Lake Oswego, OR. October 7, 2009.
49. "*Instrumentation and Performance of the 3rd Runway MSE Walls, Sea-Tac International Airport*," ASCE Seattle Geotechnical Group, Seattle, WA. April 24, 2008.
50. "*Options for Soft Ground*," Soft Ground Engineering, 24th Annual Spring Seminar, ASCE Seattle Geotechnical Group, Seattle, WA. May 20, 2006.

Contributed Talks

1. *"Simplified Modeling of Driven Displacement Pile-Improved Ground Subjected to Controlled Blasting,"* Performance-Based Design III, Vancouver, BC, 16 to 19 July, 2017
2. *"CPT-based Random Field Model Parameters for Liquefiable Silty Sands,"* GeoRisk 2017, Boulder, CO, 4 to 6 June, 2017
3. *"Impact of Resistance Distribution Selection on Foundation Reliability in Consideration of Lower-Bound Limits,"* GeoRisk 2017, Boulder, CO, 4 to 6 June, 2017, Given by Seth Reddy, PhD
4. *"Role of Lower Bound Capacity and Shear Strength Anisotropy on Probabilistic Bearing Capacity of Plastic Fine-grained Soils,"* GeoRisk 2017, Boulder, CO, 4 to 6 June, 2017

5. "*Performance Assessment of Laterally-Loaded Normal and High Strength Steel-Reinforced Drilled Shafts using 1-D and 3-D Numerical Methods*," 16th World Conference on Earthquake Engineering, Santiago, Chile, January 9 -13, 2017. Given by Anne Lemnitzer, PhD
6. "*Permanently Cased Drilled Shafts,"* Webinar with Skyline Steel, 16 November 2016.
7. "*Comparison of Non-Destructive Integrity Tests on Experimental Drilled Shafts,"* 41st Annual Meeting, Deep Foundations Institute, New York, New York, October 12-15, 2016.
8. *"Time-Rate Variation of Shear Wave Velocity (Site Stiffness) Following Blast-Induced Liquefaction,"* GeoChicago: Sustainability, Energy, and the Geoenvironment, ASCE, Chicago, IL, August 14-16, 2016
9. "*Geotechnical Advances in Infrastructure Resilience*," 1st Annual Cascadia Resilience Engineering Short Course, School of Civil and Construction Engineering, Oregon State University, Corvallis, OR, July 14, 2016
10. "*Geologic Setting and Subsurface Conditions at the Demonstration Site*," NHERI@UTexas In-Situ Liquefaction Workshop Schedule, Portland, OR, June 23, 2016
11. "*Full Scale Response and Numerical Simulation of Traffic Sign and Signal Foundations Subjected to Torsional (Wind) Loading*," 2016 ADSC Faculty Workshop, Chattanooga, TN, June 8, 2016
12. "*Ground Improvement and Liquefaction Mitigation using Driven Timber* Piles," Recent Advances in Soil Stabilization for Slopes and Embankments, Portland, OR, May 5, 2016.
13. "*Full Scale Response and Numerical Simulation of Traffic Sign and Signal Foundations Subjected to Torsional (Wind) Loading*," 2016 Northwest Transportation Conference, Corvallis, OR, March 16, 2016
14. "*Field Assessment of Conventional and Drained Timber Piles for Liquefaction Mitigation using Blasting Techniques*," Geo-Structures 2016, Geotechnical & Structural Engineering Congress, Phoenix, AZ, February 14-17, 2016 [Given by T. Gianella]
15. "*Effects of Ground Improvement on Seismic Site Response*," Geo-Structures 2016, Geotechnical & Structural Engineering Congress, Phoenix, AZ, February 14-17, 2016
16. "*Simulation Framework for Reliability-based Serviceability Assessments of Multi-story Steel-framed Structures Supported on Spatially-variable Soil*," Geo-Structures 2016, Geotechnical & Structural Engineering Congress, Phoenix, AZ, February 14-17, 2016
17. *"Densification of Liquefiable Soils using Driven Timber Piles,"* 6th ICEGE, Christchurch, New Zealand, November 3, 2015
18. *"Assessment of Reliability-based Serviceability Limit State Procedures using Full-Scale Loading Tests,"* 5th ISGSR, Rotterdam, The Netherlands, October 15, 2015
19. *"Effect of Correlation Structure Model on Geotechnical Reliability-based Serviceability Limit State Simulations,"* ICASP12, Vancouver, British Columbia; July 13, 2015
20. *"Shear Wave Velocity Measurements of Stone Column Improved Ground and Effect on Site Response,"* IFCEE 2015, San Antonio, TX, March 17-21, 2015
21. *"Region-specific Load Transfer Model for Augered Cast-in-Place Piles in Granular Soils,"* IFCEE 2015, San Antonio, TX, March 17-21, 2015
22. *"Field Measurements of Pipe Ramming-Induced Ground Vibrations,"* ASCE Pipelines 2014, Portland, OR August 3 - 6, 2014.
23. *"Drivability of an Instrumented 2,440-mm Diameter Rammed Pipe,"* No-Dig 2014, Annual Meeting of the North American Society for Trenchless Technology, Orlando, FL, April 13-17, 2014.

24. *"Effect of Slenderness Ratio on the Reliability-Based Serviceability Limit State Design Of Augered Cast-In-Place Piles,"* 4th International Symposium on Geotechnical Safety and Risk, Hong Kong University of Science and Technology, Hong Kong, December 4-6, 2013
25. *"Stochastic Simulation of Uplift Load-Displacement Behavior of Helical Anchors in Clays,"* 1st International Geotechnical Symposium on Helical Foundations, Amherst, Massachusetts, August 8 – 10, 2013.
26. "*Hammer-Pipe Energy Transfer Efficiency for Pipe Ramming,"* No-Dig 2013, Annual Meeting of the North American Society for Trenchless Technology, Sacramento, CA, March 3-7, 2013.
27. "*Random Field Modeling of Columbia River Silt,"* GeoRisk 2011, Geo-Institute, ASCE, Atlanta, GA, June 26-28, 2011
28. "*Performance of an Instrumented Pipe Ramming Installation*," No-Dig 2011, North American Society for Trenchless Technology, Washington D.C., March 27-31, 2011. Given by Tadesse Meskele.
29. "*Bearing Capacity of Spread Footings on Aggregate Pier Reinforced Clay*," U.S.-Japan Symposium on Blast-induced Liquefaction, Oregon State University, Corvallis, OR. Sept. 24-25, 2009.
30. "*Statistical Analyses of Aggregate Pier Load Tests*," 2nd U.S.-Japan Workshop on Ground Improvement, Geotechnical Earthquake Engineering and Soil Dynamics IV, ASCE, Sacramento, CA. May 16, 2008.
31. "*Instrumentation and Performance of the Third Runway North MSE Wall, Seattle-Tacoma International Airport*," Field Measurements in Geomechanics 2007, ASCE, Boston, September 25, 2007.
32. "*EPS Geofoam as Bridge Foundation,"* EPS Geofoam 2002 Workshop, North American Geosynthetics Society, Past Presidents Seminar on Geofoam in Highway and Bridge Applications, Syracuse, NY, May 15, 2002.
33. "*Geofoam Research Center and EPS Geofoam Properties, Applications, and Modeling,"* Bridge Materials: What's New and What Works, Association for Bridge Construction and Design, 14th Annual Fall Bridge Conference, Cheektowanga, NY November 15, 2002.
34. "*Buffalo Road over Oatka Creek Bridge Replacement – A Unique Application of Lightweight Fill,"* 62nd Conference of the New York State Association of Transportation Engineers, Rochester, NY, May 9, 2002.
35. "*EPS Geofoam in Highway Construction,"* New York State Engineering Technicians Associations, NYSETA Fall 2002 Conference, SUNY Morrisville, Morrisville, NY, October 24, 2002.
36. "*Performance of A Geofoam Embankment At 100 South, I-15 Reconstruction Project, Salt Lake City, UT,"* EPS 2001, 3rd International Conference on Geofoam, Salt Lake City, December 12, 2001

C2.2. Participation at Invitational Workshops

1. U.S. – New Zealand – Japan International Workshop, "Liquefaction-induced Ground Movements Effects," UC Berkeley, CA, 2-4 November, 2016.
2. NHERI@UTexas In-Situ Liquefaction Workshop, National Science Foundation, Portland, OR, 23-24 June, 2016.
3. Cascadia Co-Seismic Landslide Workshop, sponsored by the Oregon Department of Geology and Minerals Industries (DOGAMI), Portland, OR, June 25, 2014.

4. Design, Analysis, and Research Related to Highly Nonlinear Soil Structure Interaction Including Rocking Foundations, Workshop sponsored by the National Science Foundation (NSF) and the Pacific Earthquake Engineering Research Institute (PEER), Oakland, CA, June 7-8, 2013.
5. U.S.-Japan Symposium on Blast-induced Liquefaction, sponsored by the National Science Foundation (NSF) and Oregon State University, Corvallis, OR. Sept. 24-25, 2009.
6. 2nd U.S.-Japan Workshop on Ground Improvement, Part of: Geotechnical Earthquake Engineering and Soil Dynamics IV (GEESDIV), ASCE, Sacramento, CA. May 16-17, 2008.
7. EPS Geofoam 2002 Workshop, North American Geosynthetics Society, Past Presidents Seminar on Geofoam in Highway and Bridge Applications, Syracuse, NY, May 15, 2002.

C3. Grant and Contract Support

List covers grants/contracts on which candidate served as PI or coPI only, including those funded through other institutions. "My share" indicates the amount of funding, if any, over which the candidate had control.

Agency & Dates	*PI (and coPIs)*	*Title*	*Total Budget*	*My Share*
NSF 7/17 – 6/20	A.W. Stuedlein (PI), T.M. Evans (Co-PI; OSU), K.H. Stokoe (Co-PI; UT Austin), B.R. Cox (Co-PI; UT Austin)	Collaborative Research: Bridging the In-situ and Elemental Cyclic Response of Transitional Soils,"	$1,122,796	$380,635
Port of Portland in collaboration with CLiP 11/17 – 12/19	A.W. Stuedlein	Deep, In-situ Cyclic Response of Liquefiable Soils	$349,689	$349,689
Cascadia Lifelines Program (CLiP) 7/17 – 12/18	A.W. Stuedlein (PI) and T.M. Evans (Co-PI; OSU)	In-Situ Response of Silt and Silty Soils to Liquefaction: Leveraging a New Experimental Approach	$50,000	$35,000
Cascadia Lifelines Program (CLiP) 7/17 – 12/18	T.M. Evans (PI; OSU) and A.W. Stuedlein (Co-PI)	*Title*	$50,000	$15,000
USDA Agricultural Research Service: Tallwood Design Institute 7/17 – 6/19	A.W. Stuedlein (PI) and A. Sinha (Co-PI, OSU)	Design of Timber Pile Ground Improvement for Liquefaction Mitigation	$125,000	$85,000

PacTrans 12/15 – 12/16	A.R. Barbosa (PI; OSU) and A.W. Stuedlein (Co-PI)	Torsional Safety of Highway Traffic Signal and Signage Support Structures	$80,856	$40,428
Oregon Dept. of Transportation 9/14 – 10/15	A.W. Stuedlein (PI) and A.R. Barbosa (Co-PI; OSU)	Evaluation of Torsional Load Transfer for Drilled Shaft Foundations, SPR 304-7301	$60,000 (with $60k of in kind support)	$40,000
National Academy of Science 10/14 – 1/16	A.W. Stuedlein	Drained Timber Pile Ground Improvement for Liquefaction Mitigation	$147,073 (with $175k of in kind support)	$147,073
Oregon Dept. of Transportation 1/14 – 12/17	A.W. Stuedlein	Effects of High-Strength Steel Bars and Steel Casing on the Response of Drilled Shafts, SPR-765	$329,896 (with ~$800k of in kind support)	$329,896
PacTrans 7/13 – 11/14	A.W. Stuedlein (PI) and P. Arduino (Co-PI, U. Wash.)	Behavior of Drilled Shafts with High-Strength Reinforcement and Casing	$400,000	$200,000
Deep Foundations Institute 5/13-11/13	A.W. Stuedlein (PI) and T. Matt Evans (Co-PI; OSU)	Reliable Interpretation of Augered Cast-In-Place Pile Capacity Using Load Tests	$17,000	$17,000
NSF 7/12-6/15	C. Higgins (PI; OSU), and A.W. Stuedlein (Co-PI), and Mason, H.B. (Co-PI; OSU)	Multihazard Performance and Design of Ecoroofs	$335,000	$111,667
PacTrans 5/12-5/13	A. Metzger (PI, U. A. Frbnks), A.W. Stuedlein (Co-PI), M. Olsen (Co-PI, OSU), J. Wartman (Co-PI, U.Wash.), P. Arduino (Co-PI, U. Wash.)	A Platform for Proactive Risk Based Slope Asset Management	$465,000	$50,000
PacTrans 5/12-5/13	A.W. Stuedlein	Characterization of Frictional Interference in Closely-spaced Reinforcements in MSE Walls	$40,000	$40,000
OSU RERF	A.W. Stuedlein	Universal Direct Simple Shear/Direct Shear Test Apparatus	$37,619	$37,619
NSF 7/11-6/14	A.W. Stuedlein	Working Stress Behavior of Very Tall MSE Walls	$326,768	$326,768
Oregon Dept. of Transportation 1/10-6/12	A.W. Stuedlein	Analysis and Design of Pipe Ramming Installations	$330,000	$330,000

Totals	$4,266,697	$2,535,775

C3.1. Donations

Year	*Source*	*Donation*	*Approx Value*
2015-16	Members of the West Coast Chapter of the Association of Drilled Shaft Contractors	Materials, labor, equipment, and effort from a broad membership that includes contractors, suppliers, engineers, and consultants to support ODOT SPR-765.	$800,000 (estimated)
2015	PLI Systems, Inc.	Materials, labor, and equipment to install two drilled shaft test specimens	$60,000 (estimated)
2014	Members of the Pile Driving Contractors Association (PDCA)	Materials, labor and effort from a broad consortium of materials suppliers, contractors, and engineering consultants, to support research titled "Drained Timber Pile Ground Improvement for Liquefaction Mitigation" funded by the National Academy of Science	$175,000 (estimated)
2013-14	GeoTech Foundation Company - West	Materials, labor, equipment to support full-scale loading tests of aggregate pier improved ground on the OSU campus Geotechnical Engineering Field Research Site	$67,000
2010	Oregon and SW Washington Chapter of the National Utility Contractors Association (ORSWWA NUCA)	Materials, labor, equipment, and test site to conduct two-week experimental test installation by pipe ramming as part of the ODOT-funded Pipe Ramming Project.	~$100,000 (estimated)
2010	Gonzales Boring and Tunneling, Member, ORSWWA NUCA	Steel pipe (116 ft x 3.5 ft)	$32,000

C3.2. Proposals Currently under Review

Agency	*PI (and coPIs)*	*Title*	*Budget*	*Duration*
NSF	T. Brekken (PI; OSU), E. Cotilla-Sanchez (Co-PI; OSU), A.W. Stuedlein (Co-PI), and M.J. Olsen (Co-PI; OSU)	A Comprehensive Quantitative Analysis of the Earthquake Resilience of the Western Power Grid	$400,000	2 yrs

C4. Patents Filed and In Process

None.

C5. Other Scholarship and Creative Activities

Creative Activities Resulting from Research-based Expertise

The work listed below was not actively solicited; rather, I was approached by the following parties as a result of ODOT-funded research products presented in refereed journals and conference presentations. This work is resulting in new research: construction is about to proceed on an instrumented pipe ramming installation in Washington State. The data will be used to vet newly developed design approaches and result in new research products.

1. **Stuedlein, A.W**. (2014) "Evaluation of Pipe Ramming Drivability, 3000 mm Diameter Steel Culverts, Caribbean Sea-Lagoon Connection Project, Cancun, Mexico," *Engineering Study*, Prepared for SCCI Pilings of Tampa, FL.

2. **Stuedlein, A.W.** (2013) "Geotechnical Review and Opinion, Assessment of Damage, Sea to Sky Hotel vs. Norson et al.," *Expert Engineering Study*, Prepared for Shapiro, Hankinson, and Knutson Law Corporation, Vancouver, BC.

3. **Stuedlein, A.W.** (2013) "Evaluation of Feasibility of Pipe Ramming Installation, Olympus Meadows Trunk Sewer Improvement Project, Alderwood Water and Wastewater District," *Engineering Study*, Prepared for Staheli Trenchless Consultants, Bothell, WA.

4. **Stuedlein, A.W.** (2013) "Evaluation of Feasibility of Pipe Ramming Installation, 48-inch Steel Casing, Lift Station 46 Collection and Conveyance, Soos Creek Water and Sewer District," *Engineering Study*, Prepared for Staheli Trenchless Consultants, Bothell, WA.

D. Service

D1. University Service

- School of CCE Graduate Committee, AY 2017/18
- Search Chair, School of CCE Coastal Engineering and Water Resources Faculty Search Committee, 2016/17
- School of CCE Graduate Committee, AY 2016/17
- Oregon State University, Cascades Campus, Ad-Hoc Committee to evaluate expansion of the Cascades Campus into pumice mine and landfill, AY 2016/17
- Oregon State University, Newport Campus, Ad-Hoc Committee to select architect/engineer team to build the new Marine Science Building in the inundation zone of Hatfield Science Center, Newport, OR, AY 2016/17
- Search Chair, School of CCE Construction Engineering Management Faculty Search Committee, 2015/16
- Oregon State University, Cascades Campus, Ad-Hoc Committee to evaluate expansion of the Cascades Campus into pumice mine and landfill, AY 2015/16
- School of CCE Ad-Hoc Committee to form an Architectural Engineering Program, AY 2015/16
- College of Engineering, Program Technician II Search Committee (4 Individual Rounds of Searches), AY 2013/14
- School of CCE Curriculum Committee, AY 2013/14
- School of CCE Curriculum Committee, AY 2012/13
- Department of Forest Engineering, Resources, and Management, College of Forestry, Geotechnical Faculty Search Committee, AY 2011/12
- School of CCE Curriculum Committee, AY 2011/12
- School of CCE Ad-Hoc Academic Integrity Committee, 2011
- School of CCE Geotechnical Faculty Search Committee, AY 2010/11
- School of CCE Graduate Committee, AY 2010/11
- School of CCE Ad-Hoc Academic Integrity Committee, AY2010/11
- School of CCE Graduate Committee, AY 2009/10

D2. Service to the Profession

D2.1. Journal Editorships

- Associate Editor, *Journal of Geotechnical and Geoenvironmental Engineering*, American Society of Civil Engineers (ASCE), 2013 – present.
- Associate Editor, *Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards*, Taylor and Francis, Co., 2015 – present.
- Guest Editor, *Geoscience Frontiers*, Elsevier, 2018; Special issue on Grain Crushing

D2.2. Conference and Workshop Organization

- Co-Organizer and Co-Editor of Proceedings, *2018 International Foundation Conference and Equipment Exposition* (IFCEE), ASCE-ADSC-DFI-PDCA, Orlando, FL, March 5 – 10, 2018
- Co-Organizer, *GeoRisk 2017* (6th ISGSR), ASCE, Denver, CO

- Co-Organizer: Recent Advances in Soil Stabilization for Slopes and Embankments, Portland, OR, May 5, 2016.
- Co-Organizer: *NHERI@UTexas In-Situ Liquefaction Workshop*, National Science Foundation, Portland, OR, 23-24 June 2016
- Organizer, *Advances in Geotechnical Earthquake Engineering*, Sponsored by Oregon State University School of Civil and Construction Engineering, Fundraiser for the OSU Geo-Institute Graduate Student Organization, Corvallis, OR, March 22 – 23, 2013.
- Co-Organizer, *Holtz Honorary Symposium/Session* held at the 2013 GeoCongress, ASCE, San Diego, CA, March 2013.
- Organizer and Speaker, Ground Improvement Seminar, Corvallis, OR, January 15, 2011.
- Organizer, Basics of Design of Pile Foundations Workshop, Corvallis, OR, May 20 – 21, 2010.

D2.3. Conference Program Committees

- Session Chair, "Soil-Structure Interaction – Part I", Geotechnical Earthquake Engineering and Soil Dynamics V, ASCE, Austin, TX, June 10-13, 2018
- Session Chair, "Session 3C: Updates on the National Research Council (NRC) Project on the State of the Art and Practice in Earthquake Induced Soil Liquefaction Assessment, *Annual Meeting of the Earthquake Engineering Research Institute*, Portland, OR, 7 – 9 March, 2017
- Session Chair, *Uncertainty Relating to Geotechnical Properties, Models, and Testing Methods, Part II*, GeoRisk 2017 (6th ISGSR), ASCE, Denver, CO
- Steering Committee, *34th Annual Spring Seminar*, ASCE Seattle Section Geotechnical Group and Geo-Institute Chapter, 22 April 2017
- Scientific Committee and Session Chair: *1st International Symposium on Soil Dynamics and Geotechnical Sustainability*, Hong Kong University of Science and Technology, Hong Kong, August 7-9, 2016
- Scientific Committee: *African Regional Conference on Soil Mechanics and Geotechnical Engineering*, ISSMGE, Hammamut, Tunisia
- Scientific Committee: *Fifth International Symposium on Geotechnical Safety and Risk (ISGSR) 2015*, Rotterdam, The Netherlands
- Track Chair, *Extreme Events (Track D)*, International Foundation Congress and Equipment Expo 2015, joint meeting of the Geo-Institute of the ASCE, Association of Drilled Shaft Contractors (ADSC), and the Deep Foundations Institute (DFI), San Antonio, TX, March 17-21, 2015
- Session Moderator, *Pipelines 2014*, "From Underground to the Forefront of Innovation and Sustainability," ASCE, Portland, OR, August 3 – 6, 2014.
- Session Co-Chair, *GeoCongress 2014*, "Role of Probabilistic Methods in Geotechnical Sustainability," Atlanta, GA, February 23 – 26, 2014.
- Session Co-Chair, *4th International Symposium on Geotechnical Safety and Risk*, Hong Kong University of Science and Technology, Hong Kong, December 4 – 6, 2013
- Session Chair, *1st International Geotechnical Symposium on Helical Foundations*, University of Massachusetts, Amherst, MA, August 8 – 10, 2013.
- Session Co-Chair, *GeoCongress 2013*, "Soil Improvement to Stabilize Dams, Embankments, and Natural Slopes," San Diego, CA, March 3 – 6, 2013.
- Session Chair, *No-Dig 2011*, 20th Annual Meeting of the North American Society for Trenchless Technology, Washington, D.C., March 27 – 31, 2011.
- Member, Planning Committee, ASCE Seattle Geotechnical Section Spring Seminar, (2004, 2005)

D2.4. Reviewing

- *Peer-reviewed Archival Journals*
  - *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE
    To-date: 95 assignments as reviewer; 74 managed as Associate Editor
  - *Georisk*, Taylor and Francis
    To-date: 10 assignments as reviewer; 4 managed as Associate Editor

I have reviewed more five to ten papers in each of the following publications

- *Soils and Foundations*, Elsevier
- *Canadian Geotechnical Journal*, NRC Press
- *Georisk*, Taylor and Francis, Co.
- *Computers and Geotechnics*, Elsevier
- *Engineering Geology*, Elsevier
- *Journal of Performance of Constructed Facilities*, ASCE

I have reviewed one to four papers for each of the following publications

- *Geotechnique*, Thomas Telford Press
- *Geotechnique Letters*, Thomas Telford Press
- *Soil Dynamics and Earthquake Engineering*, Elsevier
- *Earthquake Spectra*, EERI
- *Journal of Infrastructure Systems*, ASCE
- *Journal of Computing in Civil Engineering*, ASCE
- *Geotechnical Testing Journal*, ASTM
- *Journal of Evaluation and Testing*, ASTM
- *Journal of Advances in Civil Engineering Materials*
- *Journal of the Transportation Research Board*
- *Journal of Geotechnical and Geological Engineering*, Springer
- *International Journal for Numerical and Analytical Methods in Geomechanics*, Wiley
- *Ground Improvement*, Thomas Telford Press
- *Geomechanics and Geoengineering*, Taylor and Francis
- *Acta Geotecnica*, Springer
- *Geotextiles and Geomembranes*, Elsevier
- *Geosynthetics International*, Thomas Telford Press
- *Bulletin of Engineering Geology and the Built Environment*, Springer
- *International Journal of Geotechnical Case Histories*, ISSMGE
- *Construction Building Materials*, Elsevier

- Text Books
  - *John Wiley & Sons, Inc.*
  - *McGraw Hill, Inc.*
  - *American Society of Civil Engineers*

- Peer-Reviewed Archival Conference Proceedings
  - *Geotechnical Earthquake Engineering and Soil Dynamics V*, ASCE, Austin, TX, June 10-13, 2018

- *International Foundation Conference and Equipment Exposition (IFCEE)*, ASCE-ADSC-DFI-PDCA, Orlando, FL, March 5-10, 2018
- *Piled Foundations & Ground Improvement Technology For the Modern Building and Infrastructure Sector*, Deep Foundations Institute, 21-22 March 2017, Melbourne, Australia
- *GeoRisk 2017* (6th ISGSR), ASCE, Denver, CO
- *GeoFrontiers 2017*, ASCE, Orlando, FL
- *Geo-Chicago 2016: Sustainability, Energy, and the Geoenvironment*, ASCE, Chicago, IL
- *6th International Conference on Earthquake Geotechnical Engineering*, Christchurch, New Zealand
- *40th Annual DFI Meeting*, Oakland, CA
- *African Regional Conference on Soil Mechanics and Geotechnical Engineering*, ISSMGE, Hammamut, Tunisia
- *Fifth International Symposium on Geotechnical Safety and Risk* (ISGSR) 2015, Rotterdam, The Netherlands
- *Deep Mixing 2015*, Deep Foundations Institute, San Francisco, CA
- *12th International Conference on Applications of Statistics and Probability in Civil Engineering*, ICASP12, Vancouver, Canada
- *Geosynthetics 2015*, International Fabrics Association International, Portland, OR
- IFCEE 2015, *International Foundation Conference and Engineering Expo*, Joint Meeting of the ASCE Geo-Institute, Deep Foundations Institute, and Association of Drilled Shaft Contractors
- Pipelines 2014, *From Underground to the Forefront of Innovation and Sustainability*, ASCE
- 10th US National Conference on Earthquake Engineering (10NCEE), *Frontiers of Earthquake Engineering*, EERI
- *GeoCongress 2014*, Geo-Characterization and Modeling for Sustainability, ASCE
- *GeoCongress 2013*, Geotechnical Special Publication, No. 231, ASCE
- *Sound Geotechnical Research to Practice*, Geotechnical Special Publication No. 230, Honoring Robert D. Holtz, ASCE
- *Geosynthetics 2013*, April 1 – 4, Long Beach, CA
- *GeoFlorida 2010*, Geotechnical Special Publication, No. 199, ASCE
- *Art of Foundation Engineering Practice, Honoring Clyde Baker*, Geotechnical Special Publication No. 198, ASCE
- *Ninth International Conference on Geosynthetics*, February 25-27 2009, Salt Lake City, Utah

- Other Technical Works
  - Ad-hoc Proposal Review, National Science Foundation, May 2014
  - McIntire-Stennis Proposal for U.S. Department of Agriculture, January 2014
  - Strategic Highway Research Program 2 (SHRP2), R02, *Geotechnical Solutions for Transportation Infrastructure*, $3,000,000 Grant from the Transportation Research Board of the National Academies August 2012
  - Qatar National Research Fund, three separate proposal rounds (2011 – 2012)

D2.5. Other

- **Registered Professional Engineer, State of Washington, No. 46430**
- Vice Chair, Technical Committee 304, Int. Soc. of Soil Mechanics and Geotechnical Engineering (ISSMGE), 2017 – present
- Secretary, Soil Improvement Committee, Geo-Institute of the ASCE, 2017 – present
- Member, American Society of Civil Engineers (ASCE), 2001 – present
- Member, Earthquake Engineering Research Institute (EERI), 2006-2007, 2011 – present

- Member, Soil Improvement Committee, Geo-Institute of the ASCE, 2008 – present
- Member, Geotechnical Safety Network (GEOSNet), 2008 – present
- Member, United States Universities Council on Geotechnical Education and Research, (USUCGER), 2009 – current
- Member, NSF-funded Geo-Engineering Extreme Events Reconnaissance (GEER), 2010 – present
- Member, Risk Assessment and Management Committee, Geo-Institute of the ASCE, 2012 – present
- Member, North American Society for Trenchless Technology, 2013 – present

D3. Service to the Public

D3.1. Professionally Related

- Provided pro-bono stability assessment of slope failure for home owner Marlys Cappaert, Vineyard Mountain, Benton County, Oregon, July 2012.

D3.2. Other Public Service

None.

E. Awards

E1. National and International Awards

- **ASTM Award for Outstanding Article on the Practice of Geotechnical Testing, 2017.**
- **Deep Foundations Institute Student Paper Award, 2016.** by Advised MS Student Youssef Bougataya (A.W. Stuedlein was Co-Author)
- **Associate Editor of the Year, 2015.** ASCE J. Geotechnical & Geoenvironmental Engineering
- **DFI Young Professor Paper Award, 2013.** Recognized as the best paper by a "young" professor submitted for the Proceedings of the Annual Meeting of the Deep Foundations Institute (DFI). Selected for review and publication in the *DFI Journal*.

E2. State and Regional Awards

None.

E3. University or Community Awards

- John and Jean Loosley Faculty Fellow, 2012, Oregon State University
- ARCS Fellowship, 2003-2006, University of Washington
- Valle Fellowship, 2003-2004, University of Washington
- Graduate School Master's Prize, 2003, College of Engineering, Syracuse University
- Eagle Scout of the Year, 1996, Rip Van Winkle Council, Boy Scouts of America

- Eagle Scout, 1995, Boy Scouts of America

Catarina Pestana, Ph.D., P.E. (Portugal)

Instructor
School of Civil and Construction Engineering
Oregon State University,
101 Kearney Hall, Corvallis, Oregon 97331
Email: Catarina.Pestana@oregonstate.edu, Tel: +1-541-737-2054

EDUCATION

2016 **Ph.D., Major** - Civil Engineering, **Minor** – Statistics, Oregon State University, Corvallis, OR
Dissertation: *"Multi-Criteria Risk Mapping Using Lean Tools for the Architecture, Engineering, and Construction Industry."*
Faculty Advisor: John Gambatese, Ph.D., P.E. (CA)

2011 **M.S.,** Civil Engineering, San Diego State University, San Diego, CA
Thesis: *"Application of Lean Concepts to Office Related Activities in Construction."*
Faculty Advisor: Thais da C. L. Alves, Ph.D.

2008 ***M.S.,*** Economics and Social Sciences, Technical University of Valencia, Valencia, Spain
Thesis: *"San Diego's Single-Family Housing Market – Hedonic Regression Models Applied to Real Estate Appraisal."*
Faculty Advisor: Natividad Guadalajara, Ph.D.

1998 ***Licenciatura*** (5-year undergraduate degree), Civil Engineering, Technical University of Lisbon, Lisbon, Portugal

PROFESSIONAL EXPERIENCE

ACADEMIC

09/2016 – Present **Instructor,** School of Civil and Construction Engineering, Oregon State University. CEM 343 – Construction Planning and Scheduling; CCE 101 – Civil and Construction Engineering Orientation

04/2016 – 06/2016 **Instructor of Record,** School of Civil and Construction Engineering, Oregon State University.

04/2015 – 06/2015 **Instructor of Record,** School of Civil and Construction Engineering, Oregon State University.

01/2014 – 03/2014 **Co-Instructor,** School of Civil and Construction Engineering, Oregon State University.

01/2013 – 12/2013 **Teaching Assistant,** School of Civil and Construction Engineering, Oregon State University.

09/2014 – 10/2014 **Graduate Research Assistant,** School of Civil and Construction Engineering, Oregon State University.

"Connection between Lean Design/Construction and Construction Worker Safety."
Investigated the relationship between lean design and construction practices and the risk of worker injuries and fatalities on construction sites to provide evidence of how to advance the practice of lean design/construction enhance construction site safety while also improve the efficiency of delivering AEC projects.

05/2013 – 10/2013 **Graduate Research Assistant,** School of Civil and Construction Engineering, Oregon State University.

"Use and Re-use of Formwork: Safety Risks and Reliability Assessment."
Mapped the on-site life-cycle of formwork and identified and quantified site operations and environmental impacts to formwork.

01/2010 – 12/2010 **Graduate Research Assistant,** School of Civil and Construction Engineering, San Diego State University Research Foundation.

"Application of Lean Concepts to Office Activities in Construction."
Applied Lean Thinking principles to streamline the submittal process of a construction project. The research work required weekly visits to the construction site to collect data through the analysis of the submittal's log, the submittals and transmittals, the specification book and the drawings. Used lean indicators, such as cycle times and lead times, and lean tools, such as value stream maps, to identify where improvements to the process could be made.

PROFESSIONAL

07/2012 – 01/2013 **CH2M Hill, Industrial & Advanced Technology - Lean Promotion Group,** Portland**:** July 2012 – January 2013

Project Manager for Research Development *– Applied Research*
Applied Lean Thinking principles to develop a design quality assessment tool based on requests for information.
I was responsible for the design and the selection of the assessment tools to be implemented by the design group and promoting a continuous improvement culture on the company's design process.

03/2011 – 06/2012 **California Department of Transportation** (Caltrans)**,** San Diego**:** March 2011 – June 2012

Office Engineer **for District *11* -** On-call Management Services on several projects, such as: (1) Pala Creek Bridge Replacement on HW 76 ($ 3.3M); (2) Grind Portland Cement Concrete Pavement, Cold Plane Asphalt Concrete, and Replace Slabs, Metal Beam Guard Rail, and Traffic Signal on SD route 163 ($8.8M); (3) Upgrade Median Guardrail To Concrete

Barrier on SD I5 ($6.5M); (4) Bonded Wearing Course Asphalt Concrete Surfacing on HW 78 – Pilot Project ($2M); (5) Replace Portland Cement Concrete Slabs on SD I8 ($2M); and (6) Freeway and Bridge Widening and Bridge Removal on SD I8 ($13M).

Coordinated the interface between Caltrans District Office, Field Office, and General Contractors to ensure compliance to project, State, and Federal requirements for the construction of the projects, such as quality control requirements, safety requirements, labor compliance requirements, and project closeout requirements.
Composed and administered contract change orders; performed force account analysis; performed time impact analysis; inputted, verified and approved and extra work bills; processed monthly pay estimates; reviewed and verified plans to identify design deficiencies related to constructability; reviewed and analyzed the contractors' critical path method, schedules and project staging; inputted, verified, and approved lane closure requests. Verified that construction was according to the plans and specifications, determined executed quantities and composed diaries and Q-sheets.

05/2002 – 12/2005 **PBC – Consultores de Patrimonio e Obras, Lda, Portugal**

Project Manager

Coordinated the Engineering team for the design of several projects such as the new 15-story residential tower in Luanda, Angola (construction cost €4.0 million), and two Woman's Hospitals in Timor (13,000 sq. ft. and construction cost €1 million each).

Coordinator and Real Estate Appraiser

Coordinated and supervised a team of five engineers/real estate appraisers and verified and certified their appraisal reports.
Appraised property and investment projects of several property types, such as residential developments (e.g., residential complex of 12 4-story buildings and 32 single-family houses), office buildings (e.g., a 4-story building in downtown Lisbon), warehouses (e.g. 55.000 sq. ft.), parking structures and hotels.

09/1998 – 05/2002 **Odebrecht, S.A, Portugal**

Assistant Project Manager/Project Steward - Liquid Natural Gas Terminal, Sines, Portugal

Design/build contract awarded for €190 million on a European consortium of four firms: TRACTEBEL (Belgium) / ENTREPOSE (France) / ODEBRECHT and SOMAGUE (Portugal). This was a fast track project where the design and the construction were developed simultaneously.

Coordinated the design efforts, resolved design conflicts between the different disciplines to ensure that the design efforts were kept ahead of the construction forces. Established the design's schedule, quality goals, and

milestones. Tracked the design development and updated the design schedules.
I was required to hold daily meetings with the architect, consultants, and contractor's teams assigned for the project and to report the design advancements and setbacks to the construction teams as well as report that information on weekly meetings with the owner.

Civil Engineer - Bidding department, Lisbon, Portugal

Reviewed Requests for Proposals and perform quantity take-offs, to allocate labor, equipment, and requested subcontractors' bids; established schedule and budget for bids on several public projects.
I was responsible for coordinating a team of Engineers to integrate the schedule and the budget of the bids, ensuring the consistency of the documents.

Assistant Project Manager – Railroad enhancement, Albergaria-dos-Doze/Alfarelos, Portugal*:* August 2000-December 2000

Design/build contract awarded for €90 million on a consortium of five firms: ODEBRECHT / SOMAGUE / MSF / FERGRUPO / NEOPUL

Coordinated and supervised the work to establish substantial completion of the project and release of European funds (Cohesion funds). Established schedule, budget and quality goals, and milestones for the work to be completed. Prepared weekly progress reports to discuss with the owner.

I was responsible for ensuring the substantial completion of the project, including railroad, access roads, under and overpasses, and stations.

Project Engineer – MARL (Lisbon Region Supplies Market)

Design/build project awarded for €65 million on a national (Portugal) consortium of three firms for the construction of the Lisbon's new distribution wholesale center as design/build projects with 230 acres.

Reviewed the infrastructures' design, identified design deficiencies related to constructability, and developed modifications on the design to accommodate field conditions. Coordinated, supervised and inspected the infrastructures' construction work of construction teams and subcontractors, and prepared as-built to project documentation. Established schedule, budget and quality goals, and milestones for the infrastructures. Prepared monthly progress reports to discuss with the project manager of the project.

I was responsible for the construction of roads, water supply, wastewater, drainage systems, electrical supply, fire protection systems, landscaping, and containing walls.

TEACHING, ADVISING, AND OTHER ASSIGNMENTS

INSTRUCTIONAL SUMMARY

Credit Courses

Number	Course Title	Term/Year	Credits	Enrollment
CE 424/524	Contracts and Specifications	Spring 2015	4	56
CE 424/524	Contracts and Specifications	Spring 2016	4	36
CCE 101	Civil and Construction Engineering Orientation	Fall 2016	2	193
CEM 343	Construction Planning and Scheduling	Fall 2016	4	74
CCE 201	Civil and Construction Graphics and Design	Winter 2017	3	50
CEM 441	Heavy Civil Construction Management	Winter 2017	4	27
CE 424/524	Contracts and Specifications	Spring 2017	4	93
CCE 529	Lean Construction	Spring 2017	3	5
CCE 101	Civil and Construction Engineering Orientation	Fall 2017	2	185
CEM 442	Building Construction Management	Fall 2017	4	112
CEM 406	Projects / Reno Competition	Fall 2017	1	16
CEM 431	Obtaining Construction Contracts	Fall 2017	3	41
CCE 201 Section 001	Civil and Construction Graphics and Design	Winter 2018	3	57
CCE 201 Section 002	Civil and Construction Graphics and Design	Winter 2018	3	57
CE 424/524	Contracts and Specifications	Winter 2018	4	77

COURSES DESCRIPTION

CCE 529 – LEAN CONSTRUCTION – This is a graduate level course that introduces the basics of lean production management, especially how they are applied to the AEC industry to improve the operation management and product development. Class topics include: theory of manufacturing science, principles of the lean production system; application of production management to project management; variability management in design and construction; improving project performance in the AEC industry; data gathering and; process evaluation for productivity improvement.

CE 424/524 - CONTRACTS AND SPECIFICATIONS – This an undergraduate and graduate course, designed to provide in-depth learning of basic contracts and specifications commonly found in the Architecture/Engineering/Construction (A/E/C) industry. Course content includes lectures on the fundamentals of contracts, technical specifications, and various contractual agreements found in contracts including issues related to time, money, warranty, insurance, and changed conditions. Numerous legal cases are presented and discussed to assist in learning the material. The course is intended for those interested in the construction engineering management and civil engineering disciplines. It is designed to familiarize students with design and construction contract terminology; to provide an understanding of design and construction contract issues and the contract award process; and to help students develop sensitivity to legal issues in the A/E/C industry.

CEM 441 – HEAVY CIVIL CONSTRUCTION MANAGEMENT – This course is designed to provide instruction on heavy civil construction methods and management, mostly focusing on methods, production, and costing. Given that heavy civil construction relies heavily on the movement and placement of large quantities of soil using heavy equipment, the course focuses on understanding equipment with regard to the type, characteristics, costs, productivity, and planning of equipment needed for a given project. Soil characteristics, quantity analysis, and movement on a construction site are also covered. The course is intended for those interested in the construction engineering and management disciplines.

CEM 431 and CEM 406 – OBTAINING CONSTRUCTION CONTRACTS - This is a capstone course that provides information on the procurement process in construction engineering management. The students work with industry coaches on a team of 6 to 7 students and actively participate on the development of construction engineering solutions for construction projects. The students work closely with contractors on real projects on different focus area (e.g., heavy civil, commercial, virtual design and construction), and learn how to develop estimates, schedules, and work plans for construction projects.

CEM 442 – BUILDING CONSTRUCTION MANAGEMENT – This class is an introduction to building construction for juniors in the Construction Engineering Management program. As a result of the class, students will gain a general understanding of building project analysis and management, and learn building systems and assemblies. The main topics covverd include: understanding building delivery process, codes and regulations; analysis of methods and materials used in building construction; analyzis of equipment used in building construction; and evaluation of commonly used building materials and assemblies. The focus on learning throgh hands-on group learning, supplemented by lecture, text readings, and selected guest speakers.

CEM 343 – CONSTRUCTION PLANNING AND SCHEDULING - This course is designed to provide an overview of scheduling terminology and practice as they relate to construction professionals. The main topics covered include: interpretation of drawings and specifications to create a logical project construction sequence, activity durations based on estimating and other data, schedule logic relationships and floats, development and analysis of resource loading, development and analysis of cost loading, and computer-based critical path method (CPM) schedules. The topics are presented and discussed in the lectures and followed by lab sections where the students develop a schedule for a project using different software.

CCE 201 – CIVIL AND CONSTRUCTION GRAPHICS AND DESIGN – This course introduces the engineering design process and graphic skills that are used by civil and construction engineers. The course presents reading civil and construction engineering plans, comprehending scale and operation of software, in particular AutoCAD and CIVIL 3D, as it applies to civil/construction engineers. Topics include design process, geometric construction, multiviews, auxiliary views, sections, dimensioning, tolerances and engineering drawing standards.

CCE 101 – INTRODUCTION TO CIVIL AND CONSTRUCTION ENGINEERING – This course provides information on civil engineering and construction engineering management as professional careers. The lectures are designed to introduce students to ethical practice, curricula, and professional expectations, and areas of specialization in civil engineering and construction engineering management. Students are introduced to the fundamentals of civil and construction

engineering management, including problem solving, general communication and leadership skills, teamwork, and initiative. This course introduces the students to the different areas of expertise with different faculty as guest lecturer followed by labs were the students are exposed to problems and issues similar to those encountered in the practice of civil and construction engineering.

STUDENT AND PARTICIPANT EVALUATIONS

Course No. (credits)	Term	Enroll -ment	# Re-spond-ing	Student Evaluation (#1/#2) *	Department Medians (#1/#2)*	Required /Elective
CE 424/524 (4)	SP 2015	56	46	4.3/4.3	4.8/5.1	Required
CE 424/524 (4)	SP 2016	36	29	5.1/5.3	4.7/4.9	Required
CCE 101 (2)	Fall 2016	193	125	4.6/4.1	5.0/5.1	Required
CEM 343 (4)	Fall 2016	74	57	4.7/4.8	5.0/5.1	Required
CCE 201 (3)	Winter 2017	50	24	4.8/4.9	4.9/5.2	Required
CEM 441 (4)	Winter 2017	27	21	5.1/5.1	4.9/5.2	Required
CE 424/524 (4)	Spring 2017	92	57	4.9/5.4	5.0/5.2	Required

*#1 – Course as a whole / #2 – Instructor's Contribution; Maximum score 6.0/6.0

GRADUATE COMMITTEES

1. Alicia Wong, MEng. 2016
2. Diana Avila, MEng. 2016
3. Ruoqian Hong, MEng. 2016

SCHOLARSHIPS AND CREATIVE ACTIVITY

SCHOLARSHIPS

CMAA - Scholarship awarded by Construction Management Association of America, San Diego Chapter, 2010

PUBLICATIONS

Refereed Journal Publications

Gambatese, J., **Pestana, A.C.**, and Woo Lee, H. (2016). "Alignment between Lean Principles and Practices and Worker Safety Behavior." ASCE J. Constr. Eng. Manage., 10.1061/(ASCE)CO.1943-7862.0001209 , 04016083.

Alves, T.C.L., **Pestana, A.C.**, Gilbert, E., Hamzeh, F., (2016). "Lean Principles for the Management of Construction Submittals and RFIs." ASCE J. Prof. Issues Eng. Educ. Pract., 10.1061/(ASCE)EI.1943-5541.0000285 , 05016004

Pestana, A.C., Alves, T.C.L., Barbosa A.R. (2013). "Application of Lean Construction Concepts to Manage the Submittal Process in AEC Projects." ASCE J. Manage. Eng., 10.1061/(ASCE)ME.1943-5479.0000215, 05014006.

Refereed Journal Publications (to be submitted)

Pestana, C., Gambatese J., (to be submitted) "Multi-Criteria Risk Mapping of On-Site Processes Using Lean Tools", J. Constr. Eng. Manage.

Pestana, C., Gambatese J., (to be submitted) "Risk Mapping in Construction Administration Processes using Lean Tools", J. Constr. Eng. Manage.

Pestana, C. et al. (to be submitted). "Bimodal safety risk distribution in construction."

Pestana, C. et al. (to be submitted). "Effects of reduced exposure on safety risk in construction."

Peer-Reviewed Archival Conference Publications

Pestana, A.C, and Gambatese, J. "Lean Practices and Safety Performance." Construction Research Congress, ASCE, Puerto Rico, 2016.

Barbosa, A., Gambatese, J., Das, A., and **Pestana**, A.C. (2014). "Mapped Workflow for Safety and Reliability Assessments of Use and Re-use of Formwork." Proceedings of the 2014 Construction Research Congress, ASCE, Atlanta, GA, May 19-21, 2014, pp. 1821-1830.

Pestana, A.C. and Alves, T.C.L. (2012). "Mapping the Submittal Process in a Design-Bid-Build Project." Construction Research Congress 2012, ASCE, Purdue University, May 21-23 2012, pp. 80-89.

Pestana, A.C. and Alves, T.C.L. (2011). "Study of the Submittal Process Using Lean Production Principles." Proceedings of the CIB International Conference Management and Innovation for a Sustainable Built Environment - MISBE2011, Wamelink, H. et al. Editors. Amsterdam, The Netherlands, 6/20/11-6/23/11.

Pestana, A.C., Guadalajara, N., De La Poza, E., and Barbosa, A. R. (2010). "The Location Factor in San Diego's Single-family Housing Market." The Construction, Building and Real Estate Research Conference of the Royal Institution of Chartered Surveyors - RICS, COBRA 2010. Paris, France.

Other Publications

Gambatese, J.A., and **Pestana**, C., (2014). "Connection between Lean Design/Construction and Construction Worker Safety." Research Report. The Center for Construction Research and Training (CPWR), Silver Spring, MD.

PROFESSIONAL MEETINGS, SYMPOSIA, AND CONFERENCES

Presentations to Professional Groups (includes presentations of papers cited above)

Contributed Talk, 2016 "Lean Practices and Safety Performance." Construction Research Congress, ASCE, Puerto Rico, June 2016.

Contributed Talk, 2014, "Mapped Workflow for Safety and Reliability Assessments of Use and Re-use of Formwork." Proceedings of the 2014 Construction Research Congress, ASCE, Atlanta, GA, May 2014.

Contributed Talk, 2012, "Mapping the Submittal Process in a Design-Bid-Build Project." Construction Research Congress 2012, May 2012. (Presented by Thais Alves).

Contributed Talk, 2011, "Study of the Submittal Process Using Lean Production Principles." Proceedings of the CIB International Conference Management and Innovation for a Sustainable Built Environment - MISBE2011, Netherlands, June 2011. (Presented by Thais Alves).

Contributed Talk, 2011. "The Location Factor in San Diego's Single-family Housing Market." The Construction, Building and Real Estate Research Conference of the Royal Institution of Chartered Surveyors - RICS, COBRA 2010. Paris, France. (Presented by Elena de La Poza).

SERVICE

- 2017 Women's Panel in Civil and Construction Engineering - Panel discussion and reception geared toward women in the Introduction to Civil and Construction Engineering freshmen class.
- 2016 Women's Panel in Civil and Construction Engineering - Panel discussion and reception geared toward women in the Introduction to Civil and Construction Engineering freshmen class.
- 2017 International Group for Lean Construction Conference Proceeding Reviewer, 1 paper

AWARDS

- **San Diego State University Library Most Accessed Thesis List**
  Thesis: "*Application of Lean Concepts to Office Related Activities in Construction*." Rank in the top 100 most downloaded titles of any thesis or dissertation written by a San Diego State University graduate student.

CHRISTOPHER E. PARRISH, PhD

Associate Professor
Oregon State University
School of Civil and Construction Engineering

A. Education and Employment Information

A1. Education

2007	Ph.D., Civil and Environmental Engineering/Geospatial Information Engineering (advisor: Frank Scarpace) University of Wisconsin, Madison, Wisconsin
2003	M.S., Civil and Coastal Engineering/Geomatics University of Florida, Gainesville, Florida
1993	B.S., Physics, *cum laude* Bates College, Lewiston, Maine

A2. Professional Experience

Sept. 2017-Present	Eric H.I. and Janice Hoffman Faculty Scholar School of Civil and Construction Engineering Oregon State University
Sept. 2014–Present	Associate Professor School of Civil and Construction Engineering Oregon State University
Sept. 2011-Present	Affiliate Professor Earth Sciences and Ocean Engineering University of New Hampshire, Center for Coastal and Ocean Mapping/Joint Hydrographic Center
Oct. 2009–Sept. 2014	Lead Physical Scientist NGS Project Manager for Integrated Ocean and Coastal Mapping (IOCM); Lead Remote Sensing Scientist in NGS/RSD National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, National Geodetic Survey, Remote Sensing Division, Silver Spring, Maryland
Oct. 2000–Sept. 2009	Physical Scientist PI in remote sensing research team; NOS Remote Sensing Workgroup

	National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, National Geodetic Survey, Remote Sensing Division, Silver Spring, Maryland
Oct. 1997-Sept. 2000	Geodetic Operations & Liaison Officer, Lieutenant (junior grade) - Lieutenant, NOAA Commissioned Corps Field Party Chief of NGS geodetic control and airport obstruction surveys
April, 1994-Oct. 1997	Junior Officer, Ensign - Lieutenant (junior grade), NOAA Ship *WHITING* Officer in Charge of hydrographic surveys, Vertical Control Officer, Senior Watch Officer

B. Teaching, Advising, and Other Assignments

B1. Instructional Summary

B1.1. Credit Courses

Number	Course Title	Term/Year	Credits	Enrollment
ESCI 7/896, OE 7/895 (UNH)	Coastal Remote Sensing	Spring 2012	3	7
ESCI 7/896, OE 7/895 (UNH)	Coastal Remote Sensing	Spring 2014	3	15
CE 505	Kinematic Positioning & Navigation	Winter 2015	3	9
CEM 263	Plane Surveying	Spring 2015	3	64
CE 505	Kinematic Positioning & Navigation	Fall 2015	3	9
CE 505	Coastal Remote Sensing	Winter 2016	3	8
CEM 263	Plane Surveying	Spring 2016	3	45
CE 361	Surveying Theory	Fall 2016	4	49
CE 560	Coastal Remote Sensing	Winter 2017	3	22
CE 507	Geomatics Seminar	Spring 2017	1	7
CEM 263	Plane Surveying	Spring 2017	3	99
CE 361	Surveying Theory	Fall 2017	4	54
CE 661	Kinematic Positioning & Navigation	Winter 2018	3	13

B1.2. Non-Credit Courses and Workshops

“Lidar technology for surveying and mapping,” March 2015. OSU Geomatics Workshop Series. 7 hrs. Co-taught with Michael Olsen.

“Lidar 101,” ASPRS GeoTech 2012 Workshop. One-day workshop, including the following topics: topographic and bathymetric lidar principles, fundamentals of operation, terminology, workflows, and applications.

“A Do-It-Yourself Approach to Lidar and Imagery Processing and Analysis Using Open-Source Tools,” ASPRS Annual Conference Workshop, March 9, 2009, and April 27, 2010. One-day workshop providing lectures and hands-on instruction in using open-source, customizable tools to process and analyze publicly-available lidar data and imagery.

“Lidar Theory and Concepts – Short Course,” NOAA/NGS, June 2004. Five-day training course, including lectures and homework exercises; originally provided to visiting international scientists and later incorporated into NOAA lidar training modules.

B1.3. Course and Curriculum Development

Developed Hydrographic Surveying Course: This 3-credit, graduate-level course covers the fundamentals of hydrographic surveys performed to measure the depth and bottom configuration of water bodies. Topics covered in the course include the physics of sound in water, sonar theory, types of sonar systems (e.g., single-beam, multibeam, side scan sonar), water levels and tidal datums, positioning and motion sensing for hydrographic survey, and bathymetric lidar, as well as applications of hydrographic surveying. The class includes a final project, in which students conduct a survey with a single-beam echosounder, process the data, and generate a bathymetric DTM and other deliverables. The course is scheduled to be taught annually at OSU starting in Fall 2017.

Developed Kinematic Positioning & Navigation Course: This 3-credit, graduate-level course is designed to prepare students to use direct georeferencing with GNSS-aided inertial navigation systems (INS) in operational surveying projects conducted from mobile, airborne, and/or spaceborne platforms. Topics covered include: inertial frames, 3D coordinate transformations, inertial navigation, GNSS, Kalman filtering and integration, sensor modeling and direct-georeferencing of remotely-sensed data. The course includes a final project using UAVs.

Developed Coastal Remote Sensing Course: This 3-credit, graduate-level course covers remote sensing tools, technologies and techniques and their application to coastal engineering, coastal science and coastal zone management. Topobathymetric lidar, aerial imagery, UAV imagery, multi- and hyperspectral imagery are all covered from a coastal applications perspective. Initially developed this course at University of New Hampshire and subsequently revised and enhanced it substantially at OSU.

Developed Softcopy Photogrammetry Lab for CE461/561 - Photogrammetry: Developed a two-week laboratory exercise designed to provide students with both an understanding of the theory of softcopy (digital) photogrammetry and experience in conducting an end-to-end softcopy photogrammetry project. Students use aerial imagery acquired with a state-of-the-art digital aerial camera in Imagine Photogrammetry (formerly Leica Photogrammetry Suite) to

make precise 3D measurements of Reser Stadium on the OSU campus and to generate digital orthophotos and anaglyph images. Important steps include project setup, interior orientation, GNSS-aided inertial navigation system (INS) data integration, automatic tie point measurement, bundle block adjustment, orthophoto production, and final project report generation for client.

B1.4. Team or Collaborative Efforts

Co-taught ESCI 875, OE 875.01: Fundamentals of Ocean Mapping II, Spring 2012, Spring 2013, and Spring 2014 (University of New Hampshire). Developed and taught two course modules: "Introduction to Remote Sensing" and "Shoreline Mapping." This year-long Fundamentals course was co-taught by the faculty of the Center for Coastal and Ocean Mapping – Joint Hydrographic Center.

B1.5. International Teaching

None

B2. Student and Participant Evaluations

Course No.	Term	Enroll-ment	# Re-spond-ing	Student Evaluation (#1/#2)	College Median* (#1/#2)	Required /Elective
ESCI 7/896, OE 7/895 (UNH)	Spring 2012	7	5	4.88 out of possible 5.00 (UNH OE scale)	N/A	Elective
ESCI 7/896, OE 7/895 (UNH)	Spring 2014	15	7	4.86 out of possible 5.00 (UNH OE scale)	N/A	Elective
CE505: KINEMATIC SRVYNG & NAVGTN	Winter 2015	9	8	5.9/6.0	5.2/5.4	Elective
CEM 263: PLANE SURVEYING 001 (Lecture)	Spring 2015	64	48	5.0/5.1	4.7/4.7	Required
CE 505: KINEMATIC SRVYNG & NAVGTN	Fall 2015	9	7	5.9/6.0	5.3/5.4	Elective
CE505: COASTAL REMOTE SENSING	Winter 2016	8	6	5.9/6.0	5.3/5.5	Elective

CEM 263: PLANE SURVEYING	Spring 2016	45	30	5.8/5.8	4.6/4.6	Required
CE 361: SURVEYING THEORY	Fall 2016	49	39	5.6/5.8	5.0/5.1	Required
CE 560: COASTAL REMOTE SENSING	Winter 2017	22	9	5.8/6.0	4.9/5.2	Elective
CE 507: GEOMATICS SEMINAR	Spring 2017	7	4	5.5/5.5	5.0/5.2	Elective
CEM 263: PLANE SURVEYING	Spring 2017	99	65	5.4/5.6	5.0/5.2	Required
CE 361: SURVEYING THEORY	Fall 2017	54	40	5.5/5.6	5.0/5.2	Required

* College median scores are shown separately for each level (e.g., 400, 500) taught.

B3. Peer Teaching Evaluations

To be provided by CCE.

B4. Advising

B4.1. Graduate Advisees – Completed

Student	Degree	Thesis	Graduated
1. Nicholas Wilson	MS	*Radiometric Calibration of EAARL-B Bathymetric Lidar Data*	Spring 2017
2. Kory Kellum	MS	*Seamless Topobathymetric River Mapping Through Multi-Sensor Data Integration: Lidar, Sonar, RTK GNSS and Structure from Motion*	Spring 2017
3. Matthew Gillins	MS	*Unmanned Aircraft Systems for Bridge Inspection: Testing and Developing an End-to-End Operational Workflow*	Fall 2016
4. Fang Yao	MS (UNH)	*Uncertainty Analysis on Photogrammetry-Derived National Shoreline*	Spring 2014
5. Rachot Osiri	MS (UNH)	*Radiometric Calibration and Evaluation of Lidar Data for Coastal Science Applications* (Directed Project Report)	Summer 2011

B4.2. Graduate Advisees – Current

Student	Degree	Expected Graduation
1. Richard Slocum	PhD	Winter 2019
2. Nicholas Forfinski-Sarkozi	PhD	Fall 2018
3. Michael Dennis	PhD	Summer 2018
4. Laura Barreiro-Fernandez	MS	Summer 2018
5. Chase Simpson	MS	Fall 2018

B4.3. Graduate Thesis or Project Committees

MEng Advisor:
Graduated
None

Current
None

Minor Professor or Committee Member:
Graduated

1. Matthew O'Banion, PhD (Civil and Construction Engineering), 2017
2. Richard Gabriel, MS (Forest Engineering, Resources and Management), 2017
3. Jonathan Burnett, PhD (Forest Engineering, Resources and Management), 2017
4. Ricardo Friere, PhD (UNH - Ocean Engineering), 2017
5. Brian Weaver, MS (Civil and Construction Engineering), 2017
6. Preston Hartzell, PhD (Univ. of Houston), 2016
7. Zhigang Pan, PhD (Univ. of Houston), 2016
8. Jeffrey Rogers, PhD (Univ. of New Hampshire), 2014
9. Chukwuma Azuike, MS (Univ. of New Hampshire), 2012
10. Olumide Fadahunsi, MS (Univ. of New Hampshire), 2012
11. Michael Gonsalves, PhD (Univ. of Southern Mississippi), 2010
12. Anuchit Sukcharoenpong (Ohio State Univ.), 2010

Current

1. Sue Kim, PhD (Civil and Construction Engineering)
2. Ashley Norton, PhD (UNH - Natural Resource and Earth System Science)

Graduate Council Representative:

1. Ridwan Azam, MS, 2016 (Electrical Engineering)
2. Sean Penney, MS, 2017 (Computer Science)
3. Carter Lassetter, MS, 2017 (Electrical Engineering and Computer Science)
4. Matthew Rueben, PhD, 2018 (Expected) (Robotics)

B4.4. Undergraduate Research Assistants

1. Zachary Grubb (Fall 2017 – present)
2. Shane O'Hara (Fall 2016 – present)
3. Michael Craig (Fall 2015 – Spring 2016)

B4.5. Postdoctoral Trainees

1. Jaehoon Jung (co-advise with Michael Olsen) (Winter 2017 – present)

B4.6. Other Advising

None

B5. Other Instruction Related Assignments

None

C. Scholarship and Creative Activity

C1. Publications

For all publications and presentations, a name in bold font denotes an advised student researcher.

C1.1. Books & Book Chapters

1. Pe'eri, S., B. Madore, L. Alexander, C.E. Parrish, A. Klemm, A.A. Armstrong, C. Azuike, and E. Tetteh, 2016. Satellite-Derived Bathymetry in *The IHO-IOC GEBCO Cook Book*, International Hydrographic Organization, Intergovernmental Oceanographic Commission, IHO Publication B-11, 11.1.16th ed., Monaco, pp. 346-422. (Co-author of chapter on deriving depths from multispectral satellite imagery; contributed to development of methods and accompanying total propagated uncertainty models.)

2. Parrish, C.E., 2012. Chapter 6: Shoreline Mapping in *Advances in Mapping from Remote Sensor Imagery: Techniques and Applications* (X. Yang and J. Li, Eds.), CRC Press, Taylor and Francis Group, Boca Raton, Florida, pp. 145-168. (Sole author of Chapter 6.)

3. Pack, R.T., V. Brooks, J. Young, N. Vilaça, S. Vatslid, P. Rindle, S. Kurz, C.E. Parrish, R. Craig, and P.W. Smith, 2012. Chapter 2: An Overview of ALS Technology in *Airborne Topographic Lidar Manual* (M. Renslow, Ed.), American Society for Photogrammetry and Remote Sensing (ASPRS), Bethesda, Maryland, pp. 7-97. (Co-author of Chapter 2.)

4. Heidemann, H.K., J. Stoker, D. Brown, M.J. Olsen, R. Singh, K. Williams, A. Chin, A. Karlin, G. McClung, J. Janke, J. Shan, K.-H. Kim, A. Sampath, S. Ural, C.E. Parrish, K. Waters, J. Wozencraft, C.L. Macon, J. Brock, C.W. Wright, C. Hopkinson, A. Pietroniro, I. Madin, and J. Conner, 2012. Chapter 10: Applications in *Airborne Topographic Lidar Manual* (M. Renslow, Ed.), American Society for Photogrammetry and Remote Sensing (ASPRS), Bethesda, Maryland, pp. 283-423. (Co-author of Chapter 10; wrote section on lidar airport surveying and served as lead author for section on lidar coastal applications.)

C1.2. Refereed Journal Publications

1. Rogers, J.N., C.E. Parrish, L.G. Ward, and D.M. Burdick, 2017. Improving Salt Marsh Digital Elevation Model Accuracy with Full-Waveform Lidar and Nonparametric Predictive Modeling. *Estuarine, Coastal and Shelf Science* (accepted, available online Dec 2017). (Performed lidar waveform processing, contributed to all sections of paper and mentored student lead author while at UNH.)

2. **Slocum, R.K.**, and C.E., Parrish, 2017. Simulated Imagery Rendering Workflow for UAS-Based Photogrammetric 3D Reconstruction Accuracy Assessments. *Remote Sensing*, Vol. 9, No. 4:396. (Supervised student lead author; contributed to all sections of paper.)

3. **Forfinski-Sarkozi, N.A.**, and C.E. Parrish, 2016. Analysis of MABEL Bathymetry in Keweenaw Bay and Implications for ICESat-2 ATLAS. *Remote Sensing*, Vol. 8, No. 9, doi: 10.3390/rs8090772. (Conceived of idea for study, supervised student lead author, and contributed to all sections of paper; funded by NASA ROSES grant, on which I am PI.)

4. Wright, C.W., C. Kranenburg, T.A. Battista, and C. Parrish, 2016. Depth Calibration and Validation of the Experimental Advanced Airborne Research LiDAR, EAARL-B. *Journal of Coastal Research*, SI 76, pp. 4-17. (Analyzed results with respect to International Hydrographic Organization survey standards; wrote paper sections on Position and Orientation-Induced Errors and the IHO Standard and contributed to writing/editing of all other sections.)

5. Parrish, C.E., J.A. Dijkstra, J.P.M. O'Neil-Dunne, L. McKenna, and S. Pe'eri, 2016. Post-Sandy Benthic Habitat Mapping Using New Topobathymetric Lidar Technology and Object-Based Image Classification. *Journal of Coastal Research*, SI 76, pp. 200-208. (Primary author; funded by Super Storm Sandy Lidar Waveform Analysis Grant.)

6. Rogers, J.N., C.E. Parrish, L.G. Ward, and D.M. Burdick, 2016. Uncertainty Assessment of Salt Marsh Environments Using Discrete-Return and Full-Waveform Lidar. *Journal of Coastal Research*, SI 76, pp. 107-122. (Performed all lidar waveform processing; advised student on all aspects of paper; contributed to all sections of paper.)

7. Pe'eri, S., B. Madore, J. Nyberg, L. Snyder, C. Parrish, and S. Smith, 2016. Evaluation of Chart Adequacy over the Arctic North Slope using a Satellite-Derived Bathymetry Multi-Temporal Approach, *Journal of Coastal Research*, SI 76, pp. 56-63. (Contributed to statistical analysis of data and assisted with the organization, writing and revision of manuscript.)

8. Kashani, A.G., M.J. Olsen, C.E. Parrish, and **N. Wilson**, 2015. A Review of Lidar Radiometric Processing: from ad hoc Intensity Correction to Rigorous Radiometric Calibration. *Sensors*, Vol. 15, pp. 28099-28128; doi:10.3390/s151128099. (Authored section on lidar equation, as well as introduction and abstract; contributed to all other sections.)

9. **Yao, F.**, C.E. Parrish, S. Pe'eri, B.R. Calder, and Y. Rzhanov, 2015. Modeling Uncertainty in Photogrammetry-Derived National Shoreline. *Marine Geodesy*, Vol. 28, pp. 128-145. (Provided initial concept for study; advised student lead-author on all aspects of study and paper.)

10. Rogers, J.N., C.E. Parrish, L.G. Ward, and D.M. Burdick, 2015. Evaluation of Field-Measured Vertical Obscuration and Full Waveform Lidar to Assess Salt Marsh Vegetation Biophysical Parameters. *Remote Sensing of Environment*, Vol. 156, pp. 264-275. (Performed all lidar waveform processing; advised student lead author on all aspects of paper; contributed to all sections of manuscript.)

11. Pe'eri, S., C.E. Parrish, C. Azuike, L. Alexander, and A. Armstrong, 2014. Satellite Remote Sensing as Reconnaissance Tool for Assessing Chart Adequacy and Completeness Information. *Marine Geodesy*, Vol. 37, No. 3, pp. 293-314. (Performed total propagated uncertainty analysis, including developing all software and analyzing results; contributed to all sections of manuscript.)

12. Parrish, C.E., J.N. Rogers, and B.R. Calder, 2014. Assessment of Waveform Shape Features for Lidar Uncertainty Modeling in a Coastal Salt Marsh Environment. *Geoscience and Remote Sensing Letters*, Vol. 11, No. 2, pp. 569-573. (Primary author.)

13. Pe'eri, S., A. McLeod, P. Lavoie, S. Ackerman, J. Gardner, and C. Parrish, 2013. Field Calibration and Validation of Remote Sensing Surveys, *International Journal of Remote Sensing*, Vol. 34, No. 18, pp. 6423-6436. (Led USVI data acquisition; developed and tested procedures for diffuse attenuation coefficient calculation, as shown in Fig. 5 and explained in Eq. 3; contributed to sections 1, 5, 6, and 7 of manuscript.)

14. Bachmann, C.M., M.J. Montes, C.E. Parrish, R.A. Fusina, C.R. Nichols, R.-R. Li, E. Hallenborg, C.A. Jones, K. Lee, J. Sellars, S.A. White, and J.C. Fry, 2012. A dual-spectrometer approach to reflectance measurements under sub-optimal sky conditions. *Optics Express*, Vol. 20, No. 8. (Participated in data acquisition in Australia; led NOAA field team; contributed to writing and revision of manuscript.)

15. Adams, T., P. Beets, and C. Parrish, 2012. Extracting More Data from LiDAR in Forested Areas by Analyzing Waveform Shape. *Remote Sensing*, Vol. 4, No. 3, pp. 682-702. (Developed lidar waveform processing software and methods; authored or contributed to all sections of manuscript on lidar waveform processing.)

16. Parrish, C.E., I. Jeong, R.D. Nowak, and R.B. Smith, 2011. Empirical Comparison of Full-Waveform Lidar Algorithms: Range Extraction and Discrimination Performance. *Photogrammetric Engineering & Remote Sensing*, Vol. 77, No. 8, pp. 825-838. (Primary author.)

17. Uddin, W., B. Gutelius, and C. Parrish, 2011. Airborne Laser Survey Specifications and Quality Management Protocols for Airport Obstruction Surveys. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2214, pp. 117-125. (Led NOAA

National Geodetic Survey lidar airport data acquisition and analysis, as summarized in Table 1, which formed the basis for subsequent NGS guidelines and standards described in this paper.)

18. White, S.A., C.E. Parrish, B.R. Calder, S. Pe'eri, and Y. Rzhanov, 2011. Lidar-Derived National Shoreline: Empirical and Stochastic Uncertainty Analyses. *Journal of Coastal Research*, Special Issue 62, pp. 62-74. (Organized project team to lead collaborative effort between NOAA NGS and UNH; contributed to all aspects of study and paper.)

19. Bachmann, C.M., C.R. Nichols, M.J. Montes, R.-R. Li, P. Woodward, R.A. Fusina, W. Chen, V. Mishra, W. Kim, J. Monty, K. McIlhany, K. Kessler, D. Korwan, W.D. Millar, E. Bennert, G. Smith, D. Gillis, J. Sellars, C. Parrish, A. Schwarzschild, and B. Truitt, 2010. Retrieval of Substrate Bearing Strength from Hyperspectral Imagery during the Virginia Coast Reserve (VCR'07) Multi-Sensor Campaign, *Marine Geodesy*, Vol. 33, No. 2, pp. 101-116. (Led NOAA field team during data acquisition in Australia, including data acquisition with NOAA ASD FieldSpec Pro.)

20. Bachmann, C.M., M.J. Montes, R.A. Fusina, C. Parrish, J. Sellars, A. Weidemann, W. Goode, C.R. Nichols, P. Woodward, K. McIlhany, V. Hill, R. Zimmerman, D. Korwan, B. Truitt, and A. Schwarzschild, 2010. Bathymetry Retrieval from Hyperspectral Imagery in the Very Shallow Water Limit: a Case Study from the 2007 Virginia Coast Reserve (VCR'07) Multi-Sensor Campaign. *Marine Geodesy*, Vol. 33, No. 1, pp. 53 - 75. (Wrote sections of paper on limitations of conventional bathymetric lidar in the shallow, nearshore zone; tested procedures using NOAA data; led NOAA field work.)

21. Parrish, C.E., and R.D., Nowak, 2009. Improved Approach to LIDAR Airport Obstruction Surveying Using Full-Waveform Data. *Journal of Surveying Engineering*, Vol. 135, No. 2, pp. 72-82. (Primary author.)

22. Parrish, C.E., G.H. Tuell, W.E. Carter, and R.L. Shrestha, 2005. Configuring an Airborne Laser Scanner for Detecting Airport Obstructions. *Photogrammetric Engineering & Remote Sensing*, Vol. 71, No. 1, pp. 37-46. (Primary author.)

C1.3. Peer-Reviewed Archival Conference Publications

The following papers appeared in archival proceedings that were distributed to libraries (the next section covers other types of proceedings). The acceptance rate is indicated as part of the entry whenever the selection process was rigorous.

1. **Forfinski, N.**, and C.E. Parrish, 2016. ICESat-2 bathymetry: an empirical feasibility assessment using MABEL. *Proceedings of SPIE Remote Sensing: Remote Sensing of the Ocean, Sea Ice, Coastal Waters, and Large Water Regions* 2016, 26-29 Sept, Edinburgh, Scotland, Vol. 999904; doi:10.1117/12.2241210, pp. 999904-1-999904-08 (Conceived of idea for study, supervised student lead author, and contributed to all sections of paper; funded by NASA ROSES grant, on which I am PI.)

2. Bachmann, C.M., D. Gray, A. Abelev, W. Philpot, M.J. Montes, R. Fusina, J. Musser, R.-R. Li, M. Vermillion, G. Smith, D. Korwan, C. Snow, W.D. Miller, J. Gardner, M. Sletten, G. Georgiev, B. Truitt, M. Kilmon, J. Sellars, J. Woolard, C. Parrish, and A. Schwarzchild, 2012. Linking goniometer measurements to hyperspectral and multi-sensor imagery for retrieval of beach properties and coastal characterization. Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XVIII (S.S. Shen, and P.E. Lewis, Eds.), *Proceedings of SPIE Vol. 8390, SPIE Defense, Security, and Sensing*, 23-27 April, Baltimore, Maryland, doi:10.1117/12.918464, pp. 83901D-83901D. (Participated in data acquisition in Australia; led NOAA field team.)

3. Bachmann, C.M., A. Abelev, W. Philpot, C.R. Nichols, G. Smith, D. Korwan, J.Gardner, M. Sletten, J.A. Musser, R.A. Fusina, M. Vermillion, C.E. Parrish, R.-R. Li, J. Sellars, S. White, E. van Roggen, and K. Doctor, 2012. A Multi-Sensor Approach to Coastal Characterization, *Proceedings of Optical Remote Sensing of the Environment (ORS) 2012*. 24-28 June, Monterey, California, ISBN: 1-55752-947-7, doi:10.1364/ORSE.2012.RTu1E.1, pp. RTu1E-1. (Participated in data acquisition and processing; led NOAA field team.)

4. Fusina, R., J. Fry, R. Nichols, C. Bachmann, R.-R. Li, J. Sellars, C. Parrish, M. Montes, C. Gross, S. White, K. Lee, C. Jones, 2010. Geodatabase Development to Support Hyperspectral Imagery Exploitation, *Proceedings of the IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 25-30 July, Honolulu, Hawaii, doi: 10.1109/IGARSS.2010.5654182, pp. 4224-4227. (Participated in data acquisition and processing; led NOAA field team.)

5. Parrish, C.E., S.A. White, B.R. Calder, S. Pe'eri, and Y. Rzhanov, 2010. New Approaches for Evaluating Lidar-Derived Shoreline. OSA Technical Digest: *Proceedings of OSA Optical Remote Sensing of the Environment (ORS) 2010*, 7-8 June, Tucson, Arizona, ISBN: 978-1-55752-892-6, doi:10.1364/ORSE.2010.OMC5, p. OMC5. (Primary author.)

6. Lee, K., C.M. Bachmann, R.A. Fusina, M.J. Montes, R.-R. Li, J.C. Fry, C.R. Nichols, C. Parrish, J. Sellars, 2010. Coastal Vegetation Mapping from Hyperspectral Imagery. *Proceedings of OSA Optical Remote Sensing of the Environment (ORS) 2010*, 7-8 June, Tucson, Arizona. ISBN: 978-1-55752-892-6, doi:10.1364/ORSE.2010.JTuA28, p. JTuA28. (Participated in data acquisition; led NOAA field team.)

7. Bachmann, C.M., C.R. Nichols, M.J. Montes, R.A. Fusina, J.C. Fry, R.-R. Li, D. Gray, D. Korwan, C. Parrish, J. Sellars, S.A. White, J. Woolard, K. Lee, C. McConnon, and J. Wende, 2010. Coastal Characterization from Hyperspectral Imagery. *Proceedings of OSA Optical Remote Sensing of the Environment (ORS) 2010*, 7-8 June, Tucson, Arizona. ISBN: 978-1-55752-892-6, doi:10.1364/ORSE.2010.OMD2, p. OMD2. (Participated in data acquisition; led NOAA field team; assisted in procedure development.)

8. Bachmann, C. M., M. J. Montes, R. A. Fusina, C. Parrish, J. Sellars, A. Weidemann, W. Goode, V. Hill, R. Zimmerman, C. R. Nichols, P. Woodward, K. McIlhany, D. Korwan, M. Crawford, J. Monty, B. Truitt, A. Schwarzschild, 2008. Very Shallow Water Bathymetry Retrieval from Hyperspectral Imagery at the Virginia Coast Reserve (VCR'07) Multi-Sensor

Campaign. *Proceedings of the IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 7-11 July, Boston, Massachusetts, doi: 10.1109/IGARSS.2008.4778943, Vol. 2, pp. II-125. (Contributed to procedure development and evaluation; led NOAA field team during field campaign.)

9. Parrish, C.E., 2007. Exploiting Full-Waveform Lidar Data and Multiresolution Wavelet Analysis for Vertical Object Detection and Recognition, 2007. *Proceedings of the IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 23-27 July, Barcelona, Spain, doi: 10.1109/IGARSS.2007.4423351, pp. 2499-2502. (Sole author.)

C1.4. Other Peer-Reviewed Publications

The following papers appeared in proceedings that were distributed primarily to attendees (as CDs, printed volumes, availability through a public website, etc.).

1. Adams, T., P. Beets, and C. Parrish, 2011. Another dimension from LiDAR – Obtaining foliage density from full waveform data. *Proceedings of SilviLaser*, 16-19 October, Hobart, Australia, 12 pp. (Developed lidar waveform processing algorithms and methods; contributed to all sections of manuscript.)

C1.5. Papers Currently under Peer Review

1. O'Banion, M.S., M.J. Olsen, C.E. Parrish, and M. Bailey, 2018. Interactive Visualization of 3D Coordinate Uncertainties in Terrestrial Laser Scanning Point Clouds Using OpenGL Shader Language. *Journal of Surveying Engineering* (in review).

2. Kalathas, P., D. Hurwitz, C. Parrish, and Y. Zhang, 2017. A Survey on Road Noise Prediction for Milled Shoulder Rumble Strips. *International Journal of Vehicle Noise and Vibration* (in review).

C1.6. Other Publications

Other publications, including non-refereed papers, conference papers and abstracts.

1. Park, J. and C. Parrish, 2018. Post Disaster Surveying. Professional Land Surveyors of Oregon (PLSO) 2018 Annual Conference. 17-19 January, Salem, Oregon.

2. Parrish, C., F. Eren, J. Jung, G. Imahori, and S. White, 2017. Total Propagated Uncertainty Analysis for Topobathymetric Lidar. The 18th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 6-8 June, Savannah, Georgia. (Co-presented; PI of research project.)

3. Parrish, C., 2017. Unmanned Aerial Systems. GIS in Action, 17-18 April, Portland, Oregon. (Delivered presentation; PI of two research projects described in presentation.)

4. Gillins, D.T., **C. Simpson**, and C. Parrish, 2017. Emerging Technology: Unmanned Aircraft Systems (UAS) for Bridge Inspection, 2017 Bridge & Tunnel Inspectors

Conference, 4-6 April, Vancouver, Washington. (Supervised student presenter; contributed to all aspects of study.)

5. Kessler, M., J. Mallela, M. Olsen, and C. Parrish, 2017. Effective Use of Geospatial Tools in Highway Construction, Federal Highway Administration (FHWA) Seminar, 29 March, Online. (Co-presented results of FHWA-funded research project.)

6. Parrish, C., 2017. Drones in Education: Research Perspective, 21 March, Oregon State University. (Delivered webinar to K-12 and higher education educators.)

7. Olsen, M., and C. Parrish, 2017. Surveying with Drones, Lasers, and Explosions. Professional Land Surveyors of Oregon (PLSO) 2017 Conference, 18-20 January, Portland, Oregon. (Co-presented; PI of ODOT-sponsored project on use of unmanned aircraft systems for bridge inspection.)

8. Gillins, D.T., **M.L. Dennis**, B. Weaver, M. Olsen, and C. Parrish, 2016. Hybrid Static plus Real-Time GNSS Survey Networks: An efficient Approach for Height Modernization Surveys. ION GNSS+ 2016, 12-16 Sept, Portland, Oregon. (Mentored student researcher/author; contributed to sections on NGS procedures and policies.)

9. Parrish, C.E., **M. Gillins**, and D. Gillins, 2016. UAS for Structural Inspections and OregonView STEM Education Initiatives. ORURISA UAS Symposium by the Sea, 16 Sept, Lincoln City, Oregon. (Delivered presentation; supervised student researcher.)

10. **Gillins, M.N.**, D.T. Gillins, and C. Parrish, 2016. Bridge and Communication Tower Inspections with Small Unmanned Aircraft Systems (sUAS). UAS Mapping Conference, American Society of Photogrammetry and Remote Sensing (ASPRS), 12-14 Sept, Palm Springs, California. (Supervised student lead author; contributed to all aspects of study.)

11. Parrish, C.E., **N. Forfinski**, and **N. Wilson**, 2016. Advances in Seafloor Mapping with New Spaceborne and Airborne Lidar Systems. The 17th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 19-21 July, Silver Spring, Maryland. (Delivered presentation; supervised student research.)

12. Costa, B., T. Battista, C. Parrish, and **N. Wilson**, 2016. Evaluating the Utility of EAARL-B Lidar Waveforms for Mapping Coral Reef Habitats. The 17th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 19-21 July, Silver Spring, Maryland. (Developed lidar waveform features used in this study; supervised student researcher.)

13. Kinney, J., M. Bogonko, M. White, A. Armstrong, E. Nagel, J. Dijkstra, C. Parrish and **N. Wilson**, 2016. Intensity and Reflectance for Habitat Mapping and Seafloor Characterization using the Superstorm Sandy Lidar Data. The 17th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center

of Expertise (JALBTCX), 19-21 July, Silver Spring, Maryland. (Developed initial seafloor relative reflectance mapping procedures; supervised student researcher.)

14. Parrish, C.E., 2016. New Techniques in Bathymetric Mapping and Coastal Change Analysis: from UAVs to Satellites. OneNOAA Science Seminars, NOAA National Ocean Service. 18 July, Silver Spring, Maryland. (Delivered presentation, summarizing several of my research projects.)

15. Freire, R., S. Pe'eri, L. Alexander, Y. Rzhanov, C.E. Parrish, and T.C. Lippmann, 2016, Use of Satellite Imagery for Monitoring the Mouths of Dynamic Rivers, 2016 Canadian Hydrographic Conference. 16-19 May, Halifax, Nova Scotia, Canada. (Developed TPU tools and procedures for satellite-derived bathymetry.)

16. **Gillins, M.N.**, D.T. Gillins, and C. Parrish, 2016. Cost-Effective Bridge Safety Inspection using Unmanned Aircraft Systems (UAS). GEO Structures Congress 2016 14-17 Feb, Phoenix, Arizona. (Supervised student lead author; contributed to all aspects of study and paper.)

17. **Gillins, M.N.**, D.T. Gillins, and C. Parrish, 2015. Bridge Inspection Using Unmanned Aircraft Systems (UAS), 2015 PacTrans Regional Transportation Conference, 15 Oct, Seattle, Washington. (Supervised student lead author; contributed to all aspects of study.)

18. Parrish, C. and **N. Wilson**, 2015. Topobathymetric Lidar Waveform Features for Habitat Mapping and Hurricane Sandy Response. The 16th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 16-18 June, Corvallis, Oregon. (Delivered presentation; supervised student researcher; developed original lidar waveform features.)

19. Kinney, J., S. Wolfskehl, S. Bruce, M. Bongiovanni, C. Bongiovanni, A. Armstrong, E. Nagel, S. Pe'eri, and C. Parrish, 2015. Update on NOAA's IOCM Sandy Project for Charting & Habitat Mapping using Topobathymetric Lidar surveys. The 16th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 16-18 June, Corvallis, Oregon. (Led lidar waveform analysis in Hurricane Sandy impact area while at UNH CCOM-JHC.)

20. Price, V., J.A. Dijkstra, E. Nagel, J.P.M. O'Neil-Dunne, C.E. Parrish, and S. Pe'eri, 2015. Developing methodology for efficient eelgrass mapping across lidar systems. GEOHAB, 8-12 May, Salvador, Brazil. (Developed lidar processing procedures and tools used in study.)

21. Freire, R., S. Pe'eri, B. Madore, Y. Rzhanov, L. Alexander, C. Parrish, and T. Lippmann, 2015. Monitoring Near-Shore Bathymetry using a Multi-Image Satellite-Derived Bathymetry Approach. *Proceedings of U.S. Hydro*, 16-19 March, National Harbor, Maryland. (Developed TPU procedures and contributed to bathymetry retrieval procedures used in this study.)

22. Olsen, M.J, and C. Parrish, 2015. Picking through the points: considerations for lidar-based surveying. Professional Land Surveyors of Oregon (PLSO) Annual Meeting, 22 January, Salem, Oregon. (Co-presented; led two research studies described in presentation.)

23. Parrish, C.E., and J. Dijkstra, 2014. Benthic Habitat Mapping in Barnegat Bay with Topographic-Bathymetric Lidar Waveform Features. European Lidar Mapping Forum (ELMF), 8-10 December, Amsterdam, The Netherlands. (Delivered presentation; led all aspects of study.)

24. Parrish, C.E., 2014. Keynote Address: Lidar: Trends, Opportunities and Challenges in a Rapidly-Evolving Field. ASPRS Columbia River & Puget Sound Regions, 17th Annual Technical Exchange, 5 November, Vancouver, Washington. (Delivered keynote presentation.)

25. Olsen, M.J., D.T. Gillins and C. Parrish, 2014. The Civil Engineering Geomatics Program at Oregon State University. *LidarNews*, Vol. 4, No. 5. (Contributed to paper sections on my new Geomatics classes and research at OSU.)

26. Parrish, C.E., J. Rogers, L. Ward, and J. Dijkstra, 2014. Enhanced Coastal Mapping using Lidar Waveform Features. The 15th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 10-12 June, Mobile, Alabama. (Delivered presentation; led all aspects of study.)

27. Aslaksen, M., and C. Parrish, 2014. New Topographic-Bathymetric Lidar Technology for Post-Sandy Mapping. Canadian Hydrographic Conference, 14-17 April, St. John's, Newfoundland, Canada. (Led analysis of lidar waveform features in Hurricane Sandy impact area.)

28. McKenna, L., J. Dijkstra, and C. Parrish, 2014. Assessing hurricane Sandy impacts on benthic habitats in Barnegat Bay with new topographic-bathymetric LIDAR technology, AGU Ocean Sciences, 23-28 Feb, Honolulu, Hawaii. (Developed lidar analysis methods and algorithms.)

29. Hartzell, P., C. Glennie, D. Finnegan, and C. Parrish, 2014. Application of Commercial LiDAR Systems for Active Multispectral Remote Sensing. *Proceedings of the International LiDAR Mapping Forum* (*ILMF*), 17-19 Feb, Denver, Colorado. (Processed tri-band lidar data and conducted field data acquisition in Barnegat Bay, New Jersey, for evaluation of tri-band lidar data.)

30. Parrish, C., and S. Pe'eri, 2014. Satellite Derived Bathymetry over the North Slope of Alaska using multispectral imagery. Arctic Science Forum: Science in Support of Hydrography in the Arctic, University of New Hampshire, 28-29 Jan, Durham, New Hampshire. (Developed statistical analysis methods for satellite-derived bathymetry.)

31. Pe'eri, S., C. Azuike, and C. Parrish, 2013. Satellite-derived Bathymetry: A Reconnaissance Tool for Hydrography, *Hydro International*, Vol. 17, No 7, pp. 16-19. (Led total propagated uncertainty analysis of satellite derived bathymetry.)

32. **Yao, F.**, C.E. Parrish, B.R. Calder, S. Peeri, and Y. Rzhanov, 2013. Photogrammetry-Derived National Shoreline: Uncertainty and Sensitivity Analyses. AGU Fall Meeting, 9-13 December, San Francisco, California. (Supervised student lead researcher; developed initial exterior orientation (EO) TPU tool.)

33. Parrish, C.E., J. Rogers, and B. Calder, 2013. Lidar Waveform Shape Metrics for Salt Marsh Mapping. The 14th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 6-7 August, Mobile, Alabama. (Developed and tested lidar waveform features; led all aspects of study; delivered presentation.)

34. Fadahunsi, O., S. Pe'eri, C.E. Parrish, A.A. Armstrong, and L. Alexander, 2013. Spectral characterization of the Nigerian shoreline using Landsat imagery, *Proceedings of the US Hydrographic Conference*, 25-28 March, New Orleans, Louisiana. (Taught student lead researcher Landsat processing and analysis techniques; contributed to writing proceedings paper.)

35. Pe'eri, S., C.E. Parrish, L. Alexander, C. Azuike, A.A. Armstrong, and M. Sault, 2013. Future directions in hydrography using satellite-derived bathymetry, *Proceedings of the US Hydrographic Conference*, 25-28 March, New Orleans, Louisiana. (Contributed to procedure development and statistical analysis of data; contributed to writing of proceedings paper.)

36. Parrish, C.E., 2013. Lidar Waveform: A Practical Perspective. American Society of Photogrammetry and Remote Sensing (ASPRS) Annual Conference, 24-28 March, Baltimore, Maryland. (Led all aspects of work; delivered conference presentation.)

37. Parrish, C., S. White, M. Aslaksen, M. Pfennigbauer, P. Rieger, 2012. Topographic-Bathymetric LIDAR Evaluation for Integrated Ocean and Coastal Mapping. European LiDAR Mapping Forum (ELMF), 4-5 December, Salzburg, Austria. (Led study and data analysis; delivered conference presentation.)

38. Pe'eri, S., C. Azuike, L. Alexander, C.E. Parrish, and A.A. Armstrong, 2012. Beyond the Chart: The use of Satellite Remote Sensing for Assessing the Adequacy and Completeness Information, Canadian Hydrographic Conference, 15-17 May, Niagara Falls, Ontario, Canada. (Mentored student researcher and second author, C. Azuike, on vertical referencing of satellite derived bathymetry; contributed to all sections of conference paper.)

39. Fadahunsi, O., A.A. Armstrong, S. Pe'eri, L. Alexander, and C.E. Parrish, 2012. Developing a Methodology for the Mapping and Characterization of the Nigerian Coastline Using Remote Sensing, Canadian Hydrographic Conference, 15-17 May,

Niagara Falls, Ontario, Canada. (Mentored student first author, O. Fadahunsi, on shoreline extraction and classification; contributed to all sections of conference paper.)

40. Azuike, C., S. Pe'eri, L. Alexander, C.E. Parrish, and A.A. Armstrong, 2012. Development of a Geo-spatial Analysis Methodology for Assessing the Adequacy of Hydrographic Surveying and Nautical Charts, Canadian Hydrographic Conference, 15-17 May, Niagara Falls, Ontario, Canada. (Mentored student researcher and first author, C. Azuike, on NOAA shoreline mapping procedures; contributed to all sections of conference paper.)

41. Parrish, C.E., and **R. Osiri**, 2011. Lidar Wavelength Considerations and Radiometric Performance Analysis for Coastal Applications (*Invited*). American Geophysical Union (AGU) Fall Meeting, 5-9 December, San Francisco, California. (Supervised student researcher, R. Osiri; conceived of idea for study; supervised fieldwork; delivered conference presentation.)

42. Parrish, C., 2011. New Developments in Lidar Waveform Processing and Radiometric Performance Analysis. The 12th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 21-22 June, Baltimore, Maryland. (Led study; delivered conference presentation.)

43. Parrish, C., S. White, and M. Aslaksen, 2010. New Developments in Lidar Shoreline Mapping and Full-Waveform Lidar at NOAA. *Proceedings of European Lidar Mapping Forum (ELMF)*, 30 Nov - 1 Dec, The Hague, The Netherlands. (Led research; delivered conference presentation.)

44. Parrish, C., and I. Jeong, 2010. Full-Waveform Lidar: Applications and Post-Processing Strategies. *Proceedings of ASPRS GeoTech*, 27-28 September, Fairfax, Virginia. (Led research; delivered conference presentation.)

45. Parrish, C.E., S.A. White, B.R. Calder, S. Pe'eri, and Y. Rzhanov, 2010. Modeling Uncertainty in Lidar-Derived NOAA Shoreline. The 11th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 25-28 May, Mobile, Alabama. (Conceived of idea for study; led research collaboration between NOAA and UNH CCOM-JHC; delivered conference presentation.)

46. Parrish, C.E., S.A. White, B.R. Calder, and S. Pe'eri, 2010. Stochastic Uncertainty Analysis for Lidar-Derived Shoreline and Comparison with New Experimental Results. AGU Ocean Sciences 2010 (poster session), 22-26 February, Portland, Oregon. (Coordinated collaborative research; delivered poster presentation.)

47. Wijekoon, N., C. Parrish, and G. Scott, 2009. Analysis of Lidar Leaf Penetration Indices for Selected Plant Species in a Coastal Marsh and Correlation with Terrain Elevation Accuracy. American Society of Photogrammetry and Remote Sensing (ASPRS) Annual

Conference (poster session), 9-13 March, Baltimore, Maryland. (Developed data analysis techniques.)

48. Parrish, C., J. Sellars, S. White, C. Bachmann, M. Montes, and R. Fusina, 2008. Shoreline Mapping with Lidar and HSI-Derived Bathymetry, ASPRS GeoTech Conference, 7-8 October, Silver Spring, Maryland. (Led study; delivered conference presentation.)

49. Parrish, C., 2008. Improved Lidar Shoreline Mapping Using Spectrally-Derived Shallow-Water Bathymetry. The 9th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 17-18 June, San Francisco, California. (Led study; delivered conference presentation.)

50. Parrish, C., 2008. New Approach to Autoextraction and Attribution of Airport Obstructions from LIDAR Data. Transportation Research Board (TRB) 87th Annual Meeting, 13-17 January, Washington, D.C. (Led study, including data acquisition, processing, and analysis; delivered presentation.)

51. Parrish, C., 2007. Vertical Object Identification in Full-Waveform Topographic Lidar Data. The 8th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 23-24 May, Seattle, Washington. (Conducted research as part of PhD dissertation research; delivered conference presentation.)

52. Parrish, C., 2007. Imaging in Various Regions of the EM Spectrum for Mapping the National Shoreline. ASPRS GeoTech, 3-4 April, Silver Spring, Maryland. (Led study; delivered conference presentation.)

53. Parrish, C.E., and F.L. Scarpace, 2007. Detection of Vertical Objects in Full-Waveform Lidar Data Using a 3D Wavelet-Based Approach. *Proceedings of the American Society for Photogrammetry and Remote Sensing (ASPRS) Annual Conference*, 7-11 May, Tampa, Florida. (Conducted study during PhD research; delivered conference presentation.)

54. Sault, M., C. Parrish, S. White, J. Sellars, and J. Woolard, 2005. A Sensor Fusion Approach to Coastal Mapping. *Proceedings of the 14th Biennial Coastal Zone Conference*, 17-21 July, New Orleans, Louisiana. (Led NOAA airborne and field data acquisition for project.)

55. White, S., M. Sault, C. Parrish, J. Woolard, and J. Sellars, 2005. A Multiple Sensor Approach to Shoreline Mapping. *Earth Observation Magazine (EOM)*, 14(5). (Served as lead investigator of project; supervised field campaign.)

56. Parrish, C.E., M. Sault, S.A. White, J. Sellars, 2005. Empirical Analysis of Aerial Camera Filters for Shoreline Mapping. *Proceedings of the American Society for*

Photogrammetry and Remote Sensing (ASPRS) Annual Conference, 7-11 March, Baltimore, Maryland. (Led study; delivered conference presentation.)

57. Parrish, C., 2004. Data Fusion – Hyperspectral, Topo Lidar and High-Resolution Imagery. The 5th Annual Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), 9-10 June, St. Petersburg, Florida. (Served as NOAA lead researcher on project; delivered conference presentation)

58. Parrish, C., J. Woolard, B. Kearse, and N. Case, 2004. Airborne LIDAR Technology for Airspace Obstruction Mapping, *Earth Observation Magazine (EOM)*, 13(4). (Served as NOAA research lead on study and as lead author of paper.)

59. Parrish, C., 2004. Using Lidar in Obstruction Chart Surveys. 83rd Transportation Research Board (TRB) Annual Meeting, 11-15 January, Washington, DC. (Led research; delivered conference presentation.)

60. Parrish, C., 2003. Dual LIDAR Application and Evaluation. LIDAR Application Refinements Session, ASPRS GeoTech, 7-8 October, Silver Spring, Maryland. (Served as NOAA research project lead; delivered conference presentation.)

61. Anderson, F., G. Tuell, and C. Parrish, 2002. Application of LIDAR for Airport Mapping and Obstacle Detection. The 3rd International LIDAR Workshop: Mapping Geo-Surficial Processes Using Laser Altimetry, 7-9 October, Columbus, Ohio. (Conducted field and airborne data acquisition as part of my MS thesis research.)

62. Kearse, W.B., C. Parrish, J. Schiefele, A. Friedrich, and W. Kubbat, 2001. RTCA Special Committee 193/EUROCAE Working Group 44 Airport and Terrain Database Acquisition for Aviation Applications. *Proceedings of the 54th Annual International Air Safety Seminar (IASS)*, 5-8 November, Athens, Greece. (Developed and tested new, automated procedures for analyzing obstructing terrain and objects around airfields.)

C2. Professional Meetings, Symposia, and Conferences

C2.1. Presentations to Professional Groups (includes presentations of papers cited earlier)

- Contributed Talk, NASA Melting Ice, Rising Sea Level Focus Session: Monitoring and Forecasting the Coastal and Marine Environment, November 2016
- Contributed talk, ORURISA UAS Symposium by the Sea, "UAS for Structural Inspections and OregonView STEM Education Initiatives," September 2016
- Contributed talk, Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), "Advances in Seafloor Mapping with New Spaceborne and Airborne Lidar Systems," July 2016
- Contributed talk, OneNOAA Science Seminars, NOAA National Ocean Service, "New Techniques in Bathymetric Mapping and Coastal Change Analysis: from UAVs to Satellites," July, 2016

- Contributed talk, Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), “Topobathymetric Lidar Waveform Features for Habitat Mapping and Hurricane Sandy Response,” June 2015
- Contributed talk, European Lidar Mapping Forum, “Benthic Habitat Mapping in Barnegat Bay with Topographic-Bathymetric Lidar Waveform Features,” December 2014
- Keynote address, ASPRS Columbia River & Puget Sound Regions, 17th Annual Technical Exchange, “Lidar: Trends, Opportunities and Challenges in a Rapidly-Evolving Field,” November 2014
- Contributed talk, Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), “Enhanced Coastal Mapping using Lidar Waveform Features,” June 2014
- Contributed talk, University of New Hampshire: Arctic Science Forum: Science in Support of Hydrography in the Arctic, “Satellite Derived Bathymetry over the North Slope of Alaska using multispectral imagery,” January 2014
- Contributed talk, Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), “Lidar Waveform Shape Metrics for Salt Marsh Mapping,” August 2013
- Contributed talk, American Society of Photogrammetry and Remote Sensing (ASPRS) Annual Conference, “Lidar Waveform: A Practical Perspective,” March 2013
- Contributed talk, European LiDAR Mapping Forum (ELMF), “Topographic-Bathymetric LIDAR Evaluation for Integrated Ocean and Coastal Mapping,” December 2012
- Invited talk, American Geophysical Union (AGU) Fall Meeting, “Lidar Wavelength Considerations and Radiometric Performance Analysis for Coastal Applications,” December 2011
- Contributed talk, Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), “New Developments in Lidar Waveform Processing and Radiometric Performance Analysis,” June 2011
- Contributed talk, European Lidar Mapping Forum, “New Developments in Lidar Shoreline Mapping and Full-Waveform Lidar at NOAA,” December 2010
- Contributed talk, ASPRS GeoTech, Full-Waveform Lidar: Applications and Post-Processing Strategies, September 2010
- Contributed talk, OSA Optical Remote Sensing of the Environment (ORS), “New Approaches for Evaluating Lidar-Derived Shoreline,” June 2010
- Contributed talk, Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), “Modeling Uncertainty in Lidar-Derived NOAA Shoreline,” May 2010
- Contributed talk, ASPRS GeoTech, “Shoreline Mapping with Lidar and HSI-Derived Bathymetry,” October 2008
- Contributed talk, Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), “Improved Lidar Shoreline Mapping Using Spectrally-Derived Shallow-Water Bathymetry,” June 2008

- Contributed talk, Transportation Research Board (TRB) Annual Meeting, "New Approach to Autoextraction and Attribution of Airport Obstructions from LIDAR Data," January 2008
- Contributed talk, IEEE International Geoscience and Remote Sensing Symposium, "Exploiting Full-Waveform Lidar Data and Multiresolution Wavelet Analysis for Vertical Object Detection and Recognition," July 2007
- Contributed talk, Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), Vertical Object Identification in Full-Waveform Topographic Lidar Data, May 2007
- Contributed talk, ASPRS GeoTech, "Imaging in Various Regions of the EM Spectrum for Mapping the National Shoreline," April 2007
- Contributed talk, American Society for Photogrammetry and Remote Sensing (ASPRS) Annual Conference, "Detection of Vertical Objects in Full-Waveform Lidar Data Using a 3D Wavelet-Based Approach," May 2007
- Contributed talk, American Society for Photogrammetry and Remote Sensing (ASPRS) Annual Conference, "Empirical Analysis of Aerial Camera Filters for Shoreline Mapping," March 2005
- Contributed talk, Coastal Mapping & Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), "Data Fusion – Hyperspectral, Topo Lidar and High-Resolution Imagery," June 2004
- Contributed talk, Transportation Research Board (TRB) Annual Meeting, "Using Lidar in Obstruction Chart Surveys," January 2004
- Contributed talk, ASPRS GeoTech, "Dual LIDAR Application and Evaluation," October 2003.

C2.2. Participation at Invitational Workshops

- Interagency Working Group on Ocean and Coastal Mapping, IWG-OCM Workshop, October 2012
- NOAA IOCM Coordination Team Workshop, September 2012
- NOAA IOCM Workshop, March 2009
- Interagency Working Group on Ocean and Coastal Mapping, IWG-OCM Workshop, September 2007

C3. Grant and Contract Support

Covers grants/contracts on which I served as PI or coPI only, including those funded through other institutions. "My share" indicates the amount of funding, if any, over which I had control.

Agency & Dates	*PI (and coPIs)*	*Title*	*Total Budget*	*My Share*
PacTrans Region 10 University Transportation Center (9/17-9/19)	C. Parrish (PI) , S. Sorour (Co-PI), A. Abdel-Rahim (Co-PI), and D. Hurwitz (Co-PI)	An Airborne Lidar Scanning and Deep Learning System for Real-time Event Extraction and	$180,000	$80,000

		Control Policies in Urban Transportation Networks		
NOAA (UNH pass-through), 1/17-12/20	C. Parrish (PI)	Total Propagated Uncertainty Analysis for Topographic-Bathymetric Lidar	$338,162	$338,162
NOAA 10/16-9/18	C. Parrish (PI)	Seafloor Reflectance Mapping for the U.S. Virgin Islands (2017-2018 sub-project: Optimizing UAS Imagery Acquisition and Processing for Shallow Bathymetric Mapping)	$96,682	$96,682
ODOT 9/16-8/17	Y. Zhang (PI), and C. Parrish (Co-PI)	Rumble Strip Patterns	$92,577	$30,000 (estimate)
DOE/Bonneville Power Administration 9/16-8/19	R. Albertani (PI), C. Parrish, J. Cotilla-Sanchez, and Y. Turkan	Unmanned Aircraft Systems Power Equipment Inspections: Optimizing Workflows and Automation Tools	$562,252 (Note: project was canceled by sponsor in 2017)	$84,300 (estimate) (Note: project was canceled by sponsor in 2017)
ODOT 7/16-6/18	M. Olsen (PI), and C. Parrish (Co-PI)	Lidar for Maintenance of Pavement Reflective Markings and Retro-Reflective Signs	$180,000	$70,000 (estimate)
ODOT 10/15-1/18	D. Gillins (PI, 2015-2016), and	Eyes in the Sky: Bridge Inspections with	$180,000	$80,993

	C. Parrish (PI, 2016-2018)	Unmanned Aerial Vehicles		
Parsons Brinckerhoff Inc. (FHWA) 10/15-4/17	M. Olsen (PI), C. Parrish, and D. Gillins	Effective Use of Geospatial Tools in Highway Construction	$65,314	$20,000
NOAA 10/15-9/17 (selected in 2 funding cycles)	D. Gillins (PI), C. Parrish, and M. Olsen	Towards Optimizing the Determination of Accurate Heights using GNSS	$200,493	$37,500
NOAA 10/15-9/18	S. Dundas (PI), D. Lewis, C. Parrish, S. Hacker, P. Ruggiero, D. Kling, D. Cox	Valuing Ecosystem Services	$1,300,000	$150,000 (estimate)
AmericaView (USGS) 8/15-6/17 (selected in 2 funding cycles)	C. Parrish (PI)	OregonView	$38,500	$38,500
NOAA 7/15-9/16	C. Parrish (PI)	Seafloor Reflectance Mapping from EAARL-B Topobathymetric Lidar Data in the U.S. Virgin Islands	$27,765	$27,765
NASA 7/15-7/18	C. Parrish (PI), and C. Glennie	ICESat-2 ATLAS Algorithm Development in Support of Coastal Geomorphology and Coastal Zone Management	$445,677	$270,476
University of Washington (PacTrans) 1/15-12/15	D. Gillins (PI), and C. Parrish	Cost-Effective Bridge Safety Inspection using Unmanned	$39,785	$19,892

		Aerial Vehicles (UAVs)		
University of New Hampshire (NOAA) 10/14-9/15	C. Parrish (PI)	Super Storm Sandy Lidar Waveform Analysis	$21,642	$21,642
USGS 10/12-10/14	C. Parrish (PI)	EAARL-B Lidar Validation, Calibration, and Algorithm Development	$25,000	$25,000 (as NOAA NGS budget)
National Research Council (NRC), Transportation Research Board (TRB) Airport Cooperative Research Program 10/07-10/09	W. Uddin (PI), C.Parrish	Light Detection and Ranging (LIDAR) Deployment for Airport Obstruction Surveys	$350,000	$30,000 (as NOAA NGS budget)
		Totals	$4,143,849	$1,430,912

* Note: all projects funded through the NOAA-OSU Cooperative Institute for Marine Resources Studies (CIMRS) list Dr. Michael Banks, CIMRS Director, as Lead PI on the funding paperwork. Here, NOAA CIMRS project PI and coPI roles, are listed based on the actual project roles and responsibilities.

C3.1. Donations

None

C3.2. Proposals Currently under Review

None

C4. Patents Filed and In Process

None

C5. Other Scholarship and Creative Activities

I am a member of an interdisciplinary project team planning to submit two research proposals related to Klamath Basin dam removal and water quality mapping and monitoring in early 2017: one to USGS WRRI and the second to Oregon Sea Grant.

My students and I are currently preparing four journal papers. The next one scheduled to be submitted (target date: March 3, 2017) is a paper with graduate student, Richard Slocum, on

simulated imagery rendering workflow for UAS based photogrammetric 3D reconstruction accuracy assessments.

D. Service

D1. University Service

- Chair, Graduate Committee, Oregon State University, CCE, 2016 - present
- Robert E. Malouf Marine Studies Scholarship Review Committee, Oregon Sea Grant College Program, 2016.
- Science Advisory Council, Oregon State University, Cooperative Institute for Marine Resources Studies (CIMRS), 2015 - present
- Graduate Recruiting Committee, Oregon State University, CCE, 2014 - 2016
- Faculty Search Committee, Oregon State University, CEOAS, Assistant Professor of Geospatial Analytics and Assistant/Associate Professor of Geospatial Intelligence and Planning (both in support of Provost's Initiative in Marine Studies), 2014-2015
- School of Civil and Construction Engineering, Undergraduate Committee, 2015 - 2016

D2. Service to the Profession

D2.1. Journal Editorships

- Associate Editor, *Marine Geodesy*, 2009 - 2015
    - Impact Factor of 1.31 (Thomson Reuters, 2014 Journal Citation Reports)
- Co-Guest Editor, Special Issue of *Journal of Coastal Research* on Advances in Topobathymetric Mapping, Models, and Applications, 2014 - 2015

D2.2. Conference and Workshop Organization

- Surveying and Geomatics Educators Society (SaGES) OSU Conference Organizing Committee, 2017
- Conference Chair, ASPRS GeoTech 2009
- Host, Coastal Mapping and Charting Workshop of the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTC) 2015, LaSells Stewart Center, OSU, 2015

D2.3. Conference Program Committees

- Program Chair, Optical Society of America (OSA), Optical Remote Sensing of the Environment, 2012
- Program Committee, ASPRS GeoTech 2010
- Program Chair, Optical Society of America (OSA), Optical Remote Sensing of the Environment, 2010

D2.4. Reviewing

- Journals:
    - *Journal of Waterway, Port, Coastal, and Ocean Engineering*, 2018
    - *Remote Sensing of Environment*, 2017
    - *International Journal of Remote Sensing*, 2012
    - *Journal of Oceanic Engineering*, 2008
    - *Journal of Surveying Engineering*, 2008, 2011, 2014, 2015, and 2018
    - *Optics and Lasers in Engineering*, 2009
    - *Journal of Coastal Research (JCR)*, 2010, 2011, and 2015
    - *Transportation Research Record* and Transportation Research Board (TRB) Annual Meeting proceedings, 2010
    - *Transactions on Geoscience and Remote Sensing*, 2010, 2012, 2014, 2015, and 2016
    - *Remote Sensing*, 2015, 2016, and 2017
    - *Surveying and Land Information Science (SaLIS)*, 2014, 2016, and 2017
    - *Geoscience and Remote Sensing Letters*, 2013
    - *Photogrammetric Engineering & Remote Sensing (PE&RS)*, 2011, 2012, 2015, and 2016
    - *Applied Optics*, 2014

- Grants:
    - National Science Foundation (NSF), Geography and Spatial Sciences (GSS) Program, 2017
    - National Academies of Sciences, Engineering, and Medicine, Gulf Research Program, 2017
    - NASA ROSES, 2014
    - NSF 2013
    - University of Puerto Rico Sea Grant College Program, 2011
    - Ohio Sea Grant College Program, 2011 and 2013
    - U.S. Army Corps of Engineers (USACE) Engineer Research and Development Center (ERDC) basic research (6.1) proposals, 2013 and 2016
    - AmericaView, 2016

D2.5. Other

- Director, OregonView, 2015 – present
    - StateView under the AmericaView Consortium, a nationwide partnership of remote sensing scientists who support applied remote sensing research, K-12 Grade and higher STEM education, workforce development, and technology transfer.
- Director, American Society for Photogrammetry & Remote Sensing (ASPRS) Lidar Division, 2014 - 2016
- Board of Directors - ASPRS Potomac Region, 2009 - 2012
    - President (2011); Immediate Past President (2012)
- American Geophysical Union, 2009 - Present
- IEEE and IEEE Geoscience and Remote Sensing Society (GRS), 2007 - Present
- Optical Society of America (OSA), 2009 – Present

Committee/Boards

- NASA ICESat-2 Algorithm Theoretical Basis Document (ATBD) External Review Panelist, 2015
- Chair, National Coastal Mapping Strategy (NCMS) Committee of the Interagency Working Group on Ocean and Coastal Mapping, 2014
- National Ocean Service (NOS) Coastal Science Board, 2013 - 2014
- National Geodetic Survey (NGS) Coastal Mapping Board, 2008 - 2014
- Interagency Lidar Steering Committee, 2011 - 2014

D3. Service to the Public

D3.1. Professionally Related

- **K-12 Outreach/Education:**
  - Developed bathymetric lidar demonstration and presented it to K-12 school groups at Know the Coast Day (2012) and at Ocean Discovery Day (2013) at UNH Marine Program Labs
  - Developed and taught K-12 Remote Sensing Workshop within OregonView. To date, this workshop has been given twice to Oregon middle school students: once in February, 2016 and once in May, 2016

D3.2. Other Public Service

E. Awards

E1. National and International Awards

Outstanding Reviewer Award, *Journal of Surveying Engineering*, 2017.

Sebastian Sizgoric Technical Achievement Award, presented by the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX), in recognition of exemplary contributions in the field of light detection and ranging (lidar) bathymetry and airborne coastal mapping and charting, 2014.

Talbert Abrams Award (Grand Award) for the peer-reviewed publication having the greatest merit by any or all of the recognized standards of originality, practical and theoretical value, clarity of exposition, and general interest, ASPRS, 2012.

ERDAS Award for best scientific paper in remote sensing (3rd Prize Award), ASPRS, 2012.

ASPRS John I. Davidson Award (2nd Prize) for best practical paper in peer-reviewed journal, ASPRS, 2006.

E2. State and Regional Awards

Potomac Region Member of the Year Award, ASPRS Potomac Region, 2011

E3. University or Community Awards

None

Thomas H. Miller
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A. EDUCATION AND EMPLOYMENT INFORMATION

1. Education

PhD, Cornell University, 1990.
Major: Civil Engineering

MEng, Cornell University, 1981.
Major: Civil Engineering

BS, Cornell University, 1980.
Major: Civil Engineering

2. Employment history

(2012 - Present) Adjunct Faculty Member, Department of Wood Science and Engineering.

(1996 - Present) Associate Professor, School of Civil and Construction Engineering, Oregon State University.

(2006 - 2015) Assistant Head for Civil Engineering, School of Civil and Construction Engineering, Oregon State University.

(2004 - 2008) Structural Engineer, CH2M-Hill.

(2001 - 2002) Structural Engineer, CH2M-Hill.

(1989 - 1996) Assistant Professor, Department of Civil, Construction and Environmental Engineering, Oregon State University.

(1986 - 1989) Civil Engineering Officer, Civil Engineering Squadron, 174th Tactical Fighter Wing, New York Air National Guard, Hancock Field.

(1983 - 1985) Research Structural Engineer and Chief of Structural Response Section, Civil Engineering Research Division, Air Force Weapons Laboratory, Kirtland Air Force Base.

(1981 - 1983) Survivability Initiatives Staff Officer, HQ United States Air Forces in Europe, Ramstein Air Base.

B. TEACHING, ADVISING AND OTHER ASSIGNMENTS

Brief teaching philosophy

1.

a. Curriculum Development

Credit

1997, CE 533, Structural Stability, 3.0 credit hours

1994, CEM 381, Structures I, 3.0 credit hours

1993, CE 589, Design for Natural Hazards, 3.0 credit hours

b. Graduate and Undergraduate Students and Postdoctoral Trainees

Graduate students advised

Beairsto, Cody. MS, Civil Engineering/Wood Science, MS Thesis: Cross-Laminated Timber Full-Scale Diaphragm Testing.

Fitzgerald, Dillon. Civil Engineering/Wood Science, PhD: Cross-Laminated Timber Connections - Testing and Modeling.

Hollenbeck, Sean. MS, Civil Engineering/Wood Science, MS Thesis: Cross-Laminated Timber Connection Modeling.

Holman, Justin. MS, Civil Engineering/Wood Science, MS Thesis: Modeling of Load Paths in a Realistic Light-Frame Wood House.

Sullivan, Kyle. MS (2017), Civil Engineering/Wood Science, MS Thesis: Behavior of Cross-Laminated Timber Diaphragm Panel-to-Panel Connections with Self-Tapping Screws.

Huynh, Thanh. MS (2016), Civil Engineering/Wood Science, MS Thesis: Lateral Load Path Analysis: Practical Methods for Light-Frame Modular Structures.

Milaj, Kristina. MS (2016), Civil Engineering/Wood Science, MS Thesis: Assessment of Environmental Impacts of Wood Substitution in Commercial Construction.

Walker, Kristopher. MS (2015), Civil Engineering/Wood Science, MS Thesis: Use of Virtual Visual Sensors in the Determination of Natural Frequencies of Timber Structures.

Sundberg, Benjamin. BA/BS (2014), Civil Engineering/Wood Science, Honors College Thesis: The Philosophies of Leadership, Management and Authority - Why we so often get it wrong.

Alldritt, Kenton. MS (2013), Civil Engineering/Wood Science, MS Thesis: Designing a Strand Orientation Pattern for Improved Shear Properties of Oriented Strand Board.

Kirkham, William. PhD (2013), Civil Engineering/Wood Science, PhD: Examination of Lateral Stiffness and Strength of Pitched Residential Roof Diaphragms with Implications for Seismic Design.

Malone, Brian. MS (2013), Civil Engineering/Wood Science, MS Thesis: Light-Frame versus Timber Frame: A Study in Quantifying the Differences.

Stache, Stephanie. BA/BS (2013), Civil Engineering, FEM Analysis of Concrete Canoe.

Lucksiri, Kraisorn. PhD (2012), Civil Engineering/Wood Science, PhD: Development of Rapid Visual Screening Tool for Seismic Evaluation of Wood Frame Dwellings.

Pfretzschner, Kathryn. MS (2012), Civil Engineering/Wood Science, MS Thesis: Practical Modeling of Load Paths in a Realistic, Light-Frame Wood House.

Polocoser, Tiberiu. MS (2012), Civil Engineering/Wood Science, MS Thesis: Evaluation of Remediation Techniques for Circular Holes in the Webs of Wood I-Joists.

Voigt, Levi. BA/BS (2011), Civil Engineering, Honors College Thesis: The Location of the Neutral Axis in Wood Beams with Knots.

Ervin, Jacob. MS (2010), Civil Engineering, MS Project: Experimentally-Based and Direct Strength Method Predictions of Limiting Heights for Nonload-Bearing, Gypsum-Sheathed, Cold-Formed Steel Wall Assemblies.

Coe, Jennifer. BA/BS (2009), Civil Engineering, Honors College Thesis: Aesthetics in Structural Design.

Lewis, Michael. MS (2008), Civil Engineering/Wood Science, MS Thesis: Performance of Wood Frame Wall with Thin Shell ECC Shear Panel.

Vadodaria, Jignesh. MS (2008), Civil Engineering, MS Project: Gypsum-Sheathed Cold-Formed Steel Wall Panels Subjected to Uniformly Distributed Lateral Loads.

Holm, Sarah. BA/BS (2007), Civil Engineering, Honors College Thesis: Location of Neutral Axis in Wood Beams.

Wallace, Nathan. MS (2007), Civil Engineering, MS project: Rapid Visual Screening of Public Facilities in Oregon's Western Counties.

White, Kevin. MS (2005), Civil Engineering/Wood Science, MS Thesis: The Performance of Wood Frame Shear Walls under Earthquake Loads.

Baxter, Preston. MS (2004), Civil Engineering/Wood Science, MS Thesis: Comparison of Screening, Evaluation, Rehabilitation and Design Provisions for Wood-Framed Structures.

Seaders, Peter. MS (2004), Civil Engineering/Wood Science, MS Thesis: Performance of Partially and Fully Anchored Wood Frame Shear Walls under Monotonic, Cyclic and Earthquake Loads.

Chansawat, Kasidit. PhD (2003), Civil Engineering, PhD: Nonlinear Finite Element Analysis of Reinforced Concrete Structures Strengthened with FRP Laminates.

Donahue, Matthew. MS (2003), Civil Engineering, MS Project: Comparison of 3D Non-Linear Modeling to Recorded Seismic Response for a Pile Supported Wharf.

Eiden, Claudia. MS (2003), Civil Engineering/Wood Science, MS Thesis: Nonlinear Dynamic Analysis of Heavy Timber Frame Structures including Passive Damping Devices.

Scott, Randall. MS (2003), Civil Engineering/Wood Science, MS Thesis: Lateral Force Resisting Pathways in Log Structures.

Choi, Hoon. MS (2002), Civil Engineering, MS Project: Testing of Gypsum-Sheathed Cold-Formed Steel Wall Stud Panels.

Langlois, Jeffrey. MS (2002), Civil Engineering/Wood Science, MS Thesis: Effects of Reference Displacement and Damage Accumulation in Wood Shear Walls Subjected to the CUREE Protocol.

Lucksiri, Kraisorn. MS (2002), Civil Engineering, MS Project: Limiting Heights for Gypsum-Sheathed, Cold-Formed Steel Wall Studs.

Seamanontaprinya, Dharadon. MS (2001), Civil Engineering, MS Project: Static and Fatigue Loading Effects on FRP Strengthened Beams.

Shonkwiler, Brenda. BA/BS (2001), Civil Engineering, Honors College Thesis: Small-Scale Shake Table Experiments and Comparison to Analytical Predictions.

Dung, Da-ren. MS (2000), Civil Engineering/Wood Science, MS Thesis: A Practical Method to Analyze the System Effects of a Metal-Plate-Connected Wood Truss Assembly.

Limkatanyoo, Praneung. MS (2000), Civil Engineering, MS Project: Integrated Visualization of Structural Behavior.

MacKenzie, Troy. MS (2000), Civil Engineering, MS Project: Local Buckling of Cold-Formed Steel Stub Columns with Various Shapes and Sizes of Web Perforations.

McCurry, David. MS (2000), Civil Engineering, MS Thesis: Strengthening Reinforced Concrete Beams using FRP Composite Fabrics: Full-Scale Experimental Studies and Design Concept Verification.

Potisuk, Tanarat. MS (2000), Civil Engineering, MS Thesis: Finite Element Modeling of Reinforced Concrete Beams Externally Strengthened by FRP Composites.

Lee, Young-ki. PhD (1999), Civil Engineering, PhD: Behavior of Gypsum-Sheathed Cold-Formed Steel Wall Stud Panels.

Chansawat, Kasidit. MS (1998), Civil Engineering, MS Project: Dynamic Behavior and Parametric Studies of Cab;e-Stayed Bridges Subjected to Earthquake Excitations.

Charoenmak, Nanthaphong. MS (1998), Civil Engineering, MS Project: Finite Element Modeling of Cold-Formed Steel Stub Columns with Various Shapes and Sizes of Web Perforations.

Freilinger, Shawn. MS (1998), Civil Engineering/Wood Science, MS Thesis: Short-Term Duration of Load and Cyclic Performance of Metal-Plate-Connected Truss Joints.

Redlinger, Mark. MS (1998), Civil Engineering/Wood Science, MS Thesis: Behavior of Metal-Plate-Connected Wood Truss Joints Under Wind and Impact Loads.

Tornberg, Edward. MS (1998), Civil Engineering, MS Project: Vulnerability of Unanchored Manufactured Homes to Wind and Seismic Forces in Oregon.

Trautwein, Steve. MS (1998), Civil Engineering, MS Thesis: Development of a Seismic Rehabilitation Master Plan for the Oregon State University Campus.

Waltz, Miles. MS (1998), Civil Engineering/Wood Science, MS Thesis: Discrete Compression Web Bracing Design for Light-Frame Wood Trusses.

Heck, Leanne. MS (1997), Civil Engineering/Wood Science, MS Thesis: Evaluation of the Torsion Test for Determining the Shear Strength of Structural Lumber.

Kirkham, William. MS (1997), Civil Engineering, MS Project: Examination of and Recommendations for Changes in AISC LRFD Shear Lag Analysis and Design Provisions.

Kittel, Mark. MS (1997), Civil Engineering/Wood Science, MS Thesis: Small-Scale Modeling of Metal-Plate-Connected Wood Joints.

Li, Zhong. MS (1997), Civil Engineering/Wood Science, MS Thesis: A Practical Approach to Model the Behavior of a Metal-Plate-Connected Wood Truss System.

Vatovec, Milan. PhD (1996), Civil Engineering/Wood Science, PhD: Analytical and Experimental Investigation of the Behavior of Metal-Plate-Connected Wood Truss Joints.

Kasal, Bohumil. MS (1995), Civil Engineering, MS Thesis: In-Plane Stability of Truss Chords with Application to Wood Trusses.

Kent, Scott. MS (1995), MS Thesis: Dynamic Behavior of Metal-Plate-Connected Wood Truss Joints.

Lee, Young-ki. MS (1995), Civil Engineering, MS Project: Analysis of Gypsum-Sheathed Cold-Formed Steel Wall Stud Panels.

Sucharitsanchai, Kanok. MS (1995), Civil Engineering, MS Project: Seismic Analysis, Conceptual Design and Cost Estimate for Rehabilitation of URM Buildings on the OSU Campus.

Weerakul, Kris. MS (1995), Civil Engineering, MS Project: Nonlinear Finite Element Analysis of Foam-Core, Stressed-Skin, Sandwich Panel Connections.

Ch'ng, Guan. MS (1993), Civil Engineering, MS Project: Seismic Risk Assessment of Campus Buildings at Oregon State University.

Ferguson, John. MS (1993), Civil Engineering, MS Project: A Seismic Resistance Evaluation of Campus Buildings at Oregon State University.

Tan, Hi-kong. MS (1993), Civil Engineering, MS Project: Knowledge-Based Expert System for Steel Bridge Superstructure Design.

C. SCHOLARSHIP AND CREATIVE ACTIVITY

1. Publications

a. Peer-reviewed

i. Refereed publications

Walker, K., Miller, T. H., Gupta, R. (2018). Development of Virtual Visual Sensors for Wood Structural Health Monitoring. *Journal of Testing and Evaluation/ASTM, 46*(1), 1-9.

Huynh, T., Gupta, R., Miller, T. H., Lewis, M. Lateral Load Path Analysis: Practical Methods for Light-Frame Modular Structures. *Journal of Architectural Engineering/ASCE*.

Sullivan, K.*, Miller, T. H., Gupta, R. Behavior of Cross-Laminated Timber Diaphragm Panel Connections with Self-Tapping Screws. *Engineering Structures*.

Milaj, K., Sinha, A., Miller, T. H., Tokarczyk, J. A. (2017). Environmental Utility of Wood Substitution in Commercial Buildings using Life-Cycle Analysis. *Wood and Fiber Science, 49*(3), 338-358.

Kirkham, W. J., Miller, T. H., Gupta, R. (2016). Practical Analysis for Horizontal Diaphragm Design of Wood-Frame, Single-Family Dwellings. *Practice Periodical on Structural Design and Construction/ASCE, 21*(1).

Alldritt, K., Sinha, A., Miller, T. H. (2014). Designing a Strand Orientation Pattern for Improved Shear Properties of Oriented Strand Board. *Journal of Materials in Civil Engineering, 26*(7), 1-9.

Kirkham, W. J., Gupta, R., Miller, T. H. (2014). Effects of Roof Pitch and Gypsum Ceilings on the Behavior of Wood Roof Diaphragms. *Journal of Performance of Constructed Facilities, 29*(1).

Malone, B. P., Gupta, R., Miller, T. H., Puettmann, M. E. (2014). Environmental Impact Assessment of Light-Frame and Timber Frame Buildings. *Journal of Green Building, 9*(2), 102-123.

Malone, B. P., Miller, T. H., Gupta, R. (2014). Gravity and Wind Load Path Analysis of a Light-Frame and a Traditional Timber Frame Building. *Journal of Architectural Engineering/ASCE, 20*(4), 1-10.

Pfretzschner, K., Gupta, R., Miller, T. H. (2014). Practical Modeling for Load Paths in a Realistic, Light-Frame Wood House. *Journal of Performance of Constructed Facilities, 28*(3), 430-439.

Kirkham, W. J., Gupta, R., Miller, T. H. (2014). State-of-the-Art: Seismic Behavior of Wood-Frame Residential Structures. *Journal of Structural Engineering/ASCE, 140*(4).

Polocoser, T., Miller, T. H., Gupta, R. (2013). Evaluation of Remediation Techniques for Circular Holes in the Webs of Wood I-Joists. *Journal of Materials in Civil Engineering, 25*(12), 1898-1909.

Lucksiri, K., Miller, T. H., Gupta, R., Pei, S., van de Lindt, J. W. (2013). Implementation of Plan Irregularity Rapid Visual Screening for Wood-Frame, Single-Family Dwellings. *Journal of Earthquake Engineering, 17*(4), 497-516.

Gupta, R., Miller, T. H., Gupta, R. (2013). Gravity and wind load path analysis of a light-frame and a traditional timber frame building.

Lucksiri, K., Miller, T. H., Gupta, R., Pei, S., van de Lindt, J. W. (2012). A Procedure for Rapid Visual Screening for Seismic Safety of Wood-Frame Dwellings with Plan Irregularity. *Engineering Structure, 36*(3), 351-359.

Lucksiri, K., Miller, T. H., Gupta, R., Pei, S., van de Lindt, J. W. (2012). Effect of Plan Configuration on Seismic Performance of Single-Story, Wood-Frame Buildings. *Natural Hazards Review, 13*(1), 24-33.

Sinha, A., Voigt, L., Miller, T. H., Gupta, R. (2012). Neutral Axis of Full-Size Lumber with Multiple Knots. *Advances in Civil Engineering Materials, 1*(1), 1-16.

Potsiuk, T., Higgins, C. C., Miller, T. H., Yim, S. C.-S. (2011). Finite Element Analysis of Reinforced Concrete Beams with Corrosion Subjected to Shear. *Advances in Civil Engineering, 2011*, 14.

White, K. B.D., Miller, T. H., Gupta, R. (2010). Effects of Dead Load and Multiple Earthquake Loadings on Seismic Performance of Wood-Frame Shear Walls. *Forest Products Journal, 60*(2), 150-156.

Betts, S. C., Miller, T. H., Gupta, R. (2010). Location of the Neutral Axis in Wood Beams - A Preliminary Study. *Wood Material Science and Engineering, 5*(3), 173-180.

Chansawat, K., Potisuk, T., Miller, T. H., Yim, S. C.-S., Kachlakev, D. I. (2009). FE Models of GFRP and CFRP Strengthening of Reinforced Concrete Beams. *Advances in Civil Engineering, 2009*, 13.

Seaders, P., Gupta, R., Miller, T. H. (2009). Monotonic and Cyclic Load Testing of Partially and Fully Anchored Wood-Frame Shear Walls. *Wood and Fiber Science, 41*(2), 145-156.

Seaders, P., Miller, T. H., Gupta, R. (2009). Performance of Partially and Fully Anchored Wood-Frame Shear Walls under Earthquake Loads. *Forest Products Journal, 59*(5), 42-52.

Lewis, M. C., Gupta, R., Miller, T. H. (2009). Performance of Wood Frame Wall with Thin ECC Shear Panel. *Practice Periodical on Structural Design and Construction/ASCE, 14*(3), 123-129.

White, K. B., Miller, T. H., Gupta, R. (2009). Seismic Performance Testing of Partially and Fully Anchored Wood-Frame Shear Walls. *Wood and Fiber Science, 41*(4), 396-413.

Wallace, N., Miller, T. H. (2008). Seismic Screening of Public Facilities in Western Oregon Counties. *Practice Periodical on Structural Design and Construction/ASCE, 13*(4), 189-197.

Leichti, R. J., Kleemann, K., Miller, T. H. (2007). Boundary Condition Role in Tests of Wood Compression Webs. *Journal of Testing and Evaluation/ASTM, 35*(5), 539-543.

Baxter, P., Miller, T. H., Gupta, R. (2007). Seismic Screening, Evaluation, Rehabilitation and Design Provisions for Wood-Framed Structures. *Practice Periodical on Structural Design and Construction/ASCE, 12*(4), 200-209.

Chansawat, K., Yim, S. C.-S., Miller, T. H. (2006). Non-Linear Finite Element Analysis of an FRPStrengthened RC Bridge. *Bridge Engineering, 11*(1), 21-32.

Higgins, C. C., Daniels, T. K., Rosowsky, D. V., Miller, T. H., Yim, S. C.-S. (2005). Reliability-Based Assessment of Conventionally Reinforced Concrete Bridges for Shear. *Design of Structures - Transportation Research Board, Transportation Research Record, 1928*, 110-117.

Scott, R. J., Leichti, R. J., Miller, T. H. (2005). Finite Element Modeling of Log Wall Lateral Force Resistance. *Forest Products Journal, 55*(9), 48-54.

Donahue, M. J., Dickenson, S. E., Miller, T. H. (2005). Implications of the Observed Seismic Performance of a Pile Supported Wharf for Numerical Modeling. *Earthquake Spectra/EERI, 21*(3), 617-634.

Gupta, R., Miller, T. H., Kittel, M. R. (2005). Small-Scale Modeling of Metal-Plate-Connected Wood Truss Joints. *Journal of Testing and Evaluation/ASTM, 33*(3), 139-149.

Scott, R. J., Leichti, R. J., Miller, T. H. (2005). An Experimental Investigation of Foundation Anchorage Details and Base Shear Capacity for Log Buildings. *Forest Products Journal, 55*(4), 38-45.

Gupta, R., Miller, T. H., Freilinger, S. M.W. (2004). Short-term Cyclic Performance of Metal-Plate-Connected Wood Truss Joints. *Structural Engineering and Mechanics - An International Journal, 17*(5), 627-639.

Gupta, R., Miller, T. H., Redlinger, M. J. (2004). Behavior of Metal-Plate-Connected Wood Truss Joints under Wind and Impact Loads. *Forest Products Journal, 54*(3), 76-84.

Langlois, J. D., Gupta, R., Miller, T. H. (2004). Effects of Reference Displacement and Damage Accumulation in Wood Shear Walls. *Journal of Structural Engineering/ASCE, 130*(3), 470-479.

Gupta, R., Miller, T. H., Dung, D. (2004). Practical Solution to Wood Truss Assembly Design Problems. *Practice Periodical on Structural Design and Construction/ASCE, 9*(1), 54-60.

Gupta, R., Heck, L. R., Miller, T. H. (2002). Experimental Evaluation of the Torsion Test for Determining Shear Strength of Structural Lumber. *Journal of Testing and Evaluation/ASTM, 30*(4), 283-290.

Gupta, R., Heck, L. R., Miller, T. H. (2002). Finite-Element Analysis of the Stress Distribution in a Torsion Test of Full-Size, Structural Lumber. *Journal of Testing and Evaluation/ASTM, 30*(4), 291-302.

Lee, Y.-k., Miller, T. H. (2001). Axial Strength Determination for Gypsum-Sheathed, Cold-Formed Steel Wall Stud Composite Panels. *Journal of Structural Engineering/ASCE, 127*(6), 608-615.

Lee, Y.-k., Miller, T. H. (2001). Limiting Heights for Gypsum-Sheathed, Cold-Formed Steel Wall Studs. *Practice Periodical on Structural Design and Construction/ASCE, 6*(2), 83-89.

Kirkham, W. J., Miller, T. H. (2000). Examination of AISC LRFD Shear Lag Design Provisions. *Engineering Journal/AISC, 37*(3), 83-98.

Waltz Jr., M. E., McLain, T. E., Miller, T. H., Leichti, R. J. (2000). Discrete Bracing Analysis for Light-Frame Wood-Truss Compression Webs. *Journal of Structural Engineering/ASCE, 126*(9), 1086-1093.

Li, Z., Gupta, R., Miller, T. H. (1998). A Practical Approach to Modeling of Wood Truss Roof Assemblies. *Practice Periodical on Structural Design and Construction/ASCE, 3*(3), 119-124.

Vatovec, M., Miller, T. H., Gupta, R., Lewis, S. (1997). Modeling of Metal-Plate-Connected Wood Truss Joints: Part II - Application to Overall Truss Model. *Transactions of the ASAE, 40*(6), 1667-1675.

Magana, M. E., Volz, P., Miller, T. H. (1997). Non-linear Decentralized Control of a Flexible Cable-Stayed Beam Structure. *Journal of Vibration and Acoustics/ASME, 119*(4), 523-526.

Kent, S. M., Gupta, R., Miller, T. H. (1997). Dynamic Behavior of Metal-Plate-Connected Wood Truss Joints. *Journal of Structural Engineering/ASCE, 123*(8), 1037-1045.

Vatovec, M., Gupta, R., Miller, T. H. (1996). Modeling of Metal-Plate-Connected Wood Truss Joints. *Transactions of the ASAE, 39*(3), 1101-1111.

Vatovec, M., Gupta, R., Miller, T. H. (1996). Testing and Evaluation of Metal-Plate-Connected Wood Truss Joints. *Journal of Testing and Evaluation/ASTM, 24*(2), 63-72.

Kasal, B., Miller, T. H. (1995). Stress Design of Wood Beam-Columns Using Exact Second-Order Moments. *Forest Products Journal, 45*(7/8), 51-53.

Miller, T. H., Pekoz, T. (1994). Behavior of Gypsum-Sheathed Cold-Formed Steel Wall Studs. *Journal of Structural Engineering/ASCE, 120*(5), 1644-1650.

Miller, T. H., Pekoz, T. (1994). Load Eccentricity Effects on Cold-Formed Steel Lipped-Channel Columns. *Journal of Structural Engineering/ASCE, 120*(3), 805-823.

Miller, T. H., Pekoz, T. (1994). Unstiffened Strip Approach for Perforated Wall Studs. *Journal of Structural Engineering/ASCE, 120*(2), 410-421.

Miller, T. H., Pekoz, T. (1993). The Behavior of Cold-Formed Steel Wall Stud Assemblies. *Journal of Structural Engineering/ASCE, 119*(2), 641-651.

ii. Proceedings articles

Donahue, M. J., Dickenson, S. E., Miller, T. H., Yim, S. C.-S. (2004). *Comparison of 3D Non-Linear Modeling to Recorded Seismic Response for a Pile Supported Wharf*. Ports 2004 Conference.

Potisuk, T., Kachlakev, D. I., Miller, T. H., Yim, S. C.-S. (2001). *Experimental Verification of FE Models of FRP Strengthened RC Beams,"* (pp. 620-623). Proceedings of the Society for Experimental Mechanics Annual Conference on Experimental and Applied Mechanics.

Chansawat, K., Kachlakev, D. I., Miller, T. H., Yim, S. C.-S. (2001). *FE Modeling and Experimental Verification of an FRP Strengthened Bridge* (pp. 624-627). Proceedings of the Society for Experimental Mechanics Annual Conference on Experimental and Applied Mechanics.

Potisuk, T., Kachlakev, D. I., Miller, T. H., Yim, S. C.-S. (2001). *Effects of Shear Strengthening with GFRP on Reinforced Concrete Beam* (pp. 1759-1771). International Symposium of the Society for the Advancement of Material and Process Engineering.

Chansawat, K., Kachlakev, D. I., Miller, T. H., Yim, S. C.-S. (2001). *FEA of the Horsetail Creek Bridge Strengthened with FRP Laminates,"* (pp. 1772-1783). Proceedings of the 46th International Symposium of the Society for the Advancement of Material and Process Engineering.

b. Other Publications – Not peer reviewed

i. Proceedings articles

Sullivan, K., Miller, T. H., Gupta, R. (2016). *Behavior of Cross-Laminated Timber Diaphragm Panel Connections with Self-Tapping Screws* (pp. 8). 2016 World Conference on Timber Engineering.

Milaj, K., Sinha, A., Miller, T. H. (2016). *Assessment of Environmental Impacts of Wood Substitution in Commercial Construction*. 70th International Convention of the Forest Products Society.

Sullivan, K., Gupta, R., Miller, T. H. (2015). *CLT Diaphragm Panel-to-Panel Connections*. 58th International Convention, Society of Wood Science and Technology.

Huynh, T., Miller, T. H., Gupta, R. (2015). *Modular Structure: Wind Load Analysis*. 58th International Convention, Society of Wood Science and Technology.

Walker, K., Miller, T. H., Gupta, R. (2015). *Use of Virtual Visual Sensors in the Determination of Natural Frequencies of Timber Structures*. 58th International Convention, Society of Wood Science and Technology.

Kirkham, W. J., Miller, T. H., Gupta, R. (2014). *Practical Limits on Torsion in Woodframe Single Family Dwellings*. ASCE Structures Congress.

Malone, B. P., Gupta, R., Miller, T. H. (2013). *Timber Frame versus Light Frame: A Study in Quantifying the Differences between Wood Structural Systems through Life Cycle Assessment (LCA) and Structural Analysis Modeling*. Timber Frame Engineering Council Symposium.

Gupta, R., Pfretzschner, K., Miller, T. H., Prevatt, D., van de Lindt, J. W. (2012). *Practical Modeling of Load Paths in a Light-Frame Wood House* (pp. 33). Proceedings of First International Conference on Performance-Based and Life-Cycle Structural Engineering.

Frey, S., Miller, T. H. (2005). *Structural Engineering Instruction: From the Outside In* (pp. 8pp). Proceedings of the 2005 ASEE Annual Conference and Exposition.

Higgins, C. C., Daniels, T. K., Rosowsky, D., Miller, T. H., Yim, S. C.-S. (2005). *Assessment and Risk-Ranking of Conventionally Reinforced Concrete Bridges for Shear*. 84th Annual Meeting of the Transportation Research Board.

Eiden, C., Leichti, R., Miller, T. H., Clauson, M. (2004). *Dynamic Analysis of Heavy Timber Structures with Friction Dampers* (vol. 2, pp. 475-480). Proceedings of the 8th World Conference on Timber Engineering.

Seaders, P., Gupta, R., Miller, T. H. (2004). *Performance of Code-Prescribed Wood Shear Walls* (vol. 1, pp. 123-128). Proceedings of the 8th World Conference on Timber Engineering.

Gupta, R., Miller, T. H., Seaders, P., White, K., Clauson, M. (2004). *Seismic Performance of Wood Shear Walls*. Biographies and Abstracts, Forest Products Society 58th Annual Meeting.

Leichti, R. J., Tjahyadi, A., Bienhaus, A., Gupta, R., Miller, T. H., Duff, S. (2002). *Design and Behavior of Friction Dampers for Two-Dimensional Braced and Moment-Resisting Timber Frames* (pp. 267-274). Proceedings of the 7th World Conference on Timber Engineering.

Langlois, J. L., Gupta, R., Miller, T. H. (2002). *Reference Displacement Effects in Wood Shear Walls Subjected to the CUREE Protocol* (pp. 447-454). Proceedings of the 7th World Conference on Timber Engineering.

Dung, D., Gupta, R., Miller, T. H. (2000). *A Practical Method to Model the System Effects of a Metal-Plate-Connected Wood Truss Assembly*. ASAE Paper No. 004039, ASAE Annual International Meeting.

Lee, Y. K., Miller, T. H. (1999). *Nominal Axial Strength Evaluation for Wall-Braced Wall Stud Column* (pp. 189-192). Proceedings of the 1999 Conference sponsored by the Korean Society of Civil Engineers.

Redlinger, M., Gupta, R., Miller, T. H. (1999). *Performance of Metal-Plate-Connected Wood Truss Heel Joints Under Wind and Impact Loads*. Proceedings of the RILEM Symposium on Timber Engineering.

Waltz, M. E., McLain, T. E., Miller, T. H., Leichti, R. J. (1999). *Validating Procedures for Compression Web Bracing in Light Frame Wood Trusses*. Proceedings of the Pacific Timber Engineering Conference.

Kittel, M. R., Gupta, R., Miller, T. H. (1998). *Small-Scale Modeling of Metal-Plate-Connected Wood Truss Joints* (pp. 2). Proceedings of the World Conference on Timber Engineering.

Heck, L. R., Gupta, R., Miller, T. H. (1998). *The Shear Strength of Full-Scale Structural Lumber Using Torsion Tests* (pp. 8). Proceedings of the World Conference on Timber Engineering.

Kent, S. M., Gupta, R., Miller, T. H. (1997). *Earthquake Effects on Metal-Plate-Connected Wood Truss Joints* (pp. 92-100). Proceedings of ‘Earthquake Performance and Safety of Timber Structures', Forest Products Society.

Freilinger, S., Gupta, R., Miller, T. H. (1997). *Cyclic Performance of Wood Truss Joints* (vol. 2, pp. 939-943). Proceedings of ‘Building to Last: Structures Congress XV'/ASCE.

Li, Z., Gupta, R., Miller, T. H. (1996). *A Practical Approach to Model Wood Truss Roof Assemblies* (pp. 259-266). Proceedings of the International Wood Engineering Conference.

Kent, S. M., Gupta, R., Miller, T. H. (1996). *Dynamic Behavior of Metal-Plate-Connected Wood Truss Joints* (pp. 115-122). Proceedings of the International Wood Engineering Conference.

Freilinger, S., Gupta, R., Miller, T. H. (1996). *Dynamic Performance of Metal-Plate-Connected Wood Joints* (pp. 11). ASAE Paper No. 964114, American Society of Agricultural Engineers International Meeting.

Vatovec, M., Miller, T. H., Gupta, R. (1996). *Finite-Element Analysis of the Overall Behavior of a Metal-Plate-Connected Wood Scissors Truss* (pp. 19). ASAE Paper No. 964103, American Society of Agricultural Engineers International Meeting.

Kent, S., Gupta, R., Miller, T. H. (1995). *Dynamic Effects on Metal-Plate-Connected Wood Truss Joints* (pp. 17pp). ASAE Paper No. 954458, American Society of Agricultural Engineers International Meeting.

Vatovec, M., Gupta, R., Miller, T. H. (1995). *Finite Element Modeling of Metal-Plate-Connected Joints in Wood Trusses* (pp. 20). ASAE Paper No. 954586, American Society of Agricultural Engineers International Meeting.

Miller, A. M., Weerakul, K., Miller, T. H., Leichti, R. J. (1995). *Modeling a Light-Frame Structure Comprised of Foam-Core Stressed-Skin Panels* (pp. 6). Forest Products Society Annual Meeting, Technical Forum Presentation.

Kent, S., Gupta, R., Miller, T. H. (1995). *Dynamic Effects on Metal-Plate-Connected Wood Truss Joints* (pp. 12). 28th CIB-W18 (Timber Structures) Meeting.

Vatovec, M., Gupta, R., Miller, T. H. (1994). *Strength and Stiffness of Metal-Plate-Connected Scissors Truss Joints* (pp. 16). ASAE Paper No. 944550, American Society of Agricultural Engineers International Meeting.

Volz, P., Magana, M. E., Hernried, A. G., Miller, T. H. (1994). *A Decentralized Active Controller for Cable-Stayed Bridges* (vol. 3, pp. FA13-FA22). Proceedings of the First World Conference on Structural Control.

Kasal, B., Leichti, R. J., Miller, A. M., Miller, T. H. (1994). *Expansion Analysis to Determine Stresses for Individual Elements in Light-Framed and Foam-Core-Panel Wood Buildings* (pp. 11). Proceedings of the Second International Workshop on Full-Scale Behavior of Low Rise Buildings.

Vatovec, M., Gupta, R., Miller, T. H. (1993). *Influence of Joint Stiffnesses on the Behavior of Wood Trusses* (pp. 12). ASAE Paper No. 934004, International Summer Meeting sponsored by the American Society of Agricultural Engineers and the Canadian Society of Agricultural Engineering.

Miller, T. H., Pekoz, T. (1990). *Studies on the Behavior of Cold-Formed Steel Wall Stud Assemblies* (pp. 149-166). Proceedings of the Tenth International Specialty Conference on Cold-Formed Steel Structures.

ii. Trade/industrial journal articles

Leichti, R., Scott, R., Miller, T. H., Sharpe, J. (2006). *Lateral Resistance of Walls and Anchorage in Log Structures* (pp. 40-43). Structure. http://www.structuremag.org/?p=6575

Leichti, R., Scott, R., Miller, T. H. (2004). *Lateral Resistance of Log Walls and Foundation Anchorage* (1st ed., vol. 14, pp. 3-7). Wood Design Focus.

Schafer, B. W., DiGirolamo, E., Eiler, M., Fisher, J., Lindenberg, R., Madsen, R. L., Mettler, M., Miller, T. H., Peyton, D., Polard, G., Roecker, T., Rogers, C., Shanmugam, N. E., Walker, S. H. (2003). *Accommodating Building Deflections: What every EOR should know about accommodating deflections in secondary cold-formed steel systems* (pp. 16-18). Structure.

Gupta, R., Miller, T. H. (2000). *Up on the Roof: Researchers Study System Effects in Wood Truss Assemblies* (pp. 9-10). Resource magazine.

iii. Other authored content not peer reviewed

Final Report

Lee, Y. K., Miller, T. H. (1997). *Final Report on Composite Wall Tests* (pp. 175). CCEE Department/Oregon State University.

Lee, Y. K., Miller, T. H. (1997). *Final Report on Shaft Wall Tests* (pp. 73). CCEE Department/Oregon State University.

Ph.D. Dissertation

Miller, T. H. (1990). *Behavior of Cold-Formed Steel Wall Stud Assemblies Subject to Eccentric Axial Loads* (pp. 288). Cornell University.

Research Contribution

Gupta, R., Vatovec, M., Miller, T. H. (1996). *Metal-Plate-Connected Wood Joints: A Literature Review* (pp. 37). Forest Research Laboratory/Oregon State University.

Technical Report

Gupta, R., Huynh, T. Q., Miller, T. H. (2016). *Lateral Load Path Analysis: Modern Building Systems' 28' x 64' Modular Structure* (pp. 165). WSE Department/Oregon State University.

Milaj, K., Sinha, A., Miller, T. H. (2015). *Quantifying the Environmental Utility of Wood Substitution in Commercial Construction in Sinha and White, ed., Economic and Environmental Utility of Expanded Green Building in Oregon Commercial Construction and Renovation: Project Report submitted to Oregon Department of Forestry*. Department of Wood Science and Engineering/Oregon State University.

Miller, T. H., Ervin, J., Lucksiri, K. (2009). *Gypsum-Sheathed, 18 mill Cold-Formed Steel Stud Wall Testing on Supreme Framing Systems for Scafco and SSFA* (pp. 52). CCE School/Oregon State University.

Miller, T. H. (2009). *Letter Report on Effect of Beta sub 0 on Non-Load Bearing Cold-Formed Steel Wall Test Results* (pp. 30). CCE School/Oregon State University.

Miller, T. H., Manwill, D., Whitaker, T. (2009). *Snow Creek Bridge Failure Analysis* (pp. 13). ASCE Student Chapter/OSU.

Miller, T. H., Vadodaria, J., Lucksiri, K., Lee, Y.-k. (2008). *ICC-ES AC86 Wall Tests for Scafco* (pp. 183). CCE School/Oregon State University.

Higgins, C., Miller, T. H., Rosowsky, D. V., Yim, S. C.-S., Daniels, T., Farrow III, W. C., Nicholas, B., Potisuk, T., Robelo, M. (2003). *SPR-350 Interim Report: Research on the Capacity and Remaining Life of 1950's Vintage Conventionally Reinforced Concrete Bridges with Diagonal-Tension Cracks* (pp. 139). Structural Engineering Group, Oregon State University.

Choi, H., Lucksiri, K., Miller, T. H. (2001). *Composite Wall Tests for Steel Stud Manufacturers Association* (pp. 166). CCEE Department/Oregon State University.

Limkatanyoo, P., Miller, T. H. (2000). *Integrated Visualization of Structural Behavior* (pp. 173). CCEE Department/Oregon State University.

MacKenzie, T., Miller, T. H. (2000). *Local Buckling of Cold-Formed Steel Stub Columns with Various Shapes and Sizes of Web Perforations* (pp. 235). CCEE Department/Oregon State University.

Miller, T. H., Lee, Y. K. (1999). *Testing of Cold-Formed Steel Slide Clip Connections* (pp. 11). CCEE Department/Oregon State University.

Charoenmak, N., Miller, T. H. (1999). *Finite Element Modeling of Cold-Formed Steel Stub Columns with Various Shapes and Sizes of Web Perforations* (pp. 148). CCEE Department/Oregon State University.

Vinson, B. A., Miller, T. H. (1999). *Pilot Project: Eugene-Springfield Earthquake Damage and Loss Estimate* (pp. 47). CCEE Department/Oregon State University.

Tornberg, E. W., Miller, T. H. (1998). *Engineering Analysis for the Manufactured Home Anchoring Task Force* (pp. 88). CCEE Department/Oregon State University.

Lee, Y. K., Miller, T. H. (1995). *Analysis of Gypsum-Sheathed Cold-Formed Steel Wall Stud Panels* (pp. 226). Department of Civil Engineering/Oregon State University.

Neuschwander, J. M., Miller, T. H. (1995). *Pressure Vessel Supports: A Seismic Evaluation for Oregon* (pp. 98). Department of Civil Engineering/Oregon State University.

Sucharitsanchai, K., Trautwein, S. R., Miller, T. H. (1995). *Seismic Analysis, Conceptual Design and Cost Estimate for Rehabilitation of URM Buildings on the OSU Campus* (pp. 213). Department of Civil Engineering/Oregon State University.

Miller, T. H. (1994). *Static and Cyclic Testing of Cold-Formed Steel Connections* (pp. 21). Department of Civil Engineering/Oregon State University.

Miller, T. H., Ferguson, J. D., Ch'ng, G. B. (1993). *Seismic Risk Assessment and Retrofit Design Concepts for Oregon State University Campus Buildings* (pp. 251). Department of Civil Engineering/Oregon State University.

Miller, T. H., Ch-ng, G., Ferguson, J. (1992). *Structural Evaluation of Student Life Facilities at Oregon State University for Potential Seismic Hazards* (pp. 176). Department of Civil Engineering/Oregon State University.

Miller, T. H., Ch-ng, G., Ferguson, J. (1992). *Preliminary Evaluation of Student Life Facilities at Oregon State University for Potential Seismic Hazards* (pp. 72). Department of Civil Engineering/Oregon State University.

Miller, T. H., Ferguson, J., Mann, A., Henegar, J. (1992). *Structural Evaluation of Academic Facilities at Oregon State University for Potential Seismic Hazards* (pp. 623). Department of Civil Engineering/Oregon State University.

Miller, T. H., Ferguson, J., Mann, A., Arguedas, D. (1991). *Preliminary Evaluation of Academic Facilities at Oregon State University for Potential Seismic Hazards* (pp. 209). Department of Civil Engineering/Oregon State University.

Miller, T. H. (1990). *Testing of Cold-Formed Steel Wall Stud Panels Subject to Lateral Loadings* (pp. 124). Department of Civil Engineering/Oregon State University.

Miller, T. H. (1990). *Evaluation of Stub Column Test Results* (pp. 31). CCEE Department/Oregon State University.

Miller, T. H., Pekoz, T. (1989). *Studies on the Behavior of Cold-Formed Steel Wall Stud Assemblies* (pp. 288). School of Civil and Environmental Engineering/Cornell University.

2. Presentations to peers

a. International presentations

Milaj, K.*, Sinha, A., Miller, T. H., 70th Forest Products Society International Convention, "Assessment of environmental impacts of wood substitution in commercial construction," Portland, OR. (June 2016).

b. Regional presentations

Milaj, K.*, Sinha, A., Miller, T. H., 70th Forest Products Society International Convention, "Assessment of environmental impacts of wood substitution in commercial construction," Portland, OR. (June 2016).

3. Grant and contract support

Total grant support since last promotion
I have generated $0 in total support for my program since June 1996. Note, grants in which I am a co-P.I. but did not receive a significant share of the funds, are not listed here. Only my share on grants is included in the total.

Grant support since last promotion

Years	PIs	Funder	Project title	Total Grant
July 1, 2016 - June 30, 2019	Sinha, A., Miller, T. H., Nairn, J. A.	Institute for Working Forest Landscapes - National Center for Advanced Wood Products Manufacturing and Design	Cross-Laminated Timber Fastener Solutions for Tall Wood Buildings	$149,796

March 1, 2016 - February 28, 2018	Miller, T. H., Gupta, R.	Institute for Working Forest Landscapes - National Center for Advanced Wood Products Manufacturing and Design	Behavior of CLT Diaphragm Panel-to-Panel Connections with Self-Tapping Screws	$149,849
2016 - 2017	Liu, J., Miller, T. H., Barbosa, A. R.	Oregon State University Learning Innovation Grant	Active Learning with 3-D Printed Models in Structural Engineering	$8,349
July 1, 2010 - June 1, 2012	Gupta, R., Miller, T. H., Martin, K. G.	USDA Center Grant: OSU Center for Wood Utilization Research	Evaluation of Structural Load Paths in Wood-Frame Residential Structures	$55,000
July 2009 - November 2009	Miller, T. H.	Scafco Steel Stud Manufacturing Co. and Supreme Steel Framing System Association	Gypsum-Sheathed, 18 mil Cold-Formed Steel Stud Wall Testing on Supreme Framing Systems	$13,800
July 2009 - August 2009	Miller, T. H.	Scafco Steel Stud Manufacturing Co. and Supreme Steel Framing System Association	Analysis of Effect of Bo on Wall Tests	$2,000
May 15, 2007 - July 31, 2008	Miller, T. H.	Scafco Steel Stud Manufacturing Co.	Gypsum-Sheathed, Cold-Formed Steel Stud Wall Testing	$68,700
June 2006 - December 2006	Miller, T. H.	Oregon Department of Geology and Mineral Industries	Statewide Seismic Needs Assessment Project	$77,764
October 2002 - November 2006	Gupta, R., Miller, T. H.	U.S. Department of Agriculture	Dynamic Performance of Wood Shear Walls Under Actual Earthquake Records	$115,000
July 2005 - December	Miller, T. H.	Oregon Department of	FEMA 154 Seismic	$15,000

2005		Community Colleges and Workforce Development	Evaluations of Community Colleges	
2002 - 2004	Higgins, C. C., Yim, S. C.-S., Miller, T. H.	Oregon Department of Transportation and Federal Highway Administration	Strength Deterioration Models and Repair Methods for Shear-Cracked Reinforced Concrete Bridges	$1,650,000
February 15, 2004 - August 15, 2004	Miller, T. H.	Oregon Department of Geology and Mineral Industries	FEMA 154 Seismic Evaluations of Community Colleges	$4,025
2002 - 2003	Yim, S. C.-S., Miller, T. H.	Oregon Department of Transportation and Federal Highway Administration	Remaining Life of Shear Cracked Reinforced Concrete Bridge Girders	$160,000
2001 - 2002	Higgins, C. C., Yim, S. C.-S., Miller, T. H.	Oregon Department of Transportation and Federal Highway Administration	Assessment of Reinforced Concrete Girders with Corrosion-Damaged Shear Reinforcement	$92,000
2000 - 2002	Yim, S. C.-S., Higgins, C. C., Miller, T. H., Rosowsky, D., Gambatese, J. A., Dickenson, S.	College of Engineering, Oregon State University	Oregon Center for Earthquake Engineering Research	$10,000
April 24, 2000 - September 30, 2001	Miller, T. H.	Steel Stud Manufacturer's Association	Composite Wall Testing	$22,000
1998 - 2000	Yim, S. C.-S., Miller, T. H., Kachlakev, D.	Oregon Department of Transportation	Finite-Element Method (FEM) Modeling for Composite Strengthening/ Retrofit of Bridges	$93,979
1998 - 1999	Miller, T. H.	Oregon State University	L.L. Stewart Faculty Development Award	$2,000
December 12, 1998 - September 30,	Miller, T. H.	Scafco Corporation	Slide Clip Connection Tests	$3,515

1999				
March 1, 1997 - January 31, 1999	Miller, T. H.	State of Oregon Department of Geology and Mineral Industries	Pilot Project: Eugene-Spring field Earthquake Damage and Loss Estimate	$9,250
January 1, 1998 - June 15, 1998	Miller, T. H.	State of Oregon Building Codes Division	Engineering Services for the Manufactured Home Anchoring Task Force	$13,500
February 12, 1997 - August 15, 1997	Miller, T. H.	Metal Stud Manufacturers Association	Stub Column Testing - Pilot Project	$4,000
TOTAL				$2,719,527

Grants prior to last promotion: $410,622

4. Other information appropriate to the discipline.

Membership in Professional Societies

ASCE Structural Engineering Institute. (1997 - Present).

Structural Engineers Association of Oregon. (1993 - Present).

American Society of Civil Engineers. (1980 - Present).

Earthquake Engineering Research Institute. (1992 - 2013).

American Society for Engineering Education. (1990 - 2009).

Consortium of Universities for Research in Earthquake Engineering. (2001 - 2003).

Forest Products Society. (1995 - 1996).

N/A

D. SERVICE

1. University Service

a. Service to the Department

(1997 - Present), Faculty Advisor, American Society of Civil Engineers Student Chapter.

(1992 - Present), Faculty Advisor, American Society of Civil Engineers Steel Bridge Team.

(2016 - 2017), Committee Chair, CCE Scholarship Committee.

(2014 - 2015), Committee Chair, CCE Curriculum Committee.

(2013 - 2014), Committee Chair, CCE Scholarship Committee.

(1992 - 2014), Faculty Advisor, Earthquake Engineering Research Institute Student Chapter.

(2009 - 2010), Committee Chair, CCE Curriculum Committee.

(1994 - 2000), Committee Chair, CCE Scholarship Committee.

b. Service to the College

(2010 - 2012), Committee Member, COE Curriculum Committee.

(1991 - 1995), Faculty Advisor, Tau Beta Pi Student Chapter.

(1992 - 1993), Committee Chair, COE Engineering Science Committee.

c. Service to the University

(2016 - Present), Committee Member, OSU Curriculum Council.

(1999 - 2000), Committee Member, Advisory Committee to OSU SAME Post.

(1995 - 1996), Committee Member, OSU Faculty Senate.

(1995 - 1996), Committee Member, OSU Family and Parental Concerns Committee.

d. Service to Students

(1993 - 1999), Faculty Advisor, Graduate Christian Fellowship.

(1992 - 1994), Faculty Advisor, Zion Lutheran Student Fellowship.

2. Service to the Profession

Committee Chair

Committee Chair, American Society of Civil Engineers - Committee on Cold-Formed Members. (1998 - 2001).

Committee Member

Committee Member, American Society of Civil Engineers - Committee on Cold-Formed Members. (2005 - 2014).

Committee Member, Wood Design Advisory Committee. (1999 - 2004).

Committee Member, American Society of Civil Engineers - Committee on Cold-Formed Members. (1996 - 2003).

Committee Member, Pacific Earthquake Engineering Research Center - Undergraduate Internship Subcommittee. (1999 - 2001).

Committee Member, Wood Design Advisory Committee, Portland, OR. (January 1, 1990 - December 31, 1995).

Committee Member, American Society of Civil Engineers - Seismic Rehabilitation Standards Committee, Washington, DC. (January 1, 1997 - Present).

Committee Member, American Iron and Steel Institute - Subcommittees on Specifications, Washington, DC. (1992 - Present).

E. AWARDS

1. National and International Awards

2016, Outstanding Faculty Advisor (National) Award, ASCE.

2011, Markwardt Wood Engineering Award, Forest Products Society.

2010, George Marra Award for Excellence in Writing, Society for Wood Science and Technology.

1995, Truss Plate Institute Annual Award for Excellence in Truss Research.

1983, Air Force Commendation Medal.

2. State and Regional Awards

2014, Region 8 Outstanding Faculty Advisor Award, ASCE.

2013, Region 8 Outstanding Faculty Advisor Award, ASCE.

2012, Region 8 Outstanding Faculty Advisor Award, ASCE.

2011, Region 8 Outstanding Faculty Advisor Award, ASCE.

2010, Government Engineer of the Year, ASCE Oregon Section.

2010, Region 8 Outstanding Faculty Advisor Award, ASCE.

2009, Region 8 Outstanding Faculty Advisor Award, ASCE.

2008, Faculty Advisor Certificate of Commendation, ASCE.

2007, Faculty Advisor Certificate of Commendation, ASCE.

2006, Zone IV Outstanding Student Chapter Faculty Advisor Award, ASCE.

2005, Faculty Advisor Certificate of Commendation, ASCE.

2004, Faculty Advisor Certificate of Commendation, ASCE.

2003, Zone IV Outstanding Student Chapter Faculty Advisor Award, ASCE.

1999, Zone IV Outstanding Student Chapter Faculty Advisor Award, ASCE.

3. University and Community Awards

2017, Austin-Paul Engineering Faculty Award, OSU College of Engineering.

2017, Teacher of the Year, OSU ASCE Student Chapter.

2016, Teacher of the Year, OSU ASCE Student Chapter.

2015, Teacher of the Year, OSU ASCE Student Chapter.

2007, Teacher of the Year, OSU ASCE Student Chapter.

2006, Teacher of the Year, ASCE Student Chapter.

2005, Teacher of the Year, ASCE Student Chapter.

2003, Mortar Board Top Prof.

1997, Loyd Carter Award for Outstanding Teaching, OSU College of Engineering.

1997, Mortar Board Top Prof.

1991, Austin-Paul Engineering Faculty Award, OSU College of Engineering.

1987, Andrew D. White Fellow, Cornell University.

1986, Andrew D. White Fellow, Cornell University.

1985, Andrew D. White Fellow, Cornell University.

1980, Chi Epsilon.

1980, Distinguished Graduate of Air Force ROTC, Cornell University.

1980, Fuertes Medal Undergraduate, Cornell University.

1980, Graduated first in the College of Engineering, Cornell University.

1979, Tau Beta Pi.

KENNY MARTIN

SENIOR INSTRUCTOR
STRUCTURAL ENGINEERING

School of Civil & Construction Engineering (CCE) — kenny.martin@oregonstate.edu
Oregon State University — (Phone) 541-737-2057
101 Kearney Hall — (Fax) 541-737-3052
Corvallis, OR 97331 — Office: 248 Owen Hall

EDUCATION

M.S., Civil/Structural Engineering, Oregon State University, 2010

M.S., Wood Science, Oregon State University, 2010

B.S., Mechanical Engineering (with honors), Texas A&M University, 1999

ACADEMIC EXPERIENCE

Senior Instructor — School of CCE, Oregon State University, 2016-present

Instructor — School of CCE, Oregon State University, 2011-2016

- Teach undergraduate and graduate courses in a variety of topics
- Areas of interest include: engineering fundamentals, structural design and analysis, design of wood structures, timber mechanics, behavior and properties of wood
- Developed comprehensive curriculum for online version of Statics, including custom animated lectures
- 2017 Teaching Excellence Award, School of Civil and Construction Engineering
- 2013 Teacher of the Year, ASCE Student Chapter, Oregon State University
- 2012 Teacher of the Year, ASCE Student Chapter, Oregon State University
- CCE Undergraduate Committee, Chair – 2016 to 2017
- CCE Undergraduate Committee, Member – 2016 to present
- CCE Curriculum Committee, Member – 2012 to 2016
- Faculty Advisor – ASCE Timber Bridge Project – 2012 to present
- Faculty Advisor – Project X (STEM outreach) – 2016 to present

TEACHING EXPERIENCE (SUMMARY)

2018-Present	CE 418/419	Civil Eng. Professional Practice	Senior
2017-Present	ENGR 111	Introduction to Engineering	Freshman
2014-Present	ENGR 211	Statics *(Ecampus version)*	Sophomore, & continuing ed.
2012-Present	CE 484/584	Wood Design	Senior / Graduate
2012-Present	CE 427/527	Temporary Structures	Senior / Graduate
2011-Present	ENGR 211	Statics	Sophomore

GRADUATE STUDENT COMMITTEES

Master of Science (M.S.)

- Daniel Way (2015), Wood Science
- Andrew Hanek (2014), Civil Engineering
- Anthonie Kramer (2014), dual major Civil Engineering / Wood Science
- Kenton Alldritt (2013), dual major Civil Engineering / Wood Science
- Brian Malone (2013), dual major Civil Engineering / Wood Science
- Quadri Owokoniran (2012), Civil Engineering
- Toby Polocoser (2012), dual major Civil Engineering / Wood Science
- Kate Pfretzschner (2012) dual major Civil Engineering / Wood Science

Master of Engineering (M.Eng.)

- Alicia Wong (2017), Civil Engineering
- Suraj Sidhu (2017), Civil Engineering
- Phillip Raschkow (2016), Civil Engineering
- Barry Maslen (2016), Civil Engineering
- Sarah Van Otterloo (2016), Civil Engineering
- Andrew Fortner (2015), Civil Engineering
- Alexandra Stroud (2014), Civil Engineering
- Jarrett Yanagida (2014), Civil Engineering
- Michael Koiv (2014), Civil Engineering
- Sohalia Starks (2014), Civil Engineering
- Andrew Potts (2013), Civil Engineering
- Austin Maue (2013), Civil Engineering
- Ben Schlachter (2013), Civil Engineering
- Christopher Kemp (2013), Civil Engineering
- Daniel Reedy (2013), Civil Engineering
- Austin Basl (2012), Civil Engineering / Mechanical Engineering
- Brandon Maupin (2012), Civil Engineering
- Zhou Yuxiang (2012), Civil Engineering
- Patrick Goodman (2012), Civil Engineering
- Robert Kruse (2012), Civil Engineering
- Taharka Vue (2012), Civil Engineering
- Trevor Oppezzo (2012), Civil Engineering

UNDERGRADUATE STUDENT COMMITTEES

Undergraduate Honors Thesis

- Hayley Girod (2017), Civil Engineering
- Jordan Henderson (2013), Civil Engineering
- Hana D'Acci (2012), Civil Engineering

TEACHING EXPERIENCE (DETAILED)

Year	Term	Course	Title	No. of Students			Student Rating 1=Very Poor, 6=Excellent		
				Undergrad	Grad	Total	Class as a Whole	Instructor's Contribution	Response Rate
Statics (On-Campus)									
2011	Fall	ENGR 211	Statics	407	-	407	5.2	5.5	87%
2012	Spring	ENGR 211	Statics	222	-	222	5.0	5.3	56%
2012	Summer	ENGR 211	Statics	57	-	57	5.3	5.4	42%
2012	Fall	ENGR 211	Statics	410	-	410	5.4	5.6	68%
2013	Winter	ENGR 211	Statics	221	-	221	5.1	5.2	39%
2013	Spring	ENGR 211	Statics	222	-	222	5.1	5.4	57%
2013	Summer	ENGR 211	Statics	40	-	40	5.7	5.8	58%
2013	Fall	ENGR 211	Statics	426	-	426	5.4	5.6	67%
2014	Winter	ENGR 211	Statics	208	-	208	5.5	5.5	65%
2014	Spring	ENGR 211	Statics	222	-	222	5.1	5.4	70%
2014	Summer	ENGR 211	Statics	32	-	32	5.4	5.7	75%
2014	Fall	ENGR 211	Statics	418	-	418	5.6	5.8	65%
2015	Spring	ENGR 211	Statics	226	-	226	5.6	5.7	67%
2015	Fall	ENGR 211	Statics	430	-	430	5.6	5.8	70%
2016	Winter	ENGR 211	Statics	211	-	211	5.6	5.8	60%
2016	Spring	ENGR 211	Statics	220	-	220	5.6	5.8	58%
2016	Fall	ENGR 211	Statics	399	-	399	5.6	5.8	66%
2017	Winter	ENGR 211	Statics	223	-	223	5.7	5.8	57%
2017	Spring	ENGR 211	Statics	220	-	220	5.5	5.7	57%
2017	Fall	ENGR 211	Statics	414	-	414	5.8	5.9	68%
						5228 Total	*5.4 Average*	*5.6 Average*	
Statics (Ecampus)									
2014	Fall	ENGR 211	e-Statics	25	-	25	5.2	5.5	72%
2015	Winter	ENGR 211	e-Statics	48	-	48	4.5	4.4	57%
2015	Spring	ENGR 211	e-Statics	46	-	46	4.1	5.0	41%
2015	Fall	ENGR 211	e-Statics	15	-	15	5.7	5.9	33%
2016	Winter	ENGR 211	e-Statics	30	-	30	4.1	4.1	53%
2016	Spring	ENGR 211	e-Statics	44	-	44	4.6	4.6	47%
2016	Fall	ENGR 211	e-Statics	14	-	14	5.0	5.7	55%
2017	Winter	ENGR 211	e-Statics	27	-	27	5.1	5.6	59%
2017	Spring	ENGR 211	e-Statics	31	-	31	4.4	5.3	48%
2017	Fall	ENGR 211	e-Statics	28	-	28	4.4	5.4	71%
						308 Total	*4.7 Average*	*5.2 Average*	

Continued on next page

Year	Term	Course	Title	No. of Students			Student Rating 1=Very Poor, 6=Excellent		
				Undergrad	Grad	Total	Class as a Whole	Instructor's Contribution	Response Rate
Engineering Orientation (INTO refers to the "Pathway" program at OSU specifically for international students)									
2017	Fall	ENGR 111	Eng. Orientation	179	-	179	4.6	5.0	53%
2017	Fall	ENGR 111	INTO	46	-	46	5.2	5.6	43%
						225 Total	*4.9 Average*	*5.3 Average*	
Wood Design									
2012	Winter	CE 580	Wood Design	27	25	52	5.8	5.8	96%
2013	Winter	CE 484/584	Wood Design	23	12	35	5.2	5.6	51%
2014	Winter	CE 484/584	Wood Design	24	12	36	5.5	5.7	66%
2015	Winter	CE 484/584	Wood Design	24	8	32	5.6	5.8	78%
2016	Winter	CE 484/584	Wood Design	22	4	26	5.6	5.9	69%
2017	Winter	CE 484/584	Wood Design	27	9	36	5.6	5.6	70%
						217 Total	*5.6 Average*	*5.7 Average*	
Temporary Structures									
2012	Spring	CE 427/527	Temporary Structures	54	16	70	5.8	5.8	73%
2013	Spring	CE 427/527	Temporary Structures	30	13	43	5.2	5.5	62%
2014	Spring	CE 427/527	Temporary Structures	39	5	44	5.0	5.5	68%
2015	Spring	CE 427/527	Temporary Structures	45	4	49	5.6	5.8	69%
2015	Spring	CE 427/527	Temporary Structures	45	4	49	5.6	5.8	69%
2016	Spring	CE 427/527	Temporary Structures	48	4	52	5.3	5.7	61%
2017	Spring	CE 427/527	Temporary Structures	32	3	35	5.7	5.9	51%
						342 Total	*5.5 Average*	*5.7 Average*	

Continued on next page

OTHER ACADEMIC POSITIONS

Graduate Research Assistant Dept. of Wood Science & Engineering, Oregon State University 2007-2010

- Member of research team with emphasis in *Timber Engineering and Structural Design*
- Developed curriculum for Advanced Timber Design (WSE 560)
- Developed curriculum for the Wood Education Institute, offering online curriculum to 15 institutions throughout the country as well as to practicing structural engineers
- Member of a three-person research team that helped design and successfully test laminated wood wine racks to resist seismic forces (for use in the retail industry)
    - Project garnered national media recognition

AWARDS & HONORS PRIOR TO JOINING FACULTY AT OSU

- 2010 recipient of the Distinguished Master's Thesis Award, Oregon State University
- MS thesis nominated as one of the top five theses for 2010-2011 among the western conference of graduate schools (90 institutions, 15 states, 3 Canadian provinces)
- 2008-09 recipient of the Saubert Graduate Fellowship
- 2007-08 recipient of the Mary McDonald Fellowship
- 1996-97 recipient of the Phillips Petroleum Mechanical Engineering Scholarship

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PROFESSIONAL EXPERIENCE

Structural Engineer Benson Woodworking Company, Walpole, NH, 2010-2011

- Designed heavy timber structures using traditional joinery as well as modern construction practices
- Performed structural analyses to size members and specify connections
- Incorporated sustainable building practices into design, developed new strategies as required
- Served as direct point-of-contact with clients, builders, contractors, and architects
- Designed residential mechanical systems (heating, cooling, ventilation, etc.)
- Performed heat loss calculations and return-on-investment analyses
- Evaluated energy performance of existing homes and new construction
- Researched and developed innovative building components, enclosure systems, and material selections

Continued on next page

Consultant McGee Engineering, Corvallis, OR, 2007-2009

- Performed general calculations in support of bridge and formwork design
- Conducted assessment of Trail River Bridge located in the Chugach National Forest, Alaska
    - 140 ft., two-span bridge with four glued-laminated girders, constructed 1963
    - Interpreted resistance drilling data from girders
    - Assessed the quality of the tension laminations in each girder
    - Coordinated activities and analysis with bridge inspection team, US Forest Service, USDA, American Institute of Timber Construction (AITC), and the Forest Products Laboratory (FPL)
    - Defended final assessment report to the US Forest Service and additional interested parties listed above

Stress & Design Engineer Jet Aviation Engineering Services, San Antonio, TX, 2006-2007

- Designed custom assemblies and mounting systems involved with the modification of VIP aircraft interiors – business and private jets
- Determined forces and stresses in aircraft structures resulting from applied and induced loads (emergency flight maneuvers, gust loads, etc.)
- Compared induced stresses to material properties and fastener allowables to determine safety of designs and predict structural failure
- Prepared official stress reports for FAA certification
- Checked the stress reports and design drawings of other engineers
- Served as the only member in the team to work in both roles as a design engineer and a stress engineer
- Used SolidWorks and AutoCAD to design individual parts as well as complex mechanical systems
- Served as the technical interface with external organizations

Blast Effects Engineer Baker Engineering and Risk Consultants, San Antonio, TX, 2000-2004

- Oversaw operation of BakerRisk's shock tube test facility, including testing personnel, equipment, scheduling, and maintenance
- Designed and fabricated fixtures, test frames, and test specimens
- Performed blast load testing on structural and architectural elements (columns, beams, doors, windows, and walls)
- Studied fragment generation and fragment throw after blast events
- Conducted large-scale vapor cloud explosions to study flammability of gas mixtures
- Investigated fitting failures and response of equipment to internal explosion (nail guns, hydraulic fittings, pressure vessels, etc.)
- Participated in multiple accident investigations and gathered forensic data after catastrophic industrial explosions

PUBLICATIONS

Refereed Journal Publications

- Martin, K., Gupta, R., Prevatt, D., Datin, P., van de Lindt, J., "Modeling System Effects and Structural Load Paths in a Wood-Framed Structure," *Journal of Architectural Engineering,* Vol. 17, No. 4, 2011, pp. 134-143.

Updated 1/29/18

Judy Liu Vita

A. EDUCATION AND EMPLOYMENT INFORMATION

A1. Education

2000	Ph.D., Civil Engineering University of California at Berkeley
1996	M.S., Civil Engineering University of California at Berkeley
1995	B.A.E., Architectural Engineering Pennsylvania State University

A2. Professional Experience

Sept 2015–present	Professor School of Civil and Construction Engineering Oregon State University
Jul 2007–Aug 2015	Associate Professor School of Civil Engineering Purdue University
Oct 2010–Jul 2015	Associate Director Bowen Laboratory Purdue University
Jul 2011–Jun 2012	Senior Research Fellow National Institute of Standards and Technology
Jan 2001–Jun 2007	Assistant Professor School of Civil Engineering Purdue University

Red font used to highlight new activity from 2017

B. TEACHING, ADVISING, AND OTHER ASSIGNMENTS

B1. Instructional Summary

B1.1. Credit Courses (past ~6 years)

Number	Course Title	Term/Year	Credits	Enrollment
Purdue University				
CE 470	Structural Steel Design	Spring 2011	3	86
CE 479	Design Bldg. Comp. & Sys.	Fall 2012	3	51
CE 697R	Seismic Design of Steel Structures	Fall 2012	3	25
CE 270	Introductory Structural Mechanics	Spring 2013	4	91
CE 591	Advanced Structural Steel Design	Fall 2013	3	39
CE 470	Structural Steel Design	Spring 2014	3	44
CE 479	Design Bldg. Comp. & Sys.	Fall 2014	3	33
CE 697R	Seismic Design of Steel Structures	Fall 2014	3	14
CE 470	Structural Steel Design	Spring 2015	3	30
Oregon State University				
CE 580	Seismic Design Steel Buildings	Fall 2015	3	24
CE 580	Building Loads and Systems	Winter 2016	3	11
CE 383	Design of Steel Structures	Spring 2016	4	23
CE 383	Design of Steel Structures	Fall 2016	4	68
CE 383	Design of Steel Structures	Winter 2017	4	33
CE 580	Advanced Steel Design	Winter 2017	3	14
CE 580	Seismic Design Steel Buildings	Spring 2017	3	18
CE 383	Design of Steel Structures	Fall 2017	4	60
ENGR 211H	Honors Statics	Fall 2017	3	11
CE 383	Design of Steel Structures	Winter 2018	4	49
CE 580	Advanced Steel Design	Winter 2018	3	8

In addition (past ~6 years):

- CE597 Spring 2014 - Steel Slit Panel Frame Design, independent study, 1 student
- CE597 Spring 2014 - Bio-Inspired Steel Structures, independent study, 1 student
- CE597 Fall 2014 – Lessons from the Napa Valley Earthquake, independent study, 1 student
- ENGR103 Spring 2015 – substituted for first day, gave guest lecture *"Why, What and How of Structural Engineering at Purdue University"* in this seminar course, Think Big: Innovative Infrastructure that Changes the World.
- CCE101 Fall 2015, Fall 2016 – gave guest lecture, *"Why, What and How of Structural Engineering at Oregon State University,"* in this Civil and Construction Engineering Orientation seminar course

B1.2. Non-Credit Courses and Workshops

Developing University Structural Steel Design Courses, July 18-19, 2016, August 5-6, 2015; July 30-31, 2014 – co-taught an American Institute of Steel Construction (AISC) Educator Workshop, for architectural and civil engineering faculty, on teaching structural steel design courses. Led sessions on designing a steel design course (e.g., course objectives, topics, and assessment), using hands-on demonstrations, and incorporating building case studies. Shared responsibility for development of the workshop, which also included sessions on creating a lecture series, philosophies on teaching and learning, choosing a textbook, and teaching structural steel behavior and stability. Invited by AISC all three years. Number of participants ranged from 15 – 20 each year. Participating in planning for Summer 2018 workshop.

B1.3. Course and Curriculum Development

Building Loads and Systems, CE580, first offered Winter 2016
Developed and prepared a new graduate level course on building loads (e.g., dead, live, rain, snow, wind loads) and components and systems (e.g., steel joists, joist girders, steel roof and floor deck diaphragm systems) designed for those loads. This course was designed to complement the existing 1-credit CE 405/505 Building Forces and CE589 Seismic Design; the syllabus was developed after consultation with instructors Alex Firth and Tom Miller. The course also includes an introduction to disproportionate collapse mitigation, as well as guest lectures on blast, environmental loads (durability), and effects of elevated temperatures. A team project allows exploration of additional topics such as floor vibrations, fire resistance, and design of building cladding / façade attachments.

Seismic Design of Steel Buildings, CE580, first offered Fall 2015
Adapted a course previously developed and co-taught at Purdue University to provide a new course offering at Oregon State University. This course introduces ductile design of steel buildings, behavior of seismic-resistant systems, components and connections, and seismic design criteria. Steel systems include moment resisting frames, concentrically and eccentrically braced frames, buckling restrained braced frames, and steel plate shear walls. Course content is updated to the current AISC *Specification for Structural Steel Buildings* and *Seismic Provisions*.

B1.4. Team or Collaborative Efforts

Collaborated on a Learning Innovation Grant proposal with Erica Fischer, Andre Barbosa, and Jason Ideker. Will serve a supporting role in Dr. Fischer's efforts to develop and implement state-of-the-art structural fire engineering experiential learning and visualization activities in the structural engineering curriculum in CCE. Proposed activities in CE 383 Design of Steel Structures include students performing and watching demonstrations of compression buckling of steel sections at both ambient and elevated temperatures, and comparing to calculations of temperature-dependent member capacities. Primary objectives of the proposed study are to fill a common void in structural engineering curricula and to prepare students for current structural engineering practice, which is moving from prescriptive fire code requirements to a performance-based approach to structural fire engineering.

Collaborated on a Learning Innovation Grant proposal with Tom Miller and Andre Barbosa. The grant, awarded for January – October 2016, with an extension through January 2017, was used to develop and implement active-learning, visualization activities across the structural engineering curriculum in the School of Civil and Construction Engineering (CCE). We utilized 3-D printing

technology to provide clear, easy-to-visualize, physical models demonstrating important principles in the analysis, design and behavior of buildings. These fill a common knowledge gap between the idealized, two-dimensional "line diagrams" used in texts and most lectures for structures and the students' understanding of the actual three-dimensional behavior. Through active learning exercises, the student are able to better understand and then explain how buildings and their structural members (horizontal I-beams, vertical columns, horizontal diaphragms [roofs and floors], frames and shear walls) are connected, how they support structural loads, and how they respond to those loads.

B1.5. International Teaching

None to date

B2. Student and Participant Evaluations

Course No.	Term	Enroll-ment	# Re-spond-ing	Student Evaluation (#1/#2)	College Medians* (#1/#2)	Required /Elective
Purdue University (scores out of 5.0)						
CE 470	Spring 2011	86	75	4.5 / 4.8	4.2	Elective
CE 479	Fall 2012	51	48	4.3 / 4.5	4.3	Elective
CE 697	Fall 2012	25	19	4.3 / 4.6	4.3	Elective
CE 270	Spring 2013	91	81	4.4 / 4.6	3.7	Required
CE 591	Fall 2013	39	25	4.7 / 4.8	4.5	Elective
CE 470	Spring 2014	44	34	4.7 / 4.9	4.5	Elective
CE 479	Fall 2014	33	29	4.6 / 4.7	4.4	Elective
CE 697	Fall 2014	14	10	4.8 / 4.5	4.6	Elective
CE 470	Spring 2015	30	24	4.6 / 4.8	4.4	Elective
Oregon State University (scores out of 6.0)						
CE 580[1]	Fall 2015	24	20	5.3 / 5.7	5.0 / 5.1	Elective
CE 580[2]	Winter 2016	11	10	5.9 / 6.0	5.3 / 5.5	Elective
CE 383	Spring 2016	23	18	4.9 / 5.0	4.7 / 4.9	Required
CE 383	Fall 2016	68	53	5.2 / 5.5	4.7 / 4.9	Required
CE 383	Winter 2017	33	21	5.4 / 5.7	4.7 / 4.9	Required
CE 580[3]	Winter 2017	14	14	5.8 / 5.9	5.3 / 5.5	Elective
CE 580[1]	Spring 2017	18	16	5.7 / 5.8	5.1 / 5.3	Elective
CE 383	Fall 2017	60	38	5.4 / 5.6	NA	Required
ENGR 211H	Fall 2017	11	L: 9 R: 7	L: 5.4 / 5.6 R: 5.6 / 5.9	NA	Required

* College medians are shown separately for each level (e.g., 300, 400) taught. For Purdue University, only Department averages for #2 (Instructor) are available for level taught. NA – Not Available; CE 580[1] – Seismic Design of Steel Buildings, CE 580[2] – Building Loads and Systems, CE 580[3] – Advanced Steel Design; For ENGR 211H, there was no teaching assistant to help with the recitation, so scores are listed for both L: Lecture, and R: Recitation.

B3. Peer Teaching Evaluations

None to date

B4. Advising

B4.1. Graduate Advisees – Completed

Student	Degree	Thesis	Graduated
1. Jacob Montgomery	MS	*New Rating Methods for Pin and Hanger Assemblies in Steel Bridges (co-advisor Christopher Higgins)*	Dec. 2017
2. Madhav Parikh	MS	*Practical Design Considerations for Steel Slit Panel Frames*	Dec. 2017
3. Timothy Francisco	PhD	*Structural Integrity of the Composite Slab in Steel Gravity Framing Systems*	August 2014
4. Curtis J. Schroeder	MSCE	*Behavior of Large-scale Composite Partially-filled Steel Grid Decks (co-advisor Robert Connor)*	May 2011
5. David Mizzen	MSCE	*Development of Subassembly Test Methods for Evaluation of Prefabricated Bridge Decks (co-advisor Robert Connor)*	May 2011
6. Hoseok Chi	PhD	*Development of Post-tensioned Column Based Connection for Self-Centering Seismic Resistant Steel Frame*	May 2009
7. Brian Hammond	MSCE	*Bridge Deck Performance Engineering Testing Procedures (co-advisor Robert Connor)*	May 2009
8. Gustavo Cortes	PhD	*Steel Slit Panel Frames for Lateral Resistance of Buildings*	May 2009
9. Nicolas Lombardi	PhD	*Hybrid Steel - Fiber Reinforced Polymer Bridge Deck Panels (co-advisor Elisa Sotelino to Dec.2004)*	May 2008
10. Andrew King	MSCE	*Design of Collector Elements for Steel Self-Centering Moment Resisting Frames*	May 2007
11. Necip Onder Akinci	PhD	*Investigation of Superload Effects on Steel and Prestressed Concrete Slab-on-Girder Bridges (co-advisor Mark Bowman)*	September 2006
12. Daniel McCloskey	MSCE	*Steel Panels for Lateral Resistance of Steel Buildings*	August 2006
13. Marcelo Machado	PhD	*Alternative Serviceability Criterion for Honeycomb FRP Deck-to-Steel Girder Bridges (co-advisor Elisa Sotelino)*	August 2006
14. Gunseli Yeliz Firat	PhD	*Effect of Bolted Frames on the Earthquake Resistance of Structural Steel Buildings*	August 2006
15. Javier F. Gauthier	PhD	*The Higher Order Derivative Discontinuity Damage Identification Method for Nondestructive Evaluation and Rating of Bridges (co-advisor Timothy Whalen)*	August 2005
16. Scott M. Wood	MSCE	*Effects of Superload Trucks on a Steel Girder Highway Bridge (co-advisor Mark Bowman)*	December 2004

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B4.2. Graduate Advisees – Current

Student	Degree	Expected Graduation
1. Wasan Fayyadh	PhD	Spring 2020

B4.3. Graduate Thesis or Project Committees (at OSU)

Major Professor:
Graduated

1. Tao Pang, MEng (Fall 2017)
2. Suraj Sidhu, MEng (Fall 2017)
3. Wei Wang, MEng (Fall 2017)
4. Jing Zhang, MEng (Fall 2017)

Current - None currently

Minor Professor or Committee Member:
Graduated

1. Barry Maslen, MEng (Winter 2016)
2. Adarsh Ambli Suresh, MEng (Winter 2016)
3. Karryn Johnsohn, MS (Spring 2016)
4. Neil Schweitzer, MEng (Spring 2016)
5. Shahad Shafaee, MEng (Spring 2016)
6. Anh Nguyen, MEng (Fall 2016)
7. Eric Vavra, MS (Fall 2016)
8. Alabbas Al-Aukaily, PhD (Spring 2017)
9. Aiyad Alshimaysawee, MS (Fall 2017)

Current

1. Zeyad Al-sayhood, PhD
2. Mustafa Kamil Buniya, PhD
3. Mohammed Mohammed, PhD

Graduate Council Representative:

1. Phillip John Arscott, M.S. (Mechanical Engineering, Winter 2016)

B4.4. Undergraduate Research Assistants (at OSU)

1. Christine Baker, co-advised with Chris Higgins and Harry Yeh (Winter 2016, Fall 2016 – Summer 2017)
2. Raven Merritt-Shorb, co-advised with Thomas Miller and Andre Barbosa (Spring – Fall 2016, Winter 2017 through end of January)
3. Lauren Lucas, co-advised with Daniel Borello through Summer Undergraduate Research Fellowship (SURF) Program (Summer 2016)
4. Alisha Saduova (Fall 2016 – Winter 2017)
5. Yu-Lung Hsu (Spring 2017)
6. Pavan Patel, co-advised with Chris Higgins through Summer Undergraduate Research Fellowship (SURF) Program (Summer 2017)

B4.5. Postdoctoral Trainees (at OSU)

None to date

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B4.6. Other Advising (at OSU)

None currently

B5. Other Instruction Related Assignments

None to date

C. SCHOLARSHIP AND CREATIVE ACTIVITY

C1. Publications

Current graduate students among the authors are underlined. Past graduate students among the authors are double underlined. Undergraduate students are noted with a dashed underline. Joint students are *italicized* and either single or double underlined. If multiple authors are listed, the primary contributor(s) is (are) designated by an asterisk*.

C1.1. Refereed Books & Book Chapters

None to date

C1.2. Refereed Journal Publications

1. Nanni, A.*, Nenninger, J., Ash, K., and Liu, J.* (1997) "Experimental Bond Behavior of Hybrid Rods for Concrete Reinforcement," Structural Engineering and Mechanics, Vol. 5, No. 4, pp. 339-354.
2. Nanni, A.*, and Liu, J.* (1997) "Modeling of Bond Behavior of Hybrid Rods for Concrete Reinforcement," Structural Engineering and Mechanics, Vol. 5, No. 4, pp. 355-368.
3. Liu, J.* and Astaneh-Asl, A. (2000) "Cyclic Testing of Simple Connections, Including Effects of the Slab," Journal of Structural Engineering, Vol. 126, No. 1, pp. 32-39.
4. Astaneh-Asl, A., Liu, J.* and McMullin, K.M.* (2002) "Behavior and Design of Single Plate Shear Connections," Journal of Constructional Steel Research, Vol. 58, Issues 5-8, pp. 1121-1141.
5. Liu, J.* and Astaneh-Asl, A. (2004) "Moment-Rotation Parameters for Composite Shear Tab Connections," ASCE Journal of Structural Engineering, Vol. 130, No. 9, pp. 1371 – 1380.
6. *Phuvoravan, K.**, *Chung, W.**, Liu, J, and Sotelino, E.D. (2004) "Simplified Live Load Distribution Factor Equation for Steel Girder Bridges," Transportation Research Record, No. 1892, Design of Structures 2004, pp. 88-97.
7. *Chung, W.**, Liu, J. and Sotelino, E.D. (2005) "Influence of Secondary Elements and Deck Cracking on the Lateral Load Distribution of Girder Bridges," ASCE Journal of Bridge Engineering, Volume 11, Issue 2, pp. 178 – 187.
8. *Chung, W.**, *Phuvoravan, K.**, Liu, J. and Sotelino, E.D. (2005) "Applicability of the Simplified Load Distribution Factor Equation to PSC Girder Bridges," KSCE (Korean Society of Civil Engineers) Journal of Civil Engineering, Vol. 9, No.4, July 2005, pp. 313-319.
9. *Wood, S.M.**, *Akinci, N.O.**, Liu, J. and Bowman, M.D. (2006) "Analysis and Instrumentation of a Steel Bridge for Investigating the Effects of Superloads," Transportation Research Record, No. 1976, pp. 95-103.
10. Liu, J.*, Sabelli, R., Brockenbrough, R. and Fraser, T. (2007) "Expected Yield Stress and Tensile Strength Ratios for Determination of Expected Member Capacity in the 2005 AISC Seismic Provisions," AISC Engineering Journal, 1st Quarter, 2007, pp. 15-26.
11. Liu, J. and Karbhari, V.M. (2007) "Performance and Design of Fibre-Reinforced Polymer Composites at Cold Temperatures – Current Status and Future Needs," International Journal of Materials & Product Technology, Vol. 28, No. 1/2, pp. 1-7.
12. *Gauthier, J.F.**, Whalen, T.M., and Liu, J. (2007) "Experimental Validation of the Higher Order Derivative Discontinuity Method for Damage Detection," first published online,

Structural Control and Health Monitoring, April 2007, also March 2008, Vol. 15, Issue 2, pp. 143–161. DOI: 10.1002/stc.210

13. *Akinci, N.O.**, Liu, J. and Bowman, M.D. (2008) "Parapet Strength and Contribution to Live Load Response for Superload Passages," ASCE Journal of Bridge Engineering, January/February 2008, Vol. 13, Issue 1, pp. 55-63.
14. *Machado, M.**, Liu, J. and Sotelino, E.D. (2008) "Modeling Technique for Honeycomb FRP Deck Bridges via Finite Elements," ASCE Journal of Structural Engineering Special Issue dedicated to the 17th Analysis and Computation Conference, April 2008, Vol. 134, Issue 4, pp. 572-580.
15. Lombardi, N.J.*, and Liu, J. (2010) "Steel Hexagonal Honeycomb Core Equivalent Elastic Moduli for Bridge Deck Sandwich Panels," ASCE Journal of Aerospace Engineering, January 2010, Vol. 23, No.1, pp. 62-69.
16. Cortes, G.* and Liu, J. (2011) "Analysis and Design of Steel Slit Panel Frames (SSPFs) for Seismic Zones," AISC Engineering Journal, First Quarter 2011, 48(1), pp. 1-17.
17. Cortes, G.* and Liu, J. (2011) "Experimental Evaluation of Steel Slit Panel Frames for Seismic Resistance," Journal of Constructional Steel Research, 67(2), pp. 181-191. http://dx.doi.org/10.1016/j.jcsr.2010.08.002
18. Lombardi, N.J.*, and Liu, J. (2011) "Glass Fiber-Reinforced Polymer/Steel Hybrid Honeycomb Sandwich Concept for Bridge Deck Applications," Composite Structures, March 2011, Vol. 93, Issue 4, pp.1275-1283. http://dx.doi.org/10.1016/ j.compstruct.2010.10.007
19. Higgins, C.*, Turan, O.T.*, Connor, R.J., and Liu, J. (2011) "A Unified Approach for LRFD Live Load Moments in Bridge Decks," ASCE Journal of Bridge Engineering, Volume 16, Issue 6, pp. 804 – 811.
20. Chi, H.* and Liu, J. (2012) "Seismic Behavior of Post-tensioned Column Base for Steel Self-Centering Moment Resisting Frame," Journal of Constructional Steel Research, Volume 78, pp. 117-130 http://dx.doi.org/10.1016/j.jcsr.2012.07.005
21. Surovek, A.E., and Liu, J. (2013) "Innovation in Steel Design: Rethinking the Research Paradigm," Vol. 139, Issue 6, pp. 865-868. http://dx.doi.org/10.1061/(ASCE)ST.1943-541X.0000708
22. *Akinci, N.O.**, Liu, J. and Bowman, M.D. (2013) "Spring Analogy to predict the 3-D Live Load Response of Slab-on-Girder Bridges," Engineering Structures, Vol. 56, November 2013, pp. 1049-1057 http://dx.doi.org/10.1016/j.engstruct.2013.06.025
23. Liu, J. (2015) "Steel Structures Research Update: Resilient Steel Plate Shear Walls," invited submission for the AISC Engineering Journal, 2nd Quarter, 2015, pp. 165-173.
24. Francisco, T.* and Liu, J. (2015) "Experimental Characterization of the Composite Slab Subjected to Simulated Column Removal Loading," ASCE Journal of Structural Engineering, 10.1061/(ASCE)ST.1943-541X.0001351 , 04015090.
25. Francisco, T.* and Liu, J. (2015) "Application of Experimental Results to Computational Evaluation of Structural Integrity of Steel Gravity Framing Systems with Composite Slabs," ASCE Journal of Structural Engineering, 10.1061/(ASCE)ST.1943-541X.0001444 , 04015152.
26. Liu, J. (2015) "Steel Structures Research Update: System Behavior and Collapse Assessment of Braced Frames," invited submission for the AISC Engineering Journal, 4th Quarter 2015, pp. 283 - 295.
27. *Fischer, E.C.**, Liu, J., Varma, A.H. (2016) "Investigation of cylindrical steel tank damage at wineries during earthquakes: Lessons learned and mitigation opportunities," ASCE Practice Periodical on Structural Design and Construction, 21(3), http://dx.doi.org/10.1061/(ASCE)SC.1943-5576.0000283.

28. Liu, J. (2016) "Steel Structures Research Update: Design for Deconstruction with Demountable Composite Beams and Floor Systems," invited submission to the AISC Engineering Journal, 2nd Quarter 2016.
29. Liu, J. (2016) "Updates to Expected Yield Stress and Tensile Strength Ratios for Determination of Expected Member Capacity in the 2016 AISC Seismic Provisions," AISC Engineering Journal, 4th Quarter 2016, Volume 53, No. 4, pp. 215 – 227.
30. Liu, J. (2016) "Steel Structures Research Update: Steel-Concrete Composite Beams at Ambient and Elevated Temperatures," invited submission to the AISC Engineering Journal, 4th Quarter 2016, Volume 53, No. 4, pp. 229 – 238.
31. Liu, J. (2017) "Ring-Shaped Steel Plate Shear Walls for Improved Seismic Performance of Buildings," invited submission to the AISC Engineering Journal, 2nd Quarter 2017, Vol. 54, No. 2, pp. 133-140.
32. Cortes, G.*, and Liu, J. (2017) "Behavior of Conventional and Enhanced Gravity Connections Subjected to Column Loss," Journal of Constructional Steel Research, Vol. 133, June 2017, pp. 475-484. http://doi.org/10.1016/j.jcsr.2017.02.028
33. Liu, J. (2017) "Strongback Steel-Braced Frames for Improved Seismic Behavior in Buildings," invited submission to the AISC Engineering Journal, 4th Quarter 2017, Vol. 54, No. 4, pp. 297-308.
34. Cortes, G.*, Chicchi, R. and Liu, J. (2018) "Framing Strategies for Enhanced Robustness in Steel Buildings," AISC Engineering Journal, 1st Quarter 2018, Vol. 55, No. 1, pp. 1 – 14.
35. Liu, J. (2018) "The Role of Gravity Framing in the Seismic Performance of Steel Buildings," invited submission to the AISC Engineering Journal, 2nd Quarter 2018, in press.

C1.3. Peer-Reviewed Archival Conference Publications

None to date. (Papers appearing in archival proceedings that were distributed to libraries (the next section covers other types of proceedings). The acceptance rate is indicated as part of the entry whenever the selection process was rigorous.

C1.4. Other Peer-Reviewed Publications

The following papers appeared in proceedings that were distributed primarily to attendees (as CDs, printed volumes, availability through a public website, etc.).

1. *Phuvoravan, K.*, *Chung, W.**, Liu, J, and Sotelino, E.D. (2004) "Simplified Live Load Distribution Factor Equation for Steel Girder Bridges," Transportation Research Board Annual Meeting, Presentation to Sub-Committee for Methods of Analyzing Steel Bridges, Washington, D.C., January 11-15, 2004.
2. Whalen, T.M., *Gauthier, J.F.**, and Liu, J. (2004) "A New Methodology for Nondestructive Evaluation and Rating of Bridges," Proceedings, American Control Conference, Boston, MA, June 30 – July 2, 2004, pp. 4195 – 4200.
3. *Akinci, N.O.**, Liu, J. and Bowman, M.D. (2005) "Effects of Parapets on Live-Load Response of Bridges Subjected to Superloads," Transportation Research Board Annual Meeting, Presentation to Sub-Committee for Methods of Analyzing Steel Bridges, Washington, D.C., January 10-14, 2005.
4. *Wood, S.M.**, *Akinci, N.O.**, Liu, J. and Bowman, M.D. (2006) "Analysis and Instrumentation of a Steel Bridge for Investigating the Effects of Superloads," presented at Transportation Research Board Annual Meeting, Washington, D.C., January 22 – 26, 2006.
5. *Machado, M.**, Liu, J. and Sotelino, E.D. (2006) "Modeling Technique for Honeycomb FRP Deck Bridges via Finite Elements," presented at the 2006 ASCE Structures Congress, 17th Analysis & Computation Specialty Conference, St. Louis, MO, May 18 – 21, 2006.

6. *Gauthier, J.F.**, Whalen, T., and Liu, J. (2006) "Experimental Damage Identification Using the Higher Order Derivative Discontinuity Method," presented at the 2006 ASCE Structures Congress, 17th Analysis & Computation Specialty Conference, St. Louis, MO, May 18 – 21, 2006.

C1.5. Papers Currently under Peer Review

1. *Baker, C.**, Higgins, C., Liu, J., and Yeh, H. (2017) "Estimation of Tsunami Wave Impact Loads on Building Cladding," submitted for Tsunami Engineering for Structures special issue of Earthquake Engineering and Structural Dynamics, November 2017.

C1.6. Other Publications

(Includes conference abstracts and papers; government, university or industrial reports (non-refereed); publications in popular press/magazines)

1. Liu, J.* and Astaneh-Asl, A. (1998) "Experimental Studies of Seismic Behavior of Shear Connections with Floor Slabs," Proceedings, SSRC Annual Technical Session & Meetings, Atlanta, GA, pp. 113 - 125.
2. Liu, J.* and Astaneh-Asl, A. (2000) "Cyclic Tests on Simple Connections Including Effects of the Slab," SAC Background Report, SAC/BD-00/03, SAC Joint Venture, Richmond, CA, 186 pages. http://bit.ly/HujszO
3. Astaneh-Asl, A.* and Liu, J. (2000) "Contributions of Shear Connections to Seismic Resistance of Steel Structures," Proceedings, The Fifth Conference on Tall Buildings in Seismic Regions, Los Angeles, May 5-6, 8 pages.
4. Liu, J.* and Astaneh-Asl, A. (2000) "Cyclic Behavior and Seismic Design of Steel Shear Connections," Proceedings, International Workshop on Connections in Steel Structures IV, Roanoke, VA, October, pp. 148 - 158.
5. Liu, J. (2003) "Examination of Expected Yield and Tensile Strength Ratios," Report to the American Institute of Steel Construction, Chicago, Illinois, July 2003, Addendum, September 2003, 55 pages.
6. Liu, J. (2003) "Case-Study: Incorporating AISC's Web-Enhanced Teaching Materials," Steel Educator News, American Institute of Steel Construction, Chicago, Illinois, October 2003, 2 pages.
7. Liu, J. (2004) "Eccentrically Loaded Weld Group Tables," Report to the American Institute of Steel Construction, Chicago, Illinois, May 2004, 12 pages.
8. Firat, G.* and Liu, J. (2004) "Poster: Improving the Dynamic Response of Steel Structures with Perimeter Moment Resisting Frames by Utilizing the Lateral Resistance of Interior Frames," Proceedings, 13th World Conference on Earthquake Engineering, Vancouver, B.C., August 1-6, 2004, CD file no. 285, 11 pages.
9. Liu, J., Editor (2004) "NSF Workshop on Performance and Design of Fiber Reinforced Polymer Composites at Very Cold Temperatures," Proceedings, Fairbanks, Alaska, August 13-14, 2004, 34 pages.
10. *Chung, W.**, *Phuvoravan, K.**, Liu, J, and Sotelino, E.D. (2004) "Simplified Live Load Distribution Factor for Use in LRFD Design," Joint Transportation Research Program, Report No. FHWA/IN/JTRP-2004/20, June 2004.
11. Liu, J. (2005) "Revitalize Educator Web Group for Web-Enhanced Teaching of Structural Steel Design," Report to the American Institute of Steel Construction, Chicago, Illinois, January 2005, 25 pages.

12. McCloskey, D.*, and Liu, J. (2005) "Steel Panel – Dual Systems for Lateral Resistance of Steel Frame Buildings: Progress Report," Report to the American Institute of Steel Construction, Chicago, Illinois, March 2005, 33 pages.
13. *Gauthier, J.F.**, Whalen, T., and Liu, J. (2005) "Identification of Localized Structural Damage Using Higher Order Derivative Discontinuities," Proceedings, Paper no. 174, McMat2005: 2005 Joint ASME/ASCE/SES Conference on Mechanics and Materials, Baton Rouge, Louisiana, June 1 - 3, 2005, 6 pages.
14. Chi, H. and Liu, J.* (2005) "Development of Post-Tensioned Column Bases for Self-Centering Steel Moment Frames," Proceedings, U.S.-Taiwan Workshop on Self-Centering Structural Systems, Taipei, Taiwan, June 6-7, 2005, Report No.: NCREE-05-004, pp. 21–22.
15. Sause, R.*, Ricles, J., Garlock, M., VanMarcke, E., Peh, L.S., and Liu, J. (2005) "Self-Centering Seismic-Resistant Steel Frame Systems: Overview of Past and Current Research," Proceedings, U.S.-Taiwan Workshop on Self-Centering Structural Systems, Taipei, Taiwan, June 6-7, 2005, Report No.: NCREE-05-004, pp. 1–3.
16. McCloskey, D.*, and Liu, J. (2006) "Steel Panel Systems for Lateral Resistance of Steel Frame Buildings: Progress Report," Report to the American Institute of Steel Construction, Chicago, Illinois, March 2006, 29 pages.
17. *Akinci,N.O.**, Liu, J., and Bowman, M.D., (2006) "A Simple Method to Predict the 3-D Live Load Response of Slab-on-Girder Bridges," 2006 ASCE Structures Congress, St. Louis, MO, May 18 – 21, 2006, 4 pages.
18. Lombardi, N.*, Rodriguez, R.*, Liu, J., and Sotelino, E.D., (2006) "Fiber-Reinforced Polymer Decks for Bridge Rehabilitation – A Case Study," 2006 ASCE Structures Congress, St. Louis, MO, May 18 – 21, 2006, 8 pages.
19. Whalen, T.M.*, *Gauthier, J.F.*, and Liu, J. (2006) "Application of the Higher Order Derivative Discontinuity Method to the I-40 Bridge Damage Detection Problem," 4th World Conference on Structural Control and Monitoring, San Diego, CA, July 11-13, 2006, Paper no. 4WCSCM-138, 8 pages.
20. *Machado, M.**, Liu, J. and Sotelino, E.D. (2006) "Simplified Finite Element Model for Honeycomb Fiber Reinforced Polymer Deck-on-Steel Girder Bridge Structures," FRP International, The Official Newsletter of the International Institute of FRP in Construction (IIFC), Ontario, Canada, Volume 3, Issue 3, September 2006, pp. 3-4. http://www.iifc-hq.org/news/
21. Cortes, G.* and Liu, J. (2006) "Parametric Study on Steel Slit Panels and Initial Gravity Load Effects," Report to the American Institute of Steel Construction, Chicago, Illinois, September 2006, 13 pages.
22. Chi, H.* and Liu, J. (2006) "Response of Self-Centering Steel Moment Resisting Frames with Post-tensioned Column Bases Under Seismic Loading," *Proceedings,* 4th International Conference on Earthquake Engineering (4th ICEE), Taipei, Taiwan, October 12 – 13, 2006, Paper No. 89, 8 pages.
23. Chi, H.* and Liu, J. (2006) "Design and Detailing of Post-Tensioned Column Bases," Proceedings, U.S.-Taiwan Workshop on Self-Centering Structural Systems, Taipei, Taiwan, October 14, 2006, 2 pages.
24. Garlock, M., Liu, J. and King, A. (2006) "Construction Details for Self-Centering Moment Resisting Frame Floor Diaphragms," Proceedings, U.S.-Taiwan Workshop on Self-Centering Structural Systems, Taipei, Taiwan, October 14, 2006, 3 pages.
25. Cortes, G.* and Liu, J. (2007) "Steel Slit Panels (SSP) Progress Update and Preliminary Test Plan," Report to the American Institute of Steel Construction, Chicago, Illinois, February 2007, 16 pages.

26. Chung, W.*, Sotelino, E.D., and Liu, J. (2007) "Effects of Diaphragms and Parapets on the Live Load Distribution of Steel Girder Bridges," Pacific Structural Steel Conference, Wairakei, New Zealand, March 13 – 16, 2007, Paper No. 36, 5 pages.
27. Liu, J. (2007) "Web-Enhanced Teaching (WET) Tools for Steel Educators," STRUCTURE Magazine, NCSEA/CASE/SEI, April 2007, pp. 50-51.
28. Cortes, G.* and Liu, J. (2007) "Steel Slit Panels (SSP): Progress Report," Report to the American Institute of Steel Construction, Chicago, Illinois, November 2007, 24 pages.
29. Liu, J. (2008) "AISC 13th ed. Eccentrically Loaded Weld Group Tables," Report to the American Institute of Steel Construction, Chicago, Illinois, January 2008, 11 pages.
30. Cortes, G.* and Liu, J. (2008) "Steel Slit Panels (SSP): Progress Report," Report to the American Institute of Steel Construction, Chicago, Illinois, March 2008, 102 pages.
31. Chi, H.*, Liu, J., and Garlock, M. (2008) "Design and Analytical Validation of Post-tensioned Column Bases," 2008 ASCE Structures Congress, Vancouver, BC, April 24-26, 2008, 6 pages.
32. Cortes, G.*, and Liu, J. (2008) "Poster: Analytical Investigation of Steel Slit Panels for Lateral Resistance of Steel Frame Buildings," 2008 ASCE Structures Congress, Vancouver, BC, April 24-26, 2008, 4 pages.
33. Rodriguez-Vera, R.*, Lombardi, N., and Liu, J. (2008) "Poster: Performance Evaluation of a Mechanically Fastened Fiber Reinforced Polymer Deck," 2008 ASCE Structures Congress, Vancouver, BC, April 24-26, 2008, 7 pages.
34. Cortes, G.*, and Liu, J. (2008) "Steel Slit Panel Configurations," 14th World Conference on Earthquake Engineering, Beijing, China, October 12-16, 2008, 8 pages.
35. Cortes, G.*, and Liu, J. (2009) "Lateral Resistance Using Steel Slit Panel Frames (SSPFs)," 2009 ASCE Structures Congress, Austin, TX, April 29-May 2, 5 pages.
36. Chi, H.* and Liu, J. (2010) "Experimental Investigation of Post-Tensioned Column Base Connection," 4th International Conference on Steel & Composite Structures, Sydney, Australia, July 21-23, 2010, 6 pages.
37. Liu, J. (2011) "Behavior and Design of Steel Slit Panel Frames for Seismic Resistance," Modern Steel Construction, AISC, preview for presentation at the NASCC 2011, April 2011, p.40.
38. Connor, R.J., Liu, J., and Higgins, C. (2011) "Bridge Deck Design Criteria and Testing Procedures," Report to the National Cooperative Highway Research Program, Transportation Research Board of the National Academies, Project No. 10-72, West Lafayette, IN, 2011, 272 pages.
39. Rodriguez-Vera, R. E.*, Lombardi, N. J.*, *Machado, M. A.**, Liu, J. and Sotelino, E. D. (2011) Fiber Reinforced Polymer Bridge Decks. Publication FHWA/IN/JTRP-2011/04. Joint Transportation Research Program, Indiana Department of Transportation and Purdue University, West Lafayette, Indiana, 2011. doi: 10.5703/1288284314242
40. Hebdon, M.*, Liu, J., and Lloyd, J. (2012) "Practical Design Considerations for Steel Slit Panel Frames," 2012 ASCE Structures Congress, Chicago, IL, March 29-31, 2012, 9 pages.
41. Weigand, J.M.*, Meissner, J.E.*, Francisco, T.*, Berman, J.W., Fahnestock, L.A., and Liu, J. (2012) "Overview of AISC/NSF Structural Integrity Research and Preliminary Results," 2012 ASCE Structures Congress, Chicago, IL, March 29-31, 2012, 12 pages.
42. Surovek, A., and Liu, J. (2012) "Innovation in Design of Steel Structures: Research Needs for Global Competitiveness," Modern Steel Construction, AISC, preview for presentation at the NASCC 2012, April 2012, pp. 56-57.
43. Lloyd, J.*, Hebdon, M., and Liu, J. (2012) "Practical Design Considerations for Steel Slit Panel Frames," Report to the American Institute of Steel Construction, Chicago, Illinois, August 2012, 96 pages.

44. Surovek, A., and Liu, J. (2012) "Looking Toward the Future," Modern Steel Construction, AISC, October 2012, pp. 56-59.
45. Main, J.* and Liu, J. (2013) "Robustness of Prototype Steel Frame Buildings against Column Loss: Assessment and Comparisons," 2013 ASCE Structures Congress, Pittsburgh, PA, May 2-4, 2013, 12 pages. *[Note: before it was submitted to ASCE, this National Institute of Standards and Technology (NIST) paper was required to undergo 4 independent, technical reviews; one reviewer must be from outside of the Structures division at NIST.]*
46. Weigand, J.M.*, Francisco, T.*, Johnson, E.S., Fahnestock, L.A., Liu, J. and Berman, J.W. (2013) "Large-Scale Experimental Evaluation of Steel Gravity Framing Structural Integrity," 2013 ASCE Structures Congress, Pittsburgh, PA, May 2-4, 2013, 11 pages.
47. *Lai, Z.**, Varma, A.H., Connor, R.J., Liu, J. (2013) "Retrofit Analysis of Steel Built-Up Members for Bottom Chords of Bayonne Bridge," Bowen Laboratory Research Report, No. 2013-02, West Lafayette, IN, June 3, 2013.
48. Liu, J. (2013) "Updates to Expected Yield and Tensile Strength Ratios," Report to the American Institute of Steel Construction, Chicago, IL, November 2013, 40 pages.
49. Cortes, C.* and Liu, J. (2014) "Framing Strategies for Robustness in Steel Buildings," Progress Report to the American Institute of Steel Construction, Chicago, IL, January 2014, 47 pages.
50. Francisco, T.*, Weigand, J.M.*, Johnson, E.S., Fahnestock, L.A., Liu, J. and Berman, J.W. (2014) "Experimental Characterization of Composite Slab Collapse Resistance for Steel Gravity Frames," 2014 ASCE Structures Congress, Boston, MA, April 3-5, 2014, 12 pages.
51. Johnson, E.S.*, Weigand, J.M., Francisco, T., Fahnestock, L.A., Liu, J. and Berman, J.W. (2014) "Large-Scale Testing of a Steel-Concrete Composite Floor System Under Column Loss Scenarios," 2014 ASCE Structures Congress, Boston, MA, April 3-5, 2014, 10 pages.
52. Cortes, C.* and Liu, J. (2014) "Framing Strategies for Robustness in Steel Buildings," Progress Report to the American Institute of Steel Construction, Chicago, IL, August 2014, 87 pages.
53. Fischer, E.*, Liu, J. and Varma, A. (2015) "Lessons learned from the Napa Valley Earthquake: A case study," STRUCTURE Magazine, March 2015, NCSEA/CASE/SEI.
54. Cortes, G.*, Liu, J. and Francisco, T. (2015) "Framing Strategies for Robustness in Steel Buildings," 2015 ASCE Structures Congress, Portland, OR, April 23-25, 2015.
55. Francisco, T.* and Liu, J. (2015) "Construction and Anchorage Considerations for Steel-Concrete Composite Floor Systems," 2015 ASCE Structures Congress, Portland, OR, April 23-25, 2015.
56. Main, J.*, Weigand, J.*, Johnson E., Francisco, T., Liu, J., Berman, J., and Fahnestock, F. (2015) "Analysis of a Large-Scale Composite Floor System Test under Column Loss Scenarios," 2015 ASCE Structures Congress, Portland, OR, April 23-25, 2015.
57. Cortes, C.* and Liu, J. (2015) "Framing Strategies for Robustness in Steel Buildings," Final Report to the American Institute of Steel Construction, Chicago, IL, August 2015, 212 pages.
58. Cortes, C.*, Liu, J., and Chicchi, R. (2016) "Evaluation of Stiff Stories for Robustness in Steel Buildings," Geotechnical & Structural Engineering Congress, Phoenix, AZ, February 14-17, 2016, 12 pages.
59. Parikh, M.*, Lucas, L.*, Borello, D., and Liu, J. (2016) "Practical Considerations for Steel Slit Panel Frames," Year One Final report to the American Institute of Steel Construction, Chicago, IL, September 2016, 38 pages.
60. Fischer, E.C.* and Liu, J. (2017) "Seismic Behavior of Cylindrical Fluid-Filled Steel Tanks," Structures Congress, April 6 – 8, 2017, Denver, CO, 10 pages.
61. Parikh, M.*, and Liu, J. (2017) "Practical Considerations for Steel Slit Panel Frames," Report to the American Institute of Steel Construction, Chicago, IL, December 2017, 239 pages.

C2. Professional Meetings, Symposia, and Conferences

C2.1. Presentations to Professional Groups (includes conference proceedings papers that are *not* listed in C1.3, C1.4, or C1.6)

1. Contributed Talk, Liu, J.* and Astaneh-Asl, A. (1998) "Behavior of Simple Connections in Frames Subject to Large Lateral Deflections," Proceedings, World Structural Engineering Congress, ASCE, San Francisco, CA, July, Computer File, Paper T158-5, 8 pages.
2. Contributed Talk, Liu, J.* and Astaneh-Asl, A. (1999) "Cyclic Behavior of Steel Shear Connections Including Floor Slab," Proceedings, 8th Canadian Conference on Earthquake Engineering, Vancouver, B.C., February, pp. 251 - 256.
3. Contributed Poster, Liu, J.* and Astaneh-Asl, A. (2000) "Poster: Seismic Behavior and Design of Steel Shear Connections with Floor Slab," Proceedings, 12th World Conference on Earthquake Engineering, New Zealand, January, CD file no. 1829, 8 pages.
4. Contributed Talk, Liu, J.* and Astaneh-Asl, A. (2000) "Cyclic Testing on Simple Connections, Including Slab Effects," Proceedings, North American Steel Construction Conference, Las Vegas, NV, pp. 2-1 – 2-20.
5. Contributed Talk, Liu, J.* and Astaneh-Asl, A. (2000) "Cyclic Behavior of Steel Shear Connections with Floor Slab," Proceedings, 6th ASCCS International Conference on Steel-Concrete Composite Structures, Los Angeles, CA, March, pp. 745-752.
6. Contributed Poster, Liu, J.* and Astaneh-Asl, A. (2002) "Poster: Application of Moment-Rotation Models of Simple Connections to the Lateral Resistance of Steel Structures," Proceedings, 12th European Conference on Earthquake Engineering, London, England, September 9-13, CD file no. 387, 10 pages.
7. Invited Talk, Liu, J. (2003) "Before and After AISC-WET: A Web-Enhanced Teaching Case Study," Educators Session, North American Steel Construction Conference (NASCC), Baltimore, MD, April 2-5, 2003.
8. Invited Talk, Liu, J. (2005) "Alternative Systems for Seismic-Resistant Steel Frame Buildings," Pennsylvania State University, University Park, PA, March 28, 2005.
9. Invited Talk, Liu, J. (2005) "Post-Tensioned Column Bases for Self-Centering Steel Moment Frames," Lehigh University, Bethlehem, PA, September 29, 2005.
10. Invited Talk, Liu, J. (2006) "AISC Web Enhanced Teaching (WET) Tools for Educators," Educators Session, North American Steel Construction Conference (NASCC), San Antonio, TX, February 8 – 11, 2006.
11. Invited Talk, Liu, J. (2008) "Seismic Resistant Steel-Frame Buildings," Central Fabricators Association, Chicago, IL, November 11, 2008.
12. Invited Talk, Liu, J. (2011) "Behavior and Design of Steel Slit Panel Frames for Seismic Resistance," North American Steel Construction Conference (NASCC), Pittsburgh, PA, May 11-14, 2011.
13. Invited Talk, Liu, J. (2012) "Steel Slit Panel Frames for Sustainable Seismic Design," Georgia Institute of Technology, Atlanta, GA, February 21, 2012.
14. Contributed Talk, Liu, J.*, Main, J., and Sadek, F. (2012) "Modeling of Double-Angle Shear Connections for Evaluation of Structural Robustness," ASCE Congress on Forensic Engineering, San Francisco, CA, October 31 – November 3, 2012, 10 pages. *[Note: before it was submitted to ASCE, this National Institute of Standards and Technology (NIST) paper was required to undergo 4 independent, technical reviews; one reviewer must be from outside of the Structures division at NIST.]*
15. Invited Talk, Liu, J. (2014) "Steel Slit Panel Frames for Sustainable Seismic Design," University of Cincinnati, Cincinnati, OH, February 21, 2014.

16. Invited Talk, Liu, J. (2014) "The Role of the Composite Slab in the Structural Integrity of Steel Gravity Framing Systems," University of Nebraska, Omaha, NE, September 25, 2014.
17. Invited Talk, Liu, J. (2014) "Post-tensioned Column Bases for Self-Centering Moment Resisting Frames," University of Michigan, Ann Arbor, MI, October 16, 2014.

C2.2. Participation at Invitational Workshops

1. Liu, J. (2001) "Concepts for Modeling of Partially-Restrained Connections for Performance-Based Design," US-Japan Seminar on Advanced Stability and Seismicity Concepts for Performance-Based Design of Steel and Composite Structures, Kyoto, Japan, July 23-26, 2001, 19 pages.
2. Liu, J. (2005) "Development of Post-Tensioned Column Bases for Self-Centering Steel Moment Frames," U.S.-Taiwan Workshop on Self-Centering Structural Systems, Taipei, Taiwan, June 6-7, 2005.
3. Chi, H.* and Liu, J. (2008) "Post-tensioned Column Bases for Self-Centering Moment Resisting Frames," Connections VI, International Workshop on Connections in Steel Structures 2008, Chicago, IL, June 23-25, 2008, 10 pages.
2. Chi, H.* and Liu, J. (2012) "Design and Behavior of Post-tensioned Column Bases for Self-Centering Moment Resisting Frames," Connections VII, International Workshop on Connections in Steel Structures 2012, Timisoara, Romania, May 30 – June 2, 2012, 10 pages.
3. Weigand, J., Liu, J., and Main, J. (2016) "Modeling of Double-Angle Connections for Robustness Evaluation of Steel Gravity Frames," Connections VIII, International Workshop on Connections in Steel Structures 2016, Boston, MA, May 24 – June 26, 2016, 10 pages.

C3. Grant and Contract Support

Agency & Dates	*PI (and co-PIs)*	*Title*	*Total Budget*	*My Share*
Caltrans 1/17 – 12/17	C. Higgins (PI), J. Liu (co-PI)	LFD and LRFD Capacity of Steel Pin and Hanger Assembly	$169,784	$84,892
Oregon State University: Learning Innovation Grant 1/16 – 1/17	J. Liu (T. Miller, A. Barbosa)	Active Learning with 3D-Printed Models in Structural Engineering	$8,349	$2,783
American Institute of Steel Construction 10/15 – 9/16	J. Liu (D. Borello)	Practical Design Considerations for Steel Slit Panel Frames	$25,000	$12,500
American Institute of Steel Construction 8/13 – 8/15	G.Cortes, LeTourneau University (J. Liu)	Framing Strategies for Robustness in Steel Buildings	$66,000	$23,309
HDR, Inc. 9/12 – 6/13	R. Connor (A. Varma, J. Liu)	Strengthened Built-up Steel Columns	$85,371	$15,367
American Institute of Steel Construction 8/11-10/12	J. Liu	Practical Design Considerations for Steel Slit Panel Frames	$25,000	$25,000

National Science Foundation 8/10-7/13	PI: J. Berman, UW (L. Fahnestock, UIUC; J. Liu)	Collaborative Research: Structural Integrity of Steel Gravity Framing Systems	$375,000	$100,000
American Institute of Steel Construction 8/10-7/13	J. Liu	Supplement to Collaborative Research: Structural Integrity of Steel Gravity Framing Systems (NSF)	$20,000	$20,000
Purdue Research Foundation 8/06 -7/07	J. Liu	Development of Steel Slit Panels for Lateral Resistance of Steel Frame Buildings	$14,040	$14,040
National Cooperative Highway Research Program 9/06 – 8/09 ext.2/12	R. Connor (C. Higgins, J. Liu)	Bridge Deck Design Criteria and Testing Procedures	$499,836	$110,950
Purdue Research Foundation 8/05 – 7/06	J. Liu	Characterization of Non-Structural Elements for Health Monitoring of Steel Moment Frame Buildings	$13,342	$13,342
Joint Transportation Research Program 8/05-7/07 ext.3/11	J. Liu	Evaluation of Fiber Reinforced Polymer (FRP) Bridge Deck Panels	$150,000 + $29,000 extension	$150,000 + $29,000 extension
National Science Foundation 10/04-9/09	R. Sause, Lehigh (J. Ricles, Lehigh; M. Garlock, Princeton;J.Liu)	NEESR-SG: Self-Centering Damage-Free Seismic-Resistant Steel Frame Systems	$2,000,000	$304,000
American Institute of Steel Construction 8/04-7/08	J. Liu	Steel Panel – Dual Systems for Lateral Resistance of Steel Frame Buildings	$119,406	$119,406
American Institute of Steel Construction 5/04-12/04	J. Liu	Project to Revitalize Educator Web Group for Web Enhanced Teaching of Structural Steel	$4684	$4684
National Science Foundation 6/04-6/05	J. Liu	Workshop on Performance and Design of Fiber Reinforced Polymer (FRP) Composites at Very Cold Temperatures	$25,000	$25,000
Purdue Research Foundation 6/04-5/05	J. Liu	Characterization of Non-Structural Elements for Health Monitoring of Steel Moment Frame Buildings	$13,342	$13,342
Purdue Research Foundation 6/03-5/04	J. Liu	Design Guidelines for the Contribution of Gravity Frames to the Lateral	$13,263	$13,263

		Resistance of Steel Frame Buildings (renewal)		
American Institute of Steel Construction 5/03-9/03	J. Liu	Expected Yield and Tensile Strength Ratios	$5,000	$5,000
Joint Transportation Research Program 1/03-6/05	M. Bowman (J. Liu)	Long-Term Effects of Super Heavy-Weight Loads on Bridge Superstructures	$240,000	$120,000
Federal Highway Administration 6/03-11/05	E. Sotelino (J. Liu)	Innovative Bridge Research and Construction Program: FRP Bridge Deck	$475,000	$237,500
Purdue Research Foundation 6/02-5/03	J. Liu	Design Guidelines for the Contribution of Gravity Frames to the Lateral Resistance of Steel Frame Buildings	$13,140	$13,140
Joint Transportation Research Program 1/01-6/03	E. Sotelino (J. Liu – joined 2002)	Simplified Wheel Load Distribution for Use in LRFD Design	$180,000	$90,000
		Totals	$4,569,557	$1,435,679

C3.1. Donations

Year	*Source*	*Donation*	*Approx Value*
2016	Garco Building Systems / Metal Building Manufacturers Association (MBMA)	Three 8 ft x 12 ft metal building cladding specimens for testing in the Large Wave Flume	$100

C3.2. Proposals Currently under Review

Agency	*PI (and co-PIs)*	*Title*	*Budget*	*Duration*
Degenkolb Engineers	C. Higgins, PI (with E. Fischer)	Structural Testing of VA Hospital Components and Systems	$1,410,707	10 months
Oregon State University	E. Fischer, PI (with A. Barbosa, J. Ideker)	Learning Innovation Grant: Structural Fire Engineering Experiential Learning and Visualization	$9,431	1 year
National Science Foundation	J. Liu, PI (co-PIs C. Higgins, H. Yeh, M. Motley (UW))	Collaborative Research: Characterization of Wave Impact Loading on Structures for Cascading-Hazard Design	$535,410 (OSU), and $281,567 (UW)	3 years
National Science Foundation	Senior Personnel on a proposal team led by M. Babbar-Sebens, PI	REU Site: Engineering Resilient Communities	$360,000	3 years

C4. Patents Filed and In Process

None

C5. Other Scholarship and Creative Activities

Unified Design of Steel Structures, 3rd edition – collaborated with Dr. Louis F. Geschwindner and Dr. Charles J. Carter on the new edition of this textbook for undergraduate structural steel design courses. The textbook, which has been updated for the 2016 AISC *Specification for Structural Steel Buildings* and the 15th edition AISC *Steel Construction Manual*, was published in time for use in Fall 2017 classes.

D. SERVICE

D1. University Service

- CCE Architectural Engineering Faculty Search Committee, October 2017 – present; September 2016 – April 2017.
- MIME Advanced Manufacturing Faculty Search Committee, Search Advocate, September 2017 – present.
- COE Faculty Status Committee, July 2017 – present.
- COE Executive Associate Dean Search Committee, November 2016 – February 2017.
- CCE Architectural Engineering Program Committee, *Chair*, October 2015 – present, *leading New Degree Program (Category I) proposal and associated new course (Category II) proposals, currently in review*, May 2016 – present.
- CCE Teaching Evaluation Committee, October 2015 – present.
- CCE Ad-hoc Subcommittee for Promotion & Tenure, October 2015 – November 2015.
- CCE Non-Destructive Testing & Evaluation Faculty Search Committee, October 2015 – March 2016.
- CCE Graduate Recruiting Committee, November 2015 – March 2016.

Purdue University

- Freshman Engineering Curriculum Committee, 2002 – 2004.
- Martha Dicks Stevens Fellowship Committee, 2002 – 2004, *Chair, Spring 2004*
- Large-Scale Laboratory Faculty Search Committee, 2002 – 2004.
- University Visual Arts Committee, 2002 - 2005, *Secretary, 2003 – 2005*.
- Earth and Atmospheric Sciences Faculty Search Committee, Oct 2003 – May 2004.
- Civil Engineering Honors Program Committee, 2005 – 2015.
- Civil Engineering Undergraduate Curriculum Committee, 2005 – 2007.
- Civil Engineering Graduate Committee, Fall 2006 – Summer 2010.
- College of Engineering Associate Dean for Research Search Committee, Summer 2007.
- Architectural Engineering Faculty Search Committee, *Chair*, Fall 2007 – Summer 2008.
- Investigation Committee, Allegation of Research Misconduct, Office of Vice President for Research, May 2010 – August 2010.
- Civil Engineering Faculty Governance Committee, representative for the Structures group, September 2012 – October 2014.

D2. Service to the Profession

D2.1. Journal Editorships

- Associate Editor, *ASCE Journal of Structural Engineering*, 2007 – present
- Research Editor, *AISC Engineering Journal*, 2014 - present

D2.2. Conference and Workshop Organization

- Workshop on Performance and Design of Fiber Reinforced Polymer (FRP) Composites at Very Cold Temperatures, National Science Foundation, Organizer, August 2004.

- Network for Earthquake Engineering Simulation (NEES) 6th Annual Meeting Technical Program Committee Chair, December 2007 – June 2008.
- Network for Earthquake Engineering Simulation (NEES) 7th Annual Meeting Technical Program Committee, November 2008 – June 2009.
- Structures Congress 2012 workshop – Innovation in Design of Steel Structures: Research Needs for Global Competitiveness, Co-chair/organizer, May 2012

D2.3. Conference Program Committees

- Scientific Committee, *2008,* 14th World Conference on Earthquake Engineering (Beijing, China, October 2008)
- International Advisory Committee and Organizing Committee, *2009,* International Conference on the Behavior of Steel Structures in Seismic Areas (STESSA), Philadelphia, PA.
- International Scientific Committee, *2009,* 9th International Conference on Steel Concrete Composite and Hybrid Structures (ASCCS), Leeds, England.
- International Scientific Committee, *2010,* 4th International Conference on Steel & Composite Structures (ICSCS), Sydney, Australia.
- International Scientific Committee, *2011,* 5th International Conference on Steel & Composite Structures (ICSCS), Seoul, Korea.
- Organizing Committee, *2011,* "A Workshop on the Architecture and Engineering of Sustainable Buildings," Istanbul, Turkey, sponsored by National Science Foundation.
- International Advisory Committee, *2012,* International Conference on the Behavior of Steel Structures in Seismic Areas (STESSA), Santiago, Chile.
- International Scientific Committee, *2012*, International Conference on Steel Concrete Composite and Hybrid Structures (ASCCS), Singapore.
- Scientific Organizing Committee, *2015,* First International Conference on Steel Structures in Tehran, Iran, February 2015.
- International Scientific Committee, *2017-2018,* 12th International Conference on Steel Concrete Composite and Hybrid Structures (ASCCS), Valencia, Spain (June 27-29, 2018).

D2.4. Reviewing

- Grant Proposal Reviewer, National Science Foundation, *2002 – present*, including Distinguished Teaching Scholar (DTS) award, the Course, Curriculum, and Laboratory Improvement (CCLI) program, the Broadening Participation Research Initiation Grants in Engineering (BRIGE) program, the Network for Earthquake Engineering Simulation Research (NEESR), and other programs within the Division of Civil, Mechanical and Manufacturing Innovation (CMMI) including Hazard Mitigation and Structural Engineering (HMSE).
- Reviewer for a number of journals, including the *ASCE Journal of Structural Engineering, Journal of Constructional Steel Research, International Journal of Steel Structures, Engineering Structures.*

D2.5. Other

- Pacific Earthquake Engineering Research (PEER) Center: *Research Committee, July 2017 – present, help to develop requests for proposals for the Transportation Systems Research Program and to review proposals.*

- Earthquake Engineering Research Institute (EERI): 1998 – present
  EERI Student Paper Competition, Reviewer, 2004, 2010, reviewed ten undergraduate and graduate student papers on a variety of topics on earthquake engineering.
- American Society of Civil Engineers (ASCE): 2001 – present
  Disproportionate Collapse Mitigation Standard Committee, developing an ASCE/SEI standard for mitigation of disproportionate collapse potential, October 2012 – present
  Disproportionate Collapse (Technical) Committee, May 2013 – present.
  Journal of Structural Engineering liaison on Metals Technical Activities Committee, August 2011 – present; co-chair/organizer for Structures Congress 2012 workshop – Innovation in Design of Steel Structures: Research Needs for Global Competitiveness, May 2012
  Committee on Composite Construction, 2003 – 2010, May 2013 – September 2017; Secretary, April 2005 – 2007; Chair, August 2007 – September 2010
  Committee on Compression and Flexural Members, 2002 – 2008; co-organizer/moderator, ASCE/SEI Structures Congress session on LRFD-Steel Bridges, 2006.
  Student Primer for the ASCE 7 document, Reviewer, *2013 – 2015*, Minimum Design Loads for Buildings and Other Structures, led by Dr. Roberto Leon, of Virginia Tech. Service included review of the Primer at different stages of development, and conference calls to discuss feedback on scope, organization, and content.
- American Institute of Steel Construction (AISC): 2002 – present
  AISC Committee on Specifications, April 2016 – present.
  National Student Steel Bridge Competition (NSSBC), Faculty Advisor, February 2016 – May 2017, worked with student directors and planning committee members, prepared and hosted the NSSBC at Oregon State University, May 26-27, 2017. The NSSBC is an annual, joint event for American Society of Civil Engineers (ASCE) and the American Institute of Steel Construction (AISC).
  AISC Technical Committee (TC) 4 – Member Design, January 2016 – present.
  Partners in Education Committee, 2002 – present, Vice-Chair January 2016 – present.
  Web-Enhanced Teaching of Structural Steel Design, May 2004 to present, production of a monthly e-mail newsletter, the *Steel Educators' Tip Sheet*, and a website, *Tools and Tips for Steel Educators*, with tips and teaching aids for steel educators. The website was converted to the AISC Educator Forum in 2014.
  Faculty Survey Subcommittee, Chair, April – October 2011, chaired a subcommittee responsible for conducting a survey of steel educators and their use of AISC teaching aids.
  National Student Steel Bridge Competition, Spring 2009 – Spring 2010, assisted with the National Student Steel Bridge Competition (NSSBC), hosted by Purdue University on May 28-29, 2010. The NSSBC is an annual, joint event for American Society of Civil Engineers (ASCE) and the American Institute of Steel Construction (AISC).
  T.R. Higgins Award Jury, 2009, 2010, served on the jury (invited) for the 2009 and 2010 T.R. Higgins Lectureship Award. This award recognizes an outstanding lecturer and author whose technical paper(s) is(are) considered "an outstanding contribution to the engineering literature on fabricated structural steel." The 6-member jury includes researchers, practitioners, and fabricators.
  Project Oversight Committee, Summer 2007 – Spring 2009, served on a project oversight committee for an educational project funded by the American Institute of Steel Construction (AISC) and led by Dr. Scott Civjan at the University of Massachusetts Amherst.
- Network for Earthquake Engineering Simulation (NEES): 2004 – 2010
  Education Outreach and Training (EOT) Committee, Fall 2005 – 2009; Chair, EOT Committee, January 2008 - 2009; REU Advisory Board, 2008 – 2010; 6th Annual Meeting Technical Program Committee Chair, December 2007 – June 2008. 7th Annual Meeting

Technical Program Committee, November 2008 – June 2009.

- Transportation Research Board (TRB): *Committee AHD30 Structures Maintenance, 2006 – 2008.*
- National Council of Structural Engineers Associations (NCSEA): *Basic Education Committee, October 2013 – present.*

D3. Service to the Public

D3.1. Professionally Related

- ASCE Bridge Bust, *February 28, 2003, February 22, 2002, February 23, 2001* – Served as a judge, evaluating balsa wood bridges constructed by local high school students on structural concept, aesthetics, and load efficiency.
- Women in Engineering Preview Day, *October 3, 2005, October 4, 2004, October 15, 2001* – Gave a presentation on opportunities in structural engineering to female high school students considering majoring in Engineering at Purdue University.
- Middle School MINDS, *November 4, 2006, November 19, 2005* – Introduced middle school students to earthquake engineering concepts with a slide show, a small shaking table, other hands-on activities, and a building contest; students were challenged to build earthquake-resistant 3-story buildings using cardstock and tape; *November 15, 2003* – Introduced 7th and 8th graders to earthquake engineering concepts, such as natural frequency, resonance, and lateral resisting frames, using modeling clay, florists' wire, craft sticks, string, and cardboard; *November 10, 2001* – Introduced 7th and 8th graders to structural engineering through hands-on exercises with craft sticks, string, and paper. Concepts such as tension and compression were demonstrated. The students were challenged to make their own paper bridges and see how much load their bridges could support.
- Fundamentals of Engineering Review Session for ASCE: Statics, *Spring 2014, Fall 2013*, Mechanics of Materials, *Fall 2014, Spring 2010, Fall 2005, Fall 2002*.
- Family Day, School of Civil Engineering, *September 6, 2003* – Conducted a demonstration on earthquakes and structures using small shaking table.
- Purdue Student Engineering Foundation's Engineering Expo, *April 8, 2004* – Delivered keynote presentation on "Superstructures: Engineering Marvels" to high school students participating in a day-long, "learn by doing" program about engineering.
- Wabash Area Lifetime Learning Association (WALLA) Mini-Course, *October 17, 2007* – Presented on the Pacific Coast Highway, with a focus on arch bridges; led a hands-on activity using paper, cardstock, tape, and string to demonstrate form and stiffness of arch bridges as well as typical overpass bridges; *November 7, 2005* – Presented on Tokyo Sky City; led a hands-on activity using cardstock, tape, string, and washers to demonstrate the concept of a tuned mass damper for controlling lateral deformations in tall buildings; *March 30, 2005* – Presented on Retro-Tech Engineering (The Chinese Rainbow Bridge); led a discussion based on a video showing the physical recreation of a bridge from a painting from the Song Dynasty; engaged the audience with a hands-on activity in which they recreated their own "Rainbow Bridges" with straws and twist ties; *October 18, 2004* – Presented on Collapse Due to Extreme Force (Explosions and Earthquakes); led a discussion based on a video summarizing the Alfred Murrah Federal Building collapse in Oklahoma City, the Cypress Freeway collapse, damage due to the Kobe Earthquake, and others; engaged the audience with hands-on demonstrations designed to reinforce concepts presented in the video. WALLA is a non-profit educational association for those 50 and older.

- Purdue Horizons, *July 14, 2004* – Gave presentation to undergraduate, underrepresented minority engineering students on graduate school opportunities in structural engineering.
- Engineering Summer Preview (ESP) Days, *July 18, 2005* – Gave a presentation on structural engineering to high school students considering majoring in Engineering at Purdue University; included hands-on exercises with paper structures.
- Women in Engineering Preview Day, *April 10, 2006* – Gave a presentation about opportunities in civil engineering to female high school students considering majoring in Engineering at Purdue University; covered topics normally presented by Civil Engineering Undergraduate Office staff, including academic areas, typical curriculum, civil engineering laboratories, and extra-curricular activities.
- Architectural Engineering at Purdue, CESAC Shop Talks & Snacks, *April 11, 2008* – presented an introduction to Architectural Engineering and the new Architectural Engineering emphasis area planned for Civil Engineering.
- Juniors Exploring Engineering at Purdue, Women in Engineering Program (WIEP), *April 8, 2013* – welcomed and joined visiting students and their parents for a luncheon; answered their questions about Engineering (and college, in general) at this Spring recruiting event.
- CH2M-Hill/OSU High School Bridge Contest, February 27, 2016 – assisted with creation and implementation of CCE Scavenger Hunt in Kearney and Owen Halls, educating participants about Civil & Construction Engineering. This bonus, side activity highlighted the exposed building systems and features that helped Kearney Hall to achieve its LEED Gold Rating. The activity also incorporated information about ASCE Student Chapter activities such as the Concrete Canoe and Steel Bridge competitions.
- OSU Bring Your Kids to Campus Day, April 14, 2017 – collaborated with David Hurwitz, Ben Mason, and Joe Louis on a "Making & Shaking Structures" room. Kids and adults were able to operate trucks and an excavator in a virtual construction site. Through hands-on activities, including building and testing their own earthquake-resistant designs, participants learned how different structures react to earthquakes, and what can happen to the ground due to strong shaking.

D3.2. Other Public Service

None to date

E. AWARDS

E1. National and International Awards

National Science Foundation Graduate Fellowship, 1995-1998.

National Earthquake Hazards Reduction Program (NEHRP) Graduate Fellowship, 1998. Sponsored by the Federal Emergency Management Agency and awarded by the Earthquake Engineering Research Institute, designed to foster the participation of an individual working toward the goals and practice of earthquake hazard mitigation.

American Institution of Steel Construction (AISC) Milek Fellowship, 2004-2008.
Awarded with the intent of developing promising faculty and graduate degree level students for both academic and design careers in the structural steel industry while also promoting useful research.

American Institute of Steel Construction (AISC) Special Achievement Award, 2012.
For contributions toward improving structural steel education in universities through development and maintenance of web-enhanced teaching, contributions to the AISC Partners in Education committee, and through the Steel Educators' Tip Sheet newsletter.

Phi Sigma Rho Chapter Advisor Award, 2013, 2014, 2015.
This national award may be presented annually to recognize an outstanding alumnae advisor, faculty or other advisor of an active chapter of Phi Sigma Rho.

E2. State and Regional Awards

None

E3. University or Community Awards

ASCCS Young Member Award, 2000.
Best presentation at the 6th International Conference of the Association for International Cooperation and Research in Steel-Concrete Composite Structures.

Roy E. and Myrna G. Wansik Teaching Award, 2004, 2008.
Awarded based on student vote for excellence in teaching in Civil Engineering core courses.

Outstanding Professor in Civil Engineering, 2007, 2008.
Awarded by the Purdue Panhellenic Association, nominated by Phi Sigma Rho.

College of Engineering Advising Award, 2010.
The purpose of this award is to recognize excellence by faculty in the Purdue College of Engineering in the advising and mentoring of students.

UMD NIST-ARRA Senior Research Fellowship, 2011 – 2012.
Awarded August 2010 for a Visiting Associate Professorship at the University of Maryland (UMD) and a position as a Senior Research Fellow at the National Institute of Standards and Technology (NIST), July 2011 – June 2012.

Edmund M. Burke Outstanding Faculty Member, 2011.
Nominated and selected by the active members of Chi Epsilon, Civil Engineering Honor Society, presented annually to a professor in the Purdue School of Civil Engineering for contributions to the students and school.

Harold Munson Outstanding Teacher Award, 2011.
Awarded based on student vote for excellence in teaching in Civil Engineering, Purdue.

College of Engineering Leadership Award, 2013.
The purpose of this award is to recognize excellence in faculty leadership that promotes a culture of improving the climate and environment for other faculty, staff, and students and that promotes diversity and inclusiveness in the College of Engineering, Purdue.

IMPACT Fellow, Fall 2014.
Selected for the Fall 2014 cohort for IMPACT – Instruction Matters: Purdue Academic Course Transformation. Participated Fall 2014 in the Faculty Learning Community (FLC), developed a course redesign plan, and implementing course redesign of CE470 (Structural Steel Design) in Spring 2015. IMPACT Fellows are awarded $10,000 to fund course redesign and development.

Ross Judson Buck Outstanding Counselor Award, 2015.
Selected by the Purdue CE Awards Committee with nominations from students or faculty.

CIVIL ENGINEERING

O R E G O N S T A T E U N I V E R S I T Y

College of Engineering

ISTOK, JONATHAN D.
Professor

DEGREES

B.S., Geology, Ohio State University, 1978
M.S., Soil Science, Oregon State University, 1981
B.S., Civil Engineering, Oregon State University, 1986
Ph.D., Civil Engineering, Oregon State University, 1986

ACADEMIC POSITIONS

Professor, School of Civil and Construction Engineering, Oregon State University, 1993 - present.
Associate Professor, Department of Civil Engineering, Oregon State University, 1989 - 93.
Pacific National Laboratories Affiliate Staff Scientist, 1995 - 2005
Assistant Professor, Departments of Agricultural Engineering and Civil Engineering, Oregon State University, 1986 - 1989.
Instructor, Department of Agricultural Engineering, Oregon State University, 1984 - 85.

NON-ACADEMIC POSITIONS

Consulting 1986-present

Science Applications International Corporation, Lockheed Corporation, U.S. Geological Survey, U.S. Environmental Protection Agency, U.S. Soil Conservation Service, Benton County, Sandia National Laboratory, Tennessee Valley Authority, Landau Associates, Reynolds Electrical and Engineering Company, Benton County, Oregon, Reynolds Engineering and Electric Company, Shell Development Corporation, Chevron Research and Technology Company, Pacific Northwest Laboratories, RZA Inc., CH2MHILL, D.B. Stevens & Associates, Nature Conservancy, Lawrence Livermore National Laboratories, Malheur County Soil and Water Conservation District, Vineyard Mountain Homeowners Association, Hart Krauser & Associates, OHM Environmental Services, Brewer Environmental Services, Idaho National Engineering Laboratory, American Petroleum Institute, British Petroleum, Omega Environmental Services, U.S. Army Corps of Engineers.

FIELDS OF SPECIALIZATION

Groundwater flow and solute transport processes; Groundwater remediation technology development; Hydrologic site characterization; Aquifer testing. Push-pull testing.

PROFESSIONAL ACTIVITIES

Registration

Professional Engineer, State of Oregon (OR. 16,007)

Current H Index = 39. Citations = 5869

New Research Projects

Validation of Advanced Molecular Biological Tools to Monitor Chlorinated Solvent Bioremediation and Estimate CVOC Degradation. M. Michalsen USACE PI, J. Istok "Senior Contributor to Project". DOD ESTCP. $999,710, 2016-2018

New Journal Articles

Michalsen, M.M., A.S. King, R. A Rule, M.E. Fuller, P.B. Hatzinger, C.W. Condee, F.H. Crocker, K.J. Indest, C.M. Jung, and J.D. Istok. 2016. Evaluation of Biostimulation and Bioaugmentation To Stimulate Hexahydro-1, 3, 5-trinitro-1, 3, 5,-triazine Degradation in an Aerobic Groundwater Aquifer. Environmental Science & Technology, 50(14), pp. 7625-7632

Paradis, C.J. L.D. McKay, E. Perfect, J.D. Istok, and T.C. Hazen 2016. In Situ Characterization of Hydraulic Conductivity and Effective Porosity Utilizing Single-Well Testing Methods. Hydrogeology Journal (In Press).

Fuller, M.E., P.B. Hatzinger, C. W. Condee, C. Andaya, R. Rezes, M.M. Michalsen, F.H. Crocker, K.J. Indest, C.M. Jung, G.A. Blakeney, J.D. Istok, S.A. Hammett. 2016. RDX Degradation in Bioaugmented Model Aquifer Columns Under Aerobic and Low Oxygen Conditions. Applied Microbiology and Biotechnology (In Press).

New Conference Presentations

Michalsen, M.M., et al. A Pilot to Full-Scale Success Story: Combined Anaerobic Biostimulation and Aerobic Bioaugmentation for Explosives-Contaminated Groundwater Cleanup, May 20, 2016. in Battelle Bioremediation Conference. 2016. Miami, FL.

Proposals Submitted in 2016 but not funded

Improved NAPL source zone recovery assessment and simulation using REMChlor+. U.S. department of Degense, ESTCP, 2016-2019 ($805,000).

PUBLICATIONS PRIOR TO 2016

Books

Istok, J.D. 2013. Push-pull tests for site characterization. Springer. http://www.springer.com/us/book/9783642139192

Dawson, K.J. and J.D. Istok. 1991. Aquifer Testing: Design and Analysis of Pumping and Slug Tests. Lewis Publishers, Inc.

Istok, J.D. 1990. Groundwater Modeling by the Finite Element Method. Water Resources Monograph No. 13. American Geophysical Union. Washington, D.C.

Istok, J.D. 1998. Technical Bulletin on Oxygen Releasing Materials for In Situ Groundwater Remediation. American Petroleum Institute, Health and Environmental Sciences Department, Publication Number 4671, July 1998, Washington DC.

Technical Journal Articles:

Michalsen, M.M., A.S. King, R. A Rule, M.E. Fuller, P.B. Hatzinger, C.W. Condee, F.H. Crocker, K.J. Indest, C.M. Jung, and J.D. Istok. 2016. Evaluation of Biostimulation and Bioaugmentation To Stimulate Hexahydro-1, 3, 5-trinitro-1, 3, 5,-triazine Degradation in an Aerobic Groundwater Aquifer. Environmental Science & Technology, 50(14), pp. 7625-7632

Paradis, C.J., L.D. McKay, E. Perfect, J.D. Istok, and T.C. Hazen. 2017. Push-pull tests for estimating effective porosity: expanded analytical solution and in situ application Hydrogeology Journal, 1-13.

Paradis, C.J. L.D. McKay, E. Perfect, J.D. Istok, and T.C. Hazen 2016. In Situ Characterization of Hydraulic Conductivity and Effective Porosity Utilizing Single-Well Testing Methods. Hydrogeology Journal (In Press).

Fuller, M.E., P.B. Hatzinger, C. W. Condee, C. Andaya, R. Rezes, M.M. Michalsen, F.H. Crocker, K.J. Indest, C.M. Jung, G.A. Blakeney, J.D. Istok, S.A. Hammett. 2016. RDX Degradation in Bioaugmented Model Aquifer Columns Under Aerobic and Low Oxygen Conditions. Applied Microbiology and Biotechnology (In Press).

Crocker, F.E., C.M. Jung, D.E. Hancock, M.E. Fuller, P.B. Hatzinger, S. Vainberg, E. Wilson, M. Michalsen, and J.D. Istok. 2015. Evaluation of microbial transport during aerobic bioaugmentation of an RDX-contaminated aquifer. 2015. Biodegradation. Volume 26 (6), pp 443-451.

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RESEARCH GRANTS

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Stability of U(VI) and Tc(VII) Reducing Microbial Communities to Environmental Perturbation: Development and Testing of a Thermodynamic Network Model. Dept of Energy NABIR Program, 10/04-9/09 ($ 1,081,937).

Anaerobic Biodegradation of Petroleum Hydrocarbons: Fundamental Science to Determine In Situ Rates of Metabolism, National Science Foundation, 10/01/03-9/30/06 ($ 500,000).

Factors Controlling In Situ Uranium and Technetium Bio-Reduction and Reoxidation at the NABIR Field Research Center, Dept of Energy NABIR Program, 10/02-9/03 ($ 1,300,000).

Neurotoxic superfund chemicals and biomarkers, National Institutes of Health, 10/00-9/04 ($1,200,000)

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Neurotoxic superfund chemicals and biomarkers, National Institutes of Health, 10/00-9/04 ($1,200,000)

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In Situ Determination of Microbial Metabolic Activity, Department of Energy, 10/98-9/01 ($ 600,000).

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Faculty Research Fellowship, Associated Western Universities, 8/95-9/95 ($ 10,000).

Single-Well, Push-Pull Test for In Situ Determination of Microbial Metabolic Activity, National Center for Integrated Bioremediation Research and Development, 7/95-7/97 ($ 150,000).

Laboratory-Scale Reduction of Aquifer Solids Using Iron-Reducing Ultra Micro Bacteria, Battelle Pacific Northwest Laboratories, 10/95-7/97 ($ 60,000).

The "Bubble Wall": A Passive In Situ System for Treatment and/or Containment of Contaminated Groundwater, Western Region Hazardous Substances Research Center, 3/95-3/97 ($225,696).

Laboratory-Scale Reduction of Aquifer Solids Using Sodium Dithionite, Battelle Pacific Northwest Laboratories, 10/94-12/95 ($ 54,000).

Interagency Personnel Agreement, 3, U.S. Geological Survey, 10/95-9/96 ($ 54,000).

Investigation of Three-Phase Transport in One- and Two-Dimensional Bedded Porous Media , U.S. Department of Energy, 10/92-10/95 ($ 419,000).

Natural and Enhanced In Situ Bioremediation for Petroleum Hydrocarbons, Chevron Research and Technology Company, 6/94-6/96 ($ 99,976).

Natural and Enhanced In Situ Bioremediation for Petroleum Hydrocarbons, Oregon Joint Graduate School of Engineering, 6/94-6/95 ($ 50,000).

Decision Analysis for Waste Site Characterization, Sandia National Laboratories, 9/93-10/95 ($ 45,000).

Evaluation of Two New Remedial Technologies for Remediating Petroleum-Contaminated Groundwater, Water Resources Research Institute, 6/94-6/95 ($ 13,000)

Interagency Personnel Agreement, 2, U.S. Geological Survey, 10/94-9/95 ($ 54,000).

Research Fellowship, Battelle Pacific Northwest Laboratories, 8/94-9/94 ($ 6,000).

Enhanced In-Situ BTEX Degradation in Model Aquifers, Chevron Research and Technology Company, 6/93-6/94 ($ 31,000).

Interagency Personnel Agreement, 1, U.S. Geological Survey, 10/91-9/93 ($ 40,000).

Interagency Personnel Agreement, 2 , U.S. Geological Survey, 10/93-9/95 ($ 54,000).

Fate and Transport of Nitrate in Vadose Zone, Northern Malheur County, Oregon, Oregon Department of Environmental Quality, 7/92-6/93, ($ 20,000)

Physical Modeling of Infiltration Processes, Reynolds Electrical and Engineering Company, 9/92-3/93 ($ 99,000).

Fate and Transport of the Herbicide Dacthal in Groundwater, Water Resources Research Institute, 7/90-6/92 ($ 12,000).

Numerical Modeling of Heat, Water, and Vapor Transport at ASHES Vent Field, Juan de Fuca Ridge, National Oceanic and Atmospheric Administration, 6/91-12/91 ($ 7,000).

Equipment for Groundwater Research Laboratory, OSU-Research Council, 7/92-6/93)$ 6,000).

Development and Verification of a Numerical Model to Predict the Fate and Transport of Chlorinated Phenols in Groundwater, Western Region Hazardous Substances Research Center, 10/89-10/92 ($ 155,000).

Groundwater Contamination by Pesticides, Agricultural Engineering Research Foundation, 9/89-7/90 ($ 5,000).

Validation of Subsurface Drainage Model, 2, U.S. Department of Agriculture, 10/89-9/90 ($ 10,000).

Bayesian Methods for Hazardous Waste Site Characterization, Battelle Pacific Northwest Laboratories, 10/89-9/90 ($ 25,000).

Managing Groundwater Pollution from Agriculture Related Sources, U.S. Geological Survey, 10/87-9/89 ($ 48,000).

Geostatistical Analysis of Rock Matrix Hydrogeological Data from Yucca Mountain, 2, U.S. Geological Survey, 10/88-9/91 ($ 104,000).

Geostatistical Analysis of Rock Matrix Hydrogeological Data from Yucca Mountain, 1, U.S. Geological Survey, 10/87-9/91 ($ 246,000).

Geostatistical Analysis of Pesticide Contamination in Groundwater Aquifers, Water Resources Research Institute, 7/87-6/88 ($ 12,000).

Statistical Analysis of Short-Time-Interval Precipitation Data, 2, U.S. Department of Agriculture, Agricultural Research Service, 10/88-9/89 ($ 35,000).

Validation of Water Table Model, 1, U.S. Department of Agriculture, 10/86-9/87 ($ 12,000).

A New Method for Analyzing Groundwater Quality Data, Agricultural Engineering Research Foundation, 7/86-6/87 ($ 5,000).

Groundwater Contamination by Pesticides and Nitrates in the Ontario Area, Agricultural Engineering Research Foundation, 7/87-6/88 ($ 5,000).

Statistical Analysis of Short-Term-Interval Precipitation Data, 1, U.S. Department of Agriculture, Agricultural Research Service, 10/86-9/88 ($ 51,000).

Validation of Water Table Model for Western Oregon, U.S. Department of Agriculture, 10/86-9/87 ($ 13,000).

Validation of Water Table Model, U.S. Department of Agriculture, Soil Conservation Service, 10/87-9/88 ($ 2,000).

Jason H. Ideker, Ph.D.

Associate Professor
Co-Director Green Building Materials Laboratory - An Oregon BEST Signature Facility
(541) 737-9571 jason.ideker@oregonstate.edu

Oregon State University - School of Civil and Construction Engineering
101 Kearney Hall, Corvallis, Oregon 97331-3212
http://web.engr.oregonstate.edu/~idekerj/
http://gbml.oregonstate.edu

Professional Experience

2016 Visiting Researcher, Kerneos Aluminate Technologies, Lyon, France.
Sabbatical Focus on Durability of Ettringite Accelerated Cementitious Systems
Host: Hervé Fryda and Stéphane Berger

2016 Visiting Professor, École Polytechnic Fédérale de Lausanne (EPFL), Lausanne, Switzerland.
Sabbatical Focus on Scanning Electron Microscopy of ASR-affected Concreted and Mercury Intrusion Porosimetry of Calcium Aluminate Systems
Host: Professor Karen L. Scrivener, Director of the Laboratory of Construction Materials

2014-Present Associate Professor, School of Civil and Construction Engineering, Oregon State University

2010-2014 Assistant Professor and Kearney Faculty Scholar, School of Civil and Construction Engineering
Oregon State University

2008-2010 Assistant Professor, School of Civil and Construction Engineering
Oregon State University

2008 The University of Texas at Austin
May-Aug. Post-Doctoral Fellow

2004-2008 Ph.D., The University of Texas at Austin
Early-Age Behavior of Calcium Aluminate Cement Systems

2002-2004 M.S.E., The University of Texas at Austin
Departmental Report: *Toward Accurate Test Methods to Assess Alkali-Silica Reaction in Concrete*

1998-2000 Engineering Aide, Cooperative Employment through the Georgia Institute of Technology
Willmer Engineering, Inc. Atlanta, Georgia

Education

2008 The University of Texas at Austin
May-Aug. Post-Doctoral Fellow, Advisor: Kevin J. Folliard

2004-2008 The University of Texas at Austin
Ph.D. Civil Engineering
Advisors: Kevin J. Folliard & Michael D.A. Thomas (University of New Brunswick)

2006 École Polytechnic Fédérale de Lausanne (EPFL), Lausanne, Switzerland
Apr-Aug Visiting Ph.D. Candidate
Advisors: Kevin J. Folliard and Karen L. Scrivener (EPFL)

2002-2004 The University of Texas at Austin
M.S.E., Advisors: Kevin J. Folliard & Maria C.G. Juenger

1997-2002 Georgia Institute of Technology
B.S.C.E., High Honors, Advisor: Kimberly E. Kurtis

Honors and Awards

2016 Portland Cement Association Education Foundation Fellowship, ($35K for 1 year), *A Performance Specification for Concrete: A Rapid Test That Uses Formation Factor As Determined From Electrical Resistivity*, Tyler Deboodt (GRA) and Samantha Whatley (GRA), Advisors: Jason H. Ideker. O. Burkan Isgor, W. Jason Weiss

2014 ACI Young Member Award for Professional Achievement "*for advancement of alkali-silica reaction test methods, for the commitment to sustainability education and technology, and for the mentoring of students*,"

2013 Englebrecht Young Faculty Award for Exceptional Scholarly and Teaching Accomplishments, Oregon State University College of Engineering

2011 Portland Cement Association Education Foundation Fellowship
($20K for 1 year), *Development of Shrinkage Limits and Testing Protocols for High Performance Concrete*, Tengfei Fu and Jason H. Ideker

2010-2013 Kearney Faculty Scholar, Oregon State University

2007 Finalist for ACI Wason Medal for Materials Research Award for paper:
Thomas, M.D.A., Fournier, B., Folliard, K.J., Shehata, M., Ideker, J.H., and Rogers, C., "Performance Limits for Evaluating Supplementary Cementing Materials Using the Accelerated Mortar Bar Test," *ACI Materials Journal*, 104 [2] March 2007, pp. 115-122.

2007 William S. Livingston Continuing Education Fellowship ($20K for 9 months)

2004 PCI Engineering Design Competition - Big Beam Contest, Zone 2 First Place, Overall 2nd Place
The University of Texas at Austin, *Team:* Justin Norvell, Vanna Oberholz, Andrew Maas, Nathan Dickerson, Brandon McBee, Peter Ruth, Jeff Carlson and Jason Ideker, *Advisor*: Dr.Oguzhan Bayrak, *PCI Producer:* Coreslab Structures (Texas), Inc., Cedar Park, Texas (Byron Freeby and Bill Doughty)

2003 Portland Cement Association Education Foundation Fellowship ($20K for 1 year), *Examination of the Effects of Temperature on Progression of Alkali Silica Reaction Using an Accelerated Temperature ASTM C 1293 Test*, Jason H. Ideker and Kevin J. Folliard

2002 John A. Focht Endowed Presidential Graduate Scholarship in Civil Engineering ($3K)

Leadership

2016 – Present Member-At-Large, ASTM C09 Executive Committee

2017-Present Secretary, Subcommittee C09.50 – Aggregate Reactions on Concrete

2011 – 2016 Chair, Subcommittee C 9.50 - Risk Management for Alkali Aggregate Reactions, New Standard Developed Under Chaired Leadership: *ASTM C 1778-14 "Standard Guide For Reducing the Risk of Deleterious Alkali-Aggregate Reaction in Concrete"*

Editorial Board for Technical Journals

2017-present Co-Editor-in-Chief, Advances in Civil Engineering Materials

2015-present Member Board of Editors, Cement and Concrete Research

2012-2016 Member Editorial Board, Advances in Civil Engineering Materials

Teaching Experience

Oregon State University

2017-Present Associate Professor, CCE 520: Concrete Fundamentals, Oregon State University

2017-Present Associate Professor, CCE 422/522: ECampus Green Building Materials

2015-Present Associate Professor, CCE 507: CE Graduate Seminar, Winter Term, Professional Presentations, Abstracts and Writing Introduction

2015-Present	Associate Professor, CCE 422/522: Green Building Materials, Oregon State University
2014-2017	Associate Professor, CCE 523: Concrete Durability, Oregon State University
2014-Present	Associate Professor, CCE 321: Civil and Construction Engineering Materials, Oregon State University
2014	Assistant Professor, CCE 523: Concrete Durability
2014	Assistant Professor, CCE 421: Advanced Concrete Properties and Performance
2013-	Assistant Professor, CCE 523: Concrete Durability
2012	Assistant Professor, CE 505: Experimental Methods in Cement Chemistry
2009-2011	Assistant Professor, CE 526: Advanced Concrete Materials, Oregon State University
2010-2014	Assistant Professor, CCE 422/522: Green Building Materials, Oregon State University
2009-2013	Assistant Professor, CCE 321: Civil and Construction Engineering Materials, Oregon State University
2008	Assistant Professor, CE 321: Civil Engineering Materials, Oregon State University

The University of Texas at Austin

2007	Teaching Assistant, Concrete Materials (Undergraduate Course), The University of Texas at Austin
2007	Undergraduate Mentor, ASCE Concrete Canoe Team, The University of Texas at Austin
2006	Teaching Assistant (Grader), Advanced Concrete Materials (Graduate Course), The University of Texas at Austin
2003-2005	Teaching Assistant, Concrete Materials (Undergraduate Course), The University of Texas at Austin
2003-2005	ACBM/PCA Faculty Workshop, Portland Cement Association (PCA), Skokie, IL "How to Teach Basic Concrete Concepts to Undergraduates"

Students Advised

Post-Doctoral Scholars

2013-2015	Tengfei Fu, Oregon BEST Post Doctoral Scholar, Green Building Materials Laboratory, Oregon State University, Co-Adivsors, Fred Kamke (Wood Science and Engineering) and Jason Ideker (Civil and Construction Engineering)

Doctoral Students

Current (4)

2016-present	Krishna (Siva) Teja Chopperla, *Durability of Concrete, ASR, Corrosion and Combined Forms of Attack*
2014-present	Feras Khlef, *Use of Mixed Mode Fibers in Ultra High Performance Concrete for Seismic Retrofit*, Co-Advisors," Dr. Andre Barbosa and Dr. Jason H. Ideker, Co-Advisors, Oregon State University
2013-present	Tyler Deboodt, *Use of High Resolution X-ray CT for Phase Quantification and Damage Detection in Portland Cement*, Co-Advisors: Dr. O. Burkan Isgor and Dr. Jason H. Ideker, Oregon State University

Graduated (5)

2011-2016	Chang Li, *Use of Fine Lightweight Aggregate (FLWA) to Mitigate Alkali-Silica Reaction* and *Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO_2*, Oregon State University
2012-2015	Matthew P. Adams, *Calcium Aluminate Cements and Alternative Cementitious Binders: Volume Stability and Durability*, Oregon State University, Now an Assistant Professor at the New Jersey Institute of Technology
2011-2013	Tengfei Fu, *Shrinkage Study of High Performance Concrete for Bridge Decks*, Oregon State University, Employed as Post-Doctoral Scholar, Oregon State University, Advisor W. Jason Weiss
2010-2013	Circe Verba, *Potential Impacts of Formation Waters on the Integrity of Class H Cement and Reservoir Rock Under Carbon [Co-] Sequestration Settings*, Dr. Mark Reed (University of Oregon) and Dr. Jason H. Ideker (Oregon State University), Co-Advisors, Employed at NETL, Albany, Oregon

2009-2012 Anthony F. Bentivegna, *Multi-Scale Characterization, Implementation, and Monitoring of Calcium Aluminate Cement Based-Systems*, Kevin J. Folliard, (The University of Texas at Austin) and Jason H. Ideker, Co-Advisors, Laboratory Manager CTL Group, Chicago, Illinois

Master's of Science Students

Current

2017-present Anika Tabassum-Sarkar, *Durability of Concrete*

2016-present Samantha Whatley, *Developing a Specification for the use of Formation Factor to Predict Concrete Performance*

Graduated (10)

2015-2017 Silas Shields, *Strategies to Increase the Service Life of Concrete Bridge Decks* and *Investigations into the Durability of Ductile Iron Pipe*, Oregon State University, Co-Advisors: Jason H. Ideker and O. Burkan Isgor

2013-2015 David Rodriquez, *Strategies to Increase the Service Life of Concrete Bridge Decks*, Oregon State University, Co-Advisors: O. Burkan Isgor and Jason H. Ideker

2013-2015 Ben Sohn, *The Role of NaCl on Alkali-Silica Reaction*, Co-Advisors: O. Burkan Isgor and Jason H. Ideker

2012-2014 Jose Banuelos, Blended Fibers for High Performance Concrete, Oregon State University

2010-2012 Skyler Warner, *The Role of Alumina in the Mitigation of Alkali-Silica Reaction,* Oregon State University, *Employed at SCC Engineers*

2010-2012 Matthew P. Adams, *Alkali-Silica Reaction in Concrete Containing Recycled Concrete Aggregates,* Oregon State University

2009-2011 Tyler Deboodt, *Internal Curing of High Performance Concrete Bridge Decks*, Oregon State University, Employed as a Faculty Research Assistant, Oregon State University

2010-2011 Thanh Phan, *Climate Change Impact Assessment for Surface Transportation in the Pacific Northwest and Alaska* and *Proposed Standardized Testing of Calcium Aluminate Cement based Concrete: Phase I – Investigation of Materials Interaction and Strength Variability Issues*, Graduated June 2011, MS Project, Employed at Kiewit, Omaha, Nebraska

2009-2011 Tengfei Fu, Master's Thesis, *Autogenous Deformation and Chemical Shrinkage of High Performance Cementitious Systems*, Oregon State University

2008-2010 Kelsea Schwing (m. Schumacher), *Use of Fly Ash in the Mitigation of Alkali-Silica Reaction in Concrete*, Oregon State University, Graduated December 2010, PhD Student, University of Delaware, Newark, Delaware

Master's of Engineering Students

***Graduated* (1)**

2010-2011 John Meissner, Structural Engineering, Oregon State University, Graduated June 2011, *Employed at Charles Engineering, San Diego, CA*

Master's of Science Students (partial support or advising)

Graduated (4)

2012 Michael Carrigg, "Use of Sustainable Cementitious Products in Building Components for the Oregon Sustainability Center," Oregon State University

2011 J.P. Kivlin, *Cellulose Fiber Technologies*, M.B.E., Oregon State University,

2009 Scott Ureel, *Internal Curing of High Performance Concrete Bridge Decks*, Oregon State University

2009 Arnaud Thibonnier, *Early-Age Volume Change in Calcium Aluminate Cement Concrete*, Co-advisor Kevin J. Folliard, The University of Texas at Austin

Committees Served

Doctoral Students

2013-2015 Frederick (Paul) Laleicke, "Accelerated Aging of Wood-Based Materials", Dr. Fred Kamke (Advisor)

2013-2015	Blake Boren, "Active Control of a Vertical Axis Pendulum Wave Energy Converter", Dr. Belinda Batten, Advisor
2011-P2017	Changqing Pan, "Solution-based Chalcogenide Thin Film Deposition", Dr. Chih-Hung (Alex) Chang, Advisor
2011-2012	Mary Ann Triska, "Structural Design and Performance of Green Roofs," Dr. Chris Higgins (Advisor), left to pursue design career.

Master's of Science

2017-present	Ryan Schwendeman, "Analytical Model to Represent the Hardpoint System and to Validate the Model with Physical Testing," GCR
2016-2017	Alex Coyle, "The Effects of Temperature on Electrical Resistivity Measurements of Concrete," Advisor: W. Jason Weiss
2015-2016	Maximo Argo, "Seismic Performance of Aging Prestressed Transmission Pole with Simulated Soil Foundation," Co-Advisors: Dr. Christopher Higgins and Dr. O. Burkan Isgor
2015	Jon Williamson, "Electronic Properties of Passive Films on Carbon Steel Rebar in Simulated Concrete Pore Solutions"
2015	Greg Hendrix, "Development of a New Mixture Proportioning Method and Assessing the Influence of Material Characteristics on Flowing Concrete Mixtures"
2014	Deanna Amneus, "Methods for Strengthening Flexural Steel Details in Reinforced Concrete Bridge Girders Using a Near-surface Mounted Retrofitting Technique"
2014	Laura Barker, "Flexural Anchorage Performance and Strengthening on Negative Moment Regions using Near-surface Mounted Retrofitting in Reinforced Concrete Bridge Girders"
2014	Tasha Larson, M.S.I.E., "Defining and Comparing Risks and Success Measures of the Reference Design Process and Traditional New Product Development Processes," Industrial Engineering, GCR
2013	Blake Boren, M.S.M.E., Vertical Axis Pendulum Wave Energy Converters: Investigating Control Strategies and The Deployment of a Scaled Generic Prototype," GCR
2012	Landon Harman, M.S.C.E., Structural Engineering and Construction Engineering Management
2011	Jake Goebel, M.S.C.E., Structural Engineering, "Design and Environmental Performance of Near-Surface Mounted Carbon Fiber Reinforced Polymer Strips for Shear Strengthening Reinforced Concrete Bridge Girders"
2011	Brandon Johnson, M.S.C.E., Structural Engineering, "Design and Fatigue Behavior of Near-Surface Mounted CFRP Bars for Shear Strengthening of RC Bridge Girders"
2011	Josh Christiansen, M.S.C.E., Structural Engineering, "The Influence of Seismic Attack and Chloride-induced Corrosion on a Life Cycle Inventory Assessment of Different Concrete Mixtures"
2011	Jie Ding, M.S., Wood Science and Engineering, "A Methodology for Evaluating Multiple Mechanical Properties of Prototype Microfibrillated Cellulose/Poly(lactic acid) Film Composites"

Master's of Engineering

2015	Tyler McGill, Structural Engineering
2014	Dan Serra, Structural Engineering
2014	Alexandra Stroud, Structural Engineering
2013	Garlan Rahmadan, Structural Engineering
2014	Dan Serra, Structural Engineering
2012	Andrew Kelley, Structural/Materials Engineering
2012	Eric Goodall, Structural Engineering
2011	Kyle Mayfield, Structural Engineering
2009	Faisal Samoo, Geotechnical Engineering
2009	Scott Ureel, Geotechnical Engineering

Undergraduate Honor's Thesis

2013	Stephanie Stache, "Finite Element Analysis of a Concrete Canoe," Committee Member
2013	Jordan Henderson, "*The Case for Wood in Non-Residential, Multi-Story Construction: LEED vs. Green Globes Certification*," Committee Member

2011-2012 Hanna D'Acci, *Sustainability and Structural Building Codes in USA and Chile*, Advisor
2010 Phil Davis, *A Novel Testing Method Applied to Wood Members*, Committee Member
2009-2010 Jill Folkestad, *Carbonation of Mid-Twentieth Century Reinforced Concrete Bridges in Oregon*, Committee Member
2009-2010 Lina Chan, *Selection of Hotels: Is the Sustainability of a Building more Important than its Aesthetic Appearance?*, Committee Member
2009 Quinn Pullen, *Strength and Composition of Willamette Valley Cob: An Earthen Building Material*, Committee Member

Undergraduate Research Students
Oregon State University (1)
2017-present Johnny Ye, *A Performance Specification for Concrete: A Rapid Test That Uses Formation Factor As Determined From Electrical Resistivity*

Graduated or Prior (28)
2017 Andres Matos Ortiz, *Internal Curing and the Role of Relative Humidity Measurements for Quality Control*, SURF Program, Oregon State University, Jason H. Ideker and W. Jason Weiss, Co-advisors
2015-2016 Devan Darsow, *Use of Fine Lightweight Aggregate (FLWA) to Mitigate Alkali-Silica Reaction*
2014-2015 Christine Baker, *Strategies to Increase the Service Life of Concrete Bridge Decks*, co-advised with O. Burkan Isgor
2014-2015 Quentin Harris, *Shrinkage Assessment of Blended Polyproplene Fibers* and *Use of Fine Lightweight Aggregate (FLWA) to Mitigate Alkali-Silica Reaction*
2014-2015 Andrew Thomas, *The Role of NaCl on Alkali-Silica Reaction*
2014-2015 Aaron Strand, *Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO_2*
2013 Adalberto Guerra Cabrera, Cracking Susceptibility of Concrete Made with Recycled Concrete Aggregates, Currently graduate student at Monterrey Institute of Technology, Puebla, Mexico
2013-2014 Nicholas Breisach, *Conversion of Calcium Aluminate Cement Concrete*
2013-2014 Silas Shields, *Shrinkage and Cracking Susceptibility of Recycled Concrete Aggregates*
2012-2014 Kristina Milaj, *Cellulose Fiber Technologies for High Performance Concrete*
2012-2014 Andrew Wilson, *Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase V*
2010-2013 Monica Morales, *Cellulose Fiber Technologies for High Performance Concrete*, Graduate Student, Oregon State University
2012-2013 Sean Gertz, *Testing for Combined Forms of Premature Concrete Deterioration: ASR and Corrosion*, Independent Study
2011-2013 Travis Moore, *Use of Sustainable Cementitious Products in Building Components for the Oregon Sustainability Center*
2011-2012 Jose Banuelos, *Drying Shrinkage Limits of High Performance Concrete,* Current Graduate Student
2011-2013 David Rodriquez, *Internal Curing of Concrete Bridge Decks,* Current Graduate Student
2011-2013 Chad Anderson, *Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase III, IV, V*
2011-2012 Benjamin Sohn, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*, Current Graduate Student
2009-2012 Brian Gray, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*, Employed Lease Crutcher Lewis, Seattle, Washington
2011 Marlon Meija, General Research Support
2010-2011 Jorge Mirando, General Research Support
2010-2011 Deanna, Amneus, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*, Graduate Student Oregon State University
2010-2011 Maxwell Cummings, *Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase II*, Graduated June 2011, Employed Lease Crutcher Lewis, Seattle, WA

2010 Daniel Alexandre Bleau, visiting Undergraduate Research Assistant, University of Sherbrooke, Canada, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*

2009-2010 Bryce Wininger, visiting Undergraduate Research Assistant, Griffith University, Australia, *Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase II*

2009-2010 Sarah Routley, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*

2009-2010 Chuck Williams, *Internal Curing of High Performance Concrete Bridge Decks*

2009-2011 Marc Putman, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*, Graduated June 2011, Employed Kiewit, Portland, Oregon

The University of Texas at Austin

2007-2008 Evan R. Wehrle, The University of Texas at Austin, *Drying Shrinkage and Autogenous Deformation of Calcium Aluminate Cement Systems*

2006 Racheal D. Lute, The University of Texas at Austin, *Chemical and Autogenous Shrinkage of Calcium Aluminate Cement Concrete*, Current Graduate Student (PhD) at The University of Texas at Austin, Formerly SK&A Consultants (5 years), Washington, D.C.

2004 Alda P. Villanueva, The University of Texas at Austin, *Methods to Assess the Impact Resistance of ASR Affected Concrete*

Research Projects

Oregon State University (2.8 million – Ideker, 3.3 million total)

2018-Present CalTrans, "Impact of use of portland-limestone cement on concrete performance as plain or reinforced material," W. Jason Weiss, O. Burkan Isgor, Jason H. Ideker, David Trejo, $300,000

2018-Present Electrical Power Research Institute (EPRI), "Development of a performance-based mixture proportioning procedure for concrete incorporating off-spec fly ash," O. Burkan Isgor, Jason H. Ideker, David Trejo, W. Jason Weiss, $314,141

2018-Present EWEB, Seismic and Material Performance of Historic Reinforced Concrete Transmission Poles, Higgins, Isgor, Ideker, $80,000

2017-Present Siam Cement Group, "The Influence of Expansive Additives on Early Age Shrinkage and Stress Development," W. Jason Weiss and Jason H. Ideker, $125,000

2017-Present Accelerated ASR Test Method Verification, Turner Fairbanks Highway Research Center – Jussara Tanesi and Ahmed Ardani, The University of Texas at Austin – Thano Drimalas, Oregon State University - Jason H. Ideker, unfunded research

2017-2018 Graduate Student Workshop on Service Life Prediction of Concrete, CMMI 1740540, Jason H. Ideker (PI), O. Burkan Isgor, Co-PI, $17,126

2016-2018 ACI Concrete Research Council, "Unified Guidance on Producing Durable Concrete", Jason H Ideker (PI), Kimberley E. Kurtis (Co-PI), Michael D.A. Thomas (Co-PI) and Anthony F. Bentivegna, $50,000, ($21,000 Ideker portion)

2016-2018 Portland Cement Association Education Foundation Fellowship, "A Performance Specification for Concrete: A Rapid Test That Uses Formation Factor As Determined From Electrical Resistivity," Tyler Deboodt (GRA) and Samantha Whatley (GRA), Advisors: Jason H. Ideker. O. Burkan Isgor, W. Jason Weiss, $35,000

2015-2016 Pacific General Electric (PGE), Investigations into the Durability of Ductile Iron Pipe, Co-PIs, Dr. O. Burkan Isgor and Dr. Jason H. Ideker, $20,000,

2015-2017 Oregon DOT, Construction of Efficient, Cost-Effective and Sustainable Maintenance Facilities, SPR 792, PI – Jason H. Ideker, Co-PI – Karl Haapala, $145,000

2014-2017 Oregon DOT, "Strategies to Increase the Service Life of Concrete Bridge Decks - SPR 780", PI – Dr. O. Burkan Isgor, Co-PIs, Dr. Jason H. Ideker and Dr. David Trejo, $239,000

2013-2017 Cascadia Lifelines Program (CLiP), "Seismic Performance of Deteriorated Reinforced Concrete Structures," O. Burkan Isgor (PI), Jason H. Ideker (Co-PI), Christopher Higgins (Co-PI) and David Trejo (Co-PI), $310,130

2013-2015 Oregon BEST Post-Doctoral Scholar, Dr. Tengfei Fu, Fred Kamke, (PI), Jason Ideker (Co-PI), $75,000

2011-2015 Kerneos Aluminate Technologies, "Investigations into Calcium Aluminate Cement Binders," Jason H. Ideker (PI), $198,500

2013-2014 National Energy Technology Laboratory (NETL-Albany), "Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO_2," Jason H. Ideker (PI), O. Burkan Isgor (Co-PI), $168,000

2011-2013 Portland Cement Association Education Foundation Fellowship ($20K for 1 year), *Development of Shrinkage Limits and Testing Protocols for High Performance Concrete*, Tengfei Fu and Jason H. Ideker

2011-2014 Weyerhaeuser, Cellulose Fiber Technologies, $115,000 to date

2012-2014 ESCSI-Expanded Shale, Clay and Slate Institute, "Investigations into ASR Mitigation by Fine Lightweight Aggregate," Jason H. Ideker (PI, Oregon State University, Michael D.A. Thomas, (Co-PI, The University of New Brunswick), $36,150

2008-2013 NAVFAC EXWC, "Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phases I-V," Jason H. Ideker (PI, Oregon State University), $475,985

2012-2013 PacTrans Northwest and Oregon Department of Transportation (ODOT), "Use of Blended Synthetic Fibers to Reduce Cracking Risk in High Performance Concrete", $69,947

2010-2013 Oregon Department of Transportation (ODOT), "Development of Shrinkage Limits and Testing Protocols for ODOT High Performance Concrete," Jason H. Ideker (PI, Oregon State University), $229,089

2011 Oregon BEST Research Consortium, "Use of Sustainable Cementitious Products in Building Components for the Oregon Sustainability Center," Jason H. Ideker (PI), David Trejo (Co-PI), $22,000

2010-2012 OTREC, "Part II: Durability Assessment of Recycled Concrete Aggregates for Use in New Concrete," Jason H. Ideker (PI, Oregon State University), Jennifer E. Tanner (Co-PI, The University of Wyoming), $209,465

2009-2012 Oregon Department of Transportation (ODOT), "Internal Curing of Concrete Bridge Decks," Jason H. Ideker (PI, Oregon State University), $214,825

2009-2012 Northwest Transportation Consortium (NWTC), "Climate Change Impact Assessment for Surface Transportation in the Pacific Northwest and Alaska," John MacArthur (PI, Portland State University), Research Team: Philip Mote (Oregon Climate Change Research Institute, Oregon University System), Ming Lee (University of Alaska Fairbanks), Miguel Figliozzi, (Portland State University), Jason H. Ideker (Oregon State University), $200,000, ($45,000 Ideker portion)

2009-2010 OTREC, "Durability Assessment of Recycled Concrete Aggregates for use in New Concrete," Jason H. Ideker (PI, Oregon State University), Jennifer E. Tanner (Co-PI, The University of Wyoming), $157,279

2009-2011 Kerneos Aluminate Technologies, "Early-Age Volume Change in Calcium Aluminate Cement Concrete," Kevin J. Folliard (PI, The University of Texas at Austin), Jason H. Ideker Consultant, unfunded research

Contract Testing

2014-present Services and Contract Testing, Various Sources, $111,196

Funded Equipment Grants ($1.11 Million)

2014 DOE Autoclave Installation on Long-Term Loan from NETL Albany, Jason H. Ideker and O. Burkan Isgor, $23,000

2012-2014 M.J. Murdock Major Equipment Grant, "Multi-Chamber Modular Environmental Conditioning System," $858,000, Jason H. Ideker, PI, Fred Kamke and David Trejo, Co-PIs, Oregon State University

2010 Oregon State University Research Equipment Reserve Fund (RERF), "Cyclic Environmental Performance Testing Equipment for Concrete," $78,880 (plus $20,000 match from start-up funding), Jason H. Ideker and David Trejo, Co-PIs, Oregon State University

2009-2010 Oregon BEST, Green Building Materials Laboratory, Scott A. Ashford, (PI, Oregon State University), Jason H. Ideker and Fred Kamke, (Co-PIs, Oregon State University), $400,000 total project, $150,000 (Ideker portion)

The University of Texas at Austin (Graduate Studies)

2006-2008 FHWA, "Alkali-Silica Reactivity (ASR) Development and Deployment Program," Kevin J. Folliard (Co-PI, The University of Texas at Austin) Michael D.A. Thomas (Co-PI, University of New Brunswick), Benoit Fournier (Co-PI, CANMET)

2004-2008 FHWA, "Lithium Implementation Project for ASR Affected Concrete," Michael D.A. Thomas (PI, University of New Brunswick)

2004-2008 Kerneos Aluminate Technologies (formerly Lafarge Calcium Aluminates), "Early Age Properties of Calcium Aluminate Cement Concrete," Kevin J. Folliard (PI, The University of Texas at Austin)

2003-2008 PCA Education Fellowship, "Examination of the Effects of Temperature on Progression of Alkali Silica Reaction Using an Accelerated Temperature ASTM C 1293 Test," Kevin J. Folliard (Advisor, The University of Texas at Austin)

2006-2007 "DMJM Aviation Denver Airport ASR Phase II," Kevin J. Folliard (Co-PI, The University of Texas at Austin) Michael D.A. Thomas (Co-PI, University of New Brunswick)

2005-2006 "DMJM Aviation Denver Airport ASR Best Practices," Kevin J. Folliard (Co-PI, The University of Texas at Austin) Michael D.A. Thomas (Co-PI, University of New Brunswick)

2003-2004 Unfunded Research, "The Role of Silica Fume Agglomerates in ASR," Maria C.G. Juenger (Advisor, The University of Texas at Austin)

2002-2005 International Center for Aggregate Research (ICAR), "Verification and Implementation of Improved ASR Test and Mitigation Methods," ICAR 302, Kevin J. Folliard (PI, The University of Texas at Austin)

2002-2005 Texas Department of Transportation, "Preventing Premature Concrete Deterioration due to ASR/DEF in New Concrete," TxDOT 0-4085, Kevin J. Folliard (PI, The University of Texas at Austin)

Georgia Institute of Technology (Undergraduate Studies)

2001-2002 NSF POWRE Award CMS-0074874, "Examination of the Mechanisms of Alkali-Silica Reaction Gel Expansion Control by Lithium Additives in Concrete," Kimberly E. Kurtis (PI, Georgia Institute of Technology)

Other Funded Research

2005-2006 Investigation into Lithium Nitrate Dosage in Fresh Concrete used at the Atlanta Hartsfield-Jackson International Airport, Kevin J. Folliard (PI, The University of Texas at Austin)

Publications

Peer-Reviewed Journal Articles (29)

Li, C., Thomas, M.D.A. and Ideker, J.H., "The Use of Fine Lightweight Aggregates to Mitigate Alkali-silica Reaction," *Cement and Concrete Research, accepted October 2017,* V104, February 2018, pp. 13-24.

Deboodt, T., Ideker, J.H., Isgor, O.B. and Wildenschild, D., "Quantification of Synthesized Hydration Products using Synchrotron Microtomography and Spectral Analysis," *Construction and Building Materials*, V157 [30], December 2017, pp. 476-488.

Mazarei, V., Trejo, D., Ideker, J.H. and Isgor, B., "Synergistic Effects of ASR and Fly Ash on the Corrosion Characteristics of Reinforced Concrete Systems," *Construction and Building Materials,* V153, October 2017, pp. 647-655.

Adams, M.P. and Ideker J.H., "Influence of Aggregate Type on Conversion and Strength in Calcium Aluminate Cement Concrete," *Cement and Concrete Research*, V100, October 2017, pp. 284-296.

Adams, M.P., Lute, R., Moffat, E.G., Ideker, J.H., "A New Procedure for Determining the Converted Strength of Calcium Aluminate Cement Concrete," *accepted* to *ASTM Journal of Testing and Evaluation, June 2017.*

Trejo, D., Mazarei, V., Ideker, J.H. and Isgor, B., "The Influence of ASR Reactivity on Corrosion in Reinforced Concrete," *ACI Materials Journal,* V114 [5], September 2017, pp. 723-731.

Fu, T., Deboodt, T. and Ideker, J.H. Development of Shrinkage Limit Specification and Testing Protocols for Bridge Deck High Performance Concrete, *Cement and Concrete Composites*, V72, September 2016, pp. 17-26.

Deboodt, T., Fu, T. and Ideker, J.H., "Evaluation of FLWA and SRAs on Autogenous Deformation and Long-Term Drying Shrinkage of High Performance Concrete," *Construction & Building Materials*, V119 [30], August 2016, pp. 53-60.

Andiç-Çakır, Ö, Poole, A. B. and Ideker, J.H., "ICAAR 1974-2016: Conferences Investigating AAR in Concrete ," ICE Construction Materials, Publication Issue CM3, June, 2016.

Azad, V.J., Li, C., Verba, C., Ideker, J.H. and Isgor, O.B., "A COMSOL-GEMS PSI Interface for Modeling Coupled Reactive-transport Geochemical Processes," *Computers and Geosciences,* V92, July, 2016, pp. 79-89. doi:10.1016/j.cageo.2016.04.002.

Adams, M., Fu, T., Cabrera, A.G., Morales, M., Ideker J.H. and Isgor, O.B., "Cracking Susceptibility of Concrete Made with Recycled Concrete Aggregates," *Construction and Building Materials*, V102 Part 1, January 2016, pp. 802-810.

Rajabipour, F., Giannini, E., Dunant, C., Ideker, J.H. and Thomas, M.D.A., "Alkali–silica reaction: Current understanding of the reaction mechanisms and the knowledge gaps" *Cement and Concrete Research*, V 76, October 2015, pp. 130-146.

Deboodt, T., Fu, T., and Ideker, J.H., "Durability Assessment of High-Performance Concrete with SRAs and FLWAs", *Cement and Concrete Composites*, March 2015, V 57, pp. 94-101.

Schumacher, K., and Ideker, J.H., "New Considerations in Predicting Mitigation of Alkali-Silica Reaction Based on Fly Ash Chemistry," *Accepted to ASCE Journal of Materials in Civil Engineering*, V 27 [4], April 2015. *http://dx.doi.org/10.1061/(ASCE)MT.1943-5533.0001021#sthash.BODqIuTr.dpuf*

Verba, C.A., O'Connor, W., Rush, G., Palandri, J., Reed, M.H. and Ideker, J.H., Geochemical Alteration of Simulated Wellbores of CO_2 Injection Sites Within the Illinois and Pasco Basins, *International Journal of Greenhouse Gas Control*, V 23, April 2014, pp. 119-134.

Adams, M.P., Jones, A., Beauchemin, S., Johnson R., Fournier, B., Shehata, M., Tanner, J.E. and Ideker J.H., "Applicability of the Accelerated Mortar Bar Test for Alkali-Silica Reactivity of Recycled Concrete Aggregates," *Advances in Civil Engineering Materials*, March 20, 2013, 19 pp.

Ideker, J.H., Gosselin, C.G. and Barborak, R., "An Alternative Repair Material: Basics and Practical Testing of Calcium Aluminate Cements", *Concrete International*, V 35 [4], April 2013, pp. 33-37*
**featured cover article in issue on Concrete Repair*

Fu, T. Deboodt, T., and Ideker J., "Prediction of Drying Shrinkage for Internally Cured HPC," *ACI-SP,* V 290-09, Ontario, Canada, Fall 2012, 16 pp.

Fu, T., Deboodt, T., and Ideker, J., "A Simple Procedure on Determining Long-Term Chemical Shrinkage for Cementitious Systems Using Improved Standard Chemical Shrinkage Test", *ASCE Journal of Materials in Civil Engineering*, V 24 [8], August, 2012, pp. 989-995.

Ideker, J.H., Folliard, K.J., Juenger, M.C.G. and Bentivegna, A.F., "Do Current Laboratory Test Methods Accurately Predict Alkali-Silica Reactivity?," *ACI Materials Journal,* V 109 [4], pp. 395-402, July 2012.

Juenger, M.C.G., Winnefeld, F., Provis, J.L. and Ideker, J.H., "Advances in Alternative Cementitious Binders," *Cement and Concrete Research,* V 41 [12], December 2011, pp. 1232-1243.

Ideker, J.H., East, B.L., Folliard, K.J., Fournier, B. and Thomas, M.D.A., "The Current State of the Accelerated Concrete Prism Test", *Cement and Concrete Research*, V 40 [4], April 2010, pp. 550-555.

Fournier, B., Ideker, J. H., Folliard, K. J., Thomas, M. D. A., Nkinamubanzi, P.-C., and Chevrier, R., "Effect of Environmental Conditions on Expansion in Concrete due to Alkali-silica Reaction (ASR)." *Materials Characterization*, 60 [7], July, 2009, pp. 669-679.

Thomas, M.D.A., Fournier, B., Folliard, K.J., Shehata, M., Ideker, J.H., and Rogers, C., "Performance Limits for Evaluating Supplementary Cementing Materials Using the Accelerated Mortar Bar Test," *ACI Materials Journal*, 104 [2] March 2007, pp. 115-122.

Maas, A.J., Ideker, J.H., Juenger, M.C.G., "Alkali Silica Reactivity of Agglomerated Silica Fume," *Cement and Concrete Research,* 37 [2], February 2007, pp. 166-174.

Thomas, M.D.A., Fournier, B., Folliard, K.J., Ideker, J.H., Shehata, M., "Test Methods for Evaluating Preventive Measures for Controlling Expansion due to Alkali-Silica Reaction in Concrete," *Cement and Concrete Research*, 36 [10] October 2006, pp. 1842-1856.

Yildirim, Y., Ideker, J., Hazlett, D., "Evaluation of Viscosity Values for Mixing and Compaction Temperature," *Journal of Materials in Civil Engineering*, 18 [4] August 2006, pp. 545-553.

Collins, C.L., Ideker, J.H., Kurtis, K.E., "Laser Scanning Confocal Microscopy for In-Situ Monitoring of Alkali-Silica Reaction," *Journal of Microscopy*, 213 [2] February 2004, pp. 149-157.

Collins, C.L., Ideker, J.H., Kurtis, K.E., "Examination of the Effects of LiOH, LiCl, and $LiNO_3$ on Alkali-Silica Reaction," *Cement and Concrete Research*, 34 [8] August 2004, pp. 1403-1415.

Articles Submitted for Review (3)

Adams, M.P. and Ideker, J.H., "Using Supplementary Cementitious Materials to Mitigate Alkali-Silica Reaction in Concrete with Recycled Concrete Aggregate, *submitted to ASCE Journal of Materials in Civil Engineering*

Khlef, F.L., Barbosa, A.R. and Ideker, J.H., "Cyclic Behavior of High-Performance Fiber-Reinforced Cementitious Composites," *submitted to ACI Materials Journal May 2017*

Li, C., Azad, V.J., Rodriguez, D.E., Verba, C., Isgor, O.B., and Ideker, J.H., "Elucidating Mechanisms of Class H Cement Degradation under CO_2 (CO_2-O_2) Storage, *submitted to Cement and Concrete Research October, 2016*

Works in Progress (3)

Li, C., Thomas, M.D.A. and Ideker, J.H., "Applicability of Current ASTM Standards on Evaluating the Use of Fine Lightweight Aggregate to Mitigate ASR," *planned submission to Advances in Civil Engineering Materials*

Isgor, O.B., Ideker, J.H., Sohn, B., Li, C. and Darsow, D., "Synergistic Deterioration: Effect of NaCl Ingress on Alkali-Silica Reaction," *planned submission to Cement and Concrete Composites*

Ideker, J.H., Bentivegna, A.F., Riding, K.A., Folliard, K.J. and Thomas, M.D.A., "Early-Age Properties of Calcium Aluminate Cement Systems in Rigid Cracking and Free Deformation Frames: Isothermal Testing," *planned submission to Cement and Concrete Research*

Research Reports and Technical Documents (18)

Oregon Department of Transportation, "Construction of Efficient, Cost-Effective and Sustainable Maintenance Facilities – SPR 792," Draft Final Report Submitted September, 2017.

Oregon Department of Transportation, "Best Practices Guide for Construction of Efficient, Cost-Effective and Sustainable Maintenance Facilities," Draft Final Guide Submitted September, 2017.

Oregon Department of Transportation, “Tech Note: Construction of Efficient, Cost-Effective and Sustainable Maintenance Facilities,” Draft Final Guide Submitted September, 2017.

American Concrete Institute, “ACI 201 Guide to Durable Concrete – 201.2R-16”, Chair Thomas J. Van Dam, Secretary R. Douglas Hooton, Ideker – Committee Member and Co-Lead (with Michael D.A. Thomas) on Chapter 5 Alkali-Aggregate Reaction (pgs 19-30), November 2016, 82 pp.

Ideker, J.H., Thomas, M.D.A. and Li, C., “A Comprehensive Mechanistic Study of Using Fine Lightweight Aggregate to Mitigate Alkali-silica Reaction”, Submitted to Expanded Shale, Clay and Slate Institute, October 12, 2016, 124 pp.

Ideker, J.H., Isgor, O.B., Li, C., Azad, V., Rodriguez, D., Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO_2, NETL Final Project Report Submitted November 14, 2014.

Ideker, J.H. and Banuelos, J., “The Use of Synthetic Blended Fibers to Reduce Cracking Risk In High Performance Concrete,” Oregon Department of Transportation, SRS 500-620, FHWA-OR-RD-15-05, September 2014, 68 pp.

Ideker, J.H., Fu, T. and Deboodt, T., “Development of Shrinkage Limits and Testing Protocols for ODOT High Performance Concrete,” Oregon Department of Transportation, SPR 728, FHWA-OR-RD-14-09, December 2013, 87 pp.,

Ideker, J.H., Deboodt, T. and Fu, T., “Internal Curing of High-Performance Concrete for Bridge Decks,” Oregon Department of Transportation Research Section, SPR 711, FHWA-OR-RD-13-06 1, March 2013, 156 pp.

Ideker, J.H., Tanner, J.E., Adams, M.P., and Jones, A., “Durability Assessment of Recycled Concrete Aggregates for Use in New Concrete Part II,” *Currently under Review*

Ideker, J.H., Schwing, K.A. and Warner, S., “Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction: Phase I-III Report,” CR-10-046-SHR, NAVFAC - EXWC

Ideker, J.H., Tanner, J.E., Adams, M.P., and Jones, A., “Durability Assessment of Recycled Concrete Aggregates for Use in New Concrete,” OTREC-RR-11-09, June 2012, 66 pp.

MacArthur, J., Mote, P., Figliozzi, M., Ideker J.H. and Lee, M., “Climate Change Impact Assessment For Surface Transportation in the Pacific Northwest and Alaska”, Region X Northwest Transportation Consortium, OTREC-RR-12-01, WA-RD #772.1, January 2012

Ideker, J.H., Schwing, K.A., Folliard, K.J., “Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction: Testing Methods to Determine Influence of Fly Ash on Concrete Pore Solution,” Contract Report CR-10-046-SHR, Project N6258308C0085, Naval Facilities Engineering Service Center, May 20, 2010, 84 pp.

Thomas, M.D.A., Fournier, B., Folliard, K.J., Ideker J.H. and Resendez Y., “The Use of Lithium To Prevent or Mitigate Alkali-Silica Reaction in Concrete Pavements and Structures,” Publication No. FHWA-HRT-06-133, Federal Highway Administration, U.S. Department of Transportation, September 2006.

Thomas, M.D.A., Fournier, B., Folliard, K.J., Ideker, J.H., and Shehata, M., “Test Methods for Evaluating Preventative Measures for Controllable Expansion due to Alkali-Silica Reaction in Concrete,” International Center for Aggregates Research, 2006; pp. 8-72.

Folliard, K.J., Thomas, M.D.A., Fournier, B., Kurtis K.E., and Ideker J.H., "Interim Recommendations for the Use of Lithium to Mitigate or Prevent Alkali-Silica Reaction (ASR),” Publication No. FHWA-RD-06-073, Federal Highway Administration, U.S. Department of Transportation, July 2006.

Folliard, K., Barborak, R., Drimalas, T., Du, L., Garber, S., Ideker J., Ley, T., Williams, S., Juenger, M., Fournier, B., and Thomas, M.D.A., "Preventing ASR/DEF in New Concrete: Final Report," Report No. FHWA/TX-06/0-4085-5, June 2006.

Thomas, M.D.A., Fournier, B., Folliard, K.J., Ideker, J.H., Rogers, C., Shehata, M., "Performance Limits for Evaluating Supplementary Cementing Materials using the Accelerated Mortar Bar Test," *PCA R&D Serial No. 2892*, Portland Cement Association, Skokie, Illinois 2005.

Book Chapters and Conference Proceedings (5)

Ideker, J.H., Touzo, B., Fryda, H. and Scrivener, K.L., "Chapter 12 Calcium Aluminate Cements," in Lea's Cement Chemistry, accepted for publication July 2017, Peter C. Hewlett, Ed, anticipated publication 2017.

Thomas, M.D.A., Folliard, K.J. and Ideker, J.H., "Alkali-Silica in North America (USA and Canada)," Chapter 10, Alkali-Aggregate Reaction in Concrete: A World Review, Sims, I. and Poole, A., Editors, *Final Draft Submitted November 2016*.

Drimalas, T., Ideker J.H. and Fournier, B., Proceedings of the 12th International Conference on Alkali-Aggregate Reactivity in Concrete, Austin, Texas, USA, May 20-25, 2012, 1320 pp.

Ideker, J.H. and Radlinska, A., Editors, "Advances in the Material Science of Concrete," ACI Symposium Publication 270(SP-270), American Concrete Institute Spring Convention, March 19-25, 2010, Chicago, Illlinois, 124 pp.

Juenger, M.C.G., Maas, A.J., and J.H. Ideker, "Alkali Silica Reactivity of Silica Fume Agglomerates," Transport Properties and Concrete Quality, *Materials Science of Concrete, Special Volume,* Mobasher, B. and Skalny, J.P., Eds., The American Ceramic Society, Westerville, OH, pp. 19-23, 2007.

Works in Progress

Ideker, J.H. and Thomas, M.D.A., "Concrete Durability", Textbook for Concrete Durability for Graduate Students, Thomas Telford Publishers, *in draft preparation*.

Keynote Lectures

Ideker, J.H., "How Long-Term is Mitigation of Alkali-Silica Reaction," 2nd International Conference on Chemistry of Construction Materials," October 10-12, 2016, GDCh Division of Construction Chemistry, TUM, Munich, Germany

Ideker, J.H.*, Drimalas, T., Fournier, B., Folliard, K.J., Hooton, R.D., and Thomas, M.D.A., "Managing Alkali-Aggregate Reactivity: North American Approach," Key Note Lecture, 15th International Conference on Alkali Aggregate Reaction in Concrete, Editors Hasparyk and Sanchez, Sao Paulo, Brazil, July, 4 2016, 10 pp.

Ideker, J.H., "Alkali-Silica Reaction Mechanisms, Test Methods and Link to Field Performance," SEAU Annual Conference, Layton, UT, February 20, 2018.

Refereed Conference Proceedings (Includes an Oral Presentation) (25)

Ideker, J.H., "How Long-Term is Mitigation of Alkali-Silica Reaction," in 2nd International Conference on Chemistry of Construction Materials," Plank J., Lei, L. and Echt, T. Editors, October 10-12, 2016, GDCh Division of Construction Chemistry, TUM, Munich, Germany, 411 pp. *(Key Note Lecture Noted In Previous Section)*

Suraneni, P.*, Salgado, N., Carolan, H., Li, C., Jafari-Azad, V., Isgor, O.B., Ideker, J.H. and Weiss, W.J., "Mitigation of Deicer Damager in Concrete Pavements Caused by Calcium Oxychloride Formation – use of Ground Lightweight Aggregates," International RILEM Conference on Materials, Systems and Structures in Civil Engineering, Technical University of Denmark, Lyngby, Denmark, August 22-24, 2016.

Li, C., Adams, M.P.*, Drimalas, T. and Ideker, J.H., "A review on Using Calcined Clays to Mitigate Alkali-Silica Reaction," 15th International Conference on Alkali Aggregate Reaction in Concrete, Editors Hasparyk and Sanchez, Sao Paulo, Brazil, July, 4 2016, 10 pp.

Li, C., Thomas, M.D.A. and Ideker, J.H.*, "Observations on Using Expanded Clay to Control Expansion Caused by Alkali-silica Reaction," 15th International Conference on Alkali Aggregate Reaction in Concrete, Editors Hasparyk and Sanchez, Sao Paulo, Brazil, July, 4 2016, 10 pp.

Moffat, E.G, Thomas, M.D.A., Hayman, S., Fournier, B., Ideker, J.H.* and Fletcher, J., "Remediation Strategies for the Reconstruction of the ASR-Induced Mactaquac Dam," 15th International Conference on Alkali Aggregate Reaction in Concrete, Editors Hasparyk and Sanchez, Sao Paulo, Brazil, July, 4 2016, 10 pp.

Bentivegna, A.F.* and Ideker, J. H., - "Application of Prognosis and Diagnosis Techniques of ASR for a Historic Structure," 15th International Conference on Alkali Aggregate Reaction in Concrete, Editors Hasparyk and Sanchez, Sao Paulo, Brazil, July, 4 2016, 10 pp.

Fu, Tengfei, Adams M.P. and Ideker J.H., "A Preliminary Study on A Calcium Aluminate Cement Concrete Maturity Theory in Predicting Conversion," accepted for Oral Presentation at the 14th International Congress on the Chemistry of Cement, Beijing, China, October 13-16, 2015.

Li, C., Ideker, J.H., Drimalas, T., "The Efficacy of Calcined Clays on Mitigating Alkali-Silica Reaction (ASR) in Mortar and Its Influence on Microstructure," Calcined Clays for Sustainable Concrete. Springer, Netherlands, June 2015. Pp. 211-217.

Verba, C.A., O'Connor, W.K. and Ideker, J.H., "Advances in Geological CO_2 Sequestration and Co-Sequestration," ACI-CANMET Special Publication in Recent Advances in Concrete Technology and Sustainability Issues, Prague, Czech Republic, Special Publication SP – 289-01, pp. 1-16, 2012.

Drimalas, T., Ideker, J.H., Folliard, K.J., Thomas, M.D.A. and Fournier, B., "The Long-Term Monitoring of Large-Scale Concrete Specimens Containing Lithium Salts to Mitigate Alkali-Silica Reaction," ACI-CANMET Conference, Prague, Czechoslovakia, October, 2012.

Bentivegna, A.F., Ideker, J.H., Hayman, S. and Drimalas, T., "Mitigation of ASR Affected Concrete in Boston, MA, USA: A Case Study," 3rd International Conference on Concrete Repair, Rehabilitation, and Retrofitting (ICCRRR), Cape Town, South Africa, September 2012.

Ideker, J.H., Drimalas, T., Bentivegna, A.F., Folliard, K.J., Fournier, B., Thomas, M.D.A., Hooton, R.D. and Rogers, C.A., "The Importance of Outdoor Exposure Site Testing," In *Proceedings of the 12th International Conference on Alkali-Aggregate Reactivity in Concrete*, Drimalas, T., Ideker J.H. and Fournier, B. Eds., Austin, Texas, USA, 2012, 10 pp.

Drimalas, T., Ideker, J.H., Arrieta, G., Folliard, K.J., Fournier, B.F. and Thomas M.D.A., "Evaluating Combination of Aggregates in the Accelerated Mortar Bar Test," In *Proceedings of the 12th International Conference on Alkali-Aggregate Reactivity in Concrete*, Drimalas, T., Ideker J.H. and Fournier, B. Eds., Austin, Texas, USA, 2012, 10 pp.

Warner, S., Ideker, J.H., and Schumacher, K., "Alkali-Silica Reactivity and the Role of Alumina," In *Proceedings of the 12th International Conference on Alkali-Aggregate Reactivity in Concrete*, Drimalas, T., Ideker J.H. and Fournier, B. Eds., Austin, Texas, USA, 2012, 10 pp.

Adams, M.P., Gray, B., Ideker, J.H., Tanner, J.E., Jones, A., Fournier, B., Beauchemin, S., Shehata, M., and Johnson, R., "Applicability of Standard Alkali-Silica Reactivity Testing Methods for Recycled Concrete Aggregate," In *Proceedings of the 12th International Conference on Alkali-Aggregate Reactivity in Concrete*, Drimalas, T., Ideker J.H. and Fournier, B. Eds., Austin, Texas, USA, 2012, 10 pp.

Folliard, K.J., Thomas, M.D.A., Ideker, J.H., East, B.L and Fournier, B., "Case Studies of Treating ASR-Affected Structures with Lithium Nitrate," *Proceedings of the 88th Annual Transportation Research Board Meeting*, Washington D.C., USA, January 2009.

Ideker, J.H., Folliard, K.J., and Thomas, M.D.A, "Evaluating Early-Age Properties of Calcium Aluminate Cement Concrete with Rigid Cracking and Free Shrinkage Frames: Isothermal Testing," *Calcium Aluminate Cements 2008: The Centenary Conference*, Avignon, France, June 30 – July 2, 2008, pp. 141-157.

Ideker, J.H., East, B.L., Folliard, K.J., Thomas, M.D.A and Fournier, B., "The Current State of the Accelerated Concrete Prism Test," In: Broekmans, M.A.T.M. and Wigum, B.J. (eds): *Proceedings of the 13th International Conference on Alkali-Aggregate Reaction*, Trondheim, Norway, June 16-19, 2008, pp. 140-150.

Folliard, K.J., Thomas, M.D.A., Ideker, J.H., East, B.L., and Fournier, B., "Case Studies of ASR-Affected Structures with Lithium Nitrate," In: Broekmans, M.A.T.M. and Wigum, B.J. (eds): *Proceedings of the 13th International Conference on Alkali-Aggregate Reaction*, Trondheim, Norway, June 16-19, 2008, pp. 90-99.

Fournier, B., Ideker, J.H., Folliard, K.J., and Thomas, M.D.A., "Effect of Environmental Conditions on Expansion in Concrete Due to Alkali-Silica Reaction (ASR)," In: Broekmans, M.A.T.M. and Wigum, B.J. (eds): *Proceedings of the 13th International Conference on Alkali-Aggregate Reaction*, Trondheim, Norway, June 16-19, 2008, pp. 658-667.

Folliard, K.J., Ideker, J.H., Barborak, R.C., Fournier, B., and Thomas, M.D.A., "Laboratory Test Methods for Determining Dosage of Lithium Nitrate Required to Control Alkali-Silica Reaction Induced Expansion," *Proceedings of the 86th Annual Transportation Research Board Meeting*, Washington D.C., USA, January 2007.

Juenger, M.C.G., Maas, A.M., Ideker, J.H., "Effect of Silica Fume Agglomerates on Expansion due to ASR," *Proceedings of the International Conference on Advances in Concrete Composites and Structures*, Chennai, India, January 2005, pp. 43-50.

Ideker, J.H., Folliard, K.J., Juenger, M.G., Thomas, M.D.A., "Laboratory and Field Testing Experience with ASR in Texas, USA," *Proceedings of the 12th International Conference on Alkali-Aggregate Reaction in Concrete*, Beijing, China, October 2004, pp.1062-1069.

Fournier, B., Chevrier, R., De Grosbois, M., Lisella, R., Folliard, K., Ideker, J., Shehata, M.,Thomas, M., Baxter, S., "The Accelerated Concrete Prism Test (60°C): Variability of the Test Method and Proposed Expansion Limits," *Proceedings of the 12th International Conference on Alkali-Aggregate Reaction in Concrete*, Beijing, China, October 2004, pp. 314-337.

Ideker, J.H., Juenger, M.C.G., Ostertag, C.P., "The Participation of Silica Fume Agglomerates in ASR Expansion," *Proceedings of Advances in Cement and Concrete IX: Volume Changes, Cracking, and Durability,* Copper Mountain, Colorado, August 2003, pp. 377-382.

Referred Conference Proceedings for Poster Sessions (where a paper and a poster were submitted) (3)

Li, C., Ideker, J.H., Drimalas, T., "Calcined Clays for ASR Mitigation: Mechanisms and Long-term Performance," Proceedings of the 14th International Congress on the Chemistry of Cement, Oct 2015, Received 1 of 3 Best Poster Awards out of 200 posters at the Congress.

Li, C., Jafari Azad, V., Rodriguez, D.E., Isgor, O.B., Verba, C., Ideker, J.H., Elucidating Damage Mechanisms in Class H Cement from CO2 Sequestration, Proceedings of the 14th International Congress on the Chemistry of Cement, Oct 2015.

Jafari Azad, V., Li, C., Rodriguez, D.E., Ideker, J.H., Verba, C., Isgor, O.B., Numerical modeling of class H cement under CO2 sequestration in down-hole conditions, Proceedings of the 14th International Congress on the Chemistry of Cement, Oct 2015.

Non-Refereed Conference Proceedings (6)

Fu, T. Deboodt, T., and Ideker J., "A Review of Drying Shrinkage and Cracking in Concrete Bridge Decks," MS#: AD-32, *accepted to ACI-CANMET Conference*, Supplementary Proceedings, Prague, Czechoslovakia, October, 2012.

Ideker, J.H., Folliard, K.J., Fournier, B. and Thomas, M.D.A., "The Role of "Non-reactive" Aggregates in the Accelerated (60 C) Concrete Prism Test," *Proceedings of the Marc-Andre Berube Symposium on Alkali-Aggregate Reactivity in Concrete at the Eight CANMET/ACI International Conference on Recent Advances in Concrete Technology*, Montreal, Canada, June 2006, pp. 45-70.

Fournier, B., Nkinamubanzi, P.C., Lu, D, Thomas, M.D.A., Folliard, K.J. and Ideker, J.H., "Evaluating Potential Alkali-reactivity of Concrete Aggregates, How Reliable are the Current and New Test Methods?," *Proceedings of the Marc-Andre Berube Symposium on Alkali-Aggregate Reactivity in Concrete at the Eighth CANMET/ACI International Conference on Recent Advances in Concrete Technology*, Montreal, Canada, June 2006, pp. 21-43.

Folliard, K.J., Barborak, R.C., Ideker, J.H., Fournier, B., Thomas, M.D.A., "Laboratory Test Methods for Determining the Dosage of Lithium Nitrate Required to Control ASR-Induced Expansion," *Proceedings of the Marc-Andre Berube Symposium on Alkali-Aggregate Reactivity in Concrete at the Eighth CANMET/ACI International Conference on Recent Advances in Concrete Technology*, Montreal, Canada, June 2006, pp. 153-169.

Juenger, M.C.G, Ideker, J.H., Ostertag, C.P. "Do Silica Fume Agglomerates Cause ASR-Related Expansion?," *Supplementary papers of the Eighth CANMET/ACI International Conference on Fly Ash, Silica Fume, and Natural Pozzolans in Concrete,* Las Vegas, Nevada, May 2004, pp. 317-325.

Folliard, K.J., Ideker, J., Thomas, M.D.A, Fournier, B., "Assessing Aggregate Reactivity Using the Accelerated Concrete Prism Test," *Supplementary Papers of the Seventh CANMET/ACI International Conference on Recent Advances in Concrete Technology,* Las Vegas, Nevada, May 2004, pp. 269-284.

Other Publications (1)

Ideker, J., "New Fly Ash Regulations Threaten Sustainable Concrete," August, 2, 2010, Sustainable Business Oregon, http://www.sustainablebusinessoregon.com/columns/2010/08/new_fly_ash_regulations_threaten_sustainable_concrete.html

Presentations

Invited Conference Presentations with No Paper (*indicates presenter if multiple authors)

"Final Results from Investigations into the use of FLWA to Mitigate ASR", EPFL Seminar, Gstaad, Switzerland, January 6-8, 2016

"The Use of Calcined Clays to Mitigate ASR: Lab and Field Results," ACI Session on the "Use of Natural Pozzolans in Concrete", Denver, Colorado, November, 2015

"Preliminary Results from Investigations into the use of FLWA to Mitigate ASR", EPFL Seminar, Gstaad, Switzerland, January, 2015

"Teaching Durability Concepts to Undergraduates," PCA Professors Workshop, July 23, 2015

"Class H Cement Degradation under CO2 and CO2-O2 Sequestration Conditions," Li, C., Jafari Azad, V., Rodriguez, D.E., Ideker, J.H., Isgor, O.B., Verba, C., 2014 AGU Fall Meeting, San Francisco CA, Dec, 2014.

"Experimental and thermodynamic Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for underground Storage of CO2," Li, C.*, Jafari Azad, V., Rodriguez, D.E., Ideker, J.H., Isgor, O.B., Verba, C., 5th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing, July, 2014.

"Modeling carbonation of class H cement in high temperature and high pressure down-well conditions,"Jafari Azad, V.*, Li, C., Rodriguez, D.E., Ideker, J.H., Isgor, O.B., Verba, C., 5th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing, July 2014.

"Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO2," Li, C.*, Jafari Azad, V., Rodriguez, D.E., Ideker, J.H., Isgor, O.B., Verba, C., ACI 2014 Fall Convention, Research in Progress, Oct, 2014.

"Closing Remarks and Perspectives on the Future of Calcium Aluminate Cements," Calcium Aluminates Cement Conference, *invited May 13,* 2014, May 18-21, 2014, Avignon, France.

"Mechanism(s) investigation on Using Fine Lightweight Aggregates to Mitigate Alkali-Silica Reaction in Concrete", Li, Chang*, Ideker, J.H., Thomas, M.D.A., Presentation to ACI Committee 213, Lightweight Aggregates, ACI Fall Session, Phoenix, Arizona, Fall 2013

"Using Fine Lightweight Aggregates to Mitigate Alkali-Silica Reaction in Concrete", Li, Chang*, Ideker, J.H., Thomas, M.D.A., Research in Progress, ACI Fall Session, Phoenix, Arizona, Fall 2013

"Cracking Risk with RCA", Adams, M.P., Fu, T., Isgor, O.B. and Ideker, J.H., ACI Fall Session, Phoenix, Arizona, Fall 2013

"How Reliable are Current Testing Methods for Assessing Alkali-Silica Reactivity?", American Concrete Institute (ACI) Fall Convention 2012, in 123 Forum: Do We Know Enough to Manage and mitigate ASR Deteriorations in New and Existing Concrete Structures?, October 21-25, 2012, Toronto, Ontario, Canada.

"Building a Student's Critical Reasoning Skills to Evaluate Green Building Materials," American Concrete Institute (ACI) Fall Convention 2012, in Teaching Sustainability to Current and Future Engineers, October 21-25, 2012, Toronto, Ontario, Canada.

"Prediction of Drying Shrinkage for Internally Cured HPC", Fu, T*, Ideker J.H. and Deboodt, T., American Concrete Institute (ACI) Fall Convention 2012, in The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 1 of 3, October 21-25, 2012, Toronto, Ontario, Canada.

"Alkali-Silica Reaction in Concrete Made with Recycled Concrete Aggregates," Adams, M.P.* and Ideker, J.H., NRMCA International Concrete Sustainability Conference, May 7-10, 2012, Seattle, Washington

"Shrinkage Reduction Techniques for High-Performance Concrete for Bridge Decks," EPFL LMC Seminar, Leysin, Switzerland, January 17-20, 2012.

"Potential Geologic Co-Sequestration of CO_2-O_2: Alteration in Class H Portland Cement," Verba, C.A.*, O'Connor, W., Rush, G.E. and Ideker, J.H.,. ACERS – Cements Division, Advances in Cement-Based Materials: Characterization, Processing, Modeling & Sensing, July 23-26, 2011, Vanderbilt University.

"Expansion in Alternative Cements," Expansive Reactions in Cement-Based Materials Workshop, Corvallis, OR, July 27-29, 2011.

"Alkali-Silica Reactivity of Recycled Concrete Aggregates – Research in Progress," Adams, M.P.* and Ideker, J.H., American Concrete Institute (ACI) Spring Convention 2011, Committee Meeting: Committee 555: Recycled Materials in Concrete, April 3-7, 2011, Tampa, Florida

"Alkali-Silica Reaction, Fly Ash and the Role of Alumina," EPFL Seminar, Leysin, Switzerland, January 25-28, 2011

Schwing, K.A.*, Ideker, J.H. and Folliard, K.J., "Influence of alkalies from fly ash to concrete pore solution: ASR considerations" Ideker, J.H.*, Schumacher, K.A., Spring ACI Convention, Chicago, Illinois, 2011.

"Using Chemical Shrinkage to Predict Conversion in CAC Systems," ACERS – Cements Division, Advances in Cement-Based Materials: Characterization, Processing, Modeling & Sensing, July 11-13, 2010, Purdue University, West Lafayette, IN.

"Evaluation of Concrete Structures Suffering from Alkali-Silica Reaction (ASR)," Ideker, J.H.*, Lynch, M.M. and Bentivegna, A.F., EPFL Seminar, Leysin, Switzerland, January 2010

"Alkali-Silica Reactivity and the Effect of Alkalies Contributed from Fly Ash," Schwing [Schumacher], K.A.*, Ideker, J.H. Ecole Polytechnique Federale de Lausanne (EPFL) Seminar, Leysin, Switzerland, January 25-28, 2010.

"Temperature Dependence on Conversion Reactions and Subsequent Volume Change in Calcium Aluminate Cement Systems," *American Concrete Institute (ACI) Fall Convention 2009*, Session: Temperature Effect on Concrete Performance, November 8-12, 2009.

"Evaluation of Historic Structures Suffering from Alkali-Silica Reaction (ASR)," Jason H. Ideker*, Marjorie M. Lynch* – SGH and Anthony F. Bentivegna – UT Austin: Co Presenters, *Association of Preservation Technology International (APT)*, 2009 Annual Conference – Preservation in the City Without Limits, November 2-6, 2009

"Measuring Autogenous Deformation of Innovative Cementitious Materials," *American Concrete Institute (ACI) Spring Convention 2008*, Session: Early-Age Test Methods for Performance Specifications, San Antonio, Texas, April 2009

"Early-Age Characterization of Calcium Aluminate Cement Systems," EPFL LMC Seminar, Leysin, Switzerland, January 13-16, 2009.

"Calcium Aluminate Cement Systems: Durability Aspects," EPFL LMC Seminar, Leysin, Switzerland, January 13-16, 2009.

"Evaluating Early-Age Properties of Calcium Aluminate Cement Concrete with Rigid Cracking and Free Shrinkage Frames: Isothermal Testing," *Calcium Aluminate Cements 2008: The Centenary Conference*, Avignon, France, June 30 – July 2, 2008.

"The Current State of the Accelerated Concrete Prism Test," *13th International Conference on Alkali-Aggregate Reaction*, Trondheim, Norway, June 16-19, 2008.

"Linking Microstructural Development to Early-Age Volume Change in Calcium Aluminate Cement Concrete," *American Concrete Institute (ACI) Spring Convention 2008*, Session: Multi-Scale Descriptions of Concrete Performance, March 29-April 3, 2008.

"Early-Age Deformation in Calcium Aluminate Cement Concrete," EPFL LMC Seminar, Crans-Montana, Switzerland, January 8, 2008

"CAC Basics and Early-Age Volume Change," *American Concrete Institute (ACI) Fall Convention 2007*, Session: Open Paper, Puerto Rico, October 14-18, 2007.

"Classroom and Laboratory Demonstrations for Undergraduate Civil Engineering Courses," *American Concrete Institute (ACI) Spring Convention 2007*, Session: Toys for Teaching, Atlanta, Georgia, March 21-25, 2007.

"Test Methods to Assess the Ability of Supplementary Cementing Materials to Mitigate ASR Induced Expansion," *Advances in Cement and Concrete X: Sustainability*, Davos, Switzerland, July 2-7, 2006.

"The Role of "Non-reactive" Aggregates in the Accelerated (60 C) Concrete Prism Test," *Marc-Andre Berube Symposium on Alkali-Aggregate Reactivity in Concrete at the Eight CANMET/ACI International Conference on Recent Advances in Concrete Technology*, Montreal, Canada, 2006.

"ICAR Project 302 Update," *International Center for Aggregate Research (ICAR) Symposium*, Austin, Texas, April 2005.

"ASR in Texas, USA Laboratory and Field Experience," *12th International Conference on Alkali-Aggregate Reaction in Concrete*, Beijing, China, October 2004.

Invited Presentations

"Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO_2," Ideker, J.H.*, Isgor, O.B., Li, C.*, Jafari Azad, V., and Rodriguez, D.E., Final Project Presentation, NETL-Albany, November 2014.

Alkali-Silica Reactivity of Recycled Concrete Aggregates, Ideker, J.H.*, Tanner-Eisenhauer, J.E., Adams, M.P. and Joes A., National Concrete Consortium Fall Meeting, September 18, 2012, Seattle, Washington

"Correlation of Accelerated Laboratory Test Methods to Field Performance: Aggregate Reactivity and Mitigation Measures," *Alkali-Aggregate Reaction: Testing, Prognosis, Modelling, Avoidance*, EPFL AAR Lecture Series, 14 September 2011.

"Overview of Research Areas, Results and Potential Collaboration," Presentation to Saint Gobain Central Research, September 2011, Paris, France

Sustainability of Concrete for Infrastructure," Portland State University Transportation Seminar, Friday, November 19, 2010.

"Concrete Durability: From Microstructure to Full-Scale Performance," *Structure+Architecture Symposium*, AIA Portland, Friday Seminar Series, Friday, October 1, 2010.

"Concrete Durability: From Microstructure to Full-Scale Performance," National Energy and Technology Laboratory, Invited Speaker Series, Albany, Oregon, September 23, 2010.

Oregon Sustainability Center Materials Event, July 27, 2010, Portland Oregon, Portland Development Commission, Member - Cementitious Materials Panel.

"Oregon Sustainability Center – Research Agenda Panel Presentation," Oregon BEST FEST 2010, Oregon Convention Center, Portland, Oregon, September 13, 2010.

"Oregon State University-Green Building Materials Lab," BEST FEST 2009, Portland State University, Portland, Oregon, September 14, 2009

"Workshop: The Nuts and Bolts of Green Infrastructure," OTREC Summit, Portland State University, Portland, Oregon, September 11, 2009

"Test Methods to Detect Alkali-Silica Reaction and Determine Efficacy of Mitigation Methods," ACI Alkali-Aggregate Reaction Seminar, ACI Colombia Chapter, Bogota, Colombia, April 2009.

"Examination of the Effects of Temperature on Progression of Alkali Silica Reaction Using an Accelerated Temperature ASTM C 1293 Test," *PCA Fall Meeting – Education Foundation Fellowship Presentation*, Chicago, Illinois, 2005.

"Laboratory and Field Experience with ASR in Texas, USA," *Structures Seminar – The University of Texas at Austin*, Austin, Texas, November 2004.

"Alkali Silica Reaction Research at UT Austin", *ACI Central Texas Chapter Monthly Meeting*, Austin , Texas, August, 2004.

Course Guest Lectures

"Durability of Concrete Materials", ENGR 407H, Fall 2013-2015, Oregon State University, Dr. Belinda Batten Instructor of Record

"Introduction to Cement and Concrete", CCE 101, Fall 2010-2013, 2015 Oregon State University, Various Instructors of Record (Dr. Scott Ashford, Dr. David Trejo, Ms. Tracy Arras)

"Experimental Methods for Cement Concrete Investigations", ENGR 418H, Fall 2011 and Fall 2012, Oregon State University, Dr. Belinda Batten Instructor of Record

"Durability of Innovative Cementitious Systems", The Ecology of Building Materials – Arch 4/507, Erin Moore (Professor of Record), The University of Oregon

Poster Presentations

Deboodt, T., Wilson, A., Ideker, J.H.* and Adams, M.P.*, "Re-evaluation of Testing Parameters in the Accelerated Mortar Bar Test," 15th International Conference on Alkali Aggregate Reaction in Concrete, Editors Hasparyk and Sanchez, Sao Paulo, Brazil, July, 4-7 2016, 10 pp.

Banuelos, J. and Ideker, J.H., "Use of Blended Fibers to Control Shrinkage Related Cracking in HPC," PacTrans Regional Conference, Fall 2013, Seattle, Washington

Deboodt, T., Fu, T. and Ideker J.H., "Elevated Temperature and Decreased Relative Humidity Effects on Drying Shrinkage of Concrete Prisms", *The 12th International Conference on Recent Advanced in Concrete Technology and Sustainability Issues*, Prague, Czech Republic, October 31st - November 2nd, 2012

Warner, S., Ideker, J.H., Schumacher K.A., "The Influence of Alumina on Alkali-Silica Reaction, *The 12th International Conference on Recent Advanced in Concrete Technology and Sustainability Issues*, Prague, Czech Republic, October 31st - November 2nd, 2012

Adams, M.P., Gray, B., Ideker, J.H., Fournier, B., Tanner, J.E., Shehata, M., "Applicability of Standard Alkali-Silica Reactivity Testing Methods for Recycled Concrete Aggregate," *The 12th International Conference on Recent Advanced in Concrete Technology and Sustainability Issues*, Prague, Czech Republic, October 30th – November 1st, 2012.

Gray, Brian J., Adams, M. P., Ideker, J.H., Fournier, B., "Variation in Alkali-Silica Reaction Within Recycled Concrete Aggregate Based on Initial and Secondary Crushing," *The 12th International Conference on Recent Advanced in Concrete Technology and Sustainability Issues*, Prague, Czech Republic, October 30th – November 1st, 2012.

Fu, T., Deboodt, T. and Ideker, J.H., "Drying Shrinkage of High Performance Concrete," Oregon Built Environment & Sustainable Technologies Center (BEST) FEST, Portland, Oregon, September 12, 2012.

Kamke, F.A, Ideker, J.H. and Rochefort, W.E., "Green Building Materials Laboratory-A Signature Research Facility of Oregon BEST," Oregon Built Environment & Sustainable Technologies Center (BEST) FEST, Portland, Oregon, September 12, 2012.

Adams, M.A., Moore, T. and Ideker, J.H., " Performance of Lower CO_2 Binders for Concrete Construction," Oregon Built Environment & Sustainable Technologies Center (BEST) FEST, Portland, Oregon, September 12, 2012. Winner: People's Choice Best Poster

Adams, M.P., Ideker, J.H., "Variations in Expansion of Concrete Containing Recycled Concrete Aggregate due to Alkali-Silica Reaction," Expansive Reactions in Cement-Based Materials Workshop, Corvallis, OR, July 27-29, 2011.

Adams, M.P., Ideker, J.H., Gray, B., "Durability of Concrete Containing Recycled Concrete Aggregate," Oregon University System Sustainability Conference, Corvallis, Oregon, February 28, 2011.

Kamke, F.A, Ideker, J.H. and Rochefort, W.E., "Green Building Materials Laboratory-A Signature Research Facility of Oregon BEST," Oregon Built Environment & Sustainable Technologies Center (BEST) FEST, Portland, Oregon, September 13, 2010.

Schwing [Schumacher], K.A. and Ideker, J.H., "Use of Fly Ash in the Mitigation of Alkali-Silica Reaction in Concrete," Oregon Built Environment & Sustainable Technologies Center (BEST) FEST, Portland, Oregon, September 13, 2010.

Verba, Circe, O'Connor, William, Ideker, J.H., "Cement Seal Integrity: Microstructural Characterization of CO_2 Alteration Zones in Class H Portland Cement," ACERS – Cements Division, Advances in Cement-Based Materials: Characterization, Processing, Modeling & Sensing, July 11-13, 2010, Purdue University, West Lafayette, IN, *Recipient of Best Poster Award (6 of 27 given)*.

Bentivegna, A.F., Folliard, K.J. and Ideker, J.H., "Evaluation of Calcium Aluminate Cement Based Systems Hydration using Isothermal Calorimetry," ACERS – Cements Division, Advances in Cement-Based Materials: Characterization, Processing, Modeling & Sensing, July 11-13, 2010, Purdue University, West Lafayette, IN.

Schwing [Schumacher], K., Ideker, J.H., "Oregon State University Green Building Materials Laboratory," Oregon Built Environment & Sustainable Technologies Center (BEST), Portland, Oregon, September 2009.

Folliard K.J., Barborak, R.C., Ideker, J.H., Fournier, B., Thomas, M.D.A., and Tremblay, C., "Laboratory Test Methods for Determining the Dosage of Lithium Nitrate Required to Control Alkali-Silica Reaction Induced Expansion," P*roceedings of the 86th Annual Transportation Research Board Meeting*, Washington D.C., USA, January 2007.

Ideker, J.H., Juenger, M.C.G. and Ostertag, C.P., "The Participation of Silica Fume Agglomerates in ASR Expansion," Advances in Cement and Concrete IX: Volume Changes, Cracking, and Durability, Copper Mountain, Colorado, August 2003.

Websites Designed

Green Building Materials Laboratory, http://gbml.oregonstate.edu, Oregon State University, Template Courtesy Oregon State University Marketing.

Infrastructure Materials Laboratory and Research Website, http://web.engr.oregonstate.edu/~idekerj/index.php, Oregon State University, Template Courtesy Oregon State University Marketing.

Service

Professional Organizations

2016-present	Member, C09 Executive Committee, Member-at-Large
2014-present	Member, RILEM TC-AAA
	Task Group on Alkali Aggregate Reactivity Performance-Based Approach
2009 – present	Member, ASTM International
	Chair, Subcommittee C 9.50 - Risk Management for Alkali Aggregate Reactions, 2011-present
	New Standard Developed Under Chaired Leadership: *ASTM C 1778-14 "Standard Guide For Reducing the Risk of Deleterious Alkali-Aggregate Reaction in Concrete"*
	Voting Member, Committee C09 – Concrete and Concrete Aggregates, 2009-present
	Voting Member, Committee C01 – Cement, 2009-present
	Voting Member, Subcommittee: C01.1300 – Special Cements, since 2010
2003-present	Member, American Concrete Institute
	TAC Awards Group Subcommittee (ACI CAP SC2) – ACI Wason Medal Award, 2015
	Voting Member Committee on Early-Age Properties of Concrete (ACI 231), 2013-present
	Voting Member Committee on Durability of Concrete (ACI 201), 2013-present
	Voting Member Committee on Material Science of Concrete (ACI 236), 2008-present
	Associate Member Committee on Durability of Concrete (ACI 201), 2003-2013
	TAC Awards Group Subcommittee I (SC1) - ACI Construction Award, 2009-2010

2000-2013 Member, American Society of Civil Engineers
2010-present Member, American Concrete Institute, Oregon Chapter

Proposal Reviews
March 2017 - NSF SAEM Program Reviewer
NSF Open Call Review (13 proposals)
CRC – Concrete Research Council
University of Missouri-Kansas City, Internal Research Funding Reviewer
University Transportation Center, Northeast Region

Journal Reviewer
ICAAR 2012 (International Conference on Alkali-Aggregate Reactivity), Austin, Texas, USA
Member of the International Board of Reviewers (2011-2012)
Journal of ASTM International (2010-2011)
NIST (WERB) – Invited Reviewer
Journal of Bridge Engineering (2008-Present)
Journal of Material Science (2008-Present)
ICAAR 2008 (International Conference on Alkali-Aggregate Reactivity), Trondheim, Norway
Member of the International Board of Reviewers (2007-2008)
Cement and Concrete Research (2006-Present)
ASCE Journal of Materials in Civil Engineering (2006-Present)
Materials and Structures (2007-Present)
ACI Materials Journal (2005-Present)

Conference Scientific Panels
2014 Calcium Aluminate Cements, Avignon, France, June 2014.
2014 Concrete Durability Conference, Purdue University, June 2014

Textbook Reviewer
PCA Design and Control 14th Edition
PCA Design and Control 15th Edition

Conference/Meeting Organization
2016-2017 Doctoral Short Course - *Service-Life Prediction of Concrete*, July 9-14, 2017
Short Course Organizers: Jason H. Ideker (Chair), O. Burkan Isgor, David Trejo and W. Jason Weiss

2016-2017 The Corvallis Workshops, 3rd – *Service-Life Prediction of Concrete*, July 16-19, 2017
Workshop Organizers: Jason H. Ideker, Karen L. Scrivener and Anthony F. Bentivegna
Oregon State University, Corvallis, USA

2014-2015 American Concrete Institute Fall Convention Denver 2015
Co-Session Moderator "Methods for Measurement and Mitigation of Early-Age Deformations"

2013-2014 Member of the Organizing Committee for the " 4th International Conference on Durability of Concrete Structures at Purdue University, West Lafayette, Indiana, July 24-26, 2014

2012-2014 The Corvallis Workshops, *2nd - Characterization Tools to Assess Performance of Cement-Based Materials*, June 22-25, 2014, Conference Organizers: Jason H. Ideker, Karen L. Scrivener and Anthony F. Bentivegna
Oregon State University, Corvallis, USA

2011-2012 American Concrete Institute Spring Convention 2012, Dallas, Texas, USA
Co-Session Moderator "Recent Advances in understanding the Mechanisms of ASR, Mitigation Methods and Testing Procedures"

2008-2012 International Conference on Alkali-Aggregate Reactivity (ICAAR 2012), Austin, Texas, USA
Member of the Organizing Committee

2010-2011 The Corvallis Workshops, *Inaugural- Expansive Reactions in Cement Based Materials*, July 2011
Conference Organizers: Jason H. Ideker and Karen L. Scrivener
Oregon State University, Corvallis, USA

2009-2010 American Concrete Institute Spring Convention 2010, Chicago, Illinois
Full Day Session on: "Advances in the Material Science of Concrete"
Organizing Co-Chair and Co-Editor of Special Proceedings (SP 270)
Co-Chair and Co-Editor: Aleksandra Radlinska, Assistant Professor, Villanova University

2009 American Concrete Institute (ACI) Fall Convention 2009, New Orleans, Louisiana
Session Moderator: Materials Science Modeling as a Solution to Concrete Problems Part 2

OSU Service

2015-2016	CCE Architectural Engineering Degree Task Group, Member
2014-2015	CCE Head Search, Committee Member
2014-2015	Chair, CCE Scholarship Committee
2014	P&T Ad-Hoc Committee Member, Michael Olsen, School of CCE
2014-2015	Mid-Tenure Ad-Hoc Committee Member, Ari Sinha, Dept. of WSE
2013-2014	CCE – Excellence Ad-Hoc Committee, Chair
2012-2013	CCE – Internal Awards Committee, Member
2012-2013	CCE - Open Access Laboratories Committee, Member
2011-2012	CCE – Infrastructure Materials – Focus Area Coordinator
2011	CCE - Construction Engineering Management – Focus Area Coordinator
2011	College of Engineering New Website Development Committee
2011	Member, CCE Graduate Committee Oregon State University
2010	Successful Joint Proposal "Faculty Positions Advancing Signature Areas," Sustainability, Resilience and Rehabilitation of the Built Environment, 1.0 FTE in School of CCE
2010	Member, Ad-Hoc Committee on Academic Integrity, Oregon State University
2010-2012	Lead, Oregon State University for Development of the Oregon Sustainability Center
2010-2012	Materials Group Lead, Oregon Sustainability Center
2010-2013	Crescent Valley High School, Corvallis, Oregon "Classroom and Laboratory: Basic Concrete Concepts to High School Juniors", Ryan Kanter – Instructor of Record
2009-2011	Chair, CCE Graduate Committee, Oregon State University UGLBG Program – Obtained over $180,000 in funding for growing the Diversity and Academic Strength of the CCE Graduate Program
2008-2009	CCE Marketing Committee, Oregon State University
2008-2015	Advisor, ASCE Concrete Canoe Team, Oregon State University

CURRICULUM VITAE

School of Civil and Construction Engineering
College of Engineering
Oregon State University

HIGGINS, Christopher C.
Cecil and Sally Drinkward Professor of Structural Engineering

A. EDUCATION and EMPLOYMENT INFORMATION

A1. Degrees

B.S.C.E., Marquette University, 1988 with Honors
M.S., Civil Engineering, The University of Texas at Austin, 1990
Ph.D., Civil Engineering, Lehigh University, 1997

A2. Academic Positions

Professor, School of Civil and Construction Engineering, Oregon State University, 2009-present
Cecil and Sally Drinkward Professor of Structural Engineering, College of Engineering, Oregon State University 2014-present
Visiting Professor, Professor, Structural Engineering Research Center, Tokyo Institute of Technology, Yokohama, Japan, 2013-14
Slayden Construction Faculty Fellow, School of Civil and Construction Engineering, Oregon State University, 2009-2014
Associate Director, Oregon Transportation Research and Education Consortium (OTREC), A National Transportation Research Center, 2006-2014
Interim Director, Kiewit Center for Infrastructure and Transportation, College of Engineering, Oregon State University, 2005-2007
Associate Professor, School of Civil and Construction Engineering, Oregon State University, 2005-2009
Assistant Professor, Department of Civil, Construction, and Environmental Engineering, Oregon State University, 2000-2005
Assistant Professor, Department of Civil and Environmental Engineering, Clarkson University, 1997-2000

A2. Non-Academic Positions

Project Engineer: Wiss, Janney, Elstner Assoc., Dallas, TX, 1990-1992

A3. Fields of Specialization

Structural Engineering
Bridge Engineering
Earthquake Engineering

A4. Professional Registration

Professional Engineer, New York No. 077436

B. TEACHING, ADVISING, AND OTHER ASSIGNMENTS

B1. Instructional Summary

B1. Credit Courses

CE-382 Structural Analysis II: Classical structural analysis for determining deflections and forces in statically indeterminate structures. Double integration, moment-area, virtual work, energy methods, slope-deflection, and matrix methods.
CE-383 Steel Design: Introductory course on design of steel structures using the reliability based Load and Resistance Factor Design method.
CE-481/581 Reinforced Concrete Design: Design of reinforced concrete beams subjected to shear and flexure, and detailing requirements for longitudinal and transverse steel.
CE-489/589 Seismic Engineering: Advanced undergraduate/graduate course combining seismology, structural dynamics, seismic analysis, and earthquake resistant design principles.
CE-480/580 Advanced Seismic Engineering: A graduate course on nonlinear modeling of structural systems and seismic behavior of frames with hysteretic damping elements.
CE-583 Bridge Engineering: An advanced graduate course on bridge engineering. Includes notional load models, load distribution, analysis for moving loads, design of reinforced concrete bridge decks and superstructure elements.
CE-418 Professional Practice: Exposure to professional issues related to the practice of civil engineering, including ethics, management, and technical writing.
CE-419 Civil Infrastructure Design: Senior capstone design course that provides real-world design experience.
CE-580 Advanced Reinforced Concrete: Design code philosophy, moment curvature, short columns, biaxial column bending, column slenderness, bearing and shear walls, strut-and-tie models.

Clarkson University, 1997-2000
CE-212 Introduction to Engineering Design: Sophomore level course in civil engineering design. Employed an open-ended group project to teach structural design principles.
CE-403 Civil Engineering Laboratory: A laboratory course at the senior level, teaching modern engineering experimental testing methods.
CE-442 Steel Design: Design of steel structures, tension, compression, beams, and beam-column design.
CE-490 Senior Design: Capstone design course with a real-world design project.

B1. Non-Credit Courses and Workshops

Professional Engineering Exam Review, Bend, OR, Structural Analysis, Winter 2000
Professional Engineering Exam Review, Bend, OR, Structural Steel Design, Winter 2000
Invited Lecturer, CE 419, Civil Infrastructure Design, 5 class periods, Spring 2001
Invited Lecturer, CE 101, Introduction to Structural Engineering, Fall 2009,2008, 2007, 2006, 2004, 2001, 2000
Invited Lecturer, March 14, 2003 Transportation Seminar Series, Center for Transportation Studies, Portland State University
Reading and Conference CE 405/505:

Yi Wu, CE 505, 3 credits, *Advanced Steel Design*, Spring 2001
Brian Nicholas, CE 505, 3 credits, *RC Bridge Design*, Spring 2003
Theresa Daniels, CE 505, 3 credits, *RC Bridge Design*, Spring 2003
Melissa Robelo, CE 505, 3 credits, *RC Bridge Design*, Spring 2003
Jun He Kim , CE 505, 3 credits, *RC Bridge Design*, Spring 2003

Kyung Ho Lee , CE 505, 3 credits, *RC Bridge Design*, Spring 2003
Ae-Young Lee, CE 505, 3 credits, *RC Bridge Design*, Fall 2003
Stefan Alexander, CE 405, 1 credit, *Structural Testing Laboratory*, Spring 2004
Melissa Robelo, CE510, 1 credit, *Internship*, Summer 2004
Matthew Klym, CE 405, 1 credit, *Structural Testing Laboratory*, Spring, 2007
Travis Kinney, CE505, 2 Credits, *Load Factor Development for Rating*, Fall, 2008

Table 1 – Courses taught and enrollment.

Year	Term	Course	Title	No. of Students
00-01	F	CE 481	Reinforced Concrete Design	65
	F	CE 581	Reinforced Concrete Design	2
	W	CE 382	Structural Analysis II	84
	S	CE 489	Seismic Design	26
	S	CE 589	Seismic Design	3
01-02	F	CE 481	Reinforced Concrete Design	73
	F	CE 581	Reinforced Concrete Design	2
	W	CE 382	Structural Analysis II	68
	S	CE 383	Steel Design	77
	S	CE 480	Advanced Seismic Analysis	3
	S	CE 580	Advanced Seismic Analysis	8
02-03	F	CE 481	Reinforced Concrete Design	64
	F	CE 581	Reinforced Concrete Design	4
	S	CE 505	Reinforced Concrete Bridge Design	6
03-04	F	CE 481	Reinforced Concrete Design	61
	F	CE 581	Reinforced Concrete Design	5
	S	CE 483	Bridge Design	23
	S	CE 583	Bridge Design	12
04-05	F	CE 481	Reinforced Concrete Design	61
	F	CE 581	Reinforced Concrete Design	2
	S	CE 583	Bridge Design	32
05-06	F	CE 481	Reinforced Concrete Design	87
	F	CE 581	Reinforced Concrete Design	1
	S	CE 483	Bridge Design	10
	S	CE 583	Bridge Design	15
06-07	F	CE 481	Reinforced Concrete Design	66
	F	CE 581	Reinforced Concrete Design	2
	W	CE418	Professional Practice	20
	S	CE419	Senior Capstone Design	20
	S	CE 483	Bridge Design	13
	S	CE 583	Bridge Design	5
07-08	F	CE 481	Reinforced Concrete Design	77
	F	CE 581	Reinforced Concrete Design	6
	S	CE419	Senior Capstone Design	25
	S	CE 483	Bridge Design	6

	S	CE 583	Bridge Design	14
08-09	S	CE 419	Senior Design	24
	S	CE483	Bridge Design	13
	S	CE583	Bridge Design	13
09-10	S	CE 419	Senior Design	24
	S	CE583	Bridge Design	15
10-11	F	CE481	Reinforced Concrete Design	99
	F	CE581	Reinforced Concrete Design	2
	F	CE580	Advanced Reinf. Concrete Design	35
	S	CE583	Bridge Design	23
11-12	F	CE481	Reinforced Concrete Design	91
	F	CE581	Reinforced Concrete Design	3
	F	CE580	Plastic Methods of Analysis and Design	23
	S	CE583	Bridge Design	32
12-13	F	CE481	Reinforced Concrete Design	94
	F	CE581	Reinforced Concrete Design	5
	F	CE580	Advanced Reinf. Concrete Design	25
	S	CE583	Bridge Design	29
	S	CE481	Reinforced Concrete Design	23
	S	CE581	Reinforced Concrete Design	4
13-14	F			
	W		Sabbatical	
2014	S			
	F	CE481	Reinforced Concrete Design	74
	F	CE581	Reinforced Concrete Design	4
	F	CE580	Advanced Reinf. Concrete Design	23
2015	S	CE583	Bridge Design	22 (4.9,5.0)
	S	CE481	Reinforced Concrete Design	31 (4.5, 5.3)
	S	CE581	Reinforced Concrete Design	3
	F	CE481	Reinforced Concrete Design	57 (4.8, 5.1)
	F	CE581	Reinforced Concrete Design	4
2016	S	CE583	Bridge Design	14 (4.0,4.5)
	S	CE481/581	Reinforced Concrete Design	58 (4.4, 5.0)
	F	CE481	Reinforced Concrete Design	77 (5.6, 5.8)
	F	CE580	Adv. Reinforced Concrete Design	16 (5.8, 5.8)
2017	S	CE583	Bridge Design	15 (5.2, 5.6)
	S	CE481/581	Reinforced Concrete Design	55 (5.2, 5.3)

B1. Curriculum and Laboratory Development

Undergraduate and Graduate Program Development
I work closely with structural engineering faculty in the School of Civil and Construction Engineering and the Department of Wood Science and Engineering in the College of Forestry to organize and coordinate course offerings for both undergraduate and graduate programs. Topics in undergraduate courses have been sequenced to provide a continuity of instruction that provides students with a consensus of essential structural engineering preparation. Graduate courses have been organized and new courses have been developed to provide offerings that previously were not available and that facilitate recruitment and retention of top students for the graduate program.

CE 481/581 Course Development and Enhancements
I integrated laboratory experiences into the CE481/581 Reinforced Concrete Design course that were previously not available. Students attend a laboratory session where they experience full-scale testing of concrete elements that enhances their level of understanding beyond that of classroom instruction. They are exposed to component material tests and modern laboratory and instrumentation techniques. The course also requires constant updating and improvement to integrate the latest building code changes and research findings. I also incorporate recent research findings into the class so that students may see emerging code changes that the broader technical community may not see for several years.

CE483/583 Course Development
Based on demand from students and my own research program need, I developed the course CE483/583 Bridge Design. Given the recent $2.5 billion funding package passed for new bridge construction in Oregon, there is a need in the State for structural engineers with bridge design experience. Bridge design is very different from building design and employs a unique design specification. I developed the course to address the most pressing needs of concrete bridge analysis and design and bring real-world problems to the class based on my on-going research in the area. I employ the latest Load and Resistance Factored Design specification and instruct students on emerging analytical procedures. Students are exposed to notional load models, conservative code approximations, sophisticated analytical techniques, field testing methods, and uncertainties inherent in any bridge structure. A project is used to provide students with a comprehensive design experience.

Undergraduate Research Projects
I have worked with several undergraduates on independent research projects. These include both experimental and analytical studies. Projects include:

- Brenda Brownell, "Behavior of Timber Shearwalls Under Earthquake Loadings," Undergraduate Research Project, Clarkson University, 1999.
- James Newell, "Small-Scale Verification Studies of Hysteretic Dampers," Honors College Thesis, Clarkson University, 1999-2000.
- Brenda Shonkwiler, "Small-Scale Shake Table Experiments and Comparison to Analytical Predictions," Honors Project, Committee Member 2000-01.
- Lori Elkins, "Influence of Brace Fracture on Dynamic Response of a Building Frame," Undergraduate Research Project 2002-03.
- Cole Olsen, "Pull-out Strength of Stirrup Anchorages," Undergraduate Research Proj. 2003-04.
- Kate Bradbury and Laurel Stenger 2006-07, MaryAnn Brooks 2005-06, Tektronix's Scholars Program

Duncan Stark, "Ponding Behavior of Long-span Light-Weight Roof Systems" Honors College Thesis, 2006-08.
Jill Folkstad, "Carbonation of Aging Concrete Bridges" Honors College Thesis, 2009-10.
Christina Garrett, "Subduction-zone Earthquake Response of Bridges" Honors College Thesis, 2009-10.

B1. Graduate Students

B1-a) Major Professor – M.S. (35, 33 at OSU)

Nathan Jones	(2018) Seismic Performance of Pile Caps for Retrofitted Columns.
Aiyad Alshimaysawee	(2017) Application of Titanium Alloys Bars for Restoration of Historical Structures Considering Alternative Grout Materials.
Jake Montgomery	(2017) LFD anad LRFD Rating of Pin and Hanger Details.
Eric Vavra	(2016) Flexural strengthening of Deficient RC Beams including Environmental and Fatigue Effects.
Mackenzie Lostra	(2016) Seismic Strengthening of Deficient RC Columns with Titanium Alloy Bars and Spirals.
Jonathan Knudtsen	(2016) Shear Strengthening of RC Girders with NSM Titanium Stirrups.
Lucas Thompson	(2017) Seismic Performance of Ecoroofs.
Kimberly Kilroy	(2015) Dynamic Characterization of Ecoroof Materials and Interfaces (co-advised with B. Mason)
Laura Barker	(2014) Strengthening Flexural Anchorages in Negative Moment Regions with NSM-CFRP (thesis)
Deanna Amneus	(2014) Strengthening Flexural Anchorages in Positive Moment Regions with NSM-Titanium (thesis)
Andrew Hanek	(2014) Fluid-structure interactions on O.H. Hinsdale Wavemaker (project)
Therese Pflaum	(2013) Nondestructive Method for Determining Yield Stress of Steel Plates (thesis)
Peter Fetzer	(2013) LRFD Design of Open-grid Bridge Deck (thesis)
Philipp Keller	(Spring 2012) Fatigue of Truss Bridge Verticals from Wind-Induced Torsional Response (thesis)
Anthony Sorentino	(2012) Gravity Load Capacity of Pile Cap Foundations (thesis)
Anthony Hafner	(2012) Experimental Behavior of Full-Size Gusset Plate Connections for Truss Bridges (thesis)
Jake Goebel	(2011) Durability NSM Reinforcing Under Fatigue and Environmental Effects (thesis)
Brandon Johnson	(2011) Behavior of RC Girders Strengthened with NSM for Shear (thesis)
Jora Lerman	(2010) Performance of Bridge Superstructure Anchorages to Resist Hurricane Wave Forces (thesis)
Mary Ann Triska	(2010) Flexural Anchorage Behavior of RC girders in Negative Moment Regions (thesis)
Josh Goodall	(2010) Flexural Anchorage Behavior of RC girders in Positive Moment Regions (thesis)
Duncan Stark	(2009) Ponding Behavior of Steel Bar Joint Roof Trusses (thesis)

Aruna Naryan	(2009) Bridge Deck Loads using Weigh-in-motion Data (project)
Gotham Sopal	(2008) Environmental Durability of CFRP Shear Strengthening (thesis)
Matthew Dawson	(2008) Scale-effects on Reinforced Concrete Beams Strengthened for Shear with Discrete Externally-Bonded Carbon Fiber Reinforced Polymer U-Wraps (thesis).
Mikal Mitchell	(2008) Freeze-Thaw Durability of Reinforced Concrete Deck Girders Strengthened for Shear with Surface-Bonded Carbon Fiber Reinforced Polymer (thesis).
Matthew Smith	(2007) Repair of RC Girders Including Longitudinal Strains (thesis).
Pattanapong Topark-Ngarm	(2007) Analysis of Prestressed Girder Bridges Under Realistic Service Loads (project).
Carl Koester	(2007) Testing and Evaluation of Flexural Reinforcing Bar Anchorages Terminating in Columns (thesis)
Thomas Schumacher	(2006) Acoustic Emission of Reinforcing Anchorages (project).
Jordan Pelphrey	(2006) Load Models for Bridge and Pavement Evaluation (thesis).
Ae-young Lee	(2006) High-cycle Fatigue of Lightly-Reinforced Concrete Girders (thesis).
Grahme Williams	(2005) Investigation of the Fatigue Behavior of Diagonally-Cracked CRC Deck-Girders Repaired with CFRP (thesis).
Richard W.B. Forrest	(2005) Low-cycle Fatigue Behavior of Concrete Beams in Shear (thesis).
Patreeda Pattaradon	(2004) Analysis of Continuous Orthotropic Decks (project).
Theresa K. Daniels	(2004) Reliability Based Bridge Assessment Using Modified Compression Field Theory and Oregon Specific Truck Loading (thesis) with D.V. Rosowsky.
Brian S. Nicholas	(2004) Behavior of lightly-reinforced concrete beams under moving loads (project).
Melissa J. Robelo	(2004) Analysis of Diagonally Cracked Conventionally Reinforced Concrete Girders in the Service Load Range (thesis).
Hui Tin Yeung	(2004) Application of Viscoelastic Dampers for Floor Vibration Response Mitigation (project).
James Newell	(2003) Steel Confined Yielding Damper for Earthquake Resistant Design (thesis).
Ryan McCormick	(2003) Analysis of Structures with Tension-Only Dampers (project).
William Farrow	(2003) Experiment and Analysis of Reinforced Concrete Beams with Corrosion Damaged Shear Reinforcement (thesis).
Yi Wu	(2002) Design moments for orthotropic bridge decks with continuous spans (project).
Heath Mitchell	(2000) Strength and fatigue testing of composite bridge decks with alternative shear connections (thesis).

B1-b) Major Professor – Ph.D. (6)

Yasmeen Al Sakin (2019) Analysis and Design Methods for Infrastructure

Sharoo Shrestra	(2018) Strengthening RC Columns and Substructures with Titanium Alloy Bars
Abdulemam Abu-Saibia	(withdrew to Rutgers) Analysis and Design Truss Bridge Gusset Plates Subject to Sway Buckling
Thomas Schumacher	(2009) Acoustic Emission Techniques for Evaluation of Civil Infrastructure (tenure-track Assist. Prof. University of Delaware)
O. Tugrul Turan	(2009) Modeling and Analysis of Uncertainty in Bridge Decks and Superstructures (Tenure-track ITU)
Daniel A. Howell	(2009) Repair of Diagonally Cracked Conventionally Reinforced Girders.
Ekin Senturk	(2008) Experimental and Analytical Evaluation of Conventionally Reinforced Deck-Girder Bent Caps with Vintage Details.
Tanarat Potisuk	(2004) Experiments and Analysis of Bridges with Diagonal-Tension Cracks.

B1-c) Committees – Civil Engineering – M.S./M.Eng.

Makenzie Ellett (2017) M.Eng. Structures
Ahn Nguyen (2016) M.Eng. Structures
Sarah Van Otterloo (2016) M.Eng. Structures
Tyler Heffner (2012) M.Eng. Structures
Sri Benson (2012) M.Eng. Structures
Zeph Emmons (2012) M.Eng. Structures
Kevin Lapierre (2011) M. Eng. Structures
Nick Blundon (2011) M.Eng. Structures
Jared Trowbridge (2011) M.Eng. Structures
Natalie Jennings (2011) M.Eng. Water Resources
Sutaporn BoonTrida (2010) M.S. Structures
Holly Winston (2010) M.S. Structures
Christopher Bradner (2008) M.S. Ocean
Gang Cao (2008) M.S. Structures
Luke Scoggins (2007) M.S. Structures
Adrian Kidarsa (2006) M.S. Structures
Chad McMullen (2006) M.S. Structures
Michael Vail (2004) M.S. Structures
Dhardon Seamontaprinya (2002) M.S. Structures
Kraisorn Lucksiri (2002) M.S. Structures

B1-d) Committees – Civil Engineering – Ph.D.

Rajenda Soti (2017)
Alabbas Al-Aukaily (2017)
TengFei Fu (2013)
Osman Hamutcuoglu (2010)
Gang Cao (2012)
Kyung Ho Lee (2004)

B1-e) Committees – Other Departments – M.S.

Lori Elkins (2005) Wood Science and Engineering

B1-f) Committees – Other Departments – Ph.D.

Maximilien E. Launey (2007) Mechanical Engineering

B1-g) OSU Graduate Council Representative – M.S./M.A.

Kate Wellons (2017) Horticulture, College of Agricultural Sciences
Nicolas Evans (2017) English, College of Liberal Arts
Anson Antriasian (2016) Geophysics, Coll. of Earth, Ocean, and Atmospheric Sciences
Shravya Varakantham (2014) EECS

B1-h) OSU Graduate Council Representative – Ph.D.

None

B1-i) Technical Advisor for Visiting Researchers (International)

Prof. Kazuhiko Kasai, Structural Engineering Research Center, Tokyo Institute of Technology, Japan, August, 2001; April 2009; October 2009; Mar. 2010.
Prof. Saranagon Hemavibool, Department of Civil Engineering, Naresuan University, Thailand, August, 2002.
Prof. Suk-Bong Kang, University of Ulsan, South Korea, Feb. 2004-Feb. 2005.
Prof. Nam-Sik Kim, Pusan National University, South Korea, Aug. 2008.
Prof. Unal Aldemir, Istanbul Technical University, Turkey, Summer 2011.

B1-j) Search Committees

School of Civil and Construction Engineering, Member, Structures search (2016-17)
School of Civil and Construction Engineering, Member, NDT/E search (2015-16)
School of Civil and Construction Engineering, Member, Sustainable infrastructure faculty search (2010-11)
School of Civil and Construction Engineering, Chair, Structural faculty search (2008)
Department of Civil, Construction, and Environmental Engineering, Department Head (2006)
Department of Civil, Construction, and Environmental Engineering, Department Head (2005)
Department of Civil, Construction, and Environmental Engineering, Position in Engineering Infrastructure (2004)
Department of Civil, Construction, and Environmental Engineering, Position in Transportation Engineering (2003)

B4. Advising

B4. Academic

General Advisor, 2000 to present

Provided advising for approximately 20 to 35 undergraduate students each quarter. This includes students at all class levels. I provide an open door policy to assist students throughout the academic year regarding course planning, summer internships, graduate school, and other issues of concern.

B4. Co-Curricular Advising

Steel Bridge and Concrete Canoe Advisor for 2001-2002
Big Beam Contest Laboratory Testing 2004, 2005, 2006*, 2007, 2008, 2009*, 2010, 2011*, 2012,2013,2014*, 2015, 2016, 2017

*Won National Championship

B4. Post-Doctoral Advisees

Arcan Yanik, IIT, 2015-16
Tugrul Turan, OSU, 2009-11
Thomas Schumacher OSU, 2009-10

C. SCHOLARSHIP AND CREATIVE ACTIVITY

C1. Publications

C1 Refereed Archival Technical Journals (Underline indicates supervised graduate student)

Sorentino, A., Higgins,C. Newell, J., and Yu, K. "Strength and Behavior of Reinforced Concrete Pile Caps," in preparation for *ACI Structures Journal.*

Forrest, R.W.B. and C. Higgins, "Low-Cycle Fatigue of Reinforcing Steel Without Stress Reversals," in preparation *Cement and Concrete.*

49) Javadnejad, F., Gillins, D.T., Higgins, C. and M. N. Gillins, (2017). "BridgeDex: Proposed Web GIS Platform for Managing and Interrogating Bridge Inspection Images and Metadata," ASCE J. Computing in Civil Engineering Vol. 31, Issue 6, Nov. https://doi.org/10.1061/(ASCE)CP.1943-5487.0000710

48) Lostra, M., Higgins, C. and A. R. Barbosa, (2017). "Seismic Retrofit of Reinforced Concrete Bridge Columns Using Titanium-Alloy Bars," Revista Portuguesa de Engenharia de Estruturas. Ed. LNEC. Série III. n.º 3. ISSN 2183-8488. (março 2017) 75-82 Portuguese Journal of Structural Engineering, Series 3, No. 3, March, pp. 75-82 (in English).

47) Kraupa, T. J., Stuedlein, A.W., Mason, H. B., and C. C. Higgins, (2016). "Engineered Ecoroof Systems: Geotechnical Considerations ASCE J. of Infrastructure Systems, 22 (3), Sept. http://dx.doi.org/10.1061/(ASCE)IS.1943-555X.0000302#sthash.Ku7mWA4U.dpuf

46) Keller, P., Higgins, C. and S. Lovejoy, (2015). "Evaluation of Torsional Vibrations in Steel Truss Bridge Members." *J. Bridge Eng.*, 10.1061/(ASCE)BE.1943-5592.0000688.

45) Koester, C. C. and C. Higgins, (2015)."Influence of Active Confinement on Behavior and Strength of Reinforcing Steel Anchorages." *J. Perform. Constr. Facil.*, 10.1061/(ASCE)CF.1943-5509.0000672 , 04014179

44) Smith, M., Howell, D., Higgins, and MA. T. Triska, (2014). "Effects of Axial Tension on Shear-Moment Capacity of Full-Scale Reinforced Concrete Girders," *ACI Structural Journal,* 111(2): 211-222.

43) Smith, M. T., Howell, D. A., Triska, M.A. T. and C. Higgins, (2014). "Behavior of Epoxy-Injected Diagonally Cracked Full-Scale Reinforced Concrete Girders," *ACI Structural Journal,* 111(2): 291-302.

42) Higgins, C., Hafner, A., Turan, O., and Schumacher, T. (2013). "Experimental Tests of Truss Bridge Gusset Plate Connections with Sway-Buckling Response." *J. Bridge Eng.*, 18(10), 980–991.

41) Higgins, C. and O. T. Turan, (2013). "Imaging Tools for Evaluation of Gusset Plate Connections in Steel Truss Bridges," *ASCE J. Bridge Engineering*. 18(5): 380–387.

40) Triska, MA.T., Goodall, J. K. and C. C. Higgins, C, (2013). "Flexural Anchorage Behavior in Diagonally Cracked Girders: Experiment," *ACI Structural Journal,* 110(2): 263-274.

39) Higgins, C., Williams, G., Mitchell, M.. Dawson, M., and D. Howell., (2012). "Shear Strength of Reinforced Concrete Girders with Carbon Fiber-Reinforced Polymer: Experimental Results," *ACI Structural Journal,* 109(6): 805-814.

38) Schumacher, T., Straub, D. and C. Higgins, (2012). "Toward a Probabilistic Acoustic Emission Source Location Algorithm: a Bayesian Approach," *Journal of Sound and Vibration,* Vol. 331, Issue 19: 4233–4245.

37) Lehrman, J.B., Higgins, C. and D. Cox, (2012). "Performance of Highway Bridge Girder Anchorages under Simulated Hurricane Wave Induced Loads," *ASCE Journal of Bridge Engineering,* Vol. 16, No. 2: 259-271.

36) Higgins, C., Tugrul, O.T., Connor, R. and J. Liu, (2011). "Unified Approach for LRFD Live Load Moments in Bridge Decks," *ASCE Journal of Bridge Engineering,* Vol. 16, No. 6: 804-811.

35) Tugrul, O.T., and C. Higgins, (2011). "Analytical Solutions to General Orthotropic Plates under Patch Loading," *ASCE Journal of Engineering Mechanics,* Vol. 137, No. 7: 504-508.

34) Potisuk, T., Higgins, C., Miller, T. and S. Yim, (2011). "Finite Element Analysis of Reinforced Concrete Beams with Corrosion Subjected to Shear," *Advances in Civil Engineering,* vol. 2011, Article ID 706803, 14 pages, 2011. doi:10.1155/2011/706803.

33) Bradner, C., Schumacher, T., Cox, D. and C. Higgins, (2011). "Large-Scale Laboratory Experiments of Wave Forces on Highway Bridge Superstructures," *ASCE Journal of Ports and Coastal Engineering,* Vol. 137, No. 1: 17-32.

32) Higgins, C., Farrow III, W.C., and O.T. Tugrul, (2010). "Analysis of Reinforced Concrete Beams with Corrosion Damaged Stirrups for Shear Capacity," *Structure and Infrastructure Engineering,* August: 1-13.

31) Schumacher, T., Higgins, C., and S. Lovejoy, (2011). "Estimating Operating Load Conditions on Reinforced Concrete Highway Bridges with b-Value Analysis from Acoustic Emission Monitoring," *Structural Health Monitoring,* January, Vol. 10: 17-32.

30) Senturk, A.E. and C. Higgins, (2010). "Evaluation of RCDG Bridge Bent Caps with 1950's Vintage Details – Laboratory Tests," *ACI Structural Journal,* Vol. 107, No. 5: 534-543.

29) Senturk, A.E. and C. Higgins, (2010). "Evaluation of RCDG Bridge Bent Caps with 1950's Vintage Details – Analytical Methods," *ACI Structural Journal,* Vol. 107, No. 5: 544-553.

28) Higgins, C., Tugrul, O.T., and R.J. Connor, (2010). "Rapid Ranking Procedures for Gusset Plate Connections in Existing Steel Truss Bridges," *ASCE Journal of Bridge Engineering,* Vol. 15(5): 581-596.

27) Schumacher, T., Higgins, C., and S. Lovejoy, (2010). "Detection of Vehicles with Studded Tires Using Acoustic Emission Sensors Mounted to Highway Bridges," *ASCE Journal of Transportation Engineering*, 136(5):480-487.

26) Forrest, R.W.B., Senturk, A.E. and C. Higgins, (2010). "Experimental and Analytical Evaluation of Reinforced Concrete Girders Under Low-Cycle Shear Fatigue," *ACI Structural Journal*, Vol. 107, No. 2, pp. 199-207.

25) Higgins, C., Senturk, A.E. and O.T. Tugrul, (2010). "Comparison of Block Shear and Whitmore Section Methods for Load Rating Existing Steel Truss Gusset Plate Connections," *ASCE Journal of Bridge Engineering*, 15(2): 160-171.

24) Higgins, C., "Steel Stair Assembly Performance Under Combined Seismic and Gravity Loads," *ASCE Journal of Structural Engineering*, Feb. 2009, 135(2): 122-129.

23) Higgins, C. "Behavior of Nonductile Shear Connectors for Bridge Decks," accepted for *AISC Engineering Journal.*

22) Scott, M.H., Kidarsa, A., and C.C. Higgins, "Development of Bridge Rating Applications Using OpenSees and TCl" *ASCE Journal of Computing in Civil Engineering*, July/Aug. 2008, 22(4): 264-271. (Co-PI on funded project)

21) Pelphrey, J., Higgins, C., Sivakumar B., Groff, R.L., Hartman, B.H., Charbonneau, J.P., Rooper, J.W., and B.V. Johnson, "State-Specific LRFR Live Load Factors Using Weigh-in-Motion Data," *ASCE Journal of Bridge Engineering*, July/Aug. 2008, 13(4): 339-350.

20) Tugrul, O.T., Higgins, C., and D.V. Rosowsky, "Statistical Modeling of Coupled Shear-Moment Resistance for RC Bridge Girders," *ASCE Journal of Bridge Engineering ASCE Journal of Bridge Engineering*, July/Aug. 2008, 13(4): 351-361.

19) Scott, M.H., Kidarsa, A., and C. C. Higgins, "Analysis of Moving Loads Using Force-Based Finite Elements" *Finite Elements in Analysis and Design*, Jan. 2008, (44): 214–224. (Co-PI on funded project).

18) Williams, G.T. and C. Higgins, "Fatigue of Diagonally Cracked CRC Girders Repaired with CFRP," *ASCE Journal of Bridge Engineering*, Jan./Feb. 2008, 13(1): 24-33.

17) Schumacher, T., Higgins, C., Glaser, S. and C. Grosse, "Demand on Flexural Tension Steel Reinforcement Anchorage Zones in Full-Scale Bridge Bent Caps Quantified by Means of Acoustic Emission," *Journal of Acoustic Emission*, Dec./Jan. 2007, Vol. 25: 316-323.

16) Higgins, C., Potisuk, T., Farrow, W.C., Robelo, M.J., Daniels, T.K., and B.S. Nicholas, "Tests of RC Deck Girders with 1950's Vintage Details," *ASCE Journal of Bridge Engineering*, Sept./Oct. 2007, 12(5): 621-631.

15) Howell, D. and C. Higgins, "Bond and Anchorage of Vintage Square Reinforcing Bars," *ACI Structural Journal*, Vol. 105, No. 3, 2007 pp. 333-343.

14) Higgins, C., Lee, A-Y, Potisuk, T., and R.W.B. Forrest, "High-Cycle Fatigue of Diagonally-Cracked RC Bridges – Laboratory Tests," *ASCE Journal of Bridge Engineering*, March/April 2007, 12(2): 226-236.

13) Potisuk, T., and C. Higgins, "Field Testing and Analysis of CRC Deck-Girder Bridges," *ASCE Journal of Bridge Engineering*, Jan./Feb. 2007, 12(1): 53-63.

12) Higgins, C., Farrow III, W.C., Nicholas, B.S., and T. Potisuk "High-Cycle Fatigue of Diagonally-Cracked RC Bridges: Field Tests," *ASCE Journal of Bridge Engineering*, Nov./Dec. 2006, 11(6): 699-706.

11) Higgins, C. and Farrow, W.C. III, "Tests of Reinforced Concrete Beams with Corrosion Damaged Stirrups," *ACI Structural Journal*, American Concrete Institute, Vol. 103, No.1, 2006, pp. 133-141.

10) Higgins, C., Daniels, T.K., Rosowsky, D.V, Miller, T.H., and S.C. Yim, "Assessment and Risk Ranking of Conventionally Reinforced Concrete Bridges for Shear," *Transportation Research Record: Journal of the Transportation Research Board*, No. 1928, Transportation Research Board of the National Academies, Washington, D.C., 2005, pp. 110-117

9) Higgins, C. and J. D. Newell, "Abrasive Water-Jet Cutting Application," *AISC Engineering Journal*, Fourth Quarter 2004, 41(4): 187-202.

8) Higgins, C. and J. D. Newell, "Confined Steel Brace for Earthquake Resistant Design," *AISC Engineering Journal*, Fourth Quarter 2004, 41(4): 203-206.

7) Higgins, C. "LRFD Compatible Orthotropic Plate Model for Estimating Deflection in Concrete Filled Grid Bridge Decks," *ASCE Journal of Bridge Engineering*, November 2004, 9(6): 599-605.

6) Higgins, C., "LRFD Orthotropic Plate Model for Live Load Moment in Filled Grid Decks," *ASCE Journal of Bridge Engineering*, January 2003, 8(1): 20-28.

5) Higgins, C. and H. Mitchell, "Behavior of Composite Bridge Decks with Alternative Shear Connectors," *ASCE Journal of Bridge Engineering*, January 2001, 6(10): 17-22.

4) Higgins, C., and K. Kasai, "Discussion - The Dynamic Response of Wood-Frame Shear Walls with Viscoelastic Dampers by Dinehart *et al*.," *EERI Earthquake Spectra, 1999.*

3) Higgins, C., and K. Kasai, "Experimental and Analytical Simulation of Along-Wind Response for a Full-Scale Viscoelastically Damped Steel Frame," *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 77-78, 1998 pp. 297-313.

2) Higgins, C.C., and R.E. Klingner, "Effects of Environmental Exposure on the Performance of Cast-In-Place and Retrofit Anchors in Concrete," *ACI Structural Journal*, American Concrete Institute, Vol. 95, No.5, 1998 pp. 506-517.

1) Higgins, C., and K. Kasai, "Design, Analysis, and Experiment of a Multi-Story Viscoelastically Damped Steel Frame," Special Issue on Passive Control *ISET Journal of Earthquake Technology*, Robert Hanson editor, Vol. 35, No. 4, 1998.

C1 Conference and Workshop Proceedings (* denotes peer reviewed)

*Higgins, C., Knudtsen, J., D. Amneus, and L. Barker, (2017). "Shear and Flexural Strengthening of Reinforced Concrete Beams with Titanium Alloy Bars," ICSENM'17, Barcelona, Spain, March.
.
*Cox, D., Lomonaco, P., and C. Higgins, (2017). "NSF Large-Scale, Shared-Use Experimental Facility for Coastal Wave/Surge and Tsunami Hazards," Americas Conference on Wind Engineering, Gainesville, FL, May.

*Higgins, C., Cox, D., and P. Lomonaco, (2017). "NHERI Experimental Facility for Tsunami and Coastal Windstorms," 16th World Conference on Earthquake Engineering, Santiago, Chile, January

*Higgins, C., Knudtsen, J., Barker, L. and D. Amneus, (2016). "Strengthening RC Bridge Girders for Flexure and Shear using Titanium Alloy Bars," CINPAR 2016, Porto, Portugal, Oct.

*Lostra, M., Higgins, C. and A. R. Barbosa, (2016). "Seismic Retrofit of Reinforced Concrete Bridge Columns Using Titanium-Alloy Bars," CINPAR 2016, Porto, Portugal, Oct.

*Zhou, E., Guzda, M. Lococo, M., Higgins, C. and O.T. Turan, (2016). "Applications of Modern Imaging Technologies in Bridge Asset Management," IBC 16-05, Intl. Bridge Conference, Washington, DC, June.

*Higgins, C., (2016). "Strengthening R.C. Bridges with Titanium Alloy Bars," Structural Faults + Repair-2016, Edinburgh, Scotland, May.

*Higgins, C., Amneus, D. and L. Barker, "Titanium Alloy Bars for Strengthening a Reinforced Concrete Bridge," 8th New York City Bridge Conference, NY, NY, Aug. 2015.

*Higgins, C., Amneus, D. and L. Barker, "Titanium Reinforcing for Strengthening Reinforced Concrete Bridges," International Bridge Conference, Pittsburgh, PA, June 2015.

*Kraupa, T.J., Mason, H. B., Stuedlein, A.W., and C. C. Higgins. "Characterization of Ecoroofs and Ecoroof Materials," Geo-Congress, Atlanta, Feb. 2014.

Higgins, C., Amneus, D. and L. Barker, "Flexural Anchorage Performance and Strengthening Using Titanium for Reinforced Concrete Bridges," 9th International Conference on Short and Medium Span Bridges, Calgary, Canada, July 2014.

Higgins, C., "Development of Titanium Reinforcement for Rehabilitation of Bridges," 29th US-Japan Bridge Engineering Workshop, Tsukuba, Japan, Nov. 2013.

Higgins, C., "New Methods for Inspection and Evaluation of Steel Gusset Plate Connections," 28th US-Japan Bridge Engineering Workshop, Portland OR, Oct. 2012.

*Higgins, C. and O. T. Turan. "Imaging Tools for Inspection of Gusset Plates," *New York City Bridge Conference*, New York City, NY, July 2011.

*Farrow, W.C. III, Higgins, C., Turan, O.T., and C. Carnes, "Metrification and Evaluation of Gusset Plates on the Route 100 Viaduct," *International Bridge Conference*, Pittsburgh, PA, June 2011.

*Higgins, C., Turan, O.T., Kaczinski, M., and P. Gase, "Calibration of AASHTO LRFD for Filled Grid Decks Based on Historical Performance," *International Bridge Conference*, Pittsburgh, PA, June 2011.

*Higgins, C., and O.T. Turan, "New Tools for Inspection and Evaluation of Steel Truss Bridge Gusset Plates," *International Bridge Conference*, Pittsburgh, PA, June 2011.

*Schumacher, T.; Higgins, C.; Lovejoy, S.; Acoustic Emission Monitoring of Conventionally Reinforced Concrete Highway Bridges Under Service Conditions; Proceedings of the International Symposium on Nondestructive Testing of Materials and Structures (NDTMS 2011); Istanbul, Turkey; May 2011.

*Higgins, C. "Seismic Performance of Prefabricated Steel Stair Assemblies," *Ninth US National Conference on Earthquake Engineering*, Toronto, Canada, July 2010.

*Higgins, C., Nguyen, Q. and O.T. Turan. "Digital Imaging Tools for Gusset Plate Evaluation," *IABAMS*, Philadelphia, PA, July 2010.

*Farrow III, W.C., Higgins, C. and O.T. Turan. "Shear Capacity Testing and Assessment of Corrosion Damaged Reinforced Concrete Beams," *International Bridge Conference*, Pittsburgh, PA, June 2010.

*Stark, D, Higgins, C. and P.S. Green. "Stability of Open Web Steel Joists Subjected to Ponding Loads," *Structures Congress 2010 and Structural Steel Stability Conference*, Orlando, FL, May 2010.

Schumacher, T., Higgins, C., Bradner, C., and D. Cox. "Large-Scale Wave Flume Experiments on Highway Bridge Superstructures Exposed to Hurricane Wave Forces," *Sixth National Seismic Conference on Bridges and Highways*, Charleston, SC, 2008.

*Bradner, C., Schumacher, T., Cox, D. and C. Higgins, "Large-Scale Laboratory Measurements of Wave Forces on Highway Bridge Superstructures," *International Conference on Coastal Engineering*, Hamburg, Germany, 2008.

*Schumacher, T. Higgins, C. Bradner, C. and D. Cox. "New Innovative Large-Scale Laboratory Setup for Experiments on Highway Bridge Superstructures Exposed to Wave Forces," *Concrete Bridge Conference*, St. Louis, MO, 2008.

Scott, M.H., C.C. Higgins, and G. Esch, "Reliability-Based Bridge Rating Software," *Proceedings of 7th International Conference on Short and Medium Span Bridges*, Montreal, QC, Canada, August 2006.

*Higgins, C., Lee, A-Y, Nicholas, B.S., Potisuk, T., and Forrest, R.W.B., "High-Cycle Fatigue of Diagonally-Cracked RC Bridges," *Structures Congress 2005*, New York City, NY, April 2005.

*Higgins, C., Daniels, T.K., Rosowsky, D.V., Miller, T.M., and Yim, S.C. "Assessment and Risk-Ranking of Conventionally Reinforced Concrete Bridges for Shear," *TRB 84th Annual Meeting*, Washington D.C. January 2005.

Higgins, C., Newell, J.D., and McCormick, R.L. "Economical Low-Force Hysteretic Elements for Seismic Applications," *International Symposium on Earthquake Engineering Commemorating Tenth Anniversary of the 1995 Kobe Earthquake*, Awaji Island, Japan, January 13-15, 2005.

*Higgins, C. "Evaluation of Shear Cracking in Vintage Conventionally Reinforced Concrete Bridge Girders," *Structures Congress 2003*, Seattle, WA, May 2003.

*Higgins, C. "Development of Two New Hysteretic Dampers," *Seventh US National Conference on Earthquake Engineering*, Boston, MA, 2002.

Higgins, C., and Newell, J. "Development of Economical Hysteretic Dampers," *International Symposium on Passive Control*, Tokyo, Japan, December, 2001.

*Higgins, C., "Hysteretic Dampers for Timber Shearwalls," *ASCE Structures Congress 2001*, Washington, DC, May 2001.

Dexter, R., and Higgins, C. "Bridge Deck Testing Specification," NCHRP 1st Stage Research Problem Statement, AASHTO Annual Meeting, Seattle May 2001.

Higgins, C. Shen, S.J., and Kasai, K., "Analysis of Reduced-Scale Steel Frame with Viscoelastic Dampers and Comparison with Full-Scale Response," *International Symposium on Passive Control*, Tokyo, Japan, March 2000.

*Kasai, K., Higgins, C., and Okuma, K., "A Simplified Analysis/Design Method for a Velocity-Dependent Passive Control System," *ASCE Structures Congress 2000*, Philadelphia, PA, 2000.

*Higgins, C., and Kasai, K., "Seismic Design, Analysis, and Experiment of a Viscoelastically Damped Steel Frame," *12th World Conference on Earthquake Engineering*, New Zealand, Jan. 2000.

Bettigole, R. and Higgins, C. "Nightime Redecking of the Tappen Zee Bridge with a Revised Exodermic Design," *16th International Bridge Conference*, Pittsburgh, PA, June 1999.

*Green, P. S., Connor, R. J., and Higgins, C. C. "Rehabilitation of a Nineteenth-Century Cast and Wrought Iron Bridge," *ASCE Structures Congress*, New Orleans, LA, April 1999.

Kasai, K. Wada, A., Huang, Y.-H., and Higgins, C., "Use of Building Damper Combining Visco-Elastic and Elasto-Plastic Devices in Series," *US-Japan Cooperative Research Project*, Group No. 1-2-2, Coordination Meeting, October 1998.

*Kasai, K. and Higgins, C., "Real-Time Earthquake and Wind Tests of a Full-Scale Viscoelastically Damped Frame," *Second World Conference on Structural Control*, Kyoto, Japan, July 1998.

*Higgins, C. and Kasai, K., "Full-Scale Real-Time Seismic Testing and Analysis of a Viscoelastically Damped Steel Frame," *Sixth U.S. National Conference on Earthquake Engineering*, Seattle, WA, June 1998.

*Kasai, K. and Higgins, C., "Real-Time and Full-Scale Tests of a Viscoelastically Damped Steel Frame Under Large Seismic and Gravity Loads," *International Conference on Behavior of Steel Structures in Seismic Areas, STESSA '97*, Kyoto, Japan, August 1997.

*Higgins, C., and Kasai, K., "Experimental and Analytical Simulation of Wind Response for a Full-Scale Viscoelastically Damped Steel Frame," *The Eighth U.S. National Conference on Wind Engineering*, Baltimore, MD, June 1997.

*Kasai, K. and Higgins, C., "Real-Time Testing of a Full-Scale Frame with Viscoelastic Dampers," *ASCE Structures Congress*, Portland, OR, June 1997.

*Higgins, C., Chen, S.J., and Chou, F.C., "Testing and Analysis of a Steel Frame with Viscoelastic Dampers," *Eleventh World Conference on Earthquake Engineering*, Acapulco, Mexico, Disc 4, Paper No.1961, June 1996.

*Bleiman, D., Kasai, K., Han, X., Hodgson, I., Higgins, C., and Ricles, J., "Repair of Damaged Steel Moment Frame Connections with Bolted Brackets," *Eleventh World Conference on Earthquake Engineering*, Acapulco, Mexico, June 1996.

Higgins, C., Green, P.S., Connor, R.J., and Bruin, W.M., "Rehabilitation and Restoration of Walnut Street Bridge, Hellertown, Pennsylvania," *Twelfth Annual Historic Bridge Symposium*, Society for Industrial Archeology, Baltimore, MD, May 1995.

Higgins, C., Pessiki, S., and Claussen, D., "Electromagnetic Assessment of Square Reinforcing Steel," *Proceedings, Structural Materials Technology An NDT Conference*, NJDOT/FHWA, February 1994.

Bruns, S.R. and Higgins, C.C., "Evaluation and Testing of a Closed Spandrel Reinforced Concrete Arch Bridge," *Proceedings, Nondestructive Evaluation of Civil Structures and Materials*, Boulder, CO, May 1992.

C1 Technical Reports

Higgins, C. and M.A. Triska, "Final Report on Field Testing and Analysis of Bridge 01496A for Yamhill County," School of Civil and Construction Engineering, Oregon State University, October 2010.

Higgins, C. and O.T. Turan, "Calibration of AASHTO-LRFD Section 4.6.2.1.8 with Historical Performance of Filled, Partially-Filled, and Unfilled Composite Grids," *Research Report 09-01*, School of Civil and Construction Engineering, Oregon State University, May, 2009.

Higgins, C., "Influence of Stringer Support Conditions on the Behavior of Exodermic Decks," *Research Report 05-03*, Department of Civil and Construction Engineering, Oregon State University, August, 2005.

Higgins, C., "Influence of Stringer Support Conditions on the Behavior of Exodermic Decks," *Research Report 05-03*, Department of Civil and Construction Engineering, Oregon State University, August, 2005.

Higgins, C., "Simulated Seismic Tests of Prefabricated Steel Stair Assemblies," *Research Report 05-02*, Department of Civil and Construction Engineering, Oregon State University, June, 2005.

Higgins, C. and Potisuk, T., "Finite Element Analysis of Exodermic Decks on the Gowanus Expressway," *Research Report 05-01*, Department of Civil and Construction Engineering, Oregon State University, March, 2005.

Higgins, C., Rosowsky, D.V., Miller, T.H., Yim, S.C., Potisuk, T., Daniels, T.K., Nicholas, B.S. Robelo, M.J., Lee, A-Y, and Forrest, R.W., "Reliability Based Assessment Methodology For Diagonally Cracked Conventionally Reinforced Concrete Deck Girder Bridges: An Integrated Approach," Research Report, Oregon Department of Transportation, July, 2004.

Higgins, C., Robelo, M., Potisuk, T., Miller, T.H., and S.C. Yim, "Remaining Life of Reinforced Concrete Beams with Diagonal-Tension Cracks," Research Report, Oregon Department of Transportation, November, 2003.

Higgins, C., Farrow III, W.C., Potisuk, T., Miller, T.H., Yim, S.C., Holcomb,G.C., Cramer, S.D., Covino, Jr., B.S., Bullard, S.J., Ziomek-Moroz, M., and S.A. Matthes, "Shear Capacity Assessment of Corrosion-Damaged Reinforced Concrete Beams," Research Report, Oregon Department of Transportation, September, 2003.

Higgins, C. "Static and Fatigue Tests of Simulated Slider Plate/Support Bar Connections Using Powder-Actuated Fasteners," *Research Report 99-9*, Department of Civil and Environmental Engineering, Clarkson University, December, 1999.

Higgins, C., and Mitchell, H., "Fatigue Tests of a Revised Exodermic Bridge Deck Design," *Research Report 98-12*, Department of Civil and Environmental Engineering, Clarkson University, July, 1998.

Higgins, C. and Kasai, K. "Analysis and Design of Viscoelastic Dampers for Wind Induced Vibration Control of Tall Buildings," *Report to Nippon Steel*, Department of Civil and Environmental Engineering, Clarkson University, May, 1998.

Higgins, C., and Mitchell, H., "Tests of a Revised Exodermic Bridge Deck Design," *Research Report 97-16*, Department of Civil and Environmental Engineering, Clarkson University, December, 1997.

Dexter, R., Connor, R., and Higgins, C., "Fatigue Testing of Simulated Slider Plate/Support Bar Connections for Modular Expansion Joint Systems," Center for Advanced Technology for Large Structural Systems, Lehigh University, Bethlehem, PA, May 1997.

Higgins, C., "ATLSS Strain Gage Conditioners: Theory of Operation, Specifications, and Applications," *Report No. 96-11*, Center for Advanced Technology for Large Structural Systems, Lehigh University, Bethlehem, PA, June 1996.

Higgins, C., and Klingner, R.E., "Effect of Environmental Cycling on the Strength of Short Retrofit Anchor Bolts," *Research Report CTR 1208-4F*, Center for Transportation Research, The University of Texas at Austin, July 1991.

C2. Professional Activities

C2 Invited Presentations

Higgins, C., "Renewal of Aging and Deteriorated Reinforced Concrete Bridges with Titanium Alloy Bars," Keynote, Western Bridge Engineers Seminar, Portland, OR, Sept. 2017.

Higgins, C., "NHERI Experimental Facility for Tsunami and Coastal Windstorms," 16th World Conference on Earthquake Engineering, Santiago, Chile, January, 2017.

Higgins, C., FHWA Webinar No. 19. "Load Rating Gusset Plates" with J. Ocel, FHWA, October 11, 2016 https://www.fhwa.dot.gov/bridge/lrfd/webinar.cfm

Higgins, C., "Shear and Flexure Strengthening of RCDG bridges," NCHRP 20-68A U.S. Domestic Scan Program Scan 13-03 "Advances in FRP Composite in Transportation Infrastructure," Vancouver, WA, July 2015

Higgins, C., "Near Surface Mount Research and Applications," NCHRP 20-68A U.S. Domestic Scan Program Scan 13-03 "Advances in FRP Composite in Transportation Infrastructure," Vancouver, WA, July 2015

Higgins, C., "Development of Titanium Reinforcement for Rehabilitation of Bridges," 29th US-Japan Bridge Engineering Workshop, Tsukuba, Japan, Nov. 2013.

Higgins, C., "Open Grid Bridge Deck Testing, Analysis and Design," AASHTO SCOBS Meeting, T-14 Movable Bridges Subcommittee. Portland, OR, June 2013.

Higgins, C., "New Methods for Inspection and Evaluation of Steel Gusset Plate Connections," University of Texas at Austin, TX, Mar. 2013.

Higgins, C., "New Methods for Inspection and Evaluation of Steel Gusset Plate Connections," Distinguished Lecture Series, Delaware Transportation Center, Newark, DE, Nov. 2012.

Higgins, C., "New Methods for Inspection and Evaluation of Steel Gusset Plate Connections," 28th US-Japan Bridge Engineering Workshop, Portland OR, Oct. 2012.

Higgins, C., "New Imaging Techniques for Truss Bridge Inspection," Washington Department of Transportation, Olympia, WA, March, 2012.

Higgins, C., "Strengthening Bridges with NSM-CFRP and New Imaging Techniques for Bridge Inspection," David Evans and Assoc., Portland, Oregon, March, 2012.

Higgins, C. "Application of Near-Surface Mounted CFRP for Shear Strengthening Bridge Girders," Northwest Transportation Conference, Corvallis, OR, February, 2012.

Higgins, C., "New Imaging Techniques for Truss Bridge Inspection," Aetna Bridge Company, Cape Cod, MA, January 2012.

Higgins, C. and M.A. Triska, "Ecoroof Design: State of the Practice and Gaps in Understanding," Oregon Roofers Association, Portland, Oregon, October, 2011.

Higgins, C. and M.A. Triska, "Design Methods for Retrofitting Existing Buildings with Ecoroofs," Oregon BEST Industry Advisory Board, Portland, Oregon, September, 2011.

Higgins, C. "Regional Earthquake Response Planning for Bangladesh," Keynote, First Annual Bangladesh Earthquake Planning Seminar, Dhaka, Bangladesh, May/June, 2011.

Higgins, C. "When Good Bridges Go Bad," SWE Regional Conference, Corvallis, OR, April, 2011.

Higgins, C. "Imaging Tools for Inspection of Bridges" Pacific Northwest Bridge Inspectors Conference, April, 2011.

Higgins, C., Turan, O.T., and A. Hafner , "Gusset Plate Testing and Evaluation," ASCE Structures Congress, Las Vegas, NV, April 2011.

Higgins, C., Turan, O.T., and N. Quang, "Imaging Methods for Inspection and Evaluation of Gusset Plates," ASCE Structures Congress, Las Vegas, NV, April 2011.

Higgins, C., Goldfinger, C. and Higley, K. "Disaster and Preparedness in the Ring of Fire," City Club of Portland, Portland, OR, March, 2011.

Higgins, C., Lehrman, J., and D. Cox, "Behavior of Superstructure-to-Substructure Connections Under Simulated Hurricane Wave Induced Loads," ACI Spring Convention, Tampa FL, April 2011.

Schumacher, T., Higgins, C., Bradner, C. and D. Cox, "Dynamic Response Of A Large-Scale Prestressed Concrete Girder Bridge Subjected To Hurricane Wave Forces," ACI Spring Convention, Tampa, FL, April 2011.

Higgins, C. "Imaging Tools for Fabrication of Steel Members" Hirschfeld Industries, Greensboro, NC, March, 2011.

Higgins, C. "Experiments and Analysis of Full-Scale Reinforced Concrete Bent Caps with Vintage Details," OSU Material Science Seminar, Corvallis, OR, Feb., 2011.

Higgins, C. "Imaging Tools for Inspection of Steel Fabricated Members" TRB Steel Fabrication Committee AFH70, 90th TRB Meeting, January, 2011.

Higgins, C. and O.T. Turan, "Tools for Evaluation of Gusset Plates," Midwest Bridge Working Group Meeting, Indianapolis, IN, December 2010 presented by R. Connor of Purdue U. due to weather

Higgins, C. "Update on Tools for Evaluation of Gusset Plates," AASHTO Committee T14, Washington, DC, August, 2010.

Higgins, C. "Tools for Evaluation of Steel Truss Bridge Gusset Plates," Army Corps of Engineers, Philadelphia District, Philadelphia, PA, March, 2010.

Higgins, C. "Tools for Evaluation of Gusset Plate Connections," Purdue University, West Lafayette, IN, March, 2010.

Higgins, C. "Experiments and Analysis of Bent Caps," Materials Seminar, Dept. of Mechanical and Materials Engineering, Portland State Univ., Portland, OR, Feb., 2010.

Higgins, C. "Quantitative Imaging for Bridge Inspection," Northwest Transportation Conference, Corvallis, OR, February, 2010.

Higgins, C. and Rooper, J., "Tools for Evaluation of Gusset Plates," FHWA Webinar, National, October, 2009.

Higgins, C. "Tools for Evaluation of Gusset Plate Connections in Steel Truss Bridges," TRB Steel Bridge Committee, Washington, D.C., January, 2009.

Higgins, C. "Tools for Evaluation of Gusset Plate Connections in Steel Truss Bridges," AASHTO Committee T14, Orlando, FL, January, 2009.

Higgins, C. "Repair of RC Bridge Members for Shear with CFRP," 2008 *Oregon Dept. of Transportation Bridge Design Conference*, Salem, OR, May, 2008.

Higgins, C. "Ranking Steel Truss Bridge Connections," *Oregon Dept. of Transportation*, Transportation Building, Salem, OR, March 2008.

Higgins, C., "Strengthening of Reinforced Concrete Deck-Girder Bridges," Northwest Transportation Conference, Corvallis, OR, February, 2008.

Higgins, C. "Infrastructure Research by the Oregon Transportation Research and Education Consortium," *Workshop on FHWA-UTC Collaboration*, Turner-Fairbanks Laboratory, Washington, D.C. March 19, 2007.

Higgins, C. "Performance of Prefabricated Steel Stair Assemblies Under Seismic and Gravity Loads," *Conference on Urban Earthquake Engineering*, Tokyo, Japan, March 5-6, 2007.

Higgins, C. "Tests of Full-Size Concrete Bent Caps," ASCE Capital Section Meeting, Salem, OR February, 2007.

Higgins, C. "Fatigue of Reinforced Concrete Deck-Girders in Shear," First International Conference on Fatigue and Fracture in the Infrastructure – Bridges and Structures of the 21st Century, Philadelphia, PA August 2006.

Higgins, C., "Reliability Analysis of Reinforced Concrete Deck-Girder Bridges," Northwest Transportation Conference, Corvallis, OR, February, 2006.

Higgins, C., "Research on Diagonally-Cracked RC Bridges in Oregon," Western Bridge Engineers' Seminar, Portland, OR, September 26, 2005.

Higgins, C., "Research on Diagonally-Cracked RC Bridges in Oregon," Professional Engineers of Oregon Annual Meeting, Canyonville, OR, May 20, 2005.

Higgins, C., "High-Cycle Fatigue of Diagonally-Cracked RC Bridges," Structures Congress 2005, New York City, NY, April 23, 2005.

Higgins, C. "Economical Low-Force Hysteretic Elements for Seismic Applications," *International Symposium on Earthquake Engineering Commemorating Tenth Anniversary of the 1995 Kobe Earthquake*, Awaji Island, Japan, January 13, 2005.

Higgins, C. "Assessment of Diagonally Cracked Reinforced Concrete Deck Girder Bridges," *Pacific Northwest Bridge Maintenance Conference*, Portland, OR, November 4, 2004.

Higgins, C. "Research on Diagonally Cracked Reinforced Concrete Deck Girder Bridges," OTIA III Bridge Policy/Technical Stakeholder Committee, Salem, OR, September 16, 2004.

Higgins, C. "Reliability Assessment of Diagonally Cracked Reinforced Concrete Slab-Girder Bridges" Oregon Department of Transportation Bridge Section, Salem, OR August 2, 2004.

Higgins, C., "Assessment of Cracked Reinforced Concrete Slab-Girder Bridges," Oregon Association of County Engineers and Surveyors, Bend, OR, June, 2004.

Higgins, C., "Research on Cracked Reinforced Concrete Slab-Girder Bridges," American Public Works Association Oregon Chapter Spring Conference, Seaside, OR, May, 2004.

Higgins, C., "Research on Cracked Reinforced Concrete Slab-Girder Bridges in Oregon," Northwest Transportation Conference, Corvallis, OR, March, 2004.

Higgins, C., "Research on Shear-Cracked Reinforced Concrete Slab-Girder Bridges," Oregon Planning Institute, Eugene, OR, October, 2003.

Higgins, C., "Interim Research Results on Cracked Reinforced Concrete Bridges," Bridge Section, Oregon Department of Transportation, Salem, OR, July, 2003.

Higgins, C., "Research on Shear-Cracked Reinforced Concrete Slab-Girder Bridges," Oregon Association of County Engineers and Surveyors, Bend, OR, June, 2003.

Higgins, C., "Research on Shear-Cracked Reinforced Concrete Bridges," Professional Engineers Association of Oregon, Albany, OR, May, 2003.

Higgins, C., "Research on Shear-Cracked Reinforced Concrete Slab-Girder Bridges," ASCE, Wilsonville, OR, April, 2003.

Higgins, C. "Research Plan for FRP Retrofit of Cracked Concrete Girder Bridges," Oregon Department of Transportation, Research Advisory Committee, April, 2003.

Higgins, C., "Research on Shear-Cracked Reinforced Concrete Slab-Girder Bridges," Portland State University, Portland, OR, March, 2003.

Higgins, C., "Research on Shear-Cracked Reinforced Concrete Slab-Girder Bridges," Northwest Transportation Conference, Corvallis, OR, March, 2003.

Higgins, C., "Research on Shear-Cracked Reinforced Concrete Bridges," Capital Section of ASCE, Salem, OR, February, 2003.

Higgins, C., "Design of Grid Bridge Decks Using Orthotropic Plate Theory," AASHTO Committee T14, Orlando, FL, January, 2003.

Higgins, C., "Field Study of a Reinforced Concrete Slab-Girder Bridge," PEO Annual Meeting, Bend, OR May, 2002.

Higgins, C., "Field Testing Results for a Reinforced Concrete Slab-Girder Bridge," ODOT "Blue Ribbon Panel," Salem, OR, 2002.

Higgins, C., "Initial Findings of Field Study of a Reinforced Concrete Slab-Girder Bridge," ODOT Managers Meeting, Salem, OR, April, 2002.

Higgins, C. "Research Plan for Vintage Reinforced Concrete Deck-Girder Bridges with Diagonal Cracks," Oregon Department of Transportation, Research Advisory Committee, April, 2002.

Higgins, C., "Influence of Corrosion Damage on Shear Capacity of Concrete Beams," Northwest Transportation Conference, Corvallis, OR, March, 2002.

Higgins, C., "Initial Findings of Field Study of a Reinforced Concrete Slab-Girder Bridge," ODOT Bridge Section, Salem, OR, February, 2002.

Higgins, C., "Development of Economical Hysteretic Dampers," *International Symposium on Structural Control*, Tokyo Institute of Technology, Tokyo, December 2001.

Higgins, C., "New Large-Scale Structural Testing Laboratory at OSU", OSU CCEE Dept. Luncheon, September, 2001.

Higgins, C., "Hysteretic Dampers for Wood-Frame Buildings," *ASCE Structures Congress*, Session on Seismic Protection Systems for Wood-Framed Buildings, May, 2001.

Higgins, C., "Remaining Life of Shear Cracked Reinforced Concrete Bridge Girders," Oregon Department of Transportation, Research Advisory Committee, April, 2001.

Higgins, C. "Passive Control Devices for Earthquake Resistant Structures," ASCE Oregon Section Meeting, November, 2000.

Higgins, C., "Application of Viscoelastic Dampers for Wind Response Mitigation," *International Symposium on Structural Control*, Tokyo Institute of Technology, Tokyo, Japan, March, 2000.

Higgins, C. "Full-scale Testing and Analysis of a Steel Frame with Viscoelastic Dampers," Oregon State University, Corvallis, OR, 1999.

Higgins, C. "Full-scale Testing and Analysis of a Steel Frame with Viscoelastic Dampers," Cornell University, Ithaca, NY, 1999.

Higgins, C. "Full-scale Testing and Analysis of a Steel Frame with Viscoelastic Dampers," Auburn University, Auburn, AL, 1999.

Higgins, C., "Lessons Learned from Rehabilitation of a Historic Cast and Wrought Iron Bridge," *The Aldridge Change Bridge Committee*, Palmyra, NY, November 1998.

Higgins, C., "The Use of Viscoelastic Dampers for Damage Resistance in Steel Frame Buildings," *EERI Annual Meeting*, Earthquake Engineering Research Institute, San Francisco, CA, February 1998.

Higgins, C. "Full-scale Testing and Analysis of a Steel Frame with Viscoelastic Dampers," University of California Berkeley, 1997.

Higgins, C. "Seismic and Wind Response of a Steel Frame with Viscoelastic Dampers," Colorado State University, Ft. Collins, CO, 1997.

Higgins, C. "Seismic and Wind Response of a Steel Frame with Viscoelastic Dampers," Clarkson University, Potsdam, NY, 1997.

Higgins, C., Green, P.S., Connor, R.J., and Bruin, W.M., "Rehabilitation and Restoration of Walnut Street Bridge, Hellertown, Pennsylvania," *Twelfth Annual Historic Bridge Symposium*, Society for Industrial Archeology, Baltimore, MD, May 1995.

C2 Other Conference Presentations

Schumacher, T., Higgins, C., Glaser, S., and Grosse, C. "Acoustic Emission Localization for Concrete Column Anchorages," Acoustic Emission Working Group, Reno, NV, 2007.

Schumacher, T. and Higgins, C. "Application of Acoustic Emissions Testing on Concrete Column Anchorages," Acoustic Emission Working Group, Berkeley, CA, 2006.

Higgins, C. "RC Deck-Girders Tested to Failure Under Moving Loads" Committee 123, *ACI Fall Convention*, Kansas City, MO, November, 2005.

Daniels, T.K., Higgins, C., Rosowsky, D.V., Miller, T.M., and Yim, S.C. "Assessment and Risk-Ranking of Conventionally Reinforced Concrete Bridges for Shear," 84th Annual *TRB Meeting*, Washington D.C. January 13, 2005.

Higgins, C. "Fatigue of Diagonally Cracked Conventionally Reinforced Concrete Bridge Girders," Committee 215, *ACI Fall Convention*, San Francisco, CA, October, 2004.

Higgins, C. "Research Plan for Fatigue of Diagonally Cracked Conventionally Reinforced Concrete Bridge Girders," Committee 215, *ACI Fall Convention*, Phoenix, AZ, October, 2002.

Higgins, C. "Research Plan for Evaluation of Diagonally Cracked Conventionally Reinforced Concrete Bridge Girders," Committee 445, *ACI Fall Convention*, Phoenix, AZ, October, 2002.

Higgins, C. "Evaluation of Shear Cracking in Vintage Conventionally Reinforced Concrete Bridge Girders," *Structures Congress 2003*, Seattle, WA, May, 2003.

Higgins, C. "Development of Two New Hysteretic Dampers," *Seventh US National Conference on Earthquake Engineering*, Boston, MA, 2002.

Higgins, C. "Full-Scale Real-Time Seismic Testing and Analysis of a Viscoelastically Damped Steel Frame," *Sixth U.S. National Conference on Earthquake Engineering*, Seattle, WA, June 1998.

Higgins, C., "Experimental and Analytical Simulation of Wind Response for a Full-Scale Viscoelastically Damped Steel Frame," *The Eighth U.S. National Conference on Wind Engineering*, Baltimore, MD, June 1997.

Higgins, C., "Electromagnetic Assessment of Square Reinforcing Steel,"*Structural Materials Technology An NDT Conference*, NJDOT/FHWA, Atlantic City, NJ, February 1994.

C3. Grant and Contract Support (*Total Amount at OSU >$15 million*)

"Structural Testing of VA Hospital Components and Systems," US Dept..of Veterans Affairs, $1,400,000. 2018-2019. **PI** with J. Liu and E. Fischer Co-PIs.

"Composite Concrete-CLT Floor Systems for Tall Building Design," USDA, $250,000. 2017-2020. **PI** with A. Barbosa and A. Sinha Co-PIs.

Gift to OSU Foundation 2017 "Continued Advancement of Titanium Alloy Applications for Civil Infrastructure," $130,000., Perryman Co., Houston, PA.

"LFD and LRFD Rating of Steel Pin and Hanger Assembly," California Department of Transportation. $169,784., January 2017-January 2018. **PI**. J. Liu Co-PI.

"Seismic Performance of CLT shear walls and splice details," KPFF, Portland, OR, $125,000. 2015-2016. **Co-PI** with A. Barbosa PI.

"Titanium for Seismic Rehabilitation of Reinforced Concrete Bridge Columns," Federal Highway Administration, Oregon Department of Transportation. $400,000., Oct. 2015-Aug. 2018. **PI**. A. Barbosa Co-PI.

"Development of a Composite CLT Floor System," Skidmore Owings and Merrill, Chicago, IL, $55,000. 2015-2016. **PI** with A. Barbosa Co-PI.

"Development of Live Load Factors for Rating Oregon Bridges Using WIM Load Effects and Statistical Bridge Models," Oregon Department of Transportation. $57,000., March 2015-Sept. 2016. **PI**. D. Borello Co-PI.

"NHERI Experimental Facility," National Science Foundation, $4,431,003. 2015-2019. Co-PI with D. Cox (PI) and Pedro Lomonaco (Co-PI).

Gift to OSU Foundation for "Advancement of Titanium Alloy Applications for Civil Infrastructure," $115,000, ($100k cash, $15k in-kind), Perryman Co., Houston, PA.

"Expert Panel for Specialized Hauling Vehicle Load Rating," Oregon Department of Transportation. $10,000., Dec. 2014-June. 2015. **PI**.

"Titanium for Strengthening Existing Reinforced Concrete Bridges," Federal Highway Administration, Oregon Department of Transportation. $400,000., July 2014-Dec. 2016. **PI**.

"Mosier Bridge Strengthening supplement to Strengthening Methods for Deficient Flexural Steel Anchorages in Reinforced Concrete Bridge Girders," Federal Highway Administration, Oregon Department of Transportation. $20,000., July 2012-Dec. 2014. **PI**.

"Multihazard Performance and Design of Ecoroofs," National Science Foundation. $335,000., March 2012-Dec. 2015. **PI**.; A. Stuedlein and B. Mason Co-PIs.

"Strengthening Methods for Deficient Flexural Steel Anchorages in Reinforced Concrete Bridge Girders," Federal Highway Administration, Oregon Department of Transportation. $360,000., July 2012-Dec. 2014. **PI**.

"Imaging Tools for Evaluation of Gusset Plate Connections in Steel Truss Bridges," Pooled Fund by FHWA, NYSDOT, TxDOT, NCDOT, WisDOT, CalTrans, IdahoDOT, and ODOT $440,000., Jan. 2012-January 2014. **PI**. S. Todorovic and M. Scott Co-PIs.

"Imaging Techniques for Inspection and Evaluation of Steel Truss Bridges," Washington Department of Transportation, WA. $5,500., Feb.-Mar. 2012. **PI**.

"Tools for Determining Yield Stress of In-Service Gusset Plates," NCHRP. $130,000., Jan. 2012-January 2014. **PI**.

"Tools for Gusset Plate Evaluation, Phase III, "Oregon Transportation Research and Education Consortium. $50,000., Nov. 2011-October 2012. **PI**.

"Assessment of Torsionally Induced Vertical Response on Member and Connection Stresses for Astoria Megler Bridge," Oregon Department of Transportation. $100,000., Mar. 2011-January 2012. **PI**.

"Full-Scale Pile Cap Tests," Degenkolb Engineers and Veterans Administration. $125,000., January-September 2011. **PI**.

"OTREC Scholars," Oregon Transportation Research and Education Consortium. $20,000., Nov. 2010-October 2011. **PI**.

"Student Activities Support," Oregon Transportation Research and Education Consortium. $21,930., Nov. 2010-October 2011. **PI**.

"Oregon State University OTREC Leadership and Coordination," Oregon Transportation Research and Education Consortium. $31,646., Nov. 2010-October 2011. **PI**.

"Tools for Gusset Plate Evaluation, Phase II, "Oregon Transportation Research and Education Consortium. $125,646., Nov. 2010-October 2011. **PI**.

"Field Instrumentation, Monitoring, and Testing of Bridge #01496A," Yamhill County, OR. $8,500., Aug.-Oct. 2010. **PI**.

"Material and Bond Tests of FRP Reinforcing Bars," Composite Materials R&D, Salem, OR. $7,000. Nov.-Jan. 2011.

"Testing and Analysis of Open Grid Decks," Bridge Grid Floor Manufacturing Association. $94,500., May 2010-May. 2012. **PI**.

"Enhanced Imaging Tools for Evaluation of Gusset Plate Connections in Steel Truss Bridges," Oregon Department of Transportation. $75,000., May 2010-Jun. 2011. **PI**.

"Performance and Design of Near-Surface Mounted CFRP for Shear Strengthening Reinforced Concrete Bridge Girders," Federal Highway Administration, Oregon Department of Transportation. $400,000., July 2009-Dec. 2011. **PI**.

"Tools for Gusset Plate Evaluation, Phase 1" Oregon Transportation Research and Education Consortium. $212,000., October 2009-Sept. 2010. **PI**.

"OTREC Scholars," Oregon Transportation Research and Education Consortium. $20,000., March 2009-October 2010. **PI**.

"Student Activities Support," Oregon Transportation Research and Education Consortium. $21,930., March 2009-October 2010. **PI**.

"Oregon State University OTREC Leadership and Coordination," Oregon Transportation Research and Education Consortium. $31,646., Nov. 2009-October 2010. **PI**.

"Recalibration of Live Load Factors for Bridge Rating Using Oregon WIM," Oregon Department of Transportation. $75,000., Dec. 2008-Jun. 2009. **PI**

"Coupled Hydraulic-Structural Testing to Improve Highway Bridge Reliability Under Extreme Hurricane Wave Loads," National Science Foundation. $100,000., 2008-2010. **Co-PI** with Dan Cox and Solomon Yim.

"Tools for Evaluation of Gusset Plate Connections in Steel Truss Bridges," Oregon Department of Transportation. $100,000., May 2008-Jan. 2009. **PI**.

"Acoustic Performance of Steel Stairs," Pacific Stair Company, Salem, OR. $20,000., June, 2009-Oct. 2009. **PI**.

"Performance of FRP Repairs Under Environmental Conditions, Phase 2" Oregon Transportation Research and Education Consortium. $81,000., October 2007-Sept. 2008. **PI**.

"LRFD Calibration of Filled Grid Bridge Decks" DS Brown and BGFMA. $30,000., May 2008-Sept. 2008. **PI**.

"RC Girder Repair Experiment Supplement," Federal Highway Administration, Oregon Department of Transportation. $50,000., January 2008-June 2008. **PI**.

"OTREC Scholars," Oregon Transportation Research and Education Consortium. $20,000., March 2007-October 2008. **PI**.

"Oregon State University OTREC Leadership and Coordination," Oregon Transportation Research and Education Consortium. $28,800., Nov. 2007-October 2008. **PI**.

"Application of WIM Data for Improved Modeling, Design, and Rating," Oregon Transportation Research and Education Consortium. $63,000., March 2007-October 2007. **co-PI with** Christopher M. Monsere at Portland State University as PI ($100,000. total project budget, $63,000. OSU).

"Flexural steel anchorage performance at diagonal crack locations," Federal Highway Administration, Oregon Department of Transportation. $300,000., September 2007-June 2010. **PI**.

"Bent Cap Experiment Supplement," Federal Highway Administration, Oregon Department of Transportation. $50,000., March 2007-June 2007. **PI**.

"Oregon State University OTREC Leadership and Coordination," Oregon Transportation Research and Education Consortium. $27,650., March 2007-October 2007. **PI**.

"Student Activities Support," Oregon Transportation Research and Education Consortium. $30,000., March 2007-October 2008. **PI**.

"Performance of FRP Repairs Under Environmental Conditions," Oregon Transportation Research and Education Consortium. $80,000., March 2007-October 2007. **PI**.

"Performance of FRP Repairs Under Environmental Conditions," Federal Highway Administration, Federal Highway Administration, Oregon Department of Transportation. $300,000., October, 2006-June 2008. **PI**.

"Bridge Deck Design Criteria and Testing Procedures," Project 10-72, National Cooperative Highway Research Project, $130,000.May 2006 – 2008. **Co-PI** with Robert Connor of Purdue University as PI ($500,000. total project budget).

"Development of Single-Lane Loaded Live Load Factors for Bridge Rating Using Oregon WIM," Oregon Department of Transportation. $34,000., April 2006-July 2006. **PI**

"Comprehensive Software Development for Reliability Assessment of Concrete Bridges with Diagonal Cracks," Oregon Department of Transportation. $260,000., **Co-PI** with Michael Scott of CCEE.

"Lateral Drift and Gravity Load Testing of Prefabricated Stair Assembly," KPFF Consulting Engineers, Portland, Oregon. $50,000., February, 2005-March 2005. **PI**.

"Repair Methods for Concrete Bridges with Diagonal Cracks," Federal Highway Administration, Federal Highway Administration, Oregon Department of Transportation. $600,000., February, 2005-June 2007. **PI**.

"Application of Acoustic Emission for Evaluation of Concrete Bridges with Diagonal Cracks," Federal Highway Administration, Oregon Department of Transportation. $185,000., November, 2004-December 2008. **PI**.

"Software Development for Reliability Assessment of Concrete Bridges with Diagonal Cracks," Oregon Department of Transportation. $100,000., November, 2004-December 2006, **Co-PI** with Michael Scott of CCEE.

"Truck Load Model for Oregon," Federal Highway Administration, Oregon Department of Transportation. $170,000., October, 2004-December 2006. **PI**.

"Application of Reliability Based Assessment to Reinforced Concrete Deck Girder Bridges," Oregon Department of Transportation. $55,000., October, 2004-March 2005. **PI**.

"Capacity of Cracked Reinforced Concrete Bent Caps," Federal Highway Administration, Oregon Department of Transportation. $500,000., September, 2004-December 2006. **PI**.

"Estimating Life of FRP Repairs on Shear-Cracked Concrete Beams," Federal Highway Administration, Oregon Department of Transportation. $210,000., October 2003 -2005. **PI**.

"Models for Estimating Life of Shear-Cracked Concrete Beams," Federal Highway Administration, Oregon Department of Transportation. $1,600,000., October, 2002-July 2004. **PI**.

"Remaining Life of Shear Cracked Reinforced Concrete Bridge Girders," Federal Highway Administration, Oregon Department of Transportation. $160,000., October 2001-2003. **PI**.

"Development of Composite Yielding Dampers," National Science Foundation, US-Japan Cooperative Research in Urban Earthquake Disaster Mitigation. $100,000., 2001-2004. **PI**.

"Load Cell for Large-Scale Structural Testing," Research Equipment Reserves Fund, OSU Research Office, $2,378., 2002. **PI**.

"Development of Oregon Center for Earthquake Engineering Research," Oregon State University, College of Engineering. $10,000., 2000-2002 (**Co-PI** with S. Dickenson, D. Rosowsky, S. Yim, T. Miller, and J. Gambatese).

"Assessment of Reinforced Concrete Girders with Corrosion Damaged Shear Reinforcement," Federal Highway Administration, Oregon Department of Transportation. $92,000., 2000-2002. **PI**.

"Fatigue Tests of a Composite Bridge Deck with Alternative Shear Connectors," Exodermic Bridge Deck Inc., Lakeville, CT. $20,000., 1998-99. **PI**.

"Slip Behavior of Tension Controlled Bolts in Short-Slotted Connections," Tension Control Bolting Inc., Greenfield, NH. $5,000., 1998-99. **PI**.

"Application of VE-dampers for Wind Response Mitigation in Tall Buildings," Nippon Steel Company, Tokyo, Japan. $20,000., 1997-98 (**Co-PI** with Kazuhiko Kasai of Tokyo Institute of Technology).

"Static Tests of a Composite Bridge Deck with Alternative Shear Connectors," Exodermic Bridge Deck Inc., Lakeville, CT. $10,000., 1997. **PI**.

C4. Patents Filed and In Process

United States Patent #7,197,854 "Prestressed or post-tension composite structural system," Issued April 3, 2007 with R. Bettigole

C5. Other Scholarship and Creative Activities

C5 Invention Disclosure

C. Higgins, "Tension-Only Hysteretic Damper," OSU Ref. No. 01-17. March, 2002.

C6. Professional Activities

C6.1. University Service

a. University Technical Service

Designer and Specification Writer, Structural Testing Strong-Floor Laboratory, O.H. Hinsdale Wave Research Laboratory (2001)
Cracking instrumentation at Caesar Chavez Cultural Center (2003)
College of Forestry WSE Structural Laboratory Design

b. University Committees

Futures Team, "Taking the Future Seriously" 2001-02.
OSU Faculty Senate 2015
Marine Studies Initiative 2014-15

c. College Committees

Tenure Review Committee, College of Forestry 2017
College of Engineering Research Council 2009-present
Transportation research meeting with western region DOT representatives 2002.
Dean's Roundtable: Student Projects for Engineering Experience and Design, Clarkson U.

d. Departmental Committees

Ad Hoc Faculty Status (2015-present)
Search Committee Structures (2016-2017)
Search Committee NDT/E (2015-2016)
Faculty Status Committee (2007-08)
Laboratory Committee (1997-2000)
Undergraduate Committee (1997-2000)
Curriculum Committee (2001-03, 2004-05)
Graduate Committee (2001-02, 2003-05, 2008-09)
Marketing and Recruitment Committee (2003-04)
MECOP/CECOP Faculty representative at student interviews
Structural Engineering Program Development with CCE and COF Wood Science and Engineering Department
Director, Structural Engineering Research Laboratory, Clarkson University
Structures Faculty Search Committee Chair, Clarkson University
Structures Faculty Search Committee Member, Clarkson University

e. Media Relations

9/11/01KPAM; Portland, OR. Live on-air radio interview regarding structural collapse of World Trade Center Towers.
9/12/01 Statesman Times; Salem, OR. Interviewed in regard to the structural collapse of World Trade Center. Print and on-line versions.
9/13/01 Statesman Times; Salem, OR. Interviewed in regard to the structural collapse of World Trade Center. Print and on-line versions.
9/13/01 Albany Democrat-Herald; Albany, OR. Interviewed in regard to the structural collapse of World Trade Center. Print and on-line versions.
9/15/01 Gazette-Times; Corvallis, OR. Interviewed in regard to the structural collapse of World Trade Center.
10/01 KGW NBC Portland: Field testing of Willamette River Bridge.
5/02 KGW NBC Portland: Seismic Research at OSU
10/02 KMTR NBC Eugene, OR: OSU research on cracked RC bridges.
1/03 ASCE *Civil Engineering Magazine*: Bridge research at OSU.
8/08 OPB Interview on collapse of I35W Bridge
8/08 OPB Interview on gusset plates of I35W Bridge
8/08 Oregonian Interview on steel truss bridges
3/09 Popular Mechanics cover: "My Job"
3/10 San Francisco Radio Interview on Bay Bridge hanger issues
3/11 OPB City Club of Portland
11/16 ASCE *Civil Engineering Magazine*: CLT research at OSU
11/17 ACI *Concrete International*: Titanium research at OSU

C6.2. Service to the Profession

a. Professional Registration and Memberships

Professional Engineer, New York #077436
Registered Engineer-in-Training, Texas 1991
American Society of Civil Engineers, Member (ASCE)
AASHTO T14 Steel Bridge Task Force
AISC Design Advisory Group
American Concrete Institute, Member (ACI)
ACI Faculty Network
Transportation Research Board, Member (TRB)
Member Committee AFN10: Basic Research Emerging Technologies Related to Concrete
Member Committee AFH70: Fabrication and Inspection of Metal Structures,
Chi Epsilon, Member
2013 Oregon Highway Cost Allocation Study Team Member
Session Chair, Structural Faults + Repair, Edinburgh, Scotland, May, 2016
Scientific Committee, 2nd International conference on Structural Engineering, New Technology and Methods (ICSENM'17), Barcelona, Spain April, 2017

Reviewer

Canada Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant proposal reviewer (2016)

CONECIT Chilean National Science Foundation (2011 to present, on site 2012, 2015, and 2017)
Philippines Historical Commission, Restoration Plans After Bohol Earthquake (2014 and 2016)
Qatar National Research Fund
Fundação para a Ciência e Tecnologia (Portugal)
National Science Foundation CAREER Awards
National Science Foundation CDI II Grant Program
National Science Foundation BIG DATA
American Consulting Engineering Council's 2010 Judging Panel for Oregon Engineering Excellence Awards.
Student paper competition *International Bridge Conference*, 2006
Elsevier, *Engineering Structures*
Journal of Disaster Research
Earthquake Engineering and Structural Dynamics
EERI Spectra
ITB Journal of Engineering Science, Indonesia
AISC *Engineering Journal*
TRB *Transportation Research Record*
ASCE *Journal of Structural Engineering*
ASCE *Journal of Bridge Engineering*
ASCE *Journal of Materials in Civil Engineering*
ASCE *Journal of Cold Regions Engineering*
ASCE *Journal of Waterway, Port, Coastal and Ocean Engineering*
ACI *Structural Journal*
ACI *Materials Journal*
National Park Service, Historic American Engineering Record Collection
Harper Collins: Salmon and Johnson, Steel Structures Design and Behavior
J. Wiley and Sons: McCormick, Design of Reinforced Concrete
J. Wiley and Sons: Wang, Salmon, and Pincheira Reinforced Concrete Design, 7th Edition
Pearson Prentice Hall: Wight and MacGregor, Reinforced Concrete Mechanics and Design

C6.3. Consulting, 1997-present

Air-Products and Chemicals, Allentown, PA
Army Corps of Engineers, Philadelphia, PA
Beaver State Ready Mix, Roseburg, OR
Coast Guard Academy, New London, CT
The D.S. Brown Company, North Baltimore, OH
Engineered Monitoring Solutions, Sherwood, OR
Exodermic Bridge Deck Inc., Lakeville, CT
KPFF Consulting Engineering, Portland, OR
Morse Bros. Inc., Harrisburg, OR
National Institute of Standards and Technology, Gaithersburg, MD
OBEC, Salem, OR
Pacific Stair Co., Salem, OR
Schneider Equipment and Drilling Company, St. Paul, OR
Wiss, Janney, Elstner, Northbrook, IL

C6.4. Service to Public (Professionally related)

Philomath Rotary Lunch Presentation, Philomath, OR 2010
OSU Science Pub, Bend, OR 2009
OSU Over Lunch, OSU Alumni Assoc. Portland, 2002
Classes without Quizzes, OSU Alumni Assoc. Spring 2008
Science Pub, OSU-Cascades, Bend, OR, 2010
Tours of Structural Testing Laboratory including:
- Congresswoman Suzanne Bonamici
- Senator Gordon Smith
- Congressman Peter Defazio
- Congressional Staff for Darleen Hooley
- Congressional Staff for Peter Defazio
- Congressional Staff for Kurt Schrader
- Oregon PE Association
- OSU Alumni Association; OSU Retirees Association
- Central Oregon Community College
- David Evans Associates; CH2MHill
- ODOT Bridge Section; ODOT Leadership Team
- Many civic and university groups
- Tsunami Grand Opening, Tour of Structural Laboratory, 2003
- O.H. Hinsdale Wave Research Laboratory, Open Houses

E. HONORS and AWARDS

E1. National and International Awards

Best Scientific Paper, 2016, 12th International Conference on Structural Repair and Rehabilitation, Porto, Portugal (CINPAR2016) for paper "Strengthening RC bridge girders for flexure and shear using titanium alloy bars"

International Titanium Association, 2015 Titanium Applications Development Award, honored for rehabilitation of infrastructure with titanium alloy bars.

American Institute of Steel Construction, 2014 Special Achievement Award, honored for work on developing software imaging tools for use in the inspection of steel bridge gusset plates.

Nominated for 2010 ASCE Norman Medal for paper: "Comparison of Block Shear and Whitmore Section Methods for Load Rating Existing Steel Truss Gusset Plate Connections," *ASCE Journal of Bridge Engineering*, Mar./April 2010, 15(2): 160-171.

Vinnakota Award 2010 awarded to MS student Duncan Stark, Ponding Stability of Open Web Joist Roofs, Structural Stability Research Council

American Institute of Steel Construction Klingelhoffer Graduate Fellowship awarded to MS student James Newell, 2002-03

Best Paper Award for the Year 1998, ISET Journal of Earthquake Technology with K. Kasai

NEHRP/EERI Graduate Fellow in Earthquake Hazard Reduction, 1996-97

James F. Lincoln Arc Welding Foundation, Gold Award to Ph.D. Dissertation, 1997

E2. State and Regional Awards

Engineering Excellence Honor Award 2012 from American Council of Engineering Companies of Oregon (ACEC) for Veterans Administration Building 100 Vertical Expansion Study with Degenkolb Engineers, Portland, OR.

Pennsylvania Historical and Museum Commission: 2000 Historic Preservation Award for Outstanding Special Project: Walnut Street Bridge Restoration

E3. University and Community Awards

OSU On Point Faculty Member Recognition OSU vs Hawaii, 2014

Research Award, College of Engineering, Oregon State University, 2011

ASCE Outstanding Teacher: School of Civil and Construction Engineering, Oregon State University, 2007-08

ASCE Outstanding Teacher: Department of Civil, Construction, and Environmental Engineering, Oregon State University, 2003-04

Engelbrecht Young Faculty Award, College of Engineering, Oregon State University, 2003

Lloyd Carter Award for Outstanding and Inspirational Teaching, College of Engineering, Oregon State University, 2001-02

ASCE Outstanding Teacher: Department of Civil, Construction, and Environmental Engineering, Oregon State University, 2000-01

Albert D. Merrill Award: Outstanding Professor, Department of Civil Engineering, Clarkson University, 1998-99

The Tau Beta Pi Faculty Award for Outstanding Teaching in College of Engineering, Clarkson University, 1998-99

Lehigh University Graduate Student Leadership Award, 1995

American Concrete Institute Outstanding Student, Marquette University, 1988

March 2, 2018

Merrick C. Haller

Coastal & Ocean Engineering Program
School of Civil and Construction Engineering
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E-mail: merrick.haller@oregonstate.edu

Experience

2017-2018	Interim Director, Northwest National Marine Renewable Energy Center, Oregon State University, Corvallis
2016 – present	Professor, School of Civil and Construction Engineering, Oregon State University, Corvallis
2009 – 2016	Associate Professor, School of Civil and Construction Engineering, Oregon State University, Corvallis
2001 – present	joint appointment (same rank), College of Earth, Oceanic & Atmospheric Sciences
2012	Visiting Professor, Bosphorus University, Istanbul
2016 – 2020	Associate Head for Graduate Affairs, School of Civil and Construction Engineering
2009 – 2011	Associate Head, School of Civil and Construction Engineering
2004 – 2009	Assistant Professor, School of Civil and Construction Engineering, Oregon State University, Corvallis
2001 – 2004	Assistant Professor (Senior Research), Department of Civil, Construction, and Environmental Engineering, Oregon State University, Corvallis
1999 – 2001	Assistant Research Scientist, Cooperative Institute for Limnology and Ecosystems Research, University of Michigan, Ann Arbor
1999 – 2001	Research Engineer, Veridian Systems Division (formerly ERIM International), Ann Arbor, MI

Education

- Ph.D., Civil Engineering, University of Delaware, 1999.
  Thesis: *Rip current dynamics and nearshore circulation* (Advisor: R.A. Dalrymple)
- M.C.E., Civil Engineering, University of Delaware, 1996.
  Thesis: *The measurement and analysis of wave groups in the surf zone* (Advisor: R.A. Dalrymple)
- B.S., Earth & Atmospheric Sciences (Geophysics), Purdue University, 1993.

Professional Service

- Associate Editor, *IEEE Geoscience and Remote Sensing Letters*, 2015-2018; *IEEE Journal of Oceanic Engineering*, 2015-2018.
- Member: Executive Board, *Cooperative Institute for Marine Resources Studies* 2017-, *DOE Marine Energy Council Resource Assessment Subcommittee* 2016-, Coastal & Estuarine Hydroscience Committee, ASCE 2006-2015; Secretary, Ocean Marine and Coastal Engineering Division, ASEE 2006-2009; Member, Science Advisory Team—Columbia River Mouth Beneficial Projects (Lower Columbia River Solutions Group), 2008-present.
- Instructor (with David Honegger): Technical training: "Wave-imaging Radar for Hydrographic Applications", Office of Coast Survey, NOAA, Silver Spring, MD, May 27-28, 2015.

- Session Convener: *12th International Coastal Symposium* 2013; Program Committee Member Atmospheric and Oceanic Propagation of Electromagnetic Waves IV, *SPIE International Symposium* (Photonics West), 2010; Co-Convener and Chair, Nearshore and Shelf Processes Special Session in Honor of Dr. Thomas Kinder, *AGU Fall Meeting*, 2001;
- Session Chair: *Waves 2001, Coastal Dynamics 2005, EGU General Assembly 2011 (*"Ocean Science in Support of Marine Renewable Energy"), *ICCE 2012.*
- Reviewer: AGU *(Geophys. Res. Letters, J. Geophysical Research – Oceans),* ASCE*(J. Eng. Mech., J. Wtrwy., Port, Coastal, Ocean Eng.),* ASEE *Conference Proceedings*, *Coastal Engineering, Coastal Engineering Journal, Continental Shelf Research, Estuarine Coastal and Shelf Science, Geomorphology,* IEEE *(Geosci. and Remote Sensing Lett., IGARSS 2008, International Ocean and Polar Engineering Conference 2015, J. Oceanic Eng., J. Selected Topics in Appl. Earth Obs. and Remote Sensing, Trans. Geosci. and Remote Sensing), Inverse Problems in Sci. & Eng., J. Atmos. & Ocean. Tech., J. Civil Eng. (KSCE), J. Coastal Res., J. Electromagnetic Waves and Applications, J. Fluid Mechanics, JFM-Rapids, J. Hydraulic Research, J. Hydrodynamics: Series B, J. Hydro-environment Research, J. Marine Geophysical Researches*, *J. Marine Res.*, *J. Zhejiang Univ.-Science A*, *Marine Geology*, *Marine Energy Technology Society Conference 2016*, *Ocean Dynamics*, *Ocean Eng., Ocean Modelling*, *Physics Letters A*, *Proceedings of the Royal Society—Series A, Remote Sensing, Remote Sensing of the Environment, Sedimentary Geology*, *Sensors, Wave Motion*, and J. Wiley & Sons.
- Proposal reviewer: The National Science Foundation (Physical Oceanography, CAREER, MRI), Sea Grant (California, Delaware, Maryland, Texas), NOAA-*SECOORA*, Natural Environment Research Council (UK), Research Council of Norway, USACE-ERDC, Canadian Foundation for Innovation.
- CRAB-Driving Certification, USACE Field Research Facility, Duck NC, 09/15/2010.
- Society memberships: American Geophysical Union 1996-present, American Society of Civil Engineers 2005-present, American Society of Engineering Education 2001-2010, Association of Coastal Engineers 2002-present, Coasts Oceans Ports and Rivers Institute 2002-present, *IEEE* 2010-present (Senior Member grade since 2015).

Awards & Outreach

- 2015 Outstanding Contribution in Reviewing Certificate, from The Editors of *Coastal Engineering*
- 2007 Editors' Citation for Excellence in Refereeing, *JGR-Oceans* (cited by Jim Kirby)
- 2002 Editors' Citation for Excellence in Refereeing, *JGR-Oceans* (cited by John Klinck)
- Awarded National Research Council Research Associateship, 1999 (declined)
- E.C. Davis Fellowship, University of Delaware, Sept. 1993 – Aug. 1994
- Interviewed: *Engineering Out Loud* podcast ("Partners in Extreme Wave Modeling", season 4, ep4, 2017); *Civil Engineering Magazine* ("Ocean-Monitoring Radar Could Be Lifesaver for Shipping Vessels", November, 2014), OSU College of Engineering *Momentum!* ("Keeping ships safe at sea by tracking hazardous waves", December 2014; "Coastal engineers help harness waves without harming shore", Fall 2014); *School of CCE* ("OSU researchers using radar to make coastal areas safer", June 24, 2014; http://cce.oregonstate.edu/node/328); *Environmental Monitor* ("New model uses off-the-shelf technology to forecast rip currents", March 19, 2013); KEZI news Eugene ("Anniversary of 2011 Japanese tsunami", March 11, 2013); *Taking Risks, Making Commitments* ("Exploring Beach Recovery", DVD and booklet, Oregon Sea Grant, 2007, https://media.oregonstate.edu/media/t/0_m1gq75nn/18365572); *The Daily Barometer* ("World's largest wave basin built at OSU", Sept. 30, 2003).
- Instructor: *Why is the ocean salty?*, 3rd grade Jefferson Elementary School, Corvallis, Feb. 8, 2016; *Tsunamis & Coastal Engineering Learning Module*, Corvallis Montessori School, Aug. 9,2013.
- Guest speaker: *Industry Breakfast,* U.S. Coast Guard Marine Safety Unit Portland, Nov. 20, 2014; *Science, Music & Marshmallows*, Mary's Peak Interpretive Center, Aug. 5, 2009;

Refereed Journal Publications

1. Chen, Q., Dalrymple, R.A., Kirby, J.T., Kennedy, A.B., and M.C. Haller, Boussinesq modeling of a rip current system, *J. Geophys. Res.-Oceans,* 104 (C9), 20,617—20,637, 1999.
2. Haller, M.C., Putrevu, U., Oltman-Shay, J., and R.A. Dalrymple, Wave group forcing of low frequency surf zone motion, *Coastal Engineering Journal*, Vol. 41, No. 2, 121-136, 1999.
3. Haller, M.C. and R.A. Dalrymple, Rip current instabilities, *J. Fluid Mech*., *433*, 161-192, 2001.
4. Haller, M.C., R.A. Dalrymple, and I.A. Svendsen, Experimental study of nearshore dynamics on a barred beach with rip channels, *J. Geophys. Res.-Oceans,* 107 (C6), 3061, doi:10.1029/2001JC000955, 2002.
5. Haller, M.C. and D.R. Lyzenga, Comparison of radar and video observations of shallow water breaking waves, *IEEE Trans. Geosci. Remote Sens.*, vol. 41, no. 4, pp. 832—844, Apr. 2003.
6. Haas, K.A., I.A. Svendsen, M.C. Haller, and Q. Zhao, Quasi 3-D modeling of rip current systems, *J. Geophys. Res.-Oceans*, 108 (C7), 3217, doi:10.1029/2002JC001355, 2003.
7. Suh, K.-D., T.-H. Jung, and M.C. Haller, Long waves propagating over a circular bowl pit, *Wave Motion*, *42*, 143—154, 2005.
8. Haller, M.C. and H.T. Özkan-Haller, Waves on unsteady currents, *Physics of Fluids*, **19**, 126601, 2007. (See also Publisher's Note: *Physics of Fluids*, **20**, 039901, 2008).
9. Catalán, P.A. and M.C. Haller, Remote sensing of breaking wave phase speeds with application to non-linear depth inversions, *Coastal Engineering*, **55**, 93—111, 2008.
10. Michalsen, D., M.C. Haller, and K.-D. Suh, Wave reflection from nearshore depressions, *J. Waterway, Port, Coastal, and Ocean Engineering*, 134(1), 1-11, 2008.
11. Plant, N.G., K.T. Holland, and M.C. Haller, Ocean wavenumber estimation from wave-resolving time series imagery, *IEEE Trans. Geosci. Remote Sens.*, vol. 46, pp. 2644—2658, Sept. 2008.
12. van Dongeren, A., N. Plant, A. Cohen, D. Roelvink, M.C. Haller, and P. Catalán, Beach Wizard: Nearshore bathymetry estimation through assimilation of model computations and remote observations, *Coastal Engineering*, **55**, 1016—1027, 2008.
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- "Experimental investigation of nearshore circulation in the presence of rip channels", *AGU Fall Meeting*, San Francisco, CA, 1996.

- "Rip channels and nearshore circulation", *Coastal Dynamics '97*, Plymouth, U.K., 1997.
- "Experimental modeling of a rip current system", *Waves 1997*, Virginia Beach, VA, 1997.
- "Low frequency surf zone response to wave groups", *26th Intl. Conf. on Coast. Eng.*, Copenhagen, Denmark, 1998.
- "Rip current instabilities", *AGU Fall Meeting*, San Francisco, CA, 1998.
- "Forcing of nearshore currents on a longshore varying bathymetry", *AGU Fall Meeting*, San Francisco, CA, 1999.
- "Remote sensing of shallow water breaking waves", *Waves 2001*, San Francisco, CA, 2001.
- "Wave breaking and rip current circulation", *28th Intl. Conf. on Coast. Eng.*, Cardiff, UK, 2002
- *INVITED*: "Rip Currents: An Oregon State Perspective", NOAA/Sea Grant Technical Workshop, *Rip Current Science: Coordinating Coastal Engineering Research and Forecast Methodologies to Improve Public Safety*, Jacksonville, FL, April 6-7, 2004.
- "Shallow water wave breaking (a.k.a. radar and Argus)", *Argus Workshop 2004*, Corvallis, OR, Aug. 4, 2004.
- "Measurement of shallow water breaking wave rollers", *Coastal Dynamics 2005*, Barcelona, Spain, April, 2005.
- *INVITED:* "Integrated Ocean Observing Systems", *O.H. Hinsdale Wave Research Laboratory Coastal Symposium and Reunion*, Corvallis, OR, Nov. 19, 2005.
- "NANOOS-Pilot: A collection of ocean observing tools for improving ocean safety and coastal design", *2006 ASEE Annual Conference*, Chicago, IL, June 20, 2006.
- "Remote Sensing Characteristics of Wave Breaking Rollers", *AGU Fall Meeting*, San Francisco, CA, 2006.
- *INVITED*: "Radar and optical remote sensing of the nearshore", *ONR Progress Review Meeting*, Seattle, WA, Feb. 28, 2007.
- *INVITED:* "Wave modeling at the MCR w/comparisons to remote sensing data", *Sediment Trends in SW Washington's Nearshore Zone*, Lower Columbia Solutions Group, Ilwaco, WA, July 9, 2007.
- *INVITED*: "EM Scattering in the surf zone: Observations and Modeling", *ONR Progress Review Meeting*, Corvallis, OR, June 26, 2008.
- *INVITED:* "Wave measurement methods and data requirements for model validation", *Wave Amplification / Save Navigation Workshop*, Lower Columbia Solutions Group, Ilwaco, WA, April 27-28, 2009.
- *INVITED*: "Some potential environmental effects of wave energy arrays", *Wave Energy Roundtable*, Office of U.S. Senator Jeff Merkley, Hatfield Marine Science Center, Newport, OR, May 29, 2009.
- "Scattering mechanisms for surf zone waves", *Argus Workshop*, Plymouth, UK, July 22, 2009.
- *INVITED:* "Baseline observations and modeling at the Reedsport wave energy site", *2009 Ocean Renewable Energy Conference IV*, Oregon Wave Energy Trust, Seaside, OR, September 15, 2009.
- *INVITED:* "Review of selected oceanic EM/EO scattering problems", *SPIE International Symposium* (Photonics West), San Francisco, CA, Jan. 25, 2010.
- *INVITED*: "Remote Sensing of Breaking Waves", *Workshop on air-sea interactions under tropical cyclones (hurricanes)*, University of Rhode Island, April 11, 2010.
- *INVITED*: "Remote Sensing of Surf Zone Waves" and "Rip Currents via Marine Radar", *Sensing the Ocean with Marine Radars* (*SoMaR-1*), NURC, Lerici, Italy, May 2-4, 2011.
- "Rip currents via marine radar", *Argus Workshop*, Corvallis, OR, July 27, 2011.
- "Laboratory observations of waves in the vicinity of WEC-arrays", *European Wave and Tidal Energy Conference* (*EWTEC 2011*), September, 6, 2011.
- "Observations of rip current variability", 33rd *Intl. Conf. on Coast. Eng.*, Santander, Spain, 2012.
- *INVITED*: "Planes, Brains, and Autonomous Vehicles: Predicting the nearshore ocean", *Chief of Naval Operations Strategic Studies Group*, Corvallis, OR, November 5, 2012.

- *INVITED*: "Physical Environmental Effects of Wave and Offshore Wind Energy Extraction: A synthesis of recent oceanographic research", *Oregon Marine Renewable Energy Environmental Science Conference,* Corvallis, OR, November 28-29, 2012.
- "Radar observations of rip currents (Duck, NC)", *AGU Fall Meeting*, San Francisco, CA, December 3, 2012.
- "Some results on the modelling of the far-field effects of WEC-Arrays*", International Coastal Symposium 2013*, Plymouth, U.K., April 9, 2013.
- *INVITED*: "Recent NNMREC Research on the Potential Nearshore Effects of Wave Energy Extraction", *Ocean Renewable Energy Conference VIII,* Astoria, OR, September 25, 2013.
- *INVITED*: "A review of studies on the nearshore impact of wave energy arrays: What have we learned and what is still needed?", *AGU Fall Meeting*, San Francisco, CA, December, 9, 2013.
- "Rip currents, tidal jets, and wild frontal features: Some recent observations with X-band marine radar", *AGU Ocean Sciences Meeting,* Honolulu, HI, February 27, 2014.
- "Rip currents, tidal jets, and wild frontal features", *11th Argus Workshop*, Delft, The Netherlands, September 11, 2014.
- "Remote sensing of the MCR from atop Cape D: Rich dynamics with some comparisons to models", *Lower Columbia Solutions Group Meeting*, Vancouver, WA, January 9, 2015.
- "On the imaging of rip currents at X-band", *Sensing the Ocean with Marine Radars* (*SoMaR-III*), UW-Applied Physics Lab, Seattle, WA, July 14, 2015.
- "Assimilation of Wave Imaging Radar Observations for Real-Time Wave-by-Wave Forecasting", *NNMREC Annual Meeting 2015*, Portland, OR, September 17, 2015.
- "On the imaging of rip currents in X-band radar", *AGU Ocean Sciences Meeting*, New Orleans, LA, February 22, 2016.
- "Assimilation of wave imaging radar observations for real-time wave-by-wave forecasting", *AGU Ocean Sciences Meeting*, New Orleans, LA, February 26, 2016.
- "Unsteadiness effects in wave-current interaction in the nearshore", *EGU General Assembly*, Vienna, Austria, April 20, 2016.
- "What I know about rip currents and radar", *12th Argus Workshop*, Duck, NC, September 22, 2016.
- *INVITED*: "Assimilation of Wave Imaging Radar Observations for Real-time Wave-by-Wave Forecasting", US DOE EERE 2016 Peer Review Meeting, Washington D.C., Feb. 14, 2017.
- "Modeling of marine radar signatures of rip currents" and "Some upcoming marine radar field experiments", *Sensing the Ocean with Marine Radars* (*SoMaR-IV*), Lueneburg, Germany, May 9-11, 2017.
- ***INVITED Keynote Address***: "Sensing the Ocean with Marine Radars", *Hydraulic Measurements & Experimental Methods Conference* (*HMEM*), Durham, NH, July 10, 2017.
- "ALFA Task 3: Extreme Conditions", *NNMREC Annual Meeting 2017*, Portland, OR, September 15, 2017.

Seminars

- "Experimental Investigation of a Rip Current System", Center for Applied Coastal Research Seminar Series, University of Delaware, April 29, 1997.
- "Experimental Modeling of a Rip Current System", Center for Applied Coastal Research Seminar Series, University of Delaware, Nov. 11, 1997.
- "Rip Current Instabilities", Center for Applied Coastal Research Seminar Series, University of Delaware, Dec. 1, 1998.
- "Comparison of video and remote sensing observations of surf zone waves", *OSU-UBC-UW Joint Student Conference on Hydromechanics*, March, 2002.
- "Modeling Wave Breaking in the Presence of Rip Currents", *Nearshore Brownbag Series*, Oregon State University, August, 2002.

- "Integration of Lab and Field in Coastal Engineering Research", Dept. of Civil & Construction Engineering, Oregon State University, March 24, 2004.
- "Nearshore remote sensing with X-band radar", *Physical Oceanography Seminar Series*, COAS, Oregon State University, May 1, 2007.
- "Remote Sensing in the Nearshore: Results and ongoing challenges", Center for Applied Coastal Research Seminar Series, University of Delaware, September 25, 2007.
- *INVITED:* "Rip Currents: Integrating our knowledge from lab, field, and numerical studies", *Water Resources and Environmental Eng. Graduate Seminar*, N.C. State University, December 3, 2007.
- "Remote sensing of surf zone waves", Coastal Studies Seminar Series, Rosenstiel School of Marine and Atmospheric Science, University of Miami, April 2, 2009.
- "Modeling microwave scattering from breaking waves", Applied Mathematics Seminar, Oregon State University, April 17, 2009.
- *INVITED:* "Wave observations and modeling at Newport, OR", Hatfield Marine Science Center, Newport, OR, November 12, 2009.
- *INVITED:* "The Northwest National Marine Renewable Energy Center", Kwandong University, Korea, Nov. 9, 2010.
- *INVITED:* "Remote sensing of rip currents", Korean Ocean Research and Development Institute, Korea, Nov. 10, 2010.
- "Nearshore waves, currents and bathymetry - Towards fused sensors and models", joint with R. Holman and G. Wilson, COAS, Oregon State University, February 4, 2011.
- *INVITED*: "Wave Energy Sites: Methods of evaluation and related research" and "Northwest National Marine Renewable Energy Center", *Taller Internacional Sobre el Estado Actual de la Investigación Científica en Energías Marinas*, Pontificia Universidad Católica de Chile, Santiago, Chile, July 6-7, 2011.
- *INVITED*: "Wave Energy Research at Oregon State University", Civil Engineering Design Seminar, Boğaziçi University, Istanbul, Turkey, March 16, 2012.
- INVITED: "Rip currents, tidal jets, and wild frontal features: Some recent observations with X-band marine radar", Ocean Engineering Seminar, Texas A&M University, College Station, March 6, 2014.
- *INVITED:* "Rip currents, tidal jets, and wild frontal features: Some recent observations with X-band marine radar", POA Seminar Series, CEOAS, Oregon State University, June 3, 2014.
- "Assimilation of wave imaging radar observations for real-time wave-by-wave forecasting", *Nearshore Brownbag Series*, Oregon State University, October 29, 2015.
- *INVITED:* "What I have learned about the Nearshore through the use of radar remote sensing", Engineering School of Sustainable Infrastructure and Environment, University of Florida, February 12, 2016.
- *INVITED:* "On the imaging of rip currents in X-band radar", *POA Seminar Series*, CEOAS, Oregon State University, March 1, 2016.
- *INVITED:* "Physical-environmental effects of wave energy extraction", *Civil & Env. Eng. Seminar on Sustainability*, Department of Civil & Environmental Engineering, Portland State University, May 31, 2016.
- *INVITED:* "On the imaging of rip currents in X-band radar", APO&E Dept. Seminar, Woods Hole Oceanographic Institution, June 29, 2016.

Sponsored Research

- "Mobile Radar Tower & Platform for Inlet & Estuarine Observations", PI, Office of Naval Research, DURIP, $165,490, 2017-2018.
- "MINERS: Multiple Inlet & Estuary Remote Sensing", PI w/D. Honegger, Littoral Geosciences and Optics Program, Office of Naval Research, $1,449,834 (Haller portion $985,031), 08/01/2016-11/30/2021.

- "NANOOS: X-band radar monitoring at navigational inlets", PI (part of multi-university effort), NOAA-IOOS,$13.5 million (Haller portion $255,000), 2017-2021.
- "Radar Remote Sensing of Waves and Episodic Flow Events", PI: Haller, Office of Naval Research, Inner Shelf DRI, $791,245, 1/05/15-09/30/19.
- "Advanced Laboratory and Field Arrays for Marine Energy", US DOE, DE-EE0006817.0000, Co-I w/Batten et al., $4 million (Haller portion ~$150,000), 2014-2019.

Proposals Submitted and/or Pending 2017

- "Laboratory Collaborative Proposal", PI (multiple PIs), US DOE, total budget $2.5 million including $500,000 cost share, 2019-2021.
- "X-BORN: X-Band Ocean Radar Network", PI, NOAA-NOS-IOOS (subaward, project lead Areté Associates), OSU share $297,725, 2017-2020.
- "Wave Prediction leveraging multiple measurement sources – a sensor fusion approach", PI, US DOE (subaward, ReVision Consulting is project lead), $216,255 ($161,711 federal pass-through, $54,544 OSU cost-share), 2017-2019.
- "The coupling between the sediment dynamics of crenulate bays and the local small port fishing communities: A Port Orford case study", Oregon Sea Grant, total budget $78,852 ($26,122 cost-share), 2017-2018.

Previous Funding (approximate total *of finished projects* through 2016 = $3,700,300)

- "Turbulence, Moored and Remote Sensing Measurement System to Quantify Nonlinear Transport Mechanisms in the Coastal Ocean", Office of Naval Research, DURIP (equipment grant), Co-I w/Moum et al., $623,222 (Haller portion $49,161), 09/01/2015-08/31/2016.
- "Assimilation of Wave Imaging Radar Observations for Real-time Wave-by-Wave Forecasting", US DOE, Award #DE-EE0006789 (CFDA No. 81.087), PI: Haller with Co-Is: David Walker and Patrick Lynett, $627,465 including $129,376 cost share (Haller portion federal funds=$176,274), 2014-2016.
- "Sustaining NANOOS, the Pacific Northwest component of the US IOOS", NOAA, $12.8 million (Haller portion $256,092), 2011-2016.
- "Remote Sensing and Data-Assimilative Modeling in the Littorals", Co-Investigator, [Data Assimilation and Remote-sensing for Littoral Applications (DARLA)], ONR Multidisciplinary University Research Initiative (MURI), $7,913,069 (Haller portion $1,038,000), 2010-2015.
- "Wave-Imaging Remote Sensing for Hydrographic Applications", Training Course: NOAA Office of Coast Survey, $15,000, Silver Spring, MD, May-June, 2015.
- "Northwest National Marine Renewable Energy Center" (Co-I), U.S. Department of Energy, $13,545,481 (Haller portion $457,689), 2008-2015.
- "Benchmark modeling of near-field and far-field wave effects of wave energy arrays" (PI), Columbia Power Technologies (DOE FOA-69 Topic 2), $459,877 (Haller portion, $269,161), 2010-2012.
- "Experiments of Opportunity in Support of WEC-array Far-field Effects Analysis", Oregon Wave Energy Trust, 02/02/11-12/31/11, $21,600.
- "Enhancing the Pacific Northwest Regional Coastal Ocean Observing System (RCOOS) of NANOOS" (Co-I), NOAA, $10.2 million (Haller portion, $150,000), 2007-2011.
- "Marine radar wave observations – Columbia River Mouth" (PI), U.S. Army Corps of Engineers, $40,277, 9/14/2009-9/30/2010.
- "Multi-sensor remote sensing in the nearshore" (PI), Office of Naval Research, Coastal Geosciences, $169,821, 2008-2010.
- "Baseline observations and modeling for the Reedsport wave energy site" (Co-I), Oregon Wave Energy Trust, $163,351 (Haller portion $19,884), April-Dec 2009.
- "Collaborative Proposal: CROSSTEX – An Experimental Study of Onshore Bar Movement" (Co-I), The National Science Foundation, $155,784, 2004-2009.

- "Remote retrievals of hydrography on mud flats in Denied-Areas" (PI), Arete Associates (in support of Phase II-Enhancement STTR, Office of Naval Research), $75,000, 2007-09/30/2008.
- "Platform for a Physical/Biological Sampling System for the Nearshore Ocean" (Co-I) w/P. Ruggiero, Menge, Nash, & Rilov, Research Equipment Research Fund, Oregon State University, , $49,814, 07/01/07-06/30/08.
- "Wind/solar off-grid power system for Wave Radar Imaging Station" (PI), College of Engineering ETIC funds, $13,683, 2008.
- "Integrating Marine Radar Observations into Nearshore Modeling Systems" (PI), Office of Naval Research, Coastal Geosciences, $120,919, 2005-2007.
- Oregon Sea Grant: "Investigating the Causes of 'Hot Spot' Beach Erosion" (PI), $161,834, 2005-2007.
- NOAA: "A Pilot Coastal Ocean Observatory for the Estuaries and Shores of Oregon and Washington", (PI) A. Baptista (OHSU) et al., $700,000 (M. Haller PI of OSU portion, $132,475), 2004-2007.
- Funded Collaborator (Rob Holman - PI), "Secretary of the Navy/Chief of Naval Operations Chairs of Oceanographic Sciences", 1 mm/yr, 2003-2007.
- NSF: "REU-Site: Interdisciplinary Approach to Coastal Processes and Hazard Mitigation" (Co-I), $287,722, 2003-2006.
- Oregon Sea Grant: "An Experimental Study of Beach Recovery" (Co-I), $174,674 (Haller portion, $114,562), 2004-2006.
- Oregon Sea Grant: "Project Development Grant: Erosional Hot Spot Modeling" (PI), $10,000, 2004.
- Office of Naval Research, Coastal Geosciences, "Synoptic Estimates of Waves and Currents via Real-Time Assimilation of In-Situ Observations" (PI), $78,000, 2002-2004.

Graduate Students Advising (estimated graduation date)

Spencer Bull	M.S., Civil Engineering (expected W2018)
Alexandra Simpson	Ph.D., Civil Engineering (expected 2020)
Annika O'Dea	Ph.D., Civil Engineering (expected 2019)

Other Roles

- Supervisor: Postdoctoral Scholars
  - David Honegger, April 2015—present
  - Guillermo Diaz, Nov. 2011—2014
- Supervisor: Faculty Research Assistants
  - Randall Pittman, Oct. 2011—present
  - Patrick McEnaney, June 2009—February 2011.
  - Dan Moraru (COAS), Feb. 2008 – June 2008.
  - Justin Brodersen, Dec. 2005-Jan 2007
- Visiting Scholars hosted: Dr. Changhoon Lee (Sejong University), 2006-2007; Dr. Weon Mu Jeong (Korean Ocean Research & Development Institute), 2011; Prof. Ryan Lowe (U. West. Austr.), 2014
- Faculty Mentor CCE: Asst. Prof. Michael Olsen, Asst. Prof. Ingrid Arocho, Asst. Prof. Jihye Park
- Graduate Student Mentor: *AGU Ocean Sciences Meeting,* Honolulu, HI, Feb. 2014; *AGU Ocean Sciences Meeting,* New Orleans, LA, Feb. 2016.

Graduate Students Completed

David Honegger	**Ph.D**., June 2015; "Depth Estimation and Frontal Imaging via X-band Marine Radar" (Now: Postdoctoral Scholar, Oregon State University)
Jitraporn Phaksopa	**Ph.D.**, March 2015; "Wave-current Interaction Induced by Standing Long Waves in the Surf Zone" (Now: Lecturer at Dept. of Marine Science, Kasetsart University, Thailand)

Patricio Catalan	**Ph.D.**, December 2008; "Microwave Scattering from Surf Zone Waves" (Now: Associate Professor, Departmento de Obras Civiles, Universidad Técnica Federico Santa María, Valparaiso, Chile)

Alexandra Simpson	**M.S.**, Dec. 2016; Thesis: "Wave-by-wave forecasting via assimilation of marine radar data" (Now Ph.D. student, CCE, Oregon State University)
Alice Gillespie	**M.S.**, Dec. 2015; Thesis: "Wave-by-wave forecasting of sea surface elevation for WEC applications utilizing NARX neural networks" (now at M3Wave, Oregon)
Rebecca Kloster	**M.S.**, Sept. 2015; Thesis: "On the imaging of rip currents in X-band radar" (Now at USACE, Anchorage, AK)
Annika O'Dea	**M.S.**, Sept. 2014; Thesis: "On the nearshore impact of wave energy converter arrays" (Now Ph.D. student, CCE, Oregon State University)
Colleen Black	**M.S.**, June 2014; Thesis: "Analysis of waves in the near-field of wave energy converter arrays through image processing" (Now at Moffatt & Nichol, Baltimore, MA)
Aaron Porter	**M.S**., Sept. 2012; Thesis: "Laboratory observations and numerical modeling of the effects of an array of wave energy converters" (Now at Coast & Harbor Engineering, Edmond, WA)
Nicholas Brown	**M.S.**, Dec. 2010; Project: "Experiments on the Accuracy of a 3D Motion Capture System" (Now at Ocean Facilities Program, US Navy, Port Huename, CA)
Shay Meskill	**M.S.**, Dec. 2009; Project: "Applications of Marine Radar Wave Observation Systems" (Now at MAR Inc., Ontario, OR)
Daniel Lutz	**M.S.**, Dec. 2008; Project: "Design and construction of a real-time ocean mooring at Strawberry Hill" (Now Executive Officer, Underwater Construction Team ONE, Ocean Facilities Program, US Navy, Virginia Beach, VA)
Matt Dalon	**M.OcE.**, June 2007; Thesis: "Analysis of Rip Current Embayments on the Oregon Coast" (Now at Ocean and Coastal Consultants, Gibbsboro, NJ)
J.D. Lentine	**M.S.**, June 2006; Project: "Nearshore Applications of Marine Radar" (Now at USCG Facilities Design & Construction Center, Houston, TX)
Jason Magalen	**M.OcE.**, June 2006; Thesis: "Laboratory Experiments on Sand Bar Migration with Comparisons to Recent Models" (Now at HDR, Portland, OR)
Patricio Catalan	**M.OcE.**, June 2005; Thesis: "Hybrid Approach to Estimating Nearshore Bathymetry Using Remote Sensing" (Now at Departmento de Obras Civiles, Universidad Técnica Federico Santa María, Valparaiso, Chile)
Dave Michalsen	**M.OcE.**, August 2004; Thesis: "Wave Transformation Over Steep Bathymetric Features" (Now at U.S. Army Corps of Engineers, Seattle, WA)
Dan Garcia	**M.S.**, Sept. 2003;Project: "Effects of Natural and Artificial Reefs at Beverly Beach, OR" (Now at BNP Paribas international finance group)
Ed Wieland	**M.S.**, June 2003; Project: "Assessment of Wave Conditions and Mooring Improvement Design at Coast Guard Station Neah Bay, WA" (Now at USCG Shore Maintenance Command, Seattle, WA)

Muhammad Ali Rini	**M.Eng.**, March 2016 (Now at Indonesian Port Co., Jakarta, Indonesia)
Rebecca Sexton	**M.Eng.**, June 2014
Jeane Camelo	**M.Eng.**, Dec 2011
Jeff Travis	**M.Eng.**, June 2010
Song Gao	**M.Eng.**, Dec 2008 (Now at Bureau Veritas, Houston, TX)
Phillip Hamrock	**M.Eng.**, Dec 2008 (Now at Ocean Facilities Program, US Navy Civil Eng Corps)
Neil Orlich	**M.Eng.**, June 2006 (Now at USCG Air Station Clearwater, Clearwater, FL)
Steven Beadle	**M.Eng.**, June 2006 (Now at Washington State Ferries, Seattle, WA)

Minor professor: M.S., Mechanical Engineering, Daniel Fernandez (Sept. 2015)
M.S., Mechanical Engineering, Kelley Ruehl (June 2011)
M.S., Civil Engineering (Structures), Jason Beatty (June 2007)

Other Graduate committees served on (graduation date)

Fadia Ticona	M.S., Civil Engineering (Ocean), (expected 2018)
Nick Forfinski-Sarkozi	Ph.D., Civil Engineering (Geomatics), (expected 2018)
Evgenia Chunikhina	(GCR) Ph.D., Electrical Eng., (expected 2017)
Lin Li	(GCR) Ph.D., Physics, (expected 2017)
Tejas Mulky	(GCR) M.S., Mechanical Eng., (expected 2018)
Srinivasan Sundaram	(GCR) M.S., Electrical Eng., (expected 2018)
Pichawut Manopkawee	(GCR) Ph.D., Geology, (expected 2020)

Ph.D.:	Civil Engineering (Ocean):	Sungwon Shin (Dec. 2005)
		Joe Long (June 2009)
		Greg Guannel (Summer, 2009)
		Wenwen Li (Dec. 2012)
	Oceanography	Chris Chickadel (Summer, 2007)
		Kristen Splinter (June 2009)

M.OcE.: Joel Darnell (Aug. 2004), Jamie Lescinski (Dec. 2004), Chris Scott (June 2005), Joe Long (June 2005), Wenwen Li (Dec. 2006), Lisa Andes (June 2007), David Elwood (Aug. 2008), Ravi Challa (Dec. 2010), Jeremy Mull (Dec. 2010), Jeff Oskamp (June 2011), Cameron McNatt (Aug. 2012)

M.S. Civil Eng: Chris Renedo (June 2005), Jason Heering (Sept. 2008), Irene Watts (Sept. 2008), Grady Donathan (Dec. 2008), Gabriel Garcia (Aug. 2012), Hendrik Schoeman (Dec. 2012), Jason Kiel (March 2015), Manuel García-Castaño (June 2015), Yu Du (March 2016), Matt Evans (June 2016), Nick Wilson (June 2017), Ashley Ellenson (Aug. 2017)
M.S. Mechanical Eng: Justin Hovland (June 2010)
M.S. Oceanography: Jason Killian (Sept. 2007), Brian Nelson (Dec. 2009)

M.Eng. (Civil Eng.): Brandon Cox (Dec. 2006), Javier Moncada (June 2007), Greg Garnett (Dec. 2007), Kun Liu (June 2011), Rudy Bowis (Dec 2014), Marcus Farquhar (Dec. 2015)
Grad Council Rep.: Wiley Thompson (Ph.D., Geosci., June 2008), Robyn Wangberg (Ph.D., Physics, June 2008), Zachary Wiren (Ph.D., Physics, June 2008), Matt Knudson (Ph.D., Mech. Eng., Dec. 2009), Max Salichon (Ph.D., Mech. Eng. Dec. 2009), Andrew Hummel (M.S., Nuclear Eng., Dec. 2010), Chao Ma (M.S., Elec. & Comp. Eng., Sept. 2012), Erica Rode (Ph.D., Mathematics, February 2013), Joseph Skitka (M.S., Mech. Eng., June 2013), Karthikeyan Reddy (Ph.D., Elec. Eng., March 2014), Chaitanya Ghodke (Ph.D., Mech. Eng., March 2016), Harshavardhan Malshe (M.S., Mech. Eng., Sept. 2016), Anindita Borah (M.S., Electrical Eng., Sept 2017)

Undergraduate Advisees

- **(NSF-REU):** Jennifer Miller (2005), Krishna Ersson (2004), Luis Bellon (2003)
- **Computer Science Capstone Proj.** "Development of a Web Interface for Ocean Wave Monitoring at the Mouth of the Columbia River", Michael Spray, Jaime Burnap, Samuel Yung (2006)

- **Reading & Conference:** Christopher Goins: City of Albany Hydraulic Design Work (2006)

OSU Service

- Associate Head of Graduate Affairs, School of Civil & Construction Engineering, 2016-2020
- Associate Head, School of Civil & Construction Engineering, 2009-2011
- Chair: College of Engineering Graduate Council, 2008-2011
- Chair: CCE Promotion & Tenure Subcommittee, 2010-2011, 2016-2017
- Chair CCE Search Committee: Geomatics faculty, 2013-2014; Geomatics-MSI Hire, 2014-2015; CCE Graduate Coordinator, 2015-2016
- Chair Search Committee: Director of Hinsdale Wave Research Laboratory, 2013; Director of NNMREC, 2017-2018
- Chair: CCE Graduate Committee, 2006-2009
- Member: OSU Marine Studies Initiative, Learning Models Working Group, 2014-2015
- Member: OSU Marine Studies Initiative, Coordinating Group for New Hires, 2014-2015
- Member: OSU Fulbright Student Program Committee 2015-2017
- Member: INTO@OSU Graduate Pathway Advisory Committee 2017
- Member: College of Engineering Promotion & Tenure Committee, 2013-2014
- Member: College of Engineering Faculty Advisory Committee, 2013
- Member: College of Engineering Graduate Committee, 2016-
- Member: Search Committee COE Associate Dean for Research and Economic Development, 2012
- Member: Search Committee for CCE Interim Head, 2011
- Member of CCE Search Committees: WR/Coastal faculty, 2017; Water Resources faculty, 2008-2010; Hinsdale Wave Research Laboratory – Director (2002) & Operations Manager (2003)
- Member: Search Committee for Wave Energy Ocean Test Facility Manager, 2011
- Coastal & Ocean Eng Program Coordinator, 2003-2010, 2014-2015
- Member: CCE Promotion & Tenure Subcommittee, 2014-2016
- Member: CCE Faculty Status Committee (non-voting member), 2005-2006
- Member: CCE Accessible Labs Committee, 2012-2013
- Member: CCE Apperson-to-Kearney Space Planning Committee, 2008-2009
- Member: CCE Computing Committee, 2001-2005
- Member: CCE Curriculum Committee, 2004-2005
- Member: CCE Graduate Committee, 2002-2003, 2006-2010, 2014-2015
- Member: CCE Scholarship Committee, 2012-2013
- Member: CCE Strategic Planning Committee, 2005-2006
- Developed proposal to attain Western Regional Graduate Program status for the OSU Ocean Engineering Program. Awarded WRGP status May, 2002
- Developed “10 year Strategic Plan for Ocean Engineering Program", presented to CCEE Advisory Board, Fall 2001

Classes Taught

- CE 313 Hydraulic Engineering, W(02-05,08-09), S13
- CE 411/511 Ocean Engineering, F11
- CE 415/515 Design of Ports and Harbors, S(02)
- CE 415/515 Coastal Infrastructure, S(04,06)
- CE 505 Reading & Conference, S14
- CE 507 CCEE Graduate Seminar, F(16,17), W(07-08,10-11), S(09-11,15)
- CE 630 (previously 641) Ocean Engineering Wave Mechanics I, F(01,02,04,05,07,09,12,13,15,16), W(04)

- CE 631 Ocean Engineering Wave Mechanics II, W(07,15,17)
- CE 643 Coastal Engineering, F(02,13), S(05,07,09,16), W11.
- CEM 311 Hydraulics, W(13,15), S(15,16)
- OC 664 Nearshore Sediment Transport, S04 (50%, w/R. Holman).
- Developed CAT II proposals for CE 630, 631, 634, and 635 (2007-2008)

Invited Workshop Participation

- Invited Scientist, *Sand Engine Projects*, Deltares, The Netherlands, Sept. 2-6, 2012.
- Invited Scientist, *Taller Internacional Sobre el Estado Actual de la Investigación Científica en Energías Marinas*, Pontificia Universidad Católica de Chile, Santiago, Chile, July 6-7, 2011.
- Invited Scientist, *Sensing the Ocean with Marine Radars* (*SoMaR-1*), NURC, Lerici, Italy, May 2-4, 2011.
- Invited Scientist, *Alliance for Coastal Technologies: Waves Protocol Development Workshop*, University of South Florida, Feb. 23-25, 2011.
- Invited Scientist, *Workshop on air-sea interactions under tropical cyclones (hurricanes)*, University of Rhode Island, April 11, 2010.
- Invited Scientist, *Columbia River Mouth Beneficial Use Projects Science Advisory Team Meeting*, Lower Columbia River Solutions Group, Portland, OR, April 24, 2008.
- Invited Scientist, *Sediment Trends in SW Washington's Nearshore Zone*, Lower Columbia Solutions Group, Ilwaco, WA, July 9-10, 2007.
- Invited Scientist, *Alliance for Coastal Technologies: Wave Sensor Technologies Workshop*, University of South Florida, March 7-9, 2007.
- Invited Scientist, *Motril Workshop: Coastal Engineering Challenges for the Third Millenium*, Universidad De Granada, Motril (Granada), Spain, Nov. 16-17, 2005.
- Invited Scientist, *Scientific Workshop to Inform the Columbia River Nearshore Beneficial Use Project*, Lower Columbia Solutions Group, Portland, Oregon, May 2-3, 2005.
- Invited Scientist, *Rip Current Science: Coordinating Coastal Engineering Research and Forecast Methodologies to Improve Public Safety*, NOAA/Sea Grant Technical Workshop, Jacksonville, FL, April 6-7, 2004.

Other Workshop Participation

- *ONR Inner Shelf DRI Kickoff Meeting*, Seattle, WA, November 3-5. 2015.
- *ONR RIVET/DARLA Program Review Meeting*, NPS, Monterey, CA, April 21-24, 2015.
- *NW Marine Technology Summit*, Marine Technology Society, Newport, OR, October, 20-22, 2014.
- *ONR RIVET Program Review Meeting*, Washington DC, April 2014.
- *ONR RIVET Program Review Meeting*, Washington DC, April 2013.
- "Finding your voice: Effective Science Communication", *COMPASS*, AGU Fall Meeting, San Francisco, CA, December 2, 2012.
- *Wave Energy Conversion Array Network (WECAN)5th Annual Meeting,* Imperial College London, May 14, 2012.
- *Smoothed Particle Hydrodynamics*, University of Manchester, England, February 2-3, 2012.
- *COSEE/SMILE Scientist & Educator Workshop*, Oregon State University, January 26-28, 2011.
- *ASCE National Civil Engineering Department Heads Conference*, Carnegie Mellon University, May 26–27, 2010.
- *Journey Into Leadership,* Training and Professional Development, OSU, Dec 2009-April 2010.
- "Communicating Science", AAAS-NSF, Corvallis, OR, April 30, 2009.
- "Engaging Students Through Inquiry-based Cooperative Learning", Center for Teaching and Learning, OSU, Dec 2008.

- ONR Progress Review Meeting, Corvallis, OR, June 24-26, 2008.
- *NSF-CBMS Conference on Inverse Scattering for Radar Imaging*, University of Texas-Arlington, May 27-31, 2008.
- "Teaching With Writing" Brownbag Lunch, Center for Teaching and Learning, OSU, May 2008.
- *Oregon Sea Grant Science Workshop*, OSU, Jan. 14, 2008.
- *8th Argus Workshop*, Corvallis, OR, July 30-Aug. 3, 2007.
- *OSU Climate Change Initiative Meeting* (Coastal Impacts sub-group), June 14-15, 2007.
- ONR Progress Review Meeting, Seattle, WA, Feb. 28, 2007.
- ONR-Beach Wizard Workshop, Alexandria, VA, Nov. 2-3, 2006.
- "Improving Graduate Writing Workshop" (Writing Center) and "Effective Use of Collaborative Learning in the Classroom" (Center for Teaching and Learning), OSU, April, 2006.
- ONR-Beach Wizard Workshop, Ypsilanti, Michigan, Oct. 14-15, 2005.
- *NANOOS-Pilot Stakeholders Workshop*, Coos Bay, OR, April 29, 2005
- Northwest Association of Networked Ocean Observing Systems (NANOOS), *Governance Meeting*, Beaverton, OR, May 5-7, 2004.
- Career Development Workshop (*Share the Future IV, SUCCEED*), Tempe, AZ, March 18, 2003.
- ASCE *ExCEED Teaching Workshop*, Washington D.C, Nov. 2-3, 2002.
- *Summer School on Data Assimilation and Inverse Modeling*, COAS, OSU, Corvallis, Aug., 2002.
- *Workshop on Wave Turbulence*, Cornell University, Fall, 1999.

CURRICULUM VITAE
for
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ACADEMIC BACKGROUND

Ph.D., 1996 University of Washington, Seattle, WA
Department of Civil Engineering
Transportation, Surveying, and Construction Engineering Program
Dissertation title: "Addressing Construction Worker Safety in the Project Design"
Advisor: Jimmie W. Hinze

M.S., 1987 University of California at Berkeley, Berkeley, CA
Department of Civil Engineering
Structural Engineering, Mechanics, and Materials Program

B.S., 1986 University of California at Berkeley, Berkeley, CA
Department of Civil Engineering

WORK EXPERIENCE

Professor 2011 - present	School of Civil and Construction Engineering Oregon State University, Corvallis, OR
Adjunct Faculty 2012 - present	College of Health and Human Sciences Environmental and Occupational Health and Safety Program Oregon State University, Corvallis, OR
Associate Professor 2006 - 2011	School of Civil and Construction Engineering Oregon State University, Corvallis, OR
Assistant Professor 2000 - 2006	Department of Civil, Construction and Environmental Engineering Oregon State University, Corvallis, OR
Director 1998 - 2000	Construction Management Program Department of Civil and Environmental Engineering University of Nevada, Las Vegas, NV

Assistant Professor 1997 - 2000	Department of Civil and Environmental Engineering University of Nevada, Las Vegas, NV
Acting Asst. Prof. 1996 - 1997	Department of Civil Engineering (1-year appointment) University of Washington, Seattle, WA
Project Engineer 1996 - 1997	O'Brien-Kreitzberg & Associates, Seattle, WA Univ. of Washington Electrical Engineering/Computer Science Bldg. Project Responsibilities: Project administration, and change order and claims analysis.
Research Assistant 1994 - 1995	Department of Civil Engineering University of Washington, Seattle, WA
Teaching Assistant 1994 - 1996	Department of Civil Engineering, University of Washington, Seattle, WA Courses: Construction Planning and Scheduling; Construction Computer Applications; Construction Engineering I.
Project Engineer 1987 - 1993	Degenkolb Engineers, San Francisco, CA Responsibilities: Structural engineering design and consulting services for wood, concrete, and steel structures; evaluation and design of seismic reinforcing systems for structures.
Mathematics Tutor 1984 - 1990	University of California at Berkeley, Berkeley, CA Responsibilities: Conduct weekly group workshops and provide individual tutoring in the Athletic Study Center for university students studying calculus.
Engineering Aide Summers, 1984/1985	Laugenour and Meikle, Civil Engineers, Woodland, CA Responsibilities: Prepare preliminary designs of roads, sidewalks, and utilities; perform earthwork quantity take-offs.

PROFESSIONAL CONSULTATION

Prevention through Design:

Otis Elevator Co., Farmington, CT, 2017
The Southern Co., Birmingham, AL, 2007, 2011, 2016

Construction Site Safety:

Ball Janik, LLP, Attorneys at Law, Portland, OR, 2011, 2015
Romano Law Office, Attorney at Law, Clarksburg, WV, 2011
Forsberg & Umlauf, P.S., Attorneys at Law, Tacoma, WA, 2006
Bullivant, Hauser, Bailey Attorneys at Law, Portland, OR, 2002
Thorner, Kennedy & Gano P.S., Attorneys at Law, Yakima, WA, 1997

Constructability:

Construction Services Group, Vancouver, WA, 2005

Project Planning and Scheduling:
TWC Construction, Inc., Henderson, NV, 1999 – 2000

Construction Contracting:
CH2M-Hill, Corvallis, OR, 2010 – 2011

PROFESSIONAL REGISTRATIONS

Professional Engineer – Civil, State of California (License No. 44727)

PROFESSIONAL AND HONORARY SOCIETY MEMBERSHIPS

American Society of Civil Engineers (ASCE), Member, 1986-present.
Construction Research Council, Member, 1999-present.
Construction Site Safety Committee, Member, 1999-present.
Temporary Structures Committee (inactive). Member, 2004-present.
Constructability Committee (inactive), Member, 2002-present; Founding member and Chair, 2002-2004.
Prevention through Design Committee (inactive), Founding member and Chair, 2007-2009.
American Society of Safety Engineers (ASSE), Associate Member, 2001-present.
Consortium of Universities for Research in Earthquake Engineering (CUREE), Member, 2001-present.
Chi Epsilon, University of Washington Chapter, Member, 1995-present.

HONORS AND AWARDS

Honorable Mention, Jimmie W. Hinze Best Paper Award: Tymvios, N. and Gambatese, J. (2014). "Owner Views on Designer Participation in Construction Safety." *International Conference on Achieving Sustainable Construction Health and Safety*, W099 – Safety and Health in Construction, International Council for Research and Innovation in Building and Construction (CIB), Lund, Sweden, June 2-3, 2014.
2013-2018 Oregon Electric Group Faculty Fellow, School of Civil and Construction Engineering, Oregon State University.
2010-2011 CE Excellence Faculty Fellow, School of Civil and Construction Engineering, Oregon State University.
2009-2010 Dennis Marker Teacher of the Year Award for faculty teaching in the OSU CEM program. Presented by the Oregon State University AGC Student Chapter.
2003 Loyd Carter Award for outstanding and inspirational teaching. Presented by the Oregon State University College of Engineering.
2002-2003 Dennis Marker Teacher of the Year Award for faculty teaching in the OSU CEM program. Presented by the Oregon State University AGC Student Chapter.

2000-2001 Dennis Marker Teacher of the Year Award for faculty teaching in the OSU CEM program. Presented by the Oregon State University AGC Student Chapter.

1995 American Institute of Constructors' (AIC) Student Essay Contest, second place: Gambatese, J.A. and Pulick, M.L. (1996), "Future Information Highway Technologies in the Construction Industry."

Outstanding Tutor of the Year Award, Athletic Study Center, University of California at Berkeley, 1990.

AREAS OF EXPERTISE

- Construction worker safety and health, Prevention through Design
- Work zone design, work zone safety
- Construction risk and reward
- Construction engineering, temporary construction structures
- Constructability, design-construction interface
- Sustainability, lifecycle properties of constructed facilities
- Systems analysis and engineering
- Construction innovation

PEER-REVIEWED JOURNAL ARTICLES

Liu, D. and Gambatese, J. (2018). "Student Education and Training Needs for Safety in Roadway Engineering Field Work." *Journal of Management in Engineering*, ASCE. (Submitted for review Jan. 2018)

Nnaji, C., Gambatese, J., and Lee, H.W. (2018). "Evaluation Protocol for Construction Worker-Centric Work Zone Safety Technology: Intrusion Alert Technology Evaluation and Recommendations for Future Development." *Journal of Management in Engineering*, ASCE. (Submitted for review Jan. 2018)

AlOmari, K., Gambatese, J., and Tymvios, N. (2017). "Risk Perception Comparison among Construction Safety Professionals: A Delphi Perspective." *Journal of Construction Engineering and Management*, ASCE. (Submitted for review Dec. 2017)

AlOmari, K., Gambatese, J., and Andersen, J. (2017). "Quantification of Risk within the Degrees of Connectivity Model." *Journal of Construction Engineering and Management*, ASCE. (Submitted for review Dec. 2017)

AlOmari, K., Gambatese, J., and Gerkey, D. (2017). "Social Network Analysis in Construction Health and Safety Research: A Review." *Safety Science*, Elsevier. (Submitted for review Oct. 2017)

Nnaji, C., Lee, H.W., Gambatese, J., and Zhang, F. (2017). "Assessing the Impact of Work Zone Safety Technology: A Systematic Review." *Accident Analysis and Prevention*, Elsevier. (Submitted for review Sept. 2017)

Karakhan, A. and Gambatese, J. (2017). "Hazards and Risk in Construction and the Impact of Incentives and Rewards on Safety Outcomes." *Practice Periodical on Structural Design and Construction*, ASCE. (Accepted for publication Sept. 2017)

Nnaji, C., Lee, H.W., Karakhan, A., and Gambatese, J. (2017). "Developing a Decision-Making Framework to Select Safety Technologies for Highway Construction." *Journal of Construction Engineering and Management*, ASCE. (Accepted for publication Oct. 2017)

Karakhan, A., Rajendran, S., Gambatese, J.A., and Nnaji, C. (2017). "Measuring and Evaluating Safety Maturity of Construction Contractors: A Multicriteria Decision-Making Approach." *Journal of Construction Engineering and Management*, ASCE. (Accepted for publication Dec. 2017)

Nnaji, C., Gambatese, J., and Lee, H.W. (2017). "Can Work Zone Intrusion-induced Injuries and Fatalities be Reduced Efficiently?" *Professional Safety*, Journal of the American Society of Safety Engineers (ASSE). (Accepted for publication; to be published in April 2018)

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1. Karakhan, A.A. and Gambatese, J.A. (2017). "Safety Innovation and Integration in High-Performance Designs: Benefits, Motivations, and Obstacles." Special collection on construction safety, *Practice Periodical on Structural Design and Construction*, ASCE, 22(4), 04017018, DOI: 10.1061/(ASCE)SC.1943-5576.0000338. (Invited)
2. Karakhan, A.A. and Gambatese, J.A. (2017). "Integrating Worker Health and Safety into Sustainable Design and Construction: Designer and Constructor Perspectives." *Journal of Construction Engineering and Management*, ASCE, 143(9), 04017069, DOI: 10.1061/(ASCE)CO.1943-7862.0001379.
3. Gambatese, J.A., Gibb, A.G., Brace, C., and Tymvios, N. (2017). "Motivation for Prevention through Design: Experiential Perspectives and Practice." Special collection on construction safety, *Practice Periodical on Structural Design and Construction*, ASCE, 22(4), 04017017, DOI: 10.1061/(ASCE)SC.1943-5576.0000335. (Invited)
4. Zhang, F. and Gambatese, J.A. (2017). "Highway Construction Work-Zone Safety: Effectiveness of Traffic-Control Devices." Special collection on construction safety, *Practice Periodical on Structural Design and Construction*, ASCE, 22(4), 04017010, DOI: 10.1061/(ASCE)SC.1943-5576.0000327. (Invited)
5. Jafarnejad A., Gambatese, J., and Hernandez, S. (2017). "Influence of Truck-mounted Radar Speed Signs in Controlling Vehicle Speed for Mobile Maintenance Operations: Oregon Case Study." *Transportation Research Record*, Journal of the Transportation Research Board of the National Academies, Washington, D.C., No. 2617, pg. 19-26, DOI: 10.3141/2617-03.
6. Alexander, D., Hallowell, M., and Gambatese, J. (2017). "Precursors of Construction Fatalities II: Predictive Modeling and Empirical Validation." *Journal of Construction Engineering and Management*, ASCE, 143(7), 04017024, DOI: 10.1061/(ASCE)CO.1943-7862.0001297.
7. Alexander, D., Hallowell, M., and Gambatese, J. (2017). "Precursors of Construction Fatalities I: Iterative Experiment to Test the Predictive Validity of Human Judgment." *Journal of Construction Engineering and Management*, ASCE, 143(7), 04017023, DOI: 10.1061/(ASCE)CO.1943-7862.0001304.
8. Gambatese, J.A., Toole, T.M., and Abowitz, D.A. (2017). "Owner Perceptions of Barriers to Prevention through Design Diffusion." *Journal of Construction Engineering and Management*, ASCE, 143(7), 04017016, DOI: 10.1061/(ASCE)CO.1943-7862.0001296.
9. Karakhan, A. and Gambatese, J. (2017). "Identification, Quantification, and Classification of Potential Safety Risk for Sustainable Construction in the United States." *Journal of Construction Engineering and Management*, ASCE, 143(7), 04017018, DOI: 10.1061/(ASCE)CO.1943-7862.0001302.
10. AlOmari, K., Gambatese, J., and Anderson, J. (2017). "Opportunities for Using Building Information Modeling to Improve Worker Safety Performance." *Safety*, Multidisciplinary Digital Publishing Institute (MDPI), Basel, Switzerland, 3(7), DOI: 10.3390/safety3010007.

11. Hallowell, M.R., Alexander, D., and Gambatese, J.A. (2017). "Energy-based Safety Risk Assessment: Does Magnitude and Intensity of Energy Predict Injury Severity?" *Construction Management and Economics*, Routledge, 35(1-2), 64-77, DOI: 10.1080/01446193.2016.1274418.
12. Jeelani, I., Albert, A., and Gambatese, J.A. (2016). "Why Do Construction Hazards Remain Unrecognized at the Work Interface?" *Journal of Construction Engineering and Management*, ASCE, 143(5), 04016128, DOI: 10.1061/(ASCE)CO.1943-7862.0001274.
13. Gambatese, J. and Zhang, F. (2016). "Impact of Advisory Signs on Vehicle Speeds in Highway Nighttime Paving Project Work Zones." *Transportation Research Record*, Journal of the Transportation Research Board of the National Academies, Washington, D.C., No. 2555, pp. 65-71, DOI: 10.3141/2555-08.
14. Gambatese, J.A., Pestana, C., and Lee, H.W. (2016). "Alignment between Lean Principles and Practices and Worker Safety Behavior." *Journal of Construction Engineering and Management*, ASCE, 143(1), DOI: 10.1061/(ASCE)CO.1943-7862.0001209.
15. Toole, T.M., Gambatese, J.A., and Abowitz, D.A. (2016). "Owners' Role in Facilitating Prevention through Design." *Journal of Professional Issues in Engineering Education and Practice*, ASCE, 143(1), 04016012, DOI: 10.1061/(ASCE)IE.1943-5541.0000295.
16. Tymvios, N. and Gambatese, J.A. (2016). "Direction for Generating Interest for Design for Construction Worker Safety – A Delphi Study." *Journal of Construction Engineering and Management*, ASCE, 142(8), 04016024, DOI: 10.1061/(ASCE)CO.1943-7862.0001134.
17. Gambatese, J. and AlOmari, K. (2016). "Degrees of connectivity: Systems model for upstream risk assessment and mitigation." Special Issue on Systems Thinking in Construction, *Accident Analysis & Prevention*, Elsevier, 93, 251-259, DOI: 10.1016/j.aap.2015.12.020.
18. Tymvios, N. and Gambatese, J.A. (2015). "Perceptions about Design for Construction Worker Safety: Viewpoints from Contractors, Designers, and University Facility Owners." *Journal of Construction Engineering and Management*, ASCE, 142(2), 04015078, DOI: 10.1061/(ASCE)CO.1943-7862.0001067.
19. Dharmapalan, V., Gambatese, J.A., Fradella, J., and Vahed, A.M. (2015). "Quantification and Assessment of Safety Risk in the Design of Multistory Buildings." *Journal of Construction Engineering and Management*, ASCE, 141(4), 04014090, DOI: 10.1061/(ASCE)CO.1943-7862.0000952.
20. Gambatese, J. and Johnson, M. (2014). "Impact of Design and Construction on Quality, Consistency, and Safety of Traffic Control Plans." *Transportation Research Record*, Journal of the Transportation Research Board of the National Academies, Washington, D.C., No. 2458, pp. 47-55, DOI: 10.3141/2458-06.
21. Lee, H.W., Choi, K., and Gambatese, J.A. (2014). "Real Options Valuation of Phased Investments in Commercial Energy Retrofits under Building Performance Risks." *Journal of Construction Engineering and Management*, ASCE, 140(6), 05014004.
22. Lopez-Arquillos, A., Rubio-Romero, J.C., Gibb, A., and Gambatese, J.A. (2013). "Safety Risk Assessment for Vertical Concrete Formwork Activities in Civil Engineering Construction." *Work: A Journal of Prevention, Assessment and Rehabilitation*, IOS Press, 49(2), 183-192, Sept. 2013.
23. Rajendran, S. and Gambatese, J.A. (2013). "Risk and Financial Impacts of Prevention through Design Solutions." *Practice Periodical on Structural Design and Construction*, ASCE, 18(1), 67-72.
24. Gambatese, J., Hallowell, M., Renshaw, F., Quinn, M., and Heckel, P. (2013). "Prevention through Design: Research – The Power of Collaboration." *Professional Safety*, Journal of the American Society of Safety Engineers (ASSE), 58(1), 48-54.

25. Gambatese, J.A. and Tymvios, N. (2012). “LEED Credits: How They Affect Construction Worker Safety.” *Professional Safety*, Journal of the American Society of Safety Engineers (ASSE), 57(10), 42-52.
26. Gambatese, J.A. and Rajendran, S. (2012). “Flagger Illumination during Nighttime Construction and Maintenance Operations.” *Journal of Construction Engineering and Management*, ASCE, 138(2), 250-257.
27. Gambatese, J.A. and Rajendran, S. (2011). “Assessment of Nighttime Flagger-Illumination Practices.” *Practice Periodical on Structural Design and Construction*, ASCE, 16(3), 95-105.
28. Gambatese, J.A. and Hallowell, M. (2011). “Enabling and Measuring Innovation in the Construction Industry.” *Construction Management and Economics*, Taylor & Francis, Routledge, 29(6), 553-567.
29. Gambatese, J.A. and Hallowell, M. (2011). “Factors that Influence the Development and Diffusion of Technical Innovations in the Construction Industry.” *Construction Management and Economics*, Taylor & Francis, Routledge, 29(5), 507-517.
30. Hallowell, M.R. and Gambatese, J.A. (2010). “Population and Initial Validation of a Formal Model for Construction Safety Risk Management.” *Journal of Construction Engineering and Management*, ASCE, 136(9), 981-990.
31. Hallowell, M.R. and Gambatese, J.A. (2009). “Qualitative Research: Application of the Delphi Method to CEM Research.” Special Issue: Research Methodologies in Construction Engineering and Management, *Journal of Construction Engineering and Management*, ASCE, 136(1), 99-107.
32. Hallowell, M.R. and Gambatese, J.A. (2009). “Construction Safety Risk Mitigation.” *Journal of Construction Engineering and Management*, ASCE, 135(12), 1316-1323.
33. Hallowell, M.R. and Gambatese, J.A. (2009). “Activity-Based Safety Risk Quantification for Concrete Formwork Construction.” *Journal of Construction Engineering and Management*, ASCE, 135(10), 990-998.
34. Rajendran, S., and Gambatese, J.A. (2009). “Development and Initial Validation of Sustainable Construction Safety and Health Rating System.” *Journal of Construction Engineering and Management*, ASCE, 135(10), 1067-1075.
35. Rajendran, S., Gambatese, J.A., and Behm, M.G. (2009). “Impact of Green Building Design and Construction on Worker Safety and Health.” *Journal of Construction Engineering and Management*, ASCE, 135(10), 1058-1066.
36. Gambatese, J.A., Behm, M., and Rajendran, S. (2008). “Design’s Role in Construction Accident Causality and Prevention: Perspectives from an Expert Panel.” *Safety Science*, Special issue for selected papers from the CIB W99 *International Conference on Global Unity for Safety & Health in Construction*, Beijing, China, June 28-30, 2006. Elsevier, 46, 675-691.
37. Toole, T.M. and Gambatese, J.A. (2008). “The Trajectories of Prevention through Design in Construction.” *Journal of Safety Research*, Special issue on Prevention through Design, Elsevier and the National Safety Council, 39, 225-230.
38. Gambatese, J.A. (2008). “Research Issues in Prevention through Design.” *Journal of Safety Research*, Special Issue on Prevention through Design, Elsevier and the National Safety Council, 39(2), 153-156.
39. Gambatese, J.A., Rajendran, S., and Behm, M.G. (2007). “Green Design & Construction: Understanding the Effects on Construction Worker Safety and Health.” *Professional Safety*, Journal of the American Society of Safety Engineers (ASSE), 52(5), 28-35.
40. Rajendran, S. and Gambatese J.A. (2007). “Solid Waste Generation in Asphalt and Reinforced Concrete Roadway Life Cycles.” *Journal of Infrastructure Systems*, ASCE, 13(2), 88-96.

41. Gambatese, J.A. (2006). “Current Practice for Illuminating Flaggers during Nighttime Roadway Construction Operations.” Special Issue on “Best Practices for Construction Safety”, Ed.: Hinze, J., *International e-Journal of Construction*, University of Florida, M.E. Rinker School of Building Construction, March 2006.
42. Pocock, J.B., Kuennen, S.T., Gambatese, J., and Rauschkolb, J. (2006). “Constructability State of Practice Report.” *Journal of Construction Engineering and Management*, ASCE, 132(4), 373-383.
43. Weinstein, M., Gambatese, J., and Hecker, S. (2005). “Can Design Improve Construction Safety: Assessing the Impact of a Collaborative Safety-in-Design Process.” *Journal of Construction Engineering and Management*, ASCE, 131(10), 1125-1134.
44. Hecker, S., Gambatese, J., and Weinstein, M. (2005). “Designing for Worker Safety: Moving the Construction Safety Process Upstream.” *Professional Safety*, Journal of the American Society of Safety Engineers (ASSE), 50(9), 32-44.
45. Gambatese, J., Behm, M., and Hinze, J. (2005). “Viability of Designing for Construction Worker Safety.” *Journal of Construction Engineering and Management*, ASCE, 131(9), 1029-1036.
46. Dunston, P.S., Gambatese, J.A., and McManus, J.F. (2005). “Assessing State Transportation Agency Constructibility Implementation.” *Journal of Construction Engineering and Management*, ASCE, 131(5), 569-578.
47. Zapata, P. and Gambatese, J.A. (2005). “Energy Consumption of Asphalt and Reinforced Concrete Pavement Materials and Construction.” *Journal of Infrastructure Systems*, Special Issue: Sustainability of Transportation and Other Infrastructure Systems, ASCE, 11(1), 9-20.
48. Gambatese, J.A. (2003). “Safety Emphasis in University Engineering and Construction Programs.” Special Issue on “Construction Safety Education and Training – A Global Perspective”, Ed.: Hinze, J., *International e-Journal of Construction*, University of Florida, M.E. Rinker School of Building Construction, May 2003.
49. Hecker, S. and Gambatese, J. (2003). “Safety in Design: A Proactive Approach to Construction Safety and Health.” *Applied Occupational and Environmental Hygiene*, American Industrial Hygiene Association (AIHA) and American Conference of Governmental Industrial Hygienists (ACGIH), 18(5), 339-342.
50. Borg, R.F., Gambatese, J.A., Haines, K., Hendrickson, C., Hinze, J., Horvath, A., Koehn, E., Moritz, S., Mass, M., and Haughney, R.A. (2003). “Rebuilding the World Trade Center.” *Practice Periodical on Structural Design and Construction*, ASCE, 8(3), 137-145.
51. Hinze, J.W. and Gambatese, J.A. (2003). “Factors that Influence the Safety Performance of Specialty Contractors.” *Journal of Construction Engineering and Management*, ASCE, 129(2), 159-164.
52. Gambatese, J.A. (2003). “Controlled Concrete Demolition Using Expansive Cracking Agents.” *Journal of Construction Engineering and Management*, ASCE, 129(1), 98-104.
53. Toole, T.M. and Gambatese, J.A. (2002). “Primer on Federal Occupational Safety and Health Administration Standards.” *Practice Periodical on Structural Design and Constructio*n, ASCE, 7(2), 56-60.
54. Gambatese, J.A. and James, D.E. (2001). “Dust Suppression Using a Truck-Mounted Water Spray System.” *Journal of Construction Engineering and Management*, ASCE, 127(1), 53-59.
55. Gambatese, J.A. and Hinze, J.W. (2001). “Computer-Assisted Safety Training to Evaluate Construction Site Hazards.” *International Journal of Computer-Integrated Design and Construction (CIDAC)*, SETO, London, England, 3(1), 42-51.
56. Gambatese, J.A. and Hinze, J.W. (2000). “Computer Software for Construction Practice and Education.” *The American Professional Constructor*, Journal of the American Institute of Constructors, (AIC), 24(1), 6-11.

57. Gambatese, J.A. and Hinze, J.W. (1999). "Addressing Construction Worker Safety in the Design Phase: Designing for Construction Worker Safety." *Automation in Construction*, Elsevier Science B.V., Amsterdam, The Netherlands, 8(6), 643-649.
58. Gambatese, J.A. (1998). "Liability in Designing for Construction Worker Safety." *Journal of Architectural Engineering*, ASCE, 4(3), 107-112.
59. Gambatese, J.A. and McManus, J.F. (1997). "Constructability: A Quality Improvement Approach to Transportation Projects." *Transportation Research Record*, Journal of the Transportation Research Board of the National Academies, Washington, D.C., No. 1575, 116-120.
60. Gambatese, J.A., Hinze, J.W., and Haas, C.T. (1997). "Tool to Design for Construction Worker Safety." *Journal of Architectural Engineering*, ASCE, 3(1), 32-41.
61. Gambatese, J.A. and Pulick, M.L. (1996). "Future Information Highway Technologies in the Construction Industry." *The American Professional Constructor*, Journal of the American Institute of Constructors (AIC), 20(1), 12-17.

PEER-REVIEWED CONFERENCE PROCEEDINGS

2018 Construction Research Congress, ASCE, New Orleans, LA, April 2-5, 2018 (accepted for presentation Nov. 2017):

a. Karakhan, A., Gambatese, J., Alomari, K., and Liu, D. (2017). "Consideration of Worker Safety in the Design Process: A Statistical-based Approach Using Analysis of Variance (ANOVA)."
b. Karakhan, A., Rajendran, S., and Gambatese, J. (2017). "Validation of Time-Safety Influence Curve Using Empirical Safety and Injury Data."
c. Jin, Z. and Gambatese, J. (2017). "Temporary Construction Signage: Driver Preferences for Work Zone Safety."
d. Liu, D. and Gambatese, J. (2017). "Energy Consumption by Construction Workers for On-site Activities."
e. Azeez, M. and Gambatese, J. (2017). "Using the Risk Target Concept to Investigate Construction Workers' Potential Biases in Assigning/Assuming Safety Risk."
f. Azeez, M. and Gambatese, J. (2017). "Applications of Resilience Systems in Construction Safety."
g. Nnaji, C., Gambatese, J.A., and Eseonu, C. (2017). "Theoretical Framework for Improving the Adoption of Safety Technology in the Construction Industry."
h. Ho, C., Lee, H.W., and Gambatese, J.A. (2017). "Improving Safety in Solar Energy System Installations through Prevention through Design."
i. Jafarnejad, A., Gambatese, J., and Nnaji, C. (2017). "Illumination and Visibility of Workers in Nighttime Highway Work Zones."

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1. In *Proceedings of the Joint CIB W099 and TG59 International Safety, Health, and People in Construction Conference*, sponsored by Nelson Mandela Metropolitan University (NMMU) and Central University of Technology, Free State (CUT), Cape Town, South Africa, June 11-13, 2017:
    a. Gambatese, J., Gibb, A., Bust, P., and Behm, M. (2017). "Expanding Prevention through Design (PtD) in Practice: Innovation, Change, and a Path Forward."
    b. Toole, T.M. and Gambatese, J. (2017). "Levels of Implementation of Prevention through Design in the United States."

c. Gambatese, J., Nnaji, C., and Christianson, C.R. (2017). "Contracting for Prevention through Design (PtD): A Case Study."
d. Nnaji, C., Gambatese, J., Awolusi, I., and Oyeyipo, O. (2017). "Construction Safety Innovation Awareness and Adoption in Nigeria: A Mixed Method Approach."

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7. Gambatese, J.A. and Zhang, F. (2015). "Safe and Effective Speed Reductions for Freeway Work Zones Phase 3," Final Report, Implementation Research. Oregon Department of Transportation (ODOT), Feb. 2015, http://www.oregon.gov/ODOT/Programs/ResearchDocuments/SPR302_SpeedReduction_Phase3.pdf.
8. Gambatese, J. and Pestana, C. (2014). "Connection between Lean Design/Construction and Construction Worker Safety," Final Report, Small Study #13-10-PS. The Center for Construction Research and Training (CPWR), Dec. 2014, http://www.cpwr.com/sites/default/files/publications/GambateseLeanandSafetyFinalReport%201.pdf.
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13. Gambatese, J.A., Zhang, F., and Vahed, A.M. (2013). “Implementing Speed Reductions at Specific Interstate Work Zones from 65 mph to 35 mph,” Final Report, SPR 751. Oregon Department of Transportation (ODOT) and U.S. Department of Transportation, Federal Highway Administration (FHWA), Feb. 2013, http://www.oregon.gov/ODOT/Programs/ResearchDocuments/SPR751_SpeedReductions.pdf.
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15. Gambatese, J.A. and Johnson, M. (2010). “Work Zone Design and Operation Enhancements,” Final Report, SPR 669. Oregon Department of Transportation (ODOT) and U.S. Department of Transportation, Federal Highway Administration (FHWA), Report No. FHWA-OR-RD-10-16, March 2010, http://www.oregon.gov/ODOT/Programs/ResearchDocuments/WorkZoneReport_Web.pdf.
16. Gambatese, J.A. (2008). “Energizing Innovation in Integrated Project Delivery,” Charles Pankow Foundation (CPF) and Design-Build Institute of America (DBIA), March 2008, http://www.pankowfoundation.org/grants.cfm?research=1.
    a. Research Summary
    b. Final Research Report
    c. Innovation Manual of Practice
    d. Annotated Bibliography
17. Gambatese, J.A. (2005). “Optimum Illumination for Nighttime Flagger Operations,” Final Report, SPR 617. Oregon Department of Transportation (ODOT) and U.S. Department of Transportation, Federal Highway Administration (FHWA), Report No. FHWA-OR-RD-06-05, August 2005, http://www.oregon.gov/ODOT/TD/TP_RES/docs/reports/optimum.pdf.
18. Gambatese, J.A., Hinze, J., and Behm, M. (2005). “Investigation of the Viability of Designing for Safety,” Research Report. The Center to Protect Workers’ Rights (CPWR), Silver Spring, MD, May 16, 2005, http://www.cpwr.com/pdfs/pubs/research_pubs/krgambatese.pdf.
19. Gambatese, J.A. and Dunston, P.S. (2003). “Design Practices to Facilitate Construction Automation,” Research Report, RR183-11. Construction Industry Institute (CII), Austin, TX, Dec. 2003, https://store.construction-institute.org/detail.aspx?id=RR183_11_E.
20. Gambatese, J.A. (2003). “Best Practices for Preventing Hearing Loss in Construction,” Final Project Report. Occupational Safety and Health Training and Education Grant OR-OSHA Contract No. 01-03-01-06, Oregon Department of Consumer and Business Services, Occupational Safety and Health Training and Education, Salem, OR, March 2003.
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23. Gambatese, J. and Woyton, J.P. (2000). "Using Soundless Chemical Demolition Agents (SCDA's) for Micro-Cracking Concrete," Final Project Report. UNLS New Investigator Award Program, Las Vegas, NV, May 2000.
24. Gambatese, J.A. and James, D.E. (1999). "Development and Evaluation of A System for Suppressing PM_{10} Emissions Generated from the Operation of Earthmoving Equipment in Construction," Final Project Report. $PM_{10}/PM_{2.5}$ Emissions Control Research Advisory Committee, Clark County Health District, Las Vegas, NV, Oct. 1999.

Other Publications:

1. Gambatese, J.A. and Liu, D. (2018). "Goal One: A Safe Return Each and Every Day; Safety Guidelines for Transportation Researchers Manual." Oregon Department of Transportation (ODOT) and Federal Highway Administration (FHWA), SPR 304-731, Jan. 2018, http://www.oregon.gov/ODOT/Programs/ResearchDocuments/304-731_Goal_One.pdf.
2. "SliDeRulE: A New Website to Assess Safety Risk in Design." The OH&S Blog, OHS Online, http://ohsonline.com/blogs/the-ohs-wire/2013/09/sliderule.aspx, Sept. 20, 2013.
3. "Sustainable Design & Construction: Incorporating Worker Safety," interview of Rajendran, S. and Gambatese, J. *Professional Safety*, Journal of the American Society of Safety Engineers (ASSE), 56(2), 41-42, Feb. 2011.
4. Behm, M., Lentz, T.J., Heidel, D., and Gambatese, J.A. (2011). "Prevention through Design and Green Buildings: A US Perspective on Collaboration." *Blueprints*, American Society of Safety Engineers (ASSE), 10(2), 28-34. Reprint of paper presented at International Council for Research and Innovation in Building and Construction (CIB) W99 Conference, Melbourne, Australia, Oct. 21-23, 2009.
5. Gambatese, J. (2009). "Don't Leave Safety Out of Sustainability." Engineering News-Record, McGraw-Hill, New York, NY, Nov. 18, 2009, http://enr.construction.com/opinions/viewpoint/2009/1118-SafetyOutofSustainability.asp.
6. Gambatese, J.A. and Dettwyler, K. (2002). "Oregon Public Contracting Coalition Guide to CM/GC Contracting." Associated General Contractors (AGC) Oregon Columbia Chapter, Wilsonville, OR, http://www.agc-oregon.org/wp-content/uploads/2011/10/CM_GC_Guide_05.pdf, Feb. 2002.
7. Gambatese, J.A. (2000). "Safety in a Designer's Hands." *Civil Engineering*, ASCE, 70(6), 56-59.
8. Gambatese, J.A. (1999). "Getting to Zero Accidents." *Construction Connection*, Associated General Contractors (AGC), Las Vegas Chapter, 13(8), 29.
9. Gambatese, J.A. (1998). "Construction Education at UNLV." *Nevada Construction and Mining*, Nevada Contractors Association, 4(3), 7.
10. Gambatese, J.A. (1998). "What's New in Safety." *Nevada Construction and Mining*, Nevada Contractors Association, 4(1), 7-8.
11. Gambatese, J.A. (1998). "Using Computers for Scheduling Construction Projects." *Nevada Construction and Mining*, Nevada Contractors Association, 3(11), 7 and 27.

Websites:

1. "SliDeRulE," Safety in Design Risk Evaluator, http://www.constructionsliderule.org/.
2. "Sustainable Construction Safety and Health (SCSH) Rating System," http://sustainablesafetyandhealth.org/.

PROFESSIONAL PRESENTATIONS

Invited Presentations:

International:

1. "Systems Model of Building Construction for Upstream Risk Assessment and Mitigation." Invited presentation at *Systems Thinking in Workplace Safety and Health in Construction: Theory Meets Practice*, 1st International Workshop, hosted by Huazhong University of Science and Technology (HUST), Wuhan, China, Dec. 4-5, 2014.
2. "Owner's Design Requirements for Safety." Invited presentation at *Tsinghua-CURT Conference for Improving Site Safety Through Owner's Leadership*, hosted by CURT International Committee Forum and Tsinghua-Gammon Construction Safety Research Center, Tsinghua University, Beijing, China, Dec. 11-12, 2014.
3. "History of Safety and Design for Safety in Construction." Seminar presentation to faculty and students in Tsinghua-Gammon Construction Safety Research Center, Tsinghua University, Beijing, China, Dec. 9, 2014.
4. "Engineering for Construction Safety: A Collaborative Approach to Safety." ExxonMobil Project Engineer's Safety Meeting, St. John's, Newfoundland, Canada, Nov. 26, 2012.
5. "Prevention through Design Concept and Practice." Cátedra de Prevención y Responsabilidad Social Corporativa, University of Málaga, Málaga, Spain, Oct. 10, 2011; and Departamento de Construcciones Arquitectónicas, University of Granada, Granada, Spain, Oct. 13, 2011.
6. "Prevention through Design (PtD): Research and Practice in the U.K. and U.S." Department of Civil and Building Engineering, Loughborough University, Loughborough, Leicestershire, England, Jan. 26, 2011.
7. Keynote presentation: "Designing for Construction Safety and Health: From Research to Practice." *Working Together: Planning, Designing, and Building a Healthy and Safe Construction Industry*, International Council for Research and Innovation in Building and Construction (CIB) W99 Conference, Melbourne, Australia, Oct. 21-23, 2009.

Domestic:

1. "Reducing Highway Worker Exposure and Maximizing Return on Investment for Worker Safety Strategies." Co-presenter with Keith Robinson/Caltrans, David Hurwitz/OSU, and Zachary Barlow/OSU. Workshop #161, *97th Annual Meeting*, Transportation Research Board (TRB), Washington, DC, Jan. 7, 2018.
2. "Work Zone Intrusion Alert Technologies: Assessment and Practical Guidelines." Presentation to Subcommittee on Vehicle Intrusion Mitigation in Work Zones, *97th Annual Meeting*, Transportation Research Board (TRB), Washington, DC, Jan. 8, 2018.
3. "Solar PtD Webinar: Application of Prevention through Design to Improve Safety in Solar Installations for Small Buildings," co-presenter with Hyun Woo (Chris) Lee/UW, sponsored by the Center for Construction Research and Training (CPWR), Dec. 13, 2017, https://www.youtube.com/watch?v=nRuyKf1w2yk&feature=youtu.be.
4. "Construction Work Zone Safety," 48th Annual Meeting, Asphalt Pavement Association of Oregon (APAO), Portland, OR, Dec. 7, 2017.
5. "Opportunities for Enhancing Work Zone Safety," co-presenter with David Hurwitz/OSU, Oregon Work Zone Executive Strategy Session, Salem, OR, Dec. 6, 2017.

6. "Precursor Analysis of Fatal and Near-Fatal Events," co-presenter with Matthew Hallowell/University of Colorado at Boulder. NORA Traumatic Injury Prevention/Construction Joint Council Meeting (webinar), National Institute for Occupational Safety and Health (NIOSH), Nov. 13, 2017.
7. "TRB Straight to Recording for All: Transportation Worker Safety Program Resources and Practices," webinar presentation with David Hurwitz/OSU and Keith Robinson/Caltrans. Transportation Research Board (TRB), Sept. 2017, http://www.trb.org/main/blurbs/176680.aspx.
8. Presentations to Webcor Builders, UCSF Block 33 Project, San Francisco, CA, Sept. 15, 2017:
    a. "Prevention through Design (PtD): Concept and Practice"
    b. "Prevention through Design (PtD): Conducting a Safety in Design Review"
9. "Prevention through Design (PtD) in Construction: From Research to Practice." Webinar presentation sponsored by the American Society of Safety Engineers (ASSE) Young Professional Leadership Team, July 26, 2017, https://learn.asse.org/cig-education-young-professionals.
10. "Construction Work Zone Safety." Oregon Work Zone Executive Strategy Session #8, Oregon Work Zone Executive Strategy Task Force, Salem, OR, June 21, 2017.
11. "Using Precursor Analysis to Prevent Low-Frequency, High-Impact Events, Including Fatalities." *Safety Excellence Meeting*, Northwest Construction Consumer Council (NWCCC), Lynnwood, WA, June 15, 2017.
12. "Construction Safety Research: Precursor Analysis and More," National Construction Safety Executives (NCSE) meeting, Corpus Christi, TX, April 12, 2017.
13. "Precursor Analysis of Fatal and Near-Fatal Events." Co-presenter with Gregg Slintak / ConEdison and Matthew Hallowell / University of Colorado at Boulder. ConEdison, Inc., New York, NY, Jan. 6, 2017.
14. "Precursor Analysis of Fatal and Near-Fatal Events." Co-presenter with Gregg Slintak / ConEdison. ConEdison, Inc., New York, NY, Dec. 15, 2016.
15. "Precursor Analysis of Fatal and near-Fatal Events." Co-presenter with Matthew Hallowell / University of Colorado at Boulder. National Academy of Construction (NAC) Annual Meeting, Napa, CA, Oct. 22, 2016.
16. "Prevention through Design (PtD) in Construction: Improving Safety in Our Built Environment." Auburn University Facilities Management, Auburn University, Auburn, AL, Sept. 14, 2016.
17. "Innovations and Research on Work Zone Safety." 2016 Oregon Association of County Engineers & Surveyors (OACES) Spring Conference, Hood River, OR, May 9-11, 2016.
18. "Prevention through Design (PtD): Engineering a Safer Project." 2016 Professional Engineers of Oregon (PEO) Annual Conference, Eugene, OR, May 5-6, 2016.
19. "Prevention through Design (PtD) Concept and Current Practice." Port of Portland, Portland, OR, Feb. 24, 2016.
20. "What's New in Safety Research for Construction Work Zones." 22nd Annual Asphalt Conference, Asphalt Pavement Association of Oregon (APAO), Eugene, OR, Feb. 23, 2016.
21. "Radar Speed Display for Mobile Maintenance Operations: Impacts, Applications, and Use." ODOT Maintenance Leadership Team (MLT) meeting, Salem, OR, Feb. 11, 2016.
22. "Prevention through Design (PtD): Moving Construction Safety Upstream." Construction Users Roundtable (CURT) National Conference, Orlando, FL, Feb. 8-10, 2016.

23. “Quality and Safety: What does research tell us?” Panelist presentation in “Construction Quality and Safety: Reducing Rework While Achieving Zero Incidents and Accidents” on-line webinar sponsored by Engineering News-Record and Procore, Feb. 27, 2016.
24. Keynote presentation: “Work Zone Safety Research: Striving for Zero Incidents.” ODOT Project Managers Annual Meeting, Salem, OR, Jan. 20, 2016.
25. Eminent Scholar Program, School of Sustainable Engineering and the Built Environment, Arizona State University:
    a. “Safety in Construction: Past and Present,” Nov. 3, 2015
    b. “Exploring Safety in Construction,” Nov. 4, 2015
26. “Work Zone Safety Research and New Safety Lab at OSU.” Fall Meeting of the Northwest Chapter of the American Traffic Safety Services Association (ATSSA), Salem, OR, Sept. 23, 2015.
27. “Prevention through Design (PtD): Eliminating Safety Hazards through the Design.” Presentation to SNC-Lavalin, Bothell, WA, Aug. 25, 2015.
28. “Safety Research at OSU.” OSU Construction Education Foundation (CEF) Summer Meeting, Portland, OR, July 30, 2015.
29. “Prevention through Design (PtD).” Guest lecture (on-line) in SAFT 6282 – Design for Safety and the Environment class, Department of Technology Systems, East Carolina University, June 3, 2015.
30. “Construction Engineering: Designing Formwork and Concrete Structures for Safety.” 2015 CERC Conference, *New Frontiers*, Center for Education and Research in Construction (CERC), University of Washington, Seattle, WA, March 6, 2015.
31. “Safety in the Construction Industry.” *National Academies Keck Futures Initiative (NAKFI) Forum*, titled “Enhancing Safety while Fostering Innovation: Can the Nuclear Industry Learn from Other Industries?” Sponsored by the School of Nuclear Engineering and Radiation Health Physics (NEHRP), Oregon State University, Corvallis, OR, Feb. 23, 2015.
32. “Construction Engineering and Engineering for Construction: The Case of Designing Reinforced Concrete and Concrete Formwork for Safety.” Seminar presentation to faculty and students in Department of Civil and Environmental Engineering, University of Colorado at Boulder, Boulder, CO, Nov. 20, 2014.
33. “From Research to Practice: A Collaborative Approach to Prevention through Design.” *20th Annual Willis Construction Risk Management Conference*, Willis Construction, Plano, TX, Sept. 16-17, 2014.
34. “From Research to Practice: A Collaborative Approach to Construction Safety.” Associated General Contractors (AGC) of America, Safety and Health Committee Meeting, Portland, OR, July 16-18, 2014.
35. “Prevention through Design (PtD): Moving Construction Safety Upstream.” Port of Portland, Portland, OR, June 24, 2014.
36. “Putting Safety Research into Practice.” MDU Construction Services, Safety Director’s Meeting, Las Vegas, NV, Dec. 16, 2013.
37. “Design Safety Risk of Multi-story Commercial Office Buildings.” *Using BIM to Eliminate Construction Site Hazards Workshop*, sponsored by AGC of America, NIOSH, CPWR, and BIMForum, Arlington, VA, Aug. 6-7, 2013.
38. “Graduate School in Civil Engineering: What It’s All About and Is It Right for You.” Bucknell University, Department of Civil and Environmental Engineering, Oct. 17, 2012.

39. "Prevention through Design (PtD) Education and Research." National Construction Safety Executives (NCSE) Fall Meeting, Napa, CA, Oct. 3, 2012.
40. "Design for Construction Safety in the U.S." Harvard University School of Public Health professional development education class *Safety in Design and Construction: A Lifecycle Approach*, Boston, MA, Apr. 23-26, 2012.
41. "Prevention through Design (PtD) in Construction: Concept and Current Practice", National Electrical Contractors Association (NECA) Safety Webinar, March 9, 2012.
42. Keynote presentation: "A Look at PtD based on Foundational Attributes of Construction Projects." *Prevention: Means to the End of Construction Injuries, Illnesses, and Fatalities*, International Council for Research and Innovation in Building and Construction (CIB) W99 Conference, Washington, DC, Aug. 24-26, 2011.
43. In *AIHce 2011* conference, sponsored by the American Industrial Hygiene Association (AIHA) and the American Conference of Governmental Industrial Hygienists (ACGIH), Portland, OR, May 14-19, 2011:
    a. "Integrating Safety and Sustainability: Current Research and Practice"
    b. "Prevention through Design (PtD): Concepts and Practice in the Construction Industry"
44. In *Marine Well Containment System (MWCS) Contractor Leadership in Safety Workshop*, sponsored by ExxonMobil, Houston, TX, April 26-27, 2011. Co-presenter with Michael Toole, Bucknell University.
    a. "Engineering for Construction Safety (EfS): A Collaborative Approach to Safety"
    b. "Engineering for Construction Safety (EfS): Hazard Identification and Safe Design"
    c. "Engineering for Construction Safety (EfS): Current Processes and Tools"
45. "Safety in Design: Practical Application Using BIM and Other Technologies." *Oregon Governor's Occupational Safety and Health Conference*, Portland, OR, March 7-10, 2011.
46. "Design for Construction Safety." ExxonMobil Development: Civil, Structural, and Arctic Engineering Group, Houston, TX, April 9, 2010. Co-presenter with Michael Toole, Bucknell University.
47. "Design for Construction Safety in the U.S." Harvard University School of Public Health professional development education class *Safety in Design and Construction: A Lifecycle Approach*, Boston, MA, Feb. 22-26, 2010, co-instructor with Michael Toole, Bucknell University.
48. "Designing for Construction Safety: Concepts and Practice." *Washington Governor's Industrial Safety and Health Conference*, Tacoma, WA, Oct. 7-8, 2009.
49. "Designing for Construction Safety: Concepts and Practice." Department of Energy (DOE) *Integrated Safety Management Conference*, Knoxville, TN, Aug. 24-27, 2009.
50. "Collaborative Construction Planning: A Convergence of Sustainability, Lean Construction, and Safety in Design". *Oregon Governor's Occupational Safety and Health Conference*, Portland, OR, March 9-12, 2009.
51. In Harvard University School of Public Health professional development education class *Safety in Design and Construction: A Lifecycle Approach*, Boston, MA, Feb. 23-27, 2009, co-instructor with Michael Toole, Bucknell University:
    a. "Design for Construction Safety: Concept and Research"
    b. "Design for Construction Safety in Practice"
52. In *2007 Design-Build Institute of America (DBIA) Annual Conference and Expo*, Dallas, TX, Oct. 31-Nov. 2, 2007:

a. Opening keynote presentation: "Energizing Innovation in Integrated Project Delivery: Putting Research into Practice"
b. Panel presentation: "Innovating – The Design-Build Team's Competitive Edge"
c. Special session presentation: "Owner's Role in Innovation"

53. "Prevention through Design." Engineers Joint Contract Documents Committee (EJCDC) meeting, Atlanta, GA, Oct. 12, 2007.
54. "Design for Construction Safety: Moving Safety Decisions Upstream." Parsons Corporation, Corporate Safety Managers Meeting, Miami, FL, April 25, 2006.
55. "Design for Construction Safety: Moving Safety Decisions Upstream." Winter 2006 Corporate Partners Program, Department of Public Health, Oregon State University, Corvallis, OR, March 17, 2006.
56. "Incentives to Get Safety into the Engineering Curriculum." *6th Annual Hazard Information Foundation, Inc. (HIFI) Safety Workshop*, Sierra Vista, AZ, Feb. 23-24, 2006.
57. "Constructability State of Practice, Benefits, and Barriers." ASCE Capital Branch meeting, Salem, OR, April 28, 2005.
58. "Designing for Construction: Achieving Project Success through Constructability." ASCE Oregon Section, Host-A-Student Dinner, Corvallis, OR, Nov. 21, 2002.
59. Panel presentation: "The Next Industrial Revolution: Improving Urban Place and the Working Ecology Through Sustainable Design and Development." *130th Annual Meeting and Exposition of the American Public Health Association (APHA)*, Philadelphia, PA, Nov. 9-13, 2002.
60. "Managing Construction Safety from Project Concept to Completion." *10th Biennial Cascade Safety, Health & Environmental Conference*, Eugene, OR, March 12-13, 2002. Sponsored by OR-OSHA and the Cascade Chapter of the American Society of Safety Engineers (ASSE).
61. "The Future of Construction Safety and Health: A Focus on Education and Research." Columbia-Willamette Chapter of the American Society of Safety Engineers (ASSE) monthly meeting, Portland, OR, Mar. 12, 2001.
62. "Construction Safety Management: From Project Conception to Completion." *Oregon Governor's Occupational Safety & Health Conference*, Portland, OR, Mar. 5-8, 2001.
63. "Construction Site Safety: Improving Safety through Effective Project Management." Lecture Series on Construction Project Management, Department of Civil and Environmental Engineering, University of California at Berkeley, Berkeley, CA, Aug. 3, 2000.
64. "Designing for Safety." M.E. Rinker Sr. Lecture Series on Construction Health and Safety, University of Florida, Gainesville, FL, Sept. 21-22, 1998.
65. "Construction Safety: A Focus on Project Design." Northwest Construction Consumer Council (NWCCC), Seattle, WA, June 26, 1996.
66. "Designing for Construction Worker Safety: Consideration of Construction Worker Safety in the Design Phase." *Houston Business Roundtable Quarterly Forum*, Houston, TX, Nov. 14, 1995.

Other Presentations:

International:

1. "Ironworker Perspectives on Accident Causes and Improving Safety Planning." *International Health and Safety Conference: Benefitting Workers and Society through Inherently Safe(r)*

Construction, CIB W099 – Safety and Health in Construction, Ulster University, Jordanstown Campus, Belfast, Northern Ireland, September 10-11, 2015.

2. "Additional Evidence of the Sustainable Construction Safety and Health (SCSH) Rating System's Effectiveness." *International Conference on Achieving Sustainable Construction Health and Safety*, W099 – Safety and Health in Construction, International Council for Research and Innovation in Building and Construction (CIB), Lund, Sweden, June 2-3, 2014.
3. "Prevention through Design: Construction Safety." Panel Presentation, ASCE *142nd Annual Civil Engineering Conference*, Montreal, Quebec, Canada, Oct. 13-20, 2012.
4. "Designer and Contractor Perception of Project and Cost Impacts of Engineered Safety Solutions." *Proceedings of the CIB W099 International Conference on "Modeling and Building Health and Safety"*, Singapore, Sept. 10-11, 2012.
5. "Industry's Perspective of Design for Safety Regulations." *Working Together: Planning, Designing, and Building a Healthy and Safe Construction Industry*, International Council for Research and Innovation in Building and Construction (CIB) W99 Conference, Melbourne, Australia, Oct. 21-23, 2009.
6. In *2007 Construction Research Congress*, ASCE, Grand Bahama Island, Bahamas, May 6-8, 2007:
    a. "Benchmark of Innovation in the Architecture/Engineering/Construction Industry."
    b. "Sustainable Construction Safety and Health Rating System – A Feasibility Study."

<u>*Domestic:*</u>

1. "*Designing for Safety*: Guidance from ASCE Policy Statement 350." ASCE Construction Institute (CI) Summit, Orlando, FL, Mar. 9-12, 2016.
2. "Impact of Advisory Signs on Vehicle Speeds in Highway Nighttime Paving Project Work Zones." *95th Annual Meeting of the Transportation Research Board (TRB)*, Washington, D.C., Jan. 10-14, 2016. (Poster presentation)
3. "Prevention through Design (PtD) Research and Practice in the U.S." *International Prevention through Design (PtD) Knowledge Exchange: NIOSH and JNIOSH*, National Institute for Occupational Safety and Health (NIOSH), New York City, NY, Oct. 14, 2014.
4. "Work Zone Speed Reduction Research: Reducing Vehicle Speeds on Highway Preservation Projects." *20th Annual Oregon Asphalt Conference*, Asphalt Pavement Association of Oregon (APAO), Eugene, OR, March 18, 2014.
5. "Implementation and Evaluation of Traffic Control Devices on Highway Nighttime Paving Projects." *93rd Annual Meeting of the Transportation Research Board (TRB)*, Washington, DC, Jan. 12-16, 2014.
6. "Design and Construction Impacts to TCP Quality, Consistency, and Safety." *93rd Annual Meeting of the Transportation Research Board (TRB)*, Washington, DC, Jan. 12-16, 2014. (Poster presentation)
7. "Mobile Protective Barrier System." *WASHTO 2012 Conference*, Colorado Springs, CO, July 8-11, 2012.
8. "Comparison of Design Risk Factors of Multistory Commercial Office Buildings." *ASCE Construction Research Congress 2012*, West Lafayette, IN, May 21-23, 2012.
9. "Mobile Work Zone Barrier Systems." *Northwest Transportation Conference: Transportation and the Economy*," Corvallis, OR, Feb. 7-9, 2012.
10. "Sustainable Construction Safety and Health Rating System." *Oregon OSHA Symposium*, sponsored by OR-OSHA, Keizer, OR, Oct. 26-27, 2011.

11. "Findings from the Overall PtD in UK Study and Their Application to the US." *Prevention through Design – A New Way of Doing Business: Report on the National Initiative Workshop*, sponsored by the National Institute for Occupational Safety and Health (NIOSH), Washington, DC, Aug. 22-24, 2011.
12. "Prevention through Design (PtD) in Construction: Concept and Current Practice." *1st Annual Safety Professionals Conference*, National Electrical Contractors Association (NECA), Dallas, TX, May 22-24, 2011.
13. "Comparison of Design and Construction Perspectives of Traffic Control Plan Quality, Consistency, and Safety." *2nd International Conference on Transportation Construction Management*, Orlando, FL, Feb. 7-10, 2011.
14. "NIOSH Prevention through Design (PtD) Initiative: Collecting FACE Program Data." NIOSH Fatality Assessment and Control Evaluation (FACE) Program Annual Meeting, Morgantown, WV, Oct. 19-20, 2010.
15. "Examples of Civil and Construction Engineering Sustainability Research." OSU Iraqi Faculty Visit, Corvallis, OR, Aug. 6, 2009.
16. "Prevention through Design Practice and Research: A Construction Industry Perspective". *Evolution of and Directions in Construction Safety and Health*, International Council for Research and Innovation in Building and Construction (CIB) W99 Working Commission Rinker International Conference, Gainesville, FL, March 9-11, 2008.
17. "The Future of Design for Construction Safety," co-presenter with Michael Toole, Bucknell University. *18th Annual Construction Safety Conference*, sponsored by the Construction Safety Council and The Center to Protect Workers' Rights, Rosemont, IL, Feb. 12-14, 2008.
18. "Designing for Construction Safety: Preventing Injuries from Concept to Completion." National Safety Council (NSC) webinar, Nov. 27, 2007.
19. "Energizing Innovation in Integrated Project Delivery." US Army Corps of Engineers *2007 Northwestern Division Construction Phase Project Delivery Team Conference*, Corvallis, OR, May 1-3, 2007.
20. "Energizing Innovation in Integrated Project Delivery: Preliminary Findings and Future Directions." *2006 Design-Build Institute of America (DBIA) Conference and Expo*, Nashville, TN, Oct. 18-20, 2006.
21. In *ASSE Professional Development Conference*, Seattle, WA, June 11-14, 2006:
    a. "Building toward Sustainable Safety and Health."
    b. "Designing for Construction Worker Safety."
22. "Sustainable Roadway Construction: Energy Consumption and Material Waste Generation of Roadways." *Construction Research Congress 2005*, ASCE, San Diego, CA, April 5-7, 2005.
23. "Training Students for Design Safety in Construction." *ASSE Professional Development Conference & Exposition*, Las Vegas, NV, June 7-10, 2004.
24. "Project Delivery Methods & Safety in Design," co-presenter with Greg Baker, OSU. *Joint Meeting of AACE – Cascade Section and ASCE – Oregon Section*, Portland, OR, May 18, 2004.
25. "Engineers' Role in Designing for Safety." *ASCE Annual Conference and Exposition*, Nashville, TN, Nov. 12-14, 2003.
26. In *Designing for Safety and Health in Construction Symposium*, Portland, OR, Sept. 15-16, 2003. Sponsored by: University of Oregon; Center to Protect Workers' Rights; National Institute for Occupational Safety and Health; Oregon State University; and Industrial Design and Construction:

a. "Pilot Study of the Viability of Designing for Construction Worker Safety."
b. "Design for Safety/Health Tools and Technologies."
c. "Safety Emphasis in University Engineering and Construction Program Curricula in the U.S."

27. "Construction Safety Research." *Mega Projects of the West Coast II Safety Seminar*, sponsored by ASCE Construction Institute, Berkeley, CA, Aug. 21, 2003.
28. In *2003 Construction Research Congress*, sponsored by ASCE, Honolulu, HI, March 19-21, 2003:
    a. "Engineering Mandates Stipulated in OSHA Regulations."
    b. "Designer Consideration of Project Lifecycle Performance."
29. "Controlling Hazardous Noise on Construction Jobsites." *Oregon Governor's Occupational Safety & Health Conference*, Portland, OR, March 3-6, 2003.
30. "Constructor Involvement in Safety in Design." *13th Annual Construction Safety Conference & Exposition*, Chicago, IL, Feb. 11-13, 2003. Sponsored by the Construction Safety Council.
31. "Benefit-Cost Model for Highway Department Constructibility Reviews." *82nd Annual Meeting of the Transportation Research Board (TRB)*, Washington, DC, Jan. 12-16, 2003.
32. "Life Cycle Analysis: Concrete and Asphalt in Paving." *Sustainable Construction Practices: Concrete and Asphalt Conference*, Portland, OR, Dec. 3-4, 2002. Sponsored by the Oregon State University College of Engineering.
33. "Automation Consideration during Project Design." *International Symposium on Automation and Robotics in Construction* (ISARC), Washington, DC, Sept. 23-25, 2002.
34. "Life Cycle Safety: A Partnership for Improving Safety through Design." *12th Annual Construction Safety & Health Conference*, sponsored by the Construction Safety Council (CSC) and Center to Protect Workers' Rights (CPWR), Chicago, IL, May 21-23, 2002.
35. "Construction Engineering Management at Ground Zero." *OSU Over Lunch*, Portland, OR, Nov. 15, 2001.
36. "Safety in Design Research." *At the Leading Edge: Moving Ahead in Construction Safety Management Conference*, sponsored by the Labor Education and Research Center (LERC), University of Oregon, Portland, OR, May 31, 2001.
37. In *11th Annual Construction Safety Conference*, Construction Safety Council, Chicago, IL, Feb. 6-8, 2001:
    a. "Owner & Designer Roles in Safety."
    b. "Getting to Zero Accidents."
38. In *American Society of Civil Engineers (ASCE) Construction Congress VI*, Orlando, FL, Feb. 20-22, 2000:
    a. "Safety Constructability: Designer Involvement in Construction Site Safety."
    b. "Owner Involvement in Construction Site Safety."
39. In *10th Annual Construction Safety Conference*, Construction Safety Council, Chicago, IL, Feb. 15-17, 2000:
    a. "Owner and Designer Roles in Site Safety."
    b. "Safety Toolbox for Designers."
40. "Using a Water Spray System on Trucks to Suppress Dust." *Air Quality Issues Associated with Waste Management Conference*, Air & Waste Management Association, Las Vegas, NV, Sept. 15-17, 1999.
41. "Application of Risk Mapping to Construction Project Jobsites." *2nd International Conference on Implementation of Safety and Health on Construction Sites*, International

Council for Research and Innovation in Building and Construction (CIB) Working Commission 99, Honolulu, HI, Mar. 24-27, 1999.

42. "Application of Risk Mapping to Construction Project Jobsites." *2nd International Conference on Implementation of Safety and Health on Construction Sites*, International Council for Research and Innovation in Building and Construction (CIB) Working Commission 99, Honolulu, HI, Mar. 24-27, 1999.
43. "Developing and Providing Valuable Engineering Education Experiences." *1999 Annual Meeting and Conference of the American Society for Engineering Education (ASEE) Pacific Southwest Section*, Las Vegas, NV, Mar. 19-20, 1999.
44. "Owners, Architects, Design Engineers, Contractors: Who's Responsible for Safety?" *9th Annual Construction Safety Conference*, Construction Safety Council, Chicago, IL, Feb. 10-12, 1999.
45. "Project Management." *1999 National Association of Store Fixture Manufacturers Project Management Seminar*, Las Vegas, NV, Jan. 28-29, 1999.
46. "Energy Efficient Homes Using Passive Solar Strategies." *GlobeEx/Nevada Future Technical Innovations Roundtable*, Las Vegas, NV, Oct. 26, 1998. (Poster presentation)
47. "Energy Efficient Home Construction Issues." *Nevada Science and Technology Symposium*, Las Vegas, NV, Jan. 8-9, 1998. (Poster presentation)
48. In *National Occupational Injury Research Symposium*, National Institute for Occupational Safety and Health (NIOSH), Morgantown, WV, Oct. 15-17, 1997:
    a. "A Designer's Influence on Construction Worker Safety."
    b. "A Tool for Planning and Monitoring Construction Site Safety." (Poster presentation)
49. "Constructability: A Quality Improvement Approach to Transportation Projects." *76th Annual Meeting of the Transportation Research Board (TRB)*, Washington, DC, Jan. 12-16, 1997.
50. "A Framework for the Constructability Review of Transportation Projects." *Washington State Department of Transportation Statewide Project Planning, Engineering, and Construction Conferences*, Wenatchee, WA, Mar. 25-27,1996, and June 5, 1996.
51. "Design for Safety." *Construction Project Improvement Conference*, Construction Industry Institute (CII), Austin, TX, Sept. 11-13, 1995.
52. "Design for Safety." *Construction Industry Institute (CII) Annual Conference*, San Diego, CA, Aug. 1-3, 1995.

OTHER WORKSHOP, MEETING, AND CONFERENCE ATTENDANCE

1. *2014 Construction Research Congress*, ASCE, Atlanta, GA, May 19-21, 2014.
2. Oregon BEST *Modular Construction Forum*, Portland, OR, March 6, 2014.
3. *2014 Construction Engineering Conference: Leveraging Project and Career Success*, Seattle, WA, March 27-29, 2014.
4. *Construction Engineering Conference: Opportunity and Vision for Education, Practice, and Research*. Virginia Tech University, Blacksburg, VA, Sept. 30-Oct. 2, 2010.
5. *Construction Research Congress 2010: Innovation for Reshaping Construction Practice*. ASCE Construction Institute, Banff, Alberta, Canada, May 8-10, 2010.
6. *CPWR 2009 Trainer Enhancement Conference: Health & Safety in Green Construction*. Center for Construction Research and Training, Portland, OR, Sept. 27-30, 2009.
7. *1st Annual Leadership Forum*, ASCE Construction Institute, Chicago, IL, June 9-10, 2008.

8. *Conversational Skills for Convening People and Influencing Decisions*, Oregon State University, Corvallis, OR, May 1-2, 2008.
9. *Prevention through Design Workshop*, National Institute for Occupational Safety and Health (NIOSH), Washington, DC, July 9-11, 2007.
10. *Journey into Leadership V*, Oregon State University, Corvallis, OR, Dec. 2006-April, 2007.
11. *NexCon 2006 Next Generation Construction Summit: Defining the New Critical Path*, Greater Portland Construction Partnership, Portland, OR, Nov. 8-9, 2006.
12. *Design-Build Educator Workshop*, Design-Build Institute of America and the California Center for Construction Education, San Luis Obispo, CA, June 1-3, 2006.
13. *AISC Faculty Workshop*, American Institute of Steel Construction, Rosemont, IL, Sept. 29, 2004.
14. *Academic Leadership Meeting*, Construction Industry Institute (CII), Houston, TX, Oct. 28, 2003.
15. *National Construction Industry Education Forum*, American Council for Construction Education (ACCE), Las Vegas, NV, Mar. 21-22, 1999.
16. *1999 Mid-Year Meeting*, American Council for Construction Education (ACCE), Monroe, LA, Feb. 17-20, 1999.
17. *Academic Council Meeting and Workshop*, Construction Industry Institute (CII) Annual Conference, Minneapolis, MN, Aug. 5-8, 1998.
18. *Engineering Scholars Workshop*, National Science Foundation (NSF), Carnegie Mellon University, Pittsburgh, PA, July 19-24, 1998.

FUNDED RESEARCH PROJECTS

Principal Investigator:

1. "Development of Workforce Sustainability Model for Construction." Small Studies Program, Center for Construction Research and Training (CPWR Small Study No. 17-8-PS), $29,947, Nov. 2017 – Oct. 2018.

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2. "Student Worker Safety Guidelines in Roadside Applications and Work Zones." Oregon Department of Transportation (ODOT), Project Number SPR 304-731, $33,363, June 2016 – Dec. 2017.
3. "Use of Additional Lighting for Traffic Control and Speed Reduction in Work Zones." Oregon Department of Transportation (ODOT), Project Number SPR 791, $175,000, Oct. 2015 – June 2017.
4. "Work Zone Intrusion Alert Technologies: Assessment and Practical Guidance." Oregon Department of Transportation (ODOT), Project Number SPR 790, $221,327, July 2015 – March 2017.
5. "NIOSH Prevention through Design (PtD) Research Study." Extension of Intergovernmental Personnel Agreement (IPA) funded by the Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), $16,400, Sept. 2015 – Aug. 2016.
6. "Implementation of Radar Speed Signs in Mobile Maintenance Operations." Oregon Department of Transportation (ODOT), $51,550, Nov. 2014 – Oct. 2015.
7. "NIOSH Prevention through Design (PtD) Research Study." Extension of Intergovernmental Personnel Agreement (IPA) funded by the Centers for Disease Control and Prevention (CDC),

National Institute for Occupational Safety and Health (NIOSH), $19,992, Sept. 2014 – Aug. 2015.

8. "Safe and Effective Speed Reductions for Freeway Work Zones Phase 3." Oregon Department of Transportation (ODOT), $49,770, June 2014 – Oct. 2014.
9. "Safe and Effective Speed Reductions for Freeway Work Zones Phase 2." Oregon Department of Transportation (ODOT), Project Number SPR 769, $89,960, June 2013 – Feb. 2015.
10. "Connection between Lean Design/Construction and Construction Worker Safety." Small Studies Program, Center for Construction Research and Training (CPWR Small Study No. 13-10-PS), $29,907, Aug. 2013 – Aug. 2014.
11. "NIOSH Prevention through Design (PtD) Research Study." Intergovernmental Personnel Agreement (IPA) funded by the Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), $35,000, Sept. 2013 – Aug. 2014.
12. "Enhancement to Design Risk Factors to include Mechanical and Electrical Systems and Development of Design Rating System." Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), $25,000, Sept. 2012 – March 2014.
13. "NIOSH Prevention through Design (PtD) Research Study." Intergovernmental Personnel Agreement (IPA) funded by the Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), $33,015, Sept. 2012 – Aug. 2013.
14. "Implementing Speed Reductions at Specific Interstate Work Zones from 65 mph to 35 mph." Oregon Department of Transportation (ODOT), Project Number SPR 751, $106,192, April 2012 – Jan. 2013.
15. "Evaluation of a Mobile Work Zone Barrier System." Oregon Department of Transportation (ODOT), Project Number SPR 746, $142,605, July 2011 – Jan. 2013.
16. "NIOSH Prevention through Design (PtD) Research Study: Benchmarking Management Practices that Support PtD." Intergovernmental Personnel Agreement (IPA) funded by the Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), $27,390, July 2011 – April 2012.
17. "Identifying and Documenting Successful Construction Hazard PtD Solutions." National Institute for Occupational Safety and Health (NIOSH), $5,000, Aug. 2010 – Aug. 2011.
18. "NIOSH Prevention through Design (PtD) Research Study: Benchmarking Management Practices that Support PtD." Intergovernmental Personnel Agreement (IPA) funded by the Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), $30,000, July 2010 – June 2011.
19. "NIOSH Prevention through Design (PtD) Research Study: Benchmarking Management Practices that Support PtD." Intergovernmental Personnel Agreement (IPA) funded by the Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), $22,870, July 2009 – June 2010.
20. "Construction Processes and Materials Mapping for Sustainability Assessments." Kiewit Center for Infrastructure and Transportation, Oregon State University, $9,043, July – Dec. 2009.
21. "NIOSH Prevention through Design (PtD) Research Study: Benchmarking Management Practices that Support PtD." Intergovernmental Personnel Agreement (IPA) funded by the Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH), $19,828, June 2008 – May 2009.
22. "Work Zone Design and Operations Enhancements." Oregon Department of Transportation (ODOT), Project Number SPR 669, $131,716, Nov. 2007 – Dec. 2009.

23. "Energizing Innovation in Integrated Project Delivery." Foundation for Integrated Services and Charles Pankow Foundation, $135,000, Mar. 2006 – Dec. 2007.
24. "Optimum Illumination for Nighttime Flagger Operations." Oregon Department of Transportation (ODOT), Project Number SPR617, $70,618, Aug. 2003 – Sept. 2005.
25. "An Analysis of Construction Accidents from a Design and Planning Perspective." The Center to Protect Workers' Rights (CPWR), Graduate Student Grant Program, $2,500, Dec. 2003 - Nov. 2004.
26. "Evaluation of the Intel Life Cycle Safety Process." Subcontract to the Labor Education and Research Center (LERC), University of Oregon, Eugene, OR, on grant funded by The Center to Protect Workers' Rights, $70,230, July 2001 - June 2004.
27. "Investigation of the Viability of Designing for Safety." The Center to Protect Workers' Rights, Washington, D.C., $19,973, Jan. 2002 - Sept. 2003.
28. "Design Practices to Facilitate Construction Automation." Construction Industry Institute (CII), RT-183, Austin, TX, $102,290, Jan. 2001 - Sept. 2003.
29. "Best Practices for Preventing Hearing Loss in Construction." Oregon Department of Consumer and Business Services, Occupational Safety and Health Training and Education, Salem, OR, $39,354, Jan. 2002 - Mar. 2003.
30. "Using Soundless Chemical Demolition Agents (SCDA's) for Micro-Cracking Concrete." New Investigator Award, University of Nevada, Las Vegas, $10,000, June 1999 - May 2000.
31. "Evaluation of Soundless Chemical Demolition Agents (SCDA's) for Use in Creating Micro-Cracking for the Bioremediation of Concrete." Western Alliance to Expand Student Opportunities (WAESO), $1,378, Jan. - May 1999.
32. "Development and Evaluation of a System for Suppressing PM_{10} Emissions Generated from the Operation of Earthmoving Equipment in Construction." Clark County Health District, Clark County, NV, $39,472; Department of Energy (DOE) EPSCoR Young Scholar Program, $2,500; and Western Alliance to Expand Student Opportunities (WAESO), $1,378, June 1998 - May 1999.
33. "Energy Efficient Home Construction." Department of Energy (DOE) EPSCoR Young Scholar Program, $2,500, June 1998 - Aug. 1998.

Co-Principal Investigator:

1. "Project Progress Tracking Using Lidar and 4D Information Models." Co-PI with Yelda Turkan and Michael Olsen / Oregon State University. Oregon Department of Transportation (ODOT), SPR-811, $95,000, Aug. 2017 – Oct. 2018.
2. "Safe and Innovative Work Best Practices for Mechanical Crafts Booklet." Co-PI with: Sathy Rajendran/CWU (PI), Ali Vahed/McKinstry, and Darrel Zak/Comfort Systems. Safety & Health Investment Projects (SHIP) program, Washington State Department of Labor & Industries, $199,944 (OSU: $42,020), July 2016 – Aug. 2018.
3. "Reducing Highway Construction Fatalities through Improved Adoption of Safety Technologies." Co-PI with Chinweike Eseonu/OSU. Small Studies Program, Center for Construction Research and Training (CPWR Small Study No. 17-4-PS), $29,999, Feb. 2017 – Jan. 2018.

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4. "Improving Safety on Highway Work-zones by Real-time Tracking of Operation and Equipment Status." Co-PI with Joseph Louis/Oregon State University. Pacific Northwest Transportation Consortium (PacTrans), $70,000 (OSU match: $35,000), Dec. 2016 – Dec. 2017.

5. “Construction Work Zone Safety: Use of a Mobile Laser Scanner to Assess Temporary Signage in Work Zones.” Co-PI with Michael Olsen/Oregon State University. Oregon Department of Transportation (ODOT), $118,694, July 2016 – Oct. 2017.
6. “Applying Prevention through Design (PtD) to Solar Systems in Small Buildings.” Co-PI with Hyun-Woo (Chris) Lee/University of Washington. The Center for Construction Research and Training (CPWR), CPWR Small Study No. 16-2-PS), $29,470 (OSU: $7,489), Aug. 2016 – July 2017.
7. “Highway Worker Safety.” Co-PI with David Hurwitz. National Cooperative Highway Research Program (NCHRP) Synthesis 20-05/Topic 47-16, National Academy of Sciences (NAS), $45,000, Dec. 2015 – Jan. 2017.
8. “Using Precursor Analysis to Prevent Low-Frequency/High-Impact Events.” Co-PI with Matthew Hallowell/University of Colorado at Boulder. Construction Industry Institute (CII), RT-321, $230,175 (OSU: $68,388), Sept. 2014 – Aug. 2016.
9. “Use and Re-use of Formwork: Safety Risks and Reliability Assessment.” co-PI with Andre Barbosa/OSU. Small Studies Program, Center for Construction Research and Training (CPWR Small Study No. 13-2-PS), $29,925, July 2013 – June 2014.
10. “Owner’s Role in Facilitating Designing for Construction Safety.” Co-PI with T. Michael Toole/Bucknell University. Center for Construction Research and Training, $99,396 (OSU: $50,366), July 2008 – June 2010.
11. “Cost/Benefits of Constructibility Reviews.” Co-PI’s: Dr. Phillip Dunston and Mr. James McManus, University of Washington. National Cooperative Highway Research Program, Washington, D.C., $39,995, Aug. 2000 - Nov. 2001.
12. “Project Labor Agreements.” Co-PI’s: Mr. Neil Opfer and Dr. Jaeho Son, University of Nevada, Las Vegas. Associated Builders and Contractors (ABC), Las Vegas, NV, $40,000, Mar. - Aug. 2000.

Collaborative Investigator:

1. “Safety CPM Project.” PI: Dr. Jimmie Hinze, University of Florida. The Center to Protect Workers’ Rights (CPWR), Washington, D.C., $470,000, Jan. 2000 - Dec. 2004.
2. “Safety Plus: Making Zero Accidents a Reality.” PI: Dr. Jimmie Hinze, University of Florida. Construction Industry Institute (CII), RT-160, Austin, TX, $104,188, June 1999 - June 2001.
3. “Field Testing of Dust Suppression Agents using a Portable Wind Tunnel.” PI: Dr. David James, University of Nevada, Las Vegas. Clark County Health District, Clark County, NV, $68,345, June 1998 - June 1999.
4. “Supplement to the Constructability Review Process Phase II Study to include the Washington State Ferries.” PI: Mr. James McManus, University of Washington. Washington State Ferries, $35,000, Dec. 1996 - Sept. 1997.
5. “Constructability Review Process, Phase II.” PI: Mr. James McManus, University of Washington. Washington State Dept. of Transportation, $69,900, Mar. 1996 - Sept. 1997.
6. “Designing for Construction Worker Safety.” PI: Dr. Jimmie Hinze, University of Washington. Construction Industry Institute (CII), RT-101, Austin, TX, $79,000, Jan. 1994 - Dec. 1995.

OTHER FUNDED PROJECTS

Principal Investigator:

1. "Development of Part 645 – Construction Inspection of the NRCS National Engineering Handbook." U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), $80,499. Aug. 2004 – Sept. 2007.
2. "Development of CM/GC Best Practices Manual." Associated General Contractors (AGC) Oregon-Columbia Chapter and the Oregon Public Contracting Coalition, $10,700. Sept. 2001 - Sept. 2002.

Co-Principal Investigator:

1. "Acquisition of Large-Format Plotter for CCEE Computer Lab." Co-PI with Dr. Brian Wood, OSU. OSU FY03 Technology Resource Fee Proposal - Round Two, $8,111. March 2003.

TEACHING

(* = New course developed)

Oregon State University:

CEM 343 – Construction Planning and Scheduling (4 qtr. crs.; ~60 students; Sp. 2001 and 2002)
CEM 381 – Structures I (4 qtr. crs.; ~50 students; Fall 2000 and 2001)
CEM 383 – Structures II (4 qtr. crs.; 60-80 students; yearly 2001-2014)
CEM 407/CE 507 – Constr. Engrg. Mgmt. Seminar (1 qtr. cr.; ~50 students; yearly 2001-03)
CEM 441/541 – Heavy Civil Construction Mgmt. (4 qtr. crs.; 70-80 students; F02, W04-05)
CE 420/520 – Engineering Planning (4 qtr. crs.; 60-80 students; yearly 2002-2009; 2015-present)
CE 424/524 – Contracts and Specifications (4 qtr. crs.; 80-125 students; yearly 2001-2013)
*CE 427/527 – Temp. Constr. Structures (4 qtr. crs.; 65-115 students; F05, yearly W08-present)
*CCE 525 – Construction Site Systems Engineering (3 qtr. crs.; 5-10 students; 2010-present)
*CCE 526 – Design for Safety (3 qtr. crs.; 8-10 students; 2013-present)
*CE 507 – CCE Grad Student Seminar (1 qtr. cr.; 20-25 students; F03-08, W04-06, Sp04)

University of Nevada, Las Vegas:

CEM 100 – Fundamentals of Constr. Mgmt. (3 sem. crs.; ~35 students; Spr. 1999 and 2000)
CEM 251 – Construction Equipment (3 sem. crs.; ~20 students; Fall 1997)
CEM 432 – Temporary Construction Structures (3 sem. crs.; ~10 students; Fall 1998 and 1999)
CEM 451/451L – Construction Estim. I/Constr. Estim. Lab (4 sem. crs.; ~15 students; Fall 1997)
CEM 453 – Construction Scheduling (3 sem. crs.; ~15 students; Spring 1998)
CEM 485 – Construction Law and Contracts (3 sem. crs.; ~15 students; Spring 1999 and 2000)
*CEM 740 – Constr. Safety and Performance Improv. (3 sem. crs.; ~10 students; Fall 1999)
EGG 307 – Engineering Economics (3 sem. crs.; ~25 students; Summer and Fall 1998)

University of Washington:

CIVE 306 – Construction Engineering I (4 qtr. crs.; ~40 students)
CIVE 405 – Construction Planning and Scheduling (4 qtr. crs.; ~35 students)
CIVE 407 – Construction Contracts and Specifications (4 qtr. crs.; ~50 students)
*CIVE 498A – Construction Safety (4 qtr. crs.; ~20 students)
CIVE 520A – Graduate Construction Seminar (1 qtr. cr.; ~10 students)

Other:

1. Presenter, *Professional Engineering Exam Review Course for Civil Engineers*, Portland State University. Topics: "Construction – Scheduling" and "Construction – Temporary Structures." Annually, 2010 – present.

GRADUATE THESES SUPERVISED

Oregon State University:

Name	Degree	Expected Graduation
Nnaji, Chukwuma	PhD, Civil Engineering	2018
Liu, Ding	PhD, Civil Engineering	2019
Karakhan, Ali	PhD, Civil Engineering	2019
Azeez, Mohammed	PhD, Civil Engineering	2019
Jin, Ziyu	PhD, Civil Engineering	2019

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1. AlOmari, Kasim: PhD, Civil Engineering, 2017, "Degrees of Connectivity: A Systematic Accident Causation Model"
2. Jafarnejad, Ali: MS, Civil Engineering, 2017, "Investigation of Effectiveness of Radar Speed Signs and Additional Lighting for Speed Control in Highway Construction and Maintenance Work Zones"
3. Pestana, Catarina: PhD, Civil Engineering, 2016, "Multi-Criteria Risk Mapping Using Lean Tools for the Architecture, Engineering, and Construction Industry"
4. Zhang, Fan: PhD, Civil Engineering, 2016, "Introducing the Concept of Foundational Attributes and Project Metabolism to Assess Construction Project Similarity"
5. Nnaji, Chukwuma: MS, Civil Engineering, 2015, "Framework for Measuring Construction Project Performance using Energy"
6. Vahed, Ali Moghaddam: MS, Civil Engineering, 2015, "Framework for Assessing the Potential Safety Performance of Construction Mechanical and Electrical Field Employees"
7. Das, Amrutha: MS, Civil Engineering, 2014, "Risk and Reliability Associated with Use and Reuse of Vertical Formwork." Co-advisor with Andre Barbosa/Oregon State University.
8. Sutanto, Ryan: MEng, Civil Engineering, 2014.
9. Tymvios, Nicholas: PhD, Civil Engineering, 2013, "Direction, Method, and Model for Implementing Design for Construction Worker Safety in the US"
10. Dharmapalan, Vineeth: MS, Civil Engineering, 2011, "Risk Factor Quantification of Design Elements for Multistory Commercial Office Buildings"
11. Hallowell, Matthew: PhD, Civil Engineering, 2008, "A Formal Model for Construction Safety and Health Risk Management"
12. Rajendran, Sathyanarayanan: PhD, Civil Engineering, 2006, "Sustainable Construction Safety and Health Rating System"
13. Lentine, John-David: MS, Civil Engineering, 2006 (Minor Professor)
14. Carpenter, Deanna: MS, Civil Engineering, 2005, "Effects of Contract Delivery Method on the LEED™ Score of U.S. Navy Military Construction Projects (Fiscal Years 2004-2006)"
15. Armijos-Leray, Jean Pol: MS, Civil Engineering, 2005, "Decision Support System in Highway Concession (BOT) Projects for Developing Countries: Case Study in Ecuador"
16. Kaneko, Takuya: MS, Civil Engineering, 2005 (Minor Professor)

17. Rajendran, Sathyanarayanan: MS, Civil Engineering, 2004, "Sustainable Roadway Construction: A Study of the Material Waste Generation in the Life Cycle of Roadways"
18. Liu, Lei: MS, Civil Engineering, 2004, "A Cost-Benefit Assessment of the CM/GC Delivery System Based on Post-Project Evaluations and Oregon Public Project Data"
19. Behm, Michael: PhD, Public Health, 2004 (Minor Professor), "Establishing the Link between Construction Fatalities and Disabling Injuries and the Design for Construction Safety Concept"
20. Sandoval-Gil, Jesus: PhD, Civil Engineering, 2004 (Minor Professor), "Permanent Deformation Characteristics of Dense-graded Mixes using Asphalt Pavement Analyzer"
21. Machan, Ian: MS, Civil Engineering, 2003, "Determining the Appropriate Staging of Highway Construction"
22. Zapata, Pablo: MS, Civil Engineering, 2003, "Life Cycle Analysis of Asphalt and Steel Reinforced Concrete"
23. Chansawat, Kasidit: PhD, Civil Engineering, 2003 (Minor Professor), "Nonlinear Finite Element Analysis of Reinforced Concrete Structures Strengthened with FRP Laminates"
24. Wieland, Ed: MS, Civil Engineering, 2003 (Minor Professor)
25. Turner, Heather: MS, Civil Engineering, 2002, "Owner Safety Practices in State Transportation Agencies"
26. Hewitt, Matthew: MS, Civil Engineering, 2002, "Maximizing Construction Automation Implementation"
27. Hoy, James: MS, Civil Engineering, 2001, "Automated Construction Technology Survey"
28. McCormick, Joe: MS, Civil Engineering, 2001 (Minor Professor), "Essential Elements of a Risk Management Program for a Small Engineering Consulting Firm"
29. Gobble, Darrell: MS, Civil Engineering, 2001 (Minor Professor)

External Examiner:

1. Natanzi, Atteyeh: PhD, Civil Engineering, School of Civil, Structural, and Environmental Engineering, University College, Dublin, Ireland, 2017, "Soundless Chemical Demolition Agents Performance Under Cold and Cools Temperatures"
2. Dilipkumar, Patel Arvindkumar: PhD, Civil Engineering, Indian Institute of Technology Delhi, 2015, "Determinants of Safety Performance in Indian Construction"
3. Goldswain, Craig: PhD, Construction Management, Nelson Mandela Metropolitan University, Port Elizabeth, South Africa, 2014, "Architectural Design Interventions toward Improvement of Construction Health, Safety, and Ergonomics in South Africa"
4. Huynh, Phuoc Minh: PhD, Civil Engineering, School of Civil, Structural, and Environmental Engineering, University College, Dublin, Ireland, 2012, "Investigation of Crack Propagation Due to Expansion Agents"
5. Bust, Philip: PhD, Civil Engineering, Department of Civil and Building Engineering, Loughborough University, Loughborough, England, 2010, "Managing Manual Handling in Construction: An Examination of the Change Process Resulting from Enforcement of Kerb Laying Activities"

Other Graduate Student Committees:

1. Zachary Barlow, MS, Civil Engineering, Oregon State University, 2017
2. Dillon Alexander, MS, Civil Engineering, University of Colorado at Boulder, 2016
3. Gabriel, Marc: Master of Architecture, University of Nevada-Las Vegas, 1999

UNDERGRADUATE THESES/PROJECTS SUPERVISED

Oregon State University:

1. Britsch, Katherine: Honors BS, Construction Engineering Management, 2012, "Evaluation of Shear Resistance of Reinforced Cob." (Minor Professor)
2. Dunford, William: Engineering in Context Project, University of Nottingham, 2011, "Health and Safety and Sustainability Comparison of the UK and US Construction Industries."
3. Edwardsen, Kelsey: Honors International Degree, Civil Engineering, 2007, "Project Coordinator's Perspective on Planning the Project: Clean water supply in the remote villages of El Naranjito and Las Mercedes, El Salvador"
4. Christianson, Carl: Honors BS, Construction Engineering Management, 2005, "Design for Construction Safety: A Case Study with Architect's Perceptions"
5. Eykelbosch, Phillip: BA, International Studies, 2004, "Artificial Islands and Land Reclamation as an Option for Coastal City Expansion: A Comparison in Methods between Japan and the Netherlands"

University of Nevada, Las Vegas:

1. Stewart, Patrick: BS, Construction Management, 1998, "Application of Risk Mapping to Construction Projects"

University of Washington:

1. Steitzer, Rod: BS, Civil and Environmental Engineering, 1997, "Risk in Construction Contracts"
2. Harlow, H. Randy: Civil and Environmental Engineering, 1997, "Design Effort Relation to Construction Cost Overruns"

INDUSTRY AND PROFESSIONAL SERVICE

Invited Service Activities:

1. Engineering Enhancements Taskforce, Oregon Work Zone Executive Strategy Committee, sponsored by ODOT, OSP, AGC, and Oregon Trucking Association. Member, 2014-present.
2. ODOT Maintenance and Operations Expert Task Group (ETG). Member, 2011-present.
3. Strategic Planning Council, National Institute for Occupational Safety and Health (NIOSH) Prevention through Design (PtD) initiative. Member, 2007-present.
4. National Institute for Occupational Safety and Health (NIOSH) NORA Construction Hazard Prevention through Design (CHPtD) Workgroup. Corresponding Member, 2007-present.
5. NORA Green Construction Coordinating Committee, National Institute for Occupational Safety and Health (NIOSH). Member, 2011-present.
6. Manuscript Reviewer (refereed journals):
    i. *Journal of Construction Engineering and Management*, ASCE
    ii. *Journal of Infrastructure Systems*, ASCE
    iii. *Journal of Management in Engineering*, ASCE
    iv. *International Journal of Construction Education and Research*, ASC
    v. *Journal of Safety, Health, and Environmental Research*, ASSE
    vi. *Construction Management and Economics*, Taylor & Francis

vii. *Accident Analysis and Prevention*, Elsevier
viii. *Automation in Construction*, Elsevier

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7. ANSI A10 Construction and Demolition OHS Standards Committee PtD Workgroup. Member, 2014-2017.
8. Design for Safety Program Review, Southern Company, Birmingham, AL, Sept. 15-16, 2016. Consultant.
9. *2016 Construction Research Congress*, ASCE, San Juan, Puerto Rico, May 31 – June 2, 2016. Manuscript Reviewer, 2015-2016.
10. *International Health and Safety Conference: Benefitting Workers and Society through Inherently Safe(r) Construction*, CIB W099 – Safety and Health in Construction, Ulster University, Jordanstown Campus, Belfast, Northern Ireland, September 10-11, 2015. Member, Conference Scientific and Technical Committee, and Session Moderator, 2014-2015.
11. External Project Review Community, Innovative Manufacturing and Construction Research Centre (IMCRC), Loughborough University. Member, 2007.
12. Education Subcommittee, National Institute for Occupational Safety and Health (NIOSH) Prevention through Design (PtD) initiative. Member, 2009-2013.
13. *International Conference on Achieving Sustainable Construction Health and Safety*, W099 – Safety and Health in Construction, International Council for Research and Innovation in Building and Construction (CIB), Lund, Sweden, June 2-3, 2014. Manuscript Reviewer, 2013-14.
14. *2014 Construction Research Congress*, ASCE, Atlanta, GA, May 19-21, 2014. Manuscript Reviewer, 2013-14.
15. *2014 Construction Engineering Conference: Leveraging Project and Career Success*, Seattle, WA, March 27-29, 2014. Session Moderator.
16. Oregon Public Construction Contracting Work Group Advisory Committee, established by Sen. Lee Beyer and Rep. Paul Holvey, Oregon State Legislature. Member, 2011-2013.
17. *CIB W099 International Conference on "Modeling and Building Health and Safety,"* Singapore, Sept. 10-11, 2012. Manuscript Review Committee.
18. *2012 Construction Research Congress*, ASCE, West Lafayette, IN, May 21-23, 2012. Manuscript Reviewer, 2011-12.
19. *National Institute for Occupational Safety and Health (NIOSH) Prevention through Design (PtD) Conference and Workshop*, Washington, DC, Aug. 22-24, 2011. Member, Planning Committee.
20. *CIB W99 "Prevention through Design: Lessons Learned from the Construction Industry" Conference*, Washington, DC, Aug. 24-26, 2011. Member, Planning Committee.
21. *International Conference on Sustainable Design and Construction*," sponsored by AIA and ASCE-CI, Kansas City, Missouri, March 23-25, 2011. Member, Scientific Committee.
22. *CIB World Congress 2010*, International Council for Research and Innovation in Building and Construction (CIB), The Lowry, Salford Quays, UK, May 10-13, 2010. Manuscript Reviewer.
23. *Making Green Jobs Safe Workshop*, National Institute for Occupational Safety and Health (NIOSH), Washington, D.C., Dec. 14-16, 2009. Member, Planning Committee.
24. *14th International Symposium on Advancement of Construction Management and Real Estate*, Nanjing, China, Oct. 29-31, 2009. Member, International Scientific Committee.
25. *Working Together: Planning, Designing and Building a Safe and Healthy Construction Industry*, International Council for Research and Innovation in Building and Construction (CIB) W99

International Conference, Melbourne, Australia, Oct. 21-23, 2009. Member, Scientific and Technical Committee.

26. International Council for Research and Innovation in Building and Construction (CIB) TG-59 *People in Construction Conference*, Port Elizabeth, South Africa, July 12-14, 2009. Manuscript Reviewer.
27. *Evolution of and Directions in Construction Safety and Health*, International Council for Research and Innovation in Building and Construction (CIB) W99 Working Commission Rinker International Conference, Gainesville, FL, March 9-11, 2008. Member, Scientific and Technical Committee, and Session Moderator.
28. National Institute for Occupational Safety and Health (NIOSH) Prevention through Design Workshop, Washington, DC, July 9-11, 2007. Member, Planning Committee, and Rapporteur for Research Functional Area.
29. Design for Safety Program Review, Southern Company, Birmingham, AL, Mar. 6-7, 2007. Consultant.
30. *International Conference on Global Unity for Safety & Health in Construction*, sponsored by the International Council for Research and Innovation in Building and Construction (CIB) W99 Working Commission and Tsinghua University, Beijing, China, June 28-30, 2006. Member, Scientific and Technical Committee.
31. *ASCE Construction Research Congress 2005*, San Diego, CA, April 5-7, 2005. Session Moderator and Track Chair.
32. Construction Institute Day, 2004 ASCE Annual Conference, Baltimore, MD, Oct. 20-22, 2004. Moderator, Constructability Sessions.
33. *Research Priorities Meeting*, The Center to Protect Workers' Rights (CPWR), Silver Spring, MD, Apr. 4, 2003. Member, Research Panel.
34. "Trends in Project Management", *2003 Construction Research Congress*, sponsored by ASCE, Honolulu, HI, March 19-21, 2003. Track Coordinator.
35. National Institute for Occupational Safety and Health (NIOSH) National Occupational Research Agenda (NORA) Intervention Effectiveness Program (#OH-00-002), June 2000. Member, Review Panel.
36. *The People's Law School 2000*, Nevada Foundation for Consumer Education, Carson City, NV, May 19, 2000. Panelist.
37. *Research Forum on Intervention Research in the Construction Industry*, The Center to Protect Workers' Rights (CPWR), Cambridge, MA, March 30-31, 2000. Member, Research Panel.
38. *Proceedings of the American Society of Civil Engineers (ASCE) Construction Congress VI*, Orlando, FL, Feb. 20-22, 2000. Technical Paper Reviewer.
39. *American Society of Civil Engineers (ASCE) Construction Congress VI*, Orlando, FL, Feb. 20-22, 2000. Session Moderator.
40. National Institute for Occupational Safety and Health (NIOSH) National Occupational Research Agenda (NORA) Intervention Effectiveness Program (#99150), Aug. 1999. Member, Review Panel.
41. *8th Annual Construction Safety Conference*, Construction Safety Council, Chicago, IL, Feb. 1998. Session Moderator.

Conference and Workshop Planning, Organizing, and Hosting:

1. *Safety Summit 2015*, Corvallis, OR, June 18-19, 2015. Organizer and Host.

2. *Designing for Safety and Health in Construction Research and Practice Symposium*, sponsored by: University of Oregon; Center to Protect Workers' Rights; National Institute for Occupational Safety and Health; Oregon State University; and Industrial Design and Construction, Portland, OR, Sept. 15-16, 2003. Planning Committee Member and Manuscript Reviewer.

Other Service and Professional Interactions:

1. Construction Industry Institute (CII) Safety Community of Practice. Member, 2012-present.

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2. Oregon *Built Environment & Sustainable Technologies* (BEST) Center. Member Faculty.
3. General Services Administration (GSA) National Register of Peer Professionals Program. Peer Professional, 2004-2007.
4. Labor and Personnel Issues, ASCE *Journal of Construction Engineering and Management*. Assistant Specialty Editor, 2003-2006.
5. Associated Schools of Construction (ASC), *Journal of Construction Education*. Editorial Advisory Board Member, 1999-2000.
6. Associated Schools of Construction (ASC), *Journal of Construction Education*. Review Board Member, 1999-2000.
7. American Council for Construction Education (ACCE) review of Construction Management Program at University of New Mexico, Sept. 1999. Accreditation Site Visit Team Member - Member-in-Training.

UNIVERSITY SERVICE

Oregon State University:

1. College of Engineering Research Council. Member, Nov. 2014-present.
2. CCE Strategic Governance Committee. Member, Sept. 2015-present.
3. OSU Faculty Senate. Member, Jan. 2016-present.
4. OSU Human Centered Design (HCD) group. Member, March 2016-present.

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5. College of Engineering Faculty Status Committee. Member, 2011-2017; Vice-Chair, 2012-2013; Chair, 2013-2014.
6. Graduate Committee, School of Civil and Construction Engineering. Member, 2001-2006 and 2010-2013, and 2014-2015; Chair, 2002-2003, 2004-2006, 2011-2013.
7. Coordinator, CEM Program, School of Civil and Construction Engineering, 2014-2015.
8. Member, College of Engineering Strategic Planning Task Force (Community Task Force), Oct. 2014-2015.
9. Faculty Advisory Committee, College of Engineering, Member, 2013-2014.
10. Faculty Senate Student Recognition and Rewards Committee. Member, 2011-2014.
11. Marketing and Recruitment Committee, School of Civil and Construction Engineering. Member, 2008-2009.
12. Assistant Department Head for CEM, School of Civil and Construction Engineering, 2006-2009.
13. Faculty Status Committee, School of Civil and Construction Engineering. Member, 2007-2009.
14. Engineers Without Borders (EWB) Student Chapter. Faculty Advisor, 2005-2008.
15. College of Engineering Graduate Council. Member, 2005-2007.

16. Scholarship Committee, Department of Civil, Construction and Environmental Engineering. Member, 2006-2007.
17. Associated General Contractors (AGC) Student Chapter. Faculty Advisor, 2003-2006.
18. Department of Civil, Construction and Environmental Engineering. Graduate Coordinator, 2004-2006.
19. Curriculum Committee, Department of Civil, Construction and Environmental Engineering. Member, 2000-2001, and 2003-2005.
20. A/E and CM/GC Contractor Selection Committee for Apperson Hall renovation project. Member, 2004-2005.
21. CM/GC Contractor Selection Committee for new OSU Engineering Building. Member, 2002.
22. Faculty Search Committees, CCE:
    a. Construction positions, 2003-2004, 2013-2014, 2015-2016
    b. Structures position, 2012-2013 (Chair)
    c. Resilient Infrastructure position, 2010-2011 (Chair)
    d. Geomatics positions, 2008-2009, 2011-2012 (Chair)
    e. Sustainability position, 2007-2008 (Chair)
    f. CEF Chair position, 2007-2008 (Chair)
    g. Infrastructure position, 2003-2004
    h. Geotech position, 2003
    i. CEM Endowed Faculty positions, 2002
23. Faculty Search Committees, School of Biological and Population Health Sciences, OSU:
    a. Environment and Occupational Health position, 2014-2015

University of Nevada, Las Vegas:

1. Search Committee - Dean of the College of Engineering, 1999-2000.
2. Graduate Council, Construction Management Program Representative, 1999-2000.
3. Scholarship Committee, College of Engineering, 1997-2000.
4. Facilities and Space Committee, Dept. of Civil and Environmental Engineering, 1997-2000.
5. Curriculum Review Committee, Construction Management Program, 1997-2000.
6. Associated General Contractors (AGC) Student Chapter. Faculty Advisor, 1997-2000.
7. Coordinator, Applied Technologies Academy Distance Education Course, Department of Civil and Environmental Engineering, University of Nevada, Las Vegas, Mar. 1998.

University of Washington:

1. Faculty Council on University Facilities and Services. Member, 1994-1995.
2. Graduate and Professional Student Senate. Member, 1993-1995.

Joseph J. Fradella III, P.E. (OR)

joe.fradella@oregonstate.edu

WORK EXPERIENCE

Senior Instructor

Oregon State University, School of Civil & Construction Engineering, September 2009 – present

- Promoted to Senior Instructor in September 2014
- Courses taught:

CCE 201	Civil and Construction Engineering Graphics and Design
CE 301	CE Junior Seminar
CE 420	Engineering Planning
CE 424	Contracts and Specifications
CEM 341	Construction Estimating I
CEM 343	Construction Planning and Scheduling
CEM 407	Seminar (for CEM juniors)
CEM 442	Building Construction Management
CEM 443	Project Management for Construction
CEM 471	Electrical Facilities
CEM 472	Mechanical Facilities
ENGR 407	Seminar (for CECOP students)

- Advised and assisted students with coursework and professional development
- Coordinated CEM curriculum improvements and ACCE accreditation efforts
- Actively involved with student chapters and professional organizations: Associated General Contractors (AGC), Mechanical Contractors Association of America (MCAA), National Electrical Contractors Association (NECA), Northwest Construction Consumers Council (NWCCC), Associated Schools of Construction (ASC), American Council for Construction Education (ACCE)

Estimator / Project Engineer

Gerding Builders – Corvallis, OR – Part-time 2015-present

Estimator

Temp Control Mechanical (TCM Corp) – Portland, OR – Summer 2014

Project Engineer

Oregon Electric Group (OEG) – Hillsboro, OR – Summer 2013
Hoffman Construction – Hillsboro, OR – Summer 2012

Design Engineer

Glumac, Inc. (mechanical, electrical, plumbing design) – Corvallis, OR – Summer 2011

Construction Safety Consultant

The National Institute for Occupational Safety and Health (NIOSH), 2010 – 2011 (part-time)

Project Manager

Bahá'í World Centre - Haifa, Israel, Department of Works, June 2006 – April 2009

- Supervised the conservation, restoration, and maintenance of buildings and grounds of Bahá'í Holy Places (UNESCO World Heritage sites) and other properties
- Supervised contractors and in-house four-man construction crew; arranged required materials and site access; prepared cost estimates and schedules, reviewed contractor bids, and created project completion reports
- Prepared and monitored annual budget for restoration, maintenance, and capital projects
- Analyzed previous projects and assessment reports to determine future work needs
- Designed small-scale earth-retaining structures and structural systems for renovation projects

Field Engineer
Wareing & Associates, Inc. (Civil Engineering) - Austin, TX, 2001–2006 (part-time)

- Analyzed reference data, performed site inspections, and prepared drawings and reports for Environmental Site Assessments (Phase I and II)
- Measured and analyzed air quality in commercial and residential buildings
- Performed site inspections and prepared drawings and remediation plans for water-damaged buildings

Teaching & Research Assistant
University of Texas at Austin, Department of Civil, Architectural, & Environmental Engineering
2003-2006 (part-time)

- Advised and supervised students in the design of structural, mechanical, electrical systems and site design for commercial buildings; Lectured on various aspects of engineering design
- Evaluated student examinations, reports, designs, and presentations
- Performed field research on shelter-in-place strategies in industrial and residential buildings
- Analyzed publications, data, and field research to design experiments and prepare reports and presentations

EDUCATION	**The University of Texas at Austin**
M.S., May 2006	Civil Engineering (Construction Engineering and Project Management)
M.P.Aff., May 2006	Public Affairs (LBJ School of Public Affairs)
B.A., May 2004	Liberal Arts (Plan II Honors)
B.S., May 2003	Architectural Engineering

Distinctions

Licensed Professional Engineer (83243PE), State of Oregon, since January 3, 2011
OSHA Authorized Outreach Trainer (Construction), since 2017
Loyd Carter Award for Teaching, OSU College of Engineering, 2011
Dennis Marker Teacher of the Year Award, OSU CEM Program, 2011, 2013, 2015, 2017
Hoffman Instructor in Civil and Construction Engineering, awarded May 2012
Former member of USA Rugby National Sevens Team, 2004
Secretary of the Spiritual Assembly of the Baha'is of Albany, Oregon, 2013-present

ERDEM COLERI

Assistant Professor
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Website: http://research.engr.oregonstate.edu/coleri/

Education and Employment Information

Education

2011	Ph.D., Civil and Environmental Engineering University of California, Davis
2007	M.S., Civil Engineering Middle East Technical University
2005	B.S., Civil Engineering Middle East Technical University

Professional Experience

Sept. 2014-present	Assistant Professor School of Civil and Construction Engineering Oregon State University
Sept. 2015–Sept. 2017	Assistant Professor and Loosley Faculty Fellow School of Civil and Construction Engineering Oregon State University
March 2013-September 2014	Assistant Project Scientist (Step III) Department of Civil and Environmental Engineering University of California, Davis • Development of viscoelastic pavement vehicle interaction models to evaluate the effects of pavement type (asphalt, concrete or composite) on fuel consumption **(Project Manager)**. • Development of a micromechanical viscoelastic finite element model from X-Ray computed tomography images for Hamburg Wheel Tracking Test (HWTT). • Investigation of consistency, repeatability and reproducibility of Asphalt Mixture Performance Tester (AMPT) laboratory test results between different laboratories (NCHRP 9-52 project). • Development of a standard procedure and test section for the operation, calibration and operator certification of inertial road profilers in California **(Project Manager)**. • Test and include additional regional materials in the Caltrans mechanistic-empirical (ME) standard materials library.

October 2011- March 2013	Postdoctoral Scholar Department of Civil and Environmental Engineering University of California, Davis • Development of a micromechanical viscoelastic finite element model from X-Ray computed tomography images for full-scale accelerated pavement testing. • Investigation of open-graded asphalt concrete rutting failure mechanisms by comparing X-Ray CT images taken before and after accelerated pavement testing. • Evaluation of pavement friction courses clogging susceptibility by X-Ray CT imaging and rainfall simulations. • Performing Automatic Pavement Condition Surveys (APCS) on the Caltrans pavement network. • Life-cycle cost and environmental life-cycle analysis for composite pavements.
February 2012-June 2013	Independent Technical Consultant Sensys Networks, Inc. • Development, testing, and commercialization of a Wireless Weigh-in-Motion (W-WIM) system to measure truck loads on pavements and bridges. • Provide recommendations for the improvement of wireless automatic vehicle classification (AVC) systems.

Research Interests

- Characterization of asphalt pavements
- Recycled asphalt concrete mixtures at high replacement contents
- Sustainable strategies for pavement design and rehabilitation
- Pavement LCA
- Network level pavement sustainability
- Modeling the effect of pavement roughness and stiffness on fuel consumption
- Multiscale finite element modeling of pavement materials and structures
- Wireless sensor networks (WSN) for infrastructure health monitoring
- Data mining, analysis and performance modeling from laboratory, accelerated pavement, and field tests

Awards

National and International Awards

- Outstanding Reviewer Award, Journal of Computing in Civil Engineering, American Society of Civil Engineers, 2014.
- Award for the best paper in 2012 in the 4th International Conference on Accelerated Pavement Testing for the paper entitled "*Calibration of Incremental-Recursive Rutting Prediction Models in CalME Using Heavy Vehicle Simulator Experiment*".

University or Community Awards

- John and Jean Loosley Faculty Fellow, 2015, Oregon State University

Teaching, Advising, and Other Assignments

Instructional Summary

Credit Courses

Number	Course Title	Term/Year	Credits	Enrollment
CCE321	Civil and Construction Engineering Materials	Fall 2014	4	53
CCE520	Pavement Design and Sustainability	Spring 2015	3	9
CCE321	Civil and Construction Engineering Materials	Fall 2015	4	62
CCE520	Advanced Pavement Materials	Winter 2016	3	7
CE492/592	Pavement Structures	Spring 2016	3	13
CCE321	Civil and Construction Engineering Materials	Fall 2016	4	57
CCE520	Advanced Pavement Materials	Spring 2017	3	5
CE492/592	Pavement Structures	Spring 2017	3	12
CCE321	Civil and Construction Engineering Materials	Fall 2017	4	57

Course and Curriculum Development

CCE 321 – Civil and Construction Engineering Materials –This course provides information on aggregate, concrete, asphalt, steel/aluminum, and wood materials for construction.

CCE520 – Pavement Design and Sustainability - It is becoming increasingly apparent that in order to achieve a sustainable transportation network, pavements should be designed by considering not only long-term performance, but also energy efficiency and environmental impacts. This brand new course teaches students how to use methods and software to design pavement structures that are more cost effective, socially beneficial, and does less damage to the environment. The course explores innovative design methods that were developed to investigate distress mechanisms of pavements including alternatives intended to address environmental performance goals. In addition, this course teaches students how to implement pavement design strategies that can have a considerable impact on fuel consumption, recycled asphalt use, vehicle maintenance costs, greenhouse gas (GHG) emissions, and life-cycle costs.

CCE520 – Advanced Pavement Materials – This brand new course teaches students how to design asphalt-aggregate mixtures (Superpave mix design method) to meet performance requirements. Recycling processes for asphalt mixtures and applications of other sustainable asphalt pavement technologies, such as rubberized asphalt, permeable pavements, and warm-mix asphalt, are also discussed. Characteristics of concrete pavement mixture types and concrete pavement construction and durability are also discussed. Environmental impacts of concrete and asphalt pavements' production, construction, and use phases are

also compared towards the end of the term. These comparisons are intended to provide an understanding of the importance of considering the complete pavement life cycle to evaluate environmental impacts.

Student and Participant Evaluations

Course No.	Term	Enroll-ment	# Re-spond-ing	Student Evaluation (#1/#2)	College Median* (#1/#2)	Required /Elective
CCE 321	Fall 2014	53	45	4.9/5.0	4.7/4.9	Required
CCE520	Spring 2015	9	9	5.9/5.9	5.3/5.4	Elective
CCE 321	Fall 2015	62	53	5.2/5.6	4.7/4.9	Required
CCE520	Winter 2016	7	5	5.3/5.9	5.3/5.5	Elective
CE 492/592	Spring 2016	13	9	5.8/5.9 (492) 5.8/5.9 (592)	4.9/5.0 (492) 5.3/5.4 (592)	Elective
CCE 321	Fall 2016	57	45	5.6/5.6	4.7/4.9	Required
CCE520	Spring 2017	5	-	-	-	Elective
CE 492/592	Spring 2017	12	9	5.8/5.9 (492) 5.8/5.9 (592)	4.9/5.1 (492) 5.1/5.3 (592)	Elective
CCE 321	Fall 2017	57	38	5.0/5.2	N/A	Required

* College median scores are shown separately for each level (e.g., 400, 500) taught.

Advising

Graduate Advisees – Completed

Student	Degree	Thesis	Graduated
1. David James Covey **(Engineering Designer at Murrysmith)**	MS	*Evaluation of Oregon Tack Coat Performance to Reduce Tracking and Increase Interlayer Shear Strength of Asphalt Pavements*	Summer 2016
2. Aiman Mahmoud **(Project Engineer at GRI)**	MS	*Development of Technologies to Evaluate Hot Mix Asphalt Layer Adhesion through Tack Coat*	Summer 2016
3. Sogol Sadat Haddadi **(Research Assistant at Statistics Department at OSU)**	MS	*Moving Towards Sustainability and Increasing User Safety by Improving Performance of RAP Mixtures and Developing a Network-Level Decision-Making Tool for Pavement Maintenance*	Spring 2017
4. Yuqi Zhang	MEng	-	Fall 2017

Graduate Advisees – Current

Student	Degree	Expected Graduation
1. Shashwath Sreedhar	PhD	Summer 2019
2. Mostafa Estaji	PhD	Spring 2019
3. Ihsan Ali Obaid	PhD	Winter 2020
4. Blaine Wruck	MS	Winter 2019
5. Sunny Lewis	MS	Spring 2018
6. Matthew Haynes	MS	Spring 2019

Graduate Thesis or Project Committees

Minor Professor or Committee Member:

Graduated

1. James Darnell, MS, 2015
2. Neil Schweitzer, MEng, 2016
3. Jason Anderson, MS, 2016
4. Luca Montanari, MS, 2017

Current

1. Jon Huffman, PhD
2. Jason Anderson, PhD

Undergraduate Research Assistants

1. Caleb Lennon (Winter 2015 - Summer 2015)
2. Blaine Wruck (Winter 2015 - Winter 2017)
3. Dylan Kreiger (Winter 2016 - Fall 2016)
4. Jawad Qassem (Winter 2017 – Spring 2017)
5. Matthew Haynes (Winter 2016 – Spring 2017)
6. Nicholas Giles (Fall 2016 – Spring 2017)
7. Natasha Anisimova (Winter 2016 – present) (EECS)
8. Timothy Flowerday (Fall 2016 – present)
9. Nicholas Kolstad (Winter 2017 – present)
10. Andrew Johnson (Winter 2017 – present)
11. John Paul Morton (Winter 2017 – present)
12. Erick Daniel Moreno Rangel (Winter 2018-present)
13. Scott Jacob Anderson (Winter 2018-present)
14. Eduardo Ramirez (Winter 2018-present)
15. Lincoln Earl Chapman (Winter 2018-present)
16. Kirk Annekken Downer (Winter 2018-present)
17. Alec Nikunen Adams (Winter 2018-present)

Scholarship and Creative Activity

Publications

Graduate students are shown in bold font.

Refereed Journal Publications

1. **Covey, D.,** E. Coleri, **A. Mahmoud**, (2017). *Tack Coat Rheological Properties and the Effects on Interlayer Shear Strength.* ASCE - Journal of Materials in Civil Engineering, 29 (11), p.1-11, doi.org/10.1061/(ASCE)MT.1943-5533.0002054.

2. **Mahmoud, A.**, E. Coleri, J. Batti, and **D. Covey**. (2017). *Development of a Wireless Field Tack Coat Tester to Evaluate In-Situ Tack Coat Performance.* Journal of Road Materials and Pavement Design, p.1-19, doi: 10.1080/14680629.2017.1354775.

3. Bajwa, R., E. Coleri, R. Rajagopal, P. Varaiya, and C. Flores. (2017). *Development of a Cost-Effective Wireless Vibration Weigh-In-Motion System to Estimate Axle Weights of Trucks.* Computer-Aided Civil and Infrastructure Engineering, 32, No.6, p.443-457, DOI: 10.1111/mice.12269.

4. Coleri E. and J.T. Harvey. (2017). *Impact of Pavement Structural Response on Vehicle Fuel Consumption.* ASCE's Journal of Transportation Engineering, Part B: Pavements, 143, No.1, https://doi.org/10.1061/JPEODX.0000004.

5. **Mahmoud, A.**, E. Coleri, J. Batti, **D. Covey**. (2017) *Development of A Field Torque Test to Evaluate In-Situ Tack Coat Performance.* Journal of Construction and Building Materials, 135, p.377-385, doi.org/10.1016/j.conbuildmat.2017.01.013.

6. Zak, J., C.L. Monismith, E. Coleri, J.T. Harvey (2016). *Uniaxial Shear Tester – New Test Method to Determine Shear Properties of Asphalt Mixtures*. Journal of Road Materials and Pavement Design, 18, p.87-103, doi: 10.1080/14680629.2016.1266747.

7. Tsai, B.W., E. Coleri, J.T. Harvey, C. L. Monismith (2016). Evaluation of AASHTO T 324 Hamburg Wheel Track Device Test. *Elsevier - Construction and Building Materials*, 114, p.248-260, doi:10.1016/j.conbuildmat.2016.03.171.

8. Coleri, E., J.T. Harvey, I. Zaabar, A. Louhghalam, K. Chatti (2015). Model Development, Field Section Characterization and Model Comparison for Excess Vehicle Fuel Use Due to Pavement Structural Response. *Transportation Research Record: Journal of the Transportation Research Board*, 2589, p.40-50.

9. Coleri, E., M. Kayhanian, J.T. Harvey (2014). Permeability of Porous Friction Course Pavements: Before and After Accelerated Pavement Tests. *Transportation Research Record: Journal of the Transportation Research Board*, p.21-29, DOI:10.3141/2456-03.

10. Coleri E., M. Kayhanian, J.T. Harvey, K. Yang, J.M. Boone (2013). Clogging Evaluation of Open Graded Friction Course Pavements Tested under Rainfall and Heavy Vehicle Simulators. *Journal of Environmental Management*, 129, p.164-172, DOI: 10.1016/j.jenvman.2013.07.005.

11. Coleri, E. and J.T. Harvey (2013). Investigation of Layered Elastic Theory Prediction Accuracy for Asphalt Concrete Pavement Design Using Micromechanical Viscoelastic Finite Element Modeling. *Journal of Materials and Structures*, p.1-22, DOI: 10.1617/s11527-013-0069-6.

12. Coleri, E. and J.T. Harvey (2013). A Fully Heterogeneous Viscoelastic Finite Element Model for Full-Scale Accelerated Pavement Testing. Journal of Construction and Building Materials, 43, p.14-30, DOI.org/10.1016/j.conbuildmat.2013.01.022.

13. Coleri, E., J.T. Harvey, K. Yang, J.M. Boone (2013). Micromechanical Investigation of Open-graded Asphalt Friction Courses' Rutting Mechanisms. *Journal of Construction and Building Materials*, 44, p.25-34, DOI.org/10.1016/j.conbuildmat.2013.03.027.

14. Khazanovich, L., D. Tompkins, P. Saxena, R. Wu, E. Coleri, J.T. Harvey. (2014). Mechanistic-Empirical Pavement Design to Mitigate Rutting in Asphalt Overlays of Concrete Pavements Using MEPDG and CalME. *Transportation Research Record: Journal of the Transportation Research Board*, 2368, p.36-44, 10.3141/2368-04.

15. Coleri, E., J.T. Harvey, K.Yang, J.M. Boone (2012). Investigation of Asphalt Concrete Rutting Mechanisms by X-Ray Computed Tomography Imaging and Micromechanical Finite Element Modeling. *Journal of Materials and Structures*, 46, p.1027-1043, DOI: 10.1617/s11527-012-9951.

16. Coleri, E., J.T. Harvey, K.Yang, J.M. Boone (2012). A Micromechanical Approach to Investigate Asphalt Concrete Rutting Mechanisms. *Journal of Construction and Building Materials*, 30, p.36-49 DOI:10.1016/j.conbuildmat.2011.11.041.

17. Coleri, E., J.T. Harvey, K.Yang, J.M. Boone (2012). Development of A Micromechanical Finite Element Model from Computed Tomography Images for Shear Modulus Simulation of Asphalt Mixtures. *Journal of Construction and Building Materials*, 30, p.783-793, DOI:10.1016/j.conbuildmat.2011.12.071.

18. Coleri E., R. Wu, J.M. Signore, J.T. Harvey (2012). Rutting of Rubberized Gap-Graded and Polymer-Modified Dense-Graded Asphalt Overlays in Composite Pavements. *Transportation Research Record: Journal of the Transportation Research Board*, 2304, p.195-204, 10.3141/2304-22.

19. Coleri, E., J.T. Harvey (2011). Evaluation of Laboratory, Construction and Performance Variability by Bootstrapping and Monte Carlo Methods for Rutting Performance Prediction of Heavy Vehicle Simulator Test Sections. *ASCE's Journal of Transportation Engineering*, 137, No.12, p.897-906, DOI: 10.1061/(ASCE)TE.1943-5436.0000292.

20. Coleri, E., J.T. Harvey (2011). Analysis of Representative Volume Element for Asphalt Concrete Laboratory Shear Testing. *ASCE's Journal of Materials in Civil Engineering*, 23, No.12, p.1642-1653, DOI: 1061/(ASCE)MT.1943-5533.0000344.

21. Coleri, E., M. Guler, A.G. Gungor, John T. Harvey (2010). Prediction of Subgrade Resilient Modulus Using Genetic Algorithm and Curve-Shifting Methodology - Alternative to Nonlinear Constitutive Models. In *Transportation Research Record: Journal of the Transportation Research Board*, 2170, p.64-73, DOI: 10.3141/2170-08.

22. Coleri, E., B.W. Tsai, C.L. Monismith (2008). Pavement Rutting Performance Prediction by Integrated Weibull Approach. In *Transportation Research Record: Journal of the Transportation Research Board*, 2087, p. 120-130 DOI: 10.3141/2087-13.

Peer-Reviewed Archival Conference Publications

- Coleri E., R. Wu, J.T. Harvey, J.M. Signore (2012). *Calibration of Incremental-Recursive Rutting Prediction Models in CalME Using HVS Experiments*. In proceedings of the 4th International Conference on Accelerated Pavement Testing, p471-481.

- Coleri, E., J.T. Harvey (2013). *Prediction of Rutting Performance Using Laboratory Measured and Strain Gauge Backcalculated Asphalt Concrete Stiffness*. In Proceedings of the 93rd Annual Meeting of the Transportation Research Board, Washington D.C., p.18.

- Bajwa, R., R. Rajagopal, E. Coleri, P. Varaiya, C. Flores. (2013). *In-Pavement Wireless Weigh-In-Motion.* In Proceedings of the 12th International Conference on Information Processing in Sensor Networks, ACM, New York, USA, 2013, p. 103-114 (25% acceptance rate).

- Bajwa, R., E. Coleri, C. Flores, R. Rajagopal, R. Kavaler, P. Varaiya, B. Wild. (2012). *An Experimental Wireless Accelerometer-Based Sensor System for Applications to WIM and Vehicle Classification.* In Proceedings of the 6th International Conference on Weigh-in-motion - ICWIM6, Dallas, Texas, p.3-12.

- Coleri, E., J.T. Harvey (2013). *Effects of Asphalt Concrete Anisotropy on Predicted Pavement Response at High Temperatures.* In Proceedings of the 92nd Annual Meeting of the Transportation Research Board, Washington D.C., p.22.

- Coleri E., L. Popescu, J.M. Signore*, R. Wu, J.T. Harvey (2012). *PCC Slab Temperature Gradients as a Function of Structure and Environment; Experience from the SHRP II R21 Composite Pavement Test Track*. In Proceedings of the 10th International Conference on Concrete Pavements, p.339-356.

- Wu R., J.M. Signore, J.T. Harvey, E. Coleri (2012). *Assessment of JPCP Slab and Joint Movement under Multiple Structural and Environmental Conditions.* In Proceedings of the 10th International Conference on Concrete Pavements, p.408-421.

- Coleri E. (2012). *Genetic Algorithm for Finite Horizon Pavement Resurfacing Planning Problem*. In Proceedings of the 91st Annual Meeting of the Transportation Research Board, Washington D.C., p.22.

Other Peer-Reviewed Publications

The following papers appeared in proceedings that were distributed primarily to attendees (as CDs, printed volumes, availability through a public website, etc.).

1. Harvey, J.T., A. Rezaei, R. Wu, I. Guada, E. Coleri, M. Kayhanian (2015). *Summary of Evaluations of Open-Graded Asphalt Mixes for Noise, Permeability and Durability.* International Airfield and Highway Pavements Conference, Miami, FL.

2. He, Y., J.T. Harvey, E. Coleri, F. Farshidi, H. Li (2013). *Effects of Specimen Preparation Variables and Testing Temperature on Asphalt Mixture Performance Tester Repeated-Load Triaxial Test for*

Hot-Mix Asphalt. Presented at the 93rd Annual Meeting of the Transportation Research Board, Washington D.C.

3. Rajagopal, R., R. Bajwa, E. Coleri, P. Varaiya, C. Flores. (2013). *Sensor Network for Pavement Performance Monitoring.* Presented at the ASCE International Workshop on Computing in Civil Engineering, June 23-25, 2013. Los Angeles, CA.

4. Coleri, E., A.G. Gungor, M. Guler (2008). *Correlation between Light Falling Weight Deflectometer Test Results and Laboratory Measured Elastic Response of Unbound Materials.* IS-Atlanta, In Proceedings of the 4th International Symposium on Deformation Characteristics of Geomaterials, No. 0133.

Papers Currently under Peer Review

1. **Sreedhar, S.**, E. Coleri (2018). Effects of Different Mixture Variables on Cracking Performance of Asphalt Mixtures Used in Oregon. *ASCE's Journal of Materials in Civil Engineering.*

2. **Covey, D.,** E. Coleri, **A. Mahmoud, N. Anisimova** (2018). Development of a Smartphone App and Device to Reduce Tack Coat Tracking. *Journal of Road Materials and Pavement Design*.

3. **Estaji, M.**, E. Coleri, J. Harvey (2018). Impact of Concrete Pavement Structural Damping on Vehicle Fuel Consumption under Moving Loads. *ASCE's Journal of Transportation Engineering, Part B: Pavements.*

4. **Haddadi, S.,** E. Coleri, **S. Sreedhar** (2018). Development of Strategies to Improve Performance of Reclaimed Asphalt Pavement Reclaimed Asphalt Shingle Mixtures. *Journal of Construction and Building Materials.*

5. **Sreedhar, S.**, E. Coleri**, S. Haddadi** (2018). Selection of a Performance Test to Assess the Cracking Resistance of Asphalt Concrete Materials. *Journal of Construction and Building Materials.*

6. E. Coleri, **Y. Zhang, B. Wruck** (2018). Mechanistic–Empirical Simulations and Life-Cycle Cost Analysis to Determine the Cost and Performance Effectiveness of Asphalt Mixtures Containing Recycled Materials. *Transportation Research Record: Journal of the Transportation Research Board.*

Other Publications

Transportation Research Circular E-C209 (*Integrating Asphalt Mixture Design, Structural Design, and Construction Quality Control*) prepared for Standing Committee on Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements by H. Von Quintus and K.D. Hall in collaboration with F. Fee, E. Coleri, M. Heitzman, R. May, N. Morian, and E. Y. Hajj (2016). Helped write and review the circular.

Reports to Sponsors

1. **Haddadi, S.,** Coleri, E., and **B. Wruck**. (2017). *A Network-Level Decision Making Tool for Pavement Maintenance and User Safety.* SPR 785, Draft report for Pacific Northwest Transportation Consortium (PacTrans) USDOT University Transportation Center for Federal Region 10 (under review).

2. Coleri, E., **S. Sreedhar, S. Haddadi**, and **B. Wruck**. (2017). *Adjusting Asphalt Mixes for Increased Durability and Implementation of a Performance Tester to Evaluate Fatigue Cracking of Asphalt*

Concrete. SPR 785, Draft report for Oregon Department of Transportation, Salem, Oregon, (under review by TAC).

3. Coleri, E., **S. Haddadi, S. Sreedhar, S. Lewis, Y. Zhang**, and **B. Wruck**. (2017). *Binder-Grade Bumping and High Binder Content to Improve Performance of RAP-RAS Mixtures.* SPR 797, Draft report for Oregon Department of Transportation, Salem, Oregon, (under review by TAC).

4. Coleri, E., **D. Covey, A. Mahmoud**, J. Batti, N. Anisimova. (2017). *HMAC Layer Adhesion through Tack Coat.* Research Report for Oregon Department of Transportation, FHWA-OR-RD-17-05.

5. Harvey, J.T., Lea, J.D., Kim, C., Coleri, E., Zaabar, I., Louhghalam, A., Chatti, K., Buscheck, J., Butt, A. (2016). *Simulation of Cumulative Annual Impact of Pavement Structural Response on Vehicle Fuel Economy for California Test Sections.* Davis and Berkeley, CA: University of California Pavement Research Center. (UCPRC-RR-2015-05).

6. Newcomb, D., A. E. Martin, F. Yin, E. Arambula, E. S. Park, A. Chowdhury, R. Brown, C. Rodezno, N. Tram, E. Coleri, D. Jones, J.T. Harvey, J.M. Signore (2015). *NCHRP Report 815: Short-Term Laboratory Conditioning of Asphalt Mixtures.* Washington DC: National Cooperative Highway Research Program, Transportation Research Board, National Research Council.

7. Wu, R., I. Guada, E. Coleri, A.Rezaei, M. Kayhanian, J.T. Harvey (2013). *Implementation of New Quieter Pavement Research: Accelerated Pavement Testing and Laboratory Evaluation of Different Open-Graded Hot-Mix Asphalt Materials.* Davis and Berkeley, CA: University of California Pavement Research Center (UCD-ITS-RR-13-29).

8. Rao, S., M. Darter, D. Tompkins, M. Vancura, L. Khazanovich, E. Coleri, J.M. Signore, R. Wu, J.T. Harvey, J. Vandenbossche (2012). *Composite Pavement Systems Volume 1: HMA/PCC Pavements.* Technical Report Prepared for Strategic Highway Research Program 2, Transportation Research Board, Washington D.C., National Research Council, National Academy of Sciences.

9. Rao, S., M. Darter, D. Tompkins, M. Vancura, L. Khazanovich, E. Coleri, J.M. Signore, R. Wu, J.T. Harvey, J. Vandenbossche (2012). *Composite Pavement Systems Volume 2: PCC/PCC Pavements.* Technical Report Prepared for Strategic Highway Research Program 2, Transportation Research Board, Washington D.C., National Research Council, National Academy of Sciences.

10. Signore, J.M., E. Coleri, R. Wu, J.T. Harvey (2012). *Integrating Pavement Preservation into the ME Design Process.* Davis and Berkeley, CA: University of California Pavement Research Center. (UCPRC-RR-2012-01).

11. Signore, J.M., R. Wu, E. Coleri, J.T. Harvey, R. Cheng, J. Zhou, L. Popescu (2012). *Performance Monitoring of Field Sections for Extended Life Benefits of Pavement Preservation Treatments.* Davis and Berkeley, CA: University of California Pavement Research Center. (UCPRC-RR-2012-05).

12. Signore, J.M., J.T. Harvey V. Kannekanti, B.D. Steven, B.W. Tsai, E. Coleri (2010). *Evaluation and Calibration of RadiCAL for Prediction of Longitudinal Cracking in Rigid Pavements.* Davis and Berkeley, CA: University of California Pavement Research Center. (TM-2008-10).

13. Guler, M., A.G. Gungor, E. Coleri, C. Avsar, O. Ozay (2007). *Adaptation of Resilient Modulus to Mechanistic-Empirical Design Specifications of Flexible Pavements.* Turkish General Directorate of Highways, Ankara, Turkey. (In Turkish).

Professional Meetings, Symposia, and Conferences

Presentations to Professional Groups

- Conference presentation (2018). *Development of Technologies to Reduce Tack Coat Tracking.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.

- Conference presentation (2018). *Tack Coat Rheological Properties and the Effects on Bond Performance.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.

- Conference presentation (2018). *Mechanistic–Empirical Simulations and Life-Cycle Cost Analysis to Determine the Cost and Performance Effectiveness of Asphalt Mixtures Containing Recycled Materials.* Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.

- Conference presentation (2018). *Binder-Grade Bumping and High Binder Content to Improve Performance of Reclaimed Asphalt Pavement–Reclaimed Asphalt Shingle Mixtures*. Presented at the 97th Annual Meeting of the Transportation Research Board, Washington D.C.

- Invited Talk (2017). *OSU's Research on Durability and High Recycled Mixtures.* Asphalt Pavement Association of Oregon 48th Annual Meeting, Portland, Oregon, Dec 2017.

- Invited Talk (2017). *Development of Strategies to Increase Recycled Asphalt Pavement Mixtures in Oregon.* New Frontiers in Construction Conference. University of Washington, Seattle, March 2017.

- Invited Talk (2017). *Oregon's Tack Coat Research & Results – What Products & Methods Should We Be Using?* 23rd Annual Oregon Asphalt Conference. Eugene, Oregon, Feb 2017.

- Invited Talk (2017). *OSU's Research on High Recycled Content Mixes.* 23rd Annual Oregon Asphalt Conference. Eugene, Oregon, Feb 2017.

- Invited Talk (2016). *HMAC Layer Adhesion through Tack Coat.* Northwest Pavement Management Association Conference. Portland, Oregon, October 2016.

- Invited Talk (2016). *Pavement Research at Oregon State University.* Turkish General Directorate of Highways. Ankara, Turkey, July 2016.

- Invited Talk (2015). *Pavement and Sustainability Research at Oregon State University.* Oregon State University Materials Science Seminar, Corvallis, Oregon, March 2015.

- Conference presentation (2015). *Model Development, Field Section Characterization and Model Comparison for Excess Vehicle Fuel Use Due to Pavement Structural Response*. Presented at the 94th Annual Meeting of the Transportation Research Board, Washington D.C.

- Conference presentation (2014). *Permeability of Porous Friction Course Pavements: Before and After Accelerated Pavement Tests*. Presented at the 93rd Annual Meeting of the Transportation Research Board, Washington D.C.

- Committee presentation (2013). *Micromechanical Investigation of Open-graded Asphalt Friction Courses' Rutting and Clogging Mechanisms*. Presented at the 92nd Annual Meeting of the Transportation Research Board, Washington D.C at the AFD40- Standing Committee on Full-Scale Accelerated Pavement Testing meeting.

- Conference presentation (2013). *Rutting Mechanisms of Porous Asphalt Friction Courses.* Engineering Mechanics Institute Conference, Northwestern University, August 2013.

- Conference presentation (2013). *Prediction of Rutting Performance Using Laboratory Measured and Strain Gauge Backcalculated Asphalt Concrete Stiffness*. Presented at the 92rd Annual Meeting of the Transportation Research Board, Washington D.C.

- Conference presentation (2013). *Effects of Asphalt Concrete Anisotropy on Predicted Pavement Response at High Temperatures.* Presented at the 92nd Annual Meeting of the Transportation Research Board, Washington D.C.

- Committee presentation (2012). *A Micromechanical Approach to Investigate Structural Properties of Asphalt Concrete Pavements*. Presented at the 91st Annual Meeting of the Transportation Research Board, Washington D.C at the AFK50- Standing Committee on Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements meeting.

- Conference presentation (2012). Micromechanical Investigation of Asphalt Concrete Rutting Mechanisms. Engineering Mechanics Institute Conference, University of Notre Dame, June 2012.

- Conference presentation (2012). A Micromechanical Finite Element Model for Asphalt Concrete Shear Modulus Simulation. Engineering Mechanics Institute Conference, University of Notre Dame, June 2012.

- Conference presentation (2012). *Rutting of Rubberized Gap-Graded and Polymer- Modified Dense-Graded Asphalt Overlays in Composite Pavements*. Presented at the 91st Annual Meeting of the Transportation Research Board, Washington D.C.

- Conference presentation (2012). *Calibration of Incremental-Recursive Rutting Prediction Models in CalME Using HVS Experiments*. Presented at the 4th International Conference on Accelerated Pavement Testing.

- Conference presentation (2012). *Genetic Algorithm for Finite Horizon Pavement Resurfacing Planning Problem*. Presented at the 91st Annual Meeting of the Transportation Research Board, Washington D.C.

- Conference presentation (2008). Pavement Rutting Performance Prediction by Integrated Weibull Approach. . Presented at the 87th Annual Meeting of the Transportation Research Board, Washington D.C.

Participation at Invitational Workshops

- Invited speaker. APAO/ODOT Advanced Pavers Workshop. *Tack Coat Research in Oregon*. February 2016, Eugene, Oregon.

Grant and Contract Support

List covers grants/contracts on which candidate served as PI or coPI only, including those funded through other institutions. "My share" indicates the amount of funding, if any, over which the candidate had control.

Agency & Dates	*PI (and coPIs)*	*Title*	*Total Budget*	*My Share*
Oregon Dept. of Transportation (ODOT) 12/14-8/16	E. Coleri	HMAC Layer Adhesion Through Tack Coat	$140,000	$140,000
California Dept. of Transportation 4/15-4/17	J. Harvey – Main PI O.S.U subcontract PI: E. Coleri	Modeling Effects of Pavement Structural Response on Vehicle Fuel Economy and Simulation of Cumulative Annual Impact	$1,600,000	$150,374
PacTrans Region 10 UTC 12/15-6-17	E. Coleri	A Network-Level Decision Making Tool for Pavement Maintenance and User Safety	$36,335	$36,335
ODOT 10/15-6/17	E. Coleri	Adjusting Asphalt Mixes for Increased Durability and Implementation of a Tester to Evaluate Fatigue Cracking of Asphalt Concrete	$170,000	$170,000
ODOT 11/15-06/17	E. Coleri	Binder-Grade Bumping and High Binder Content to Improve Performance of RAP-RAS Mixtures	$170,000	$170,000
ODOT 8/17-7/19	E. Coleri	Bridge Deck Asphalt Concrete Pavement Armoring	$185,000	$185,000
ODOT 8/17-7/19	E. Coleri	Implementation of ODOT Tack Coat Technologies and Procedures to Improve Long-Term Pavement Performance	$185,000	$185,000
Industry (TBA)	E. Coleri	TBA	$32,200	$32,200
ODOT 11/17-8/19	E. Coleri	Development of a Balanced Mix Design Method in Oregon	$85,000	$85,000
		Totals	$2,603,535	$1,153,909

Service

University Service

- Strategic Governance Committee 2015-2016
- CCE Grad Committee, 2016-2017

Service to the Profession

Conference and Workshop Organization

- Engineering Mechanics Institute (EMI), American Society of Civil Engineers (ASCE). In EMI 2013, organized and moderated the conference session - "Pavement Materials: Experiments and Modeling".
- Member of the Young Professional Conference Organization Committee on Accelerated Pavement Testing for the APT2012, 4th International Conference on Accelerated Pavement Testing, September, 2012.

Conference Program Committees

- Member of the Conference Scientific Committee on International Airfield and Highway Pavements Conference, Miami, FL, June, 2015.
- Presiding Officer for the session “Modeling of Asphalt Concrete Mixtures” at the Transportation Research Board Conference, Washington D.C., January 2014.
- Presiding Officer for the session “Relationship between Field Performance and Properties of Asphalt Mixtures” at the Transportation Research Board Conference, Washington D.C., January 2015.

Reviewing

Reviewed over 100 papers since 2010 for the following journals and conferences:

- ASCE Journal of Transportation Engineering
- ASCE Journal of Materials in Civil Engineering
- ASCE Journal of Engineering Mechanics
- Elsevier - Construction and Building Materials
- ASCE Journal of Computing in Civil Engineering
- International Journal of Pavement Engineering
- IEEE Sensors Journal
- Transportation Research Board - Full Scale/Accelerated Pavement Testing (AFD40) Committee
- Transportation Research Board - Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements (AFK50) Committee
- Journal of ASTM International
- Accelerated Pavement Testing Conferences
- International Society for Asphalt Pavements
- International Journal of Roads and Airports

Other

Professional Memberships

- Committee member, AFK50 committee of Transportation Research Board (TRB), Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements (04/2012 - present).

- Committee member, AFD40 committee of Transportation Research Board (TRB), Full-Scale Accelerated Pavement Testing (04/2013 – present).
- Committee member and **Membership Coordinator (since November 2016)**, Engineering Mechanics Institute (EMI), American Society of Civil Engineers (ASCE). Mechanics of Pavements Committee (11/2012 – present).
- Member of International Society for Asphalt Pavements.
- Member of Association of Asphalt Paving Technologists (AAPT).
- Member of Asphalt Pavement Association in Oregon (APAO)

Shane Brown
Ph.D., P.E. (CA)

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School of Civil and Construction Engineering
Oregon State University
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RESEARCH EXPERIENCE - SUMMARY

- National Science Foundation CAREER Award Winner, 2011. Understand how practicing engineers utilize fundamental engineering concepts in their practice and how they view knowledge and learning.
- External grants totaling - PI $3,900,000 ($88,445 Matching), Co-PI $7,000,000 (I controlled $721,900).
- Thirty-four peer-reviewed journal articles, two peer-reviewed book chapters (one invited), and fifty-six peer-reviewed conference proceedings.
- Invited speaker at the Clemson University-Virginia Tech Engineering Education Invited Lecture Series, Oregon Transportation Research and Education Consortium (OTREC) Invited Lecture Series, American Society for Engineering Education (ASEE) Pacific Northwest Section Annual Conference 2007, and the Transportation Research Board (TRB) 2010 and 2014 Annual Meetings.
- Four Ph.D. and twenty four M.S. students graduated. Currently advising four Ph.D. Advised xxx Postdoctoral Researchers
- Primary research interests are conceptual change, situated cognition, social capital and the adoption process of curricular materials and teaching practices.
- Received the ASEE Apprentice Faculty Grant funded by the National Academy of Engineering Center for the Advancement of Scholarship in Engineering Education; Frontiers in Education (FIE) New Faculty Fellow Award; Honorable Mention Benjamin Dasher Best Paper Award 2007 FIE National Conference; and Best Paper Award 2004, 2008, and 2010 ASEE Pacific Northwest Regional Conference.

TEACHING EXPERIENCE - SUMMARY

- Primary teaching interests are theories of teaching and learning, senior design, water resources, transportation engineering, and engineering mechanics.
- Published Ranking Tasks for Mechanics of Materials workbook with Prentice Hall.
- Received one university and one school award for outstanding teaching at OSU, one department award for outstanding teaching at Washington State University (WSU), one university award for advising excellence at WSU, two department awards for outstanding advising at WSU, one regional award for outstanding teaching from the ASEE, one university outstanding teaching assistant award at Oregon State University, and one national award for outstanding teaching from the American Society of Civil Engineers (ASCE).
- Taught seven different engineering courses at WSU, statics at Oregon State University, and eleven different engineering and physics courses at Central Oregon Community College.

SERVICE - SUMMARY

- Senior Associate Editor Journal of Engineering Education
- Chair of National Cooperative Highway Research Program (NCHRP) Panel 20-104 and 20-93
- Member of NCHRP Panel 20-68A: Domestic Scan Program, 2010-present
- Member of TRB Taskforce on Knowledge Management AB010T, 2012-2013
- Director, ASEE Education Educational Research and Methods Division, 2010-2012
- Program Chair, ASEE Educational Research and Methods Division, 2013-2015

EDUCATION

Ph.D., Civil Engineering, Oregon State University, June 2005. Minor in Science Education. Thesis: Social Capital in Engineering Education.
M.S., Environmental Engineering, University of California, Davis, March 1998.
B.S., Civil Engineering, Oregon State University, 1995.

PROFESSIONAL REGISTRATION

Professional Civil Engineer, California, License 60356.

EMPLOYMENT HISTORY - RESEARCH AND TEACHING

Associate School Head, School of Civil and Construction Engineering, Oregon State University, 2016-2017
Associate Professor, School of Civil and Construction Engineering, Oregon State University, 2013-Present
Assistant Professor, Civil and Environmental Engineering Department, Washington State University. 2008-2013.
Clinical Assistant Professor, Civil and Environmental Engineering Department, Washington State University. 2005-2008.
Instructor, Science Department, Central Oregon Community College. 2004-2005, 2001-2002.
Graduate Research and Teaching Assistant, Civil Engineering Department, Oregon State University. 2002-2005.

EMPLOYMENT HISTORY - ENGINEERING CONSULTING

Project Engineer, W&H Pacific, Bend, Oregon. Summer 2002.
Project Manager, Eco:Logic Engineering, Rocklin, California. 1998-2001.
Staff Engineer, Dames & Moore, Sacramento, California. 1997-1998.

HONORS AND AWARDS

Teaching and Advising
OSU Faculty Teaching Excellence Award, 2015
OSU ASCE Civil Engineering Outstanding Teaching Award, Fall 2014
WSU Graduate and Professional Student Association Advising Excellence Award, Fall 2010
Outstanding Faculty Advisor, 2007 and 2010, WSU Department of Civil and Environmental Engineering (CEE)
Leon Luck Faculty Award for Most Effective Professor, 2010, WSU Department of Civil and Environmental Engineering
ASCE ExCEEd National New Faculty Excellence in Teaching Award, 2008
Outstanding Teaching Award, 2007, PNW Section of ASEE
Outstanding Teaching Award, 2006, WSU CEE
Oregon State University Herbert Frolander Outstanding Teaching Assistant Award, 2005
Research
National Science Foundation CAREER Award. Fall 2011
Best Paper Award, 2010, 2008, and 2004, ASEE PNW Section Annual Meeting
Best Paper Award, 2009, ASEE Zone 8
National Academy of Engineering Frontiers of Engineering Education National Symposium Selected Participant, 2010, Irvine, CA
Honorable Mention, Benjamin Dasher Outstanding Paper Award, 2007 FIE National Conference
National Academy of Engineering Center for Advancement of Scholarship in Engineering Education Faculty Award, 2007, FIE National Conference

Educational Research and Methods Apprentice Faculty Grant, 2007, ASEE National Conference
Outstanding Service Award, 2001, California Water Environment Association

REFEREED JOURNAL ARTICLES AND BOOK CHAPTERS

(* indicates a student advised by S. Brown)

1. Barner, M., **S. Brown**, Lutz, B., & Montfort, D. (2017). Engineering Faculty Interpretations of Pull-Oriented Innovation Development and Why Context Matters. International Journal of Engineering Education. Submitted December 2017.
2. Ironside, A., B. Lutz, N. Perova, K. Quardokus-Fishder and **S. Brown**. An Adoption Study of the Course Social and Cognitive Engagement (CSCE) Surveys: Faculty Sensemaking of Student In-Class Engagement Principles. International Journal of Engineering Education. Submitted December 2017.
3. **Brown, S.** O. Ha, B. Lutz, and N. Perova. Exploring Differences in Statics Concept Inventory Scores for Students and Practitioners, Journal of Engineering Education. Accept Pending Revisions.
4. Bornasal, F.B.*, **S. Brown**, and N. Perova. The use, representation, negotiation, and interpretation of concepts in engineering practice: Preliminary framework of conceptual growth in engineering practice. Journal of Engineering Education. April 2018.
5. **Brown, S.,** D. Montfort, N. Perova, B. Lutz, A. Berger, and R. Streveler. Framework Theory of Conceptual Change to Interpret Undergraduate Engineering Students' Explanations about Mechanics of Materials Concepts. Journal of Engineering Education. January 2018
6. Beddoes, K., D. Montfort and **S. Brown**. Accounting for Context beyond Domain: An Authentic Practice-Based Framework for Advancing Personal Epistemology Research. International Journal of Learning and Development. Vol. 7 (3). 2017.
7. Villanueva, K.*, **S. Brown**, N. P. Pitterson, D. S. Hurwitz and A. Sitomer. Teaching Evaluation Practices in Engineering Programs: Current Approaches and Usefulness. International Journal of Engineering Education. Vol. 33-4. 2017.
8. Ghodrat, M. A. D. Hurwitz, and S. Brown. Influence of Item-Specific Self-Efficacy and Competence of Engineering Students. International Journal of Engineering Education. Vol. 33-4. 2017.
9. **Brown, S.**, K. Beddoes, D. Montfort*, and A. Baghdanov*. Engineering Students' Fluid Mechanics Misconceptions: A Description and Theoretical Explanation. International Journal of Engineering Education. Vol. 33-4. 2017.
10. Ha, O., **S. Brown**, and N. Pitterson. An Exploratory Factor Analysis of Statics Concept Inventory Data from practicing Civil Engineers. International Journal of Engineering Education. Vol 33-1A. 2017.
11. **Brown, S.** and A. Lemer. Knowledge Teams, People, and Transportation Agencies: Building a Successful, Productive Workplace Culture. Transportation Research News. Issue 305. 2016
12. Ghodrat, M. Hurwitz, D. & **S. Brown.** Holistic and Iterative Development and Dissemination of Conceptual Traffic Signal Question. ASCE Journal of Professional Issues in Engineering Education and Practice. Vol. 142, Issue 4. 2016.
13. Peters, A.*, K. Beddoes, **S. Brown**, and K. Chang. Transportation Engineering Instructors' Decision Making Processed for Course Changes. ASCE Journal of Professional Issues in Engineering Education and Practice. Vol. 142 (3). 2016.
14. Montfort, D.*, Herman, G., Matusovich, H. M., Streveler, R. A., and O. Adesope. Patterns of Student Conceptual Understanding across Engineering Content Areas, International Journal of Engineering Education. Vol. 31 (6). 2015.
15. Martin, J. P., S. Brown, M. K. Miller and S. K. Stefl. Characterizing Engineering Student Social Capital in Relation to Demographics, International Journal of Engineering Education. Vol. 31 (4). 2015.

16. **Brown, S.,** F. Bornasal*, S. Brooks, and J.P. Martin. Civil Engineering Faculty Incorporation of Sustainability in Classrooms and Relation to Beliefs about Sustainability. ASCE Journal of Professional Issues in Engineering Education and Practice. Vol. 141 (2). 2015.
17. Hurwitz, D., **S. Brown**, M. Islam, K. Daratha*, and M. Kyte. Traffic Signal System Misconceptions Across Three Cohorts: Novice Students, Expert Students, and Practicing Engineers. Transportation Research Record. Journal of the Transportation Research Board. (2414). 2014.
18. Brooks, S.*, **S. Brown,** D. Davis, and J. Lebeau. Adoption of Technological Innovations: A Case Study of the ASSESS Website. Advances in Engineering Education. Vol. 4 (1). 2014.
19. Hurwitz, D., J. Swake, **S. Brown**, R.K. Young, K. Heaslip, K. Sanford, and R. Turochy. Influence of Collaborative Curriculum Design on Educational Beliefs, Communities of Practitioners, and Classroom Practice in Transportation Engineering Education. ASCE Journal of Professional Issues in Engineering Education and Practice. Vol. 140 (3). 2014.
20. **Brown, S**., D. Street*, and J.P. Martin. Engineering Student Social Capital in an Interactive Learning Environment. International Journal of Engineering Education. Vol. 30 (4). 2014.
21. Easley, A.*, S. Brown, D. Montfort, J. Adam, B. VanWie, A. Olusola, C. Poor, C. Tobin, and A. Flatt. The Effectiveness of an Interactive Learning Environment Utilizing a Physical Model, ASCE Journal of Professional Issues in Engineering Education and Practice. Vol. 140 (3). 2014.
22. Montfort, D., **S. Brown,** and V. Writenouer. Secondary Students' Conceptual Understanding of Engineering as a Field, Journal of Pre-college Engineering Education Research. Vol. 3 (2). 2013.
23. Montfort, D., **S. Brown**, and D. Shinew. The Personal Epistemologies of Civil Engineering Faculty, Journal of Engineering Education. Vol. 3 (3). 2014.
24. *Nicholas, C., **S. Brown**, and M. Kyte. Evaluating the Effectiveness of Dynamic Traffic Simulations: A Case Study in Transportation Engineering Education, ASCE Journal of Professional Issues in Engineering Education and Practice. Vol. 139 (3). 2013.
25. *Howard, K. E., **S. Brown**, S. Chung, T. Jobson, and T. VanReken. College Students' Understanding of Atmospheric Ozone Formation, Chemistry Education Research and Practice. Vol.14 (1). 2013.
26. Poor, C. and **S. Brown**. Increasing Retention of Women in Engineering at WSU: A Model for a Women's Mentoring Program, College Student Journal. Vol. 47 (3). 2013.
27. *Davis, S., **S. Brown**, R. Borden, and D. Montfort. Embedded Knowledge in Transportation Engineering: Comparisons Between Engineers and Instructors, ASCE Journal of Professional Issues in Engineering Education and Practice. Vol. 139 (1). 2013.
28. *Montfort, D., **S. Brown**, and J. Pegg. The Adoption of a Capstone Assessment Instrument, Journal of Engineering Education. Vol. 101 (4). 2012.
29. *Montfort, D. and **S. Brown.** What Do We Mean by Cyberlearning: Characterizing a Socially Constructed Definition with Experts and Practitioners, Journal of Science Education and Technology. Vol. 22 (1). 2012.
30. **Brown, S**., *D. Street, and *F. Barker. Motivational Factors Influencing In-Class Peer Tutors in Engineering: A Functional Approach, International Journal of Engineering Education. Vol. 29 (1). 2013.
31. **Brown, S.** and *J. Burnham. Engineering Students Mathematics Self-Efficacy Development in a Freshmen Engineering Mathematics Course, International Journal of Engineering Education. Vol. 28 (1). 2012.
32. Wolcott, M., **S. Brown**, *M. King, D. Ascher-Barnstone, T. Beyreuther, and K. Olsen. A Model for Faculty, Student, and Practitioner Development in Sustainability Engineering through an Integrated Design Experience, ASCE Journal of Professional Issues in Engineering Education and Practice. Vol. 137 (2). 2011.
33. *Andrews, B., **S. Brown**, *D. Montfort. and M. Dixon. Student Understanding of Sight Distance in Geometric Design: Beginning Line of Inquiry to Characterize Student Understanding of Transportation Engineering, Journal of the Transportation Research Board. Vol. 2199. 2010.
34. Kyte, M., M. Dixon, and **S. Brown**. A Process for Improving the Design of Transportation Curriculum Materials with Examples, Journal of the Transportation Research Board. Vol. 2199. 2010.

35. **Brown, S.** and C. Poor. In-Class Peer Tutoring: A Model for Engineering Instruction, International Journal of Engineering Education. Vol. 26 (5). 2010.
36. *Montfort, D., **S. Brown.** An Investigation of Students' Conceptual Understanding in Related Sophomore to Graduate-Level Engineering and Mechanics Courses, Journal of Engineering Education. Vol. 98 (2). 2009.
37. **Brown, S.** and L. Flick. The Role and Development of Social Capital in an Electrical Engineering Lab, Journal of Engineering Education. Vol. 98 (1). 2009.
38. **Brown, S.** and *Hildreth, K. An investigation of student understanding of shear and bending moment diagrams. In W. Aung, J. Mecsi, J. Moscinski, I. Rouse and P. Willmot (Eds.), Innovations 2008: World Innovations in Engineering Education and Research. Begell House Publishing: 81-101.

BOOK CHAPTERS

1. Beddoes, K., D. Montfort, and **S. Brown**. Squaring Philosophy of Engineering Through Personal Epistemologies Research, Philosophy and Engineering: Exploring Boundaries, Expanding Connections. Springer. 2016.
2. Streveler, R., **S. Brown**, D. Montfort, and G. Hermann. Conceptual Change and Misconceptions in Engineering Education. Cambridge Handbook of Engineering Education Research. Cambridge University Press. 2014.

BOOKS

1. **Brown, S.** and C. Poor, Ranking Tasks for Mechanics of Materials, Prentice Hall, 2010.

REFEREED CONFERENCE PROCEEDINGS

(* indicates a student advised by S. Brown)

1. Spatial Reasoning Difference between Civil and Mechanical Engineering Students in Learning Mechanics of Materials Course: A Case of Cross-sectional Inference [view paper]Dr. Oai Ha (Western Carolina University) and Dr. Shane A. Brown P.E. (Oregon State University) ASEE Annual Conference & Exposition, Columbus, OH. 2017.
2. Incorporating Faculty Sense Making in the Implementation and Modification of an Instrument to Measure Social and Cognitive Engagement [view paper]Ms. Allyson Jo Ironside (Oregon State University), Dr. Nicole P. Pitterson (Oregon State University), Dr. Shane A. Brown P.E. (Oregon State University), Dr. Kathleen Quardokus Fisher (Florida International University), Mr. Sean Lyle Gestson (Oregon State University), Dr. Denise Rutledge Simmons P.E. (Virginia Polytechnic Institute and State University), and Dr. Olusola Adesope (Washington State University) ASEE Annual Conference & Exposition, Columbus, OH. 2017.
3. Board # 13 : Examining engineering concepts in practice: Is conceptual understanding relevant to practice? [view paper]Dr. Shane A. Brown P.E. (Oregon State University) and Mr. Matthew Stephen Barner (Oregon State University) ASEE Annual Conference & Exposition, Columbus, OH. 2017.
4. Extended Faculty Development Effort Based on Faculty Needs [view paper]Dr. Shane A. Brown P.E. (Oregon State University) and Mr. Matthew Stephen Barner (Oregon State University) ASEE Annual Conference & Exposition, Columbus, OH. 2017.
5. Pitterson, N., **S. Brown**, K. A. Villanueva*, and A. Sitomer. Investigating current approaches to teaching evaluation in engineering departments. FIE Annual Conference, Erie, PA. 2016
6. Barner, M. and **S. Brown**. Providing meaningful change in the engineering Classroom. FIE Annual Conference, Erie, PA. 2016
7. Ha, O. and **S. Brown**. A factor analysis of Statics Concept Inventory data from practicing civil engineers. FIE Annual Conference, Erie, PA. 2016
8. Pitterson, N. S. Brown, K Quardokus-Fisher, and J. Pascoe. Measuring cognitive engagement through interactive, constructive and passive learning activities. FIE Annual Conference, Erie, PA. 2016

9. Panther, G., D. Montfort, S. Brown. Instructors Playing the Role of Developer and Implementer: Impacts on Material Development. 123rd ASEE Annual Conference & Exposition, New Orleans, LA. 2016.
10. Bornasal, F. B. & S. Brown. Engineering Concepts in Engineering Performances and Social Interactions. 6th Research in Engineering Education Symposium. Dublin, Ireland. 2015.
11. Montfort, D., Beddoes, K. & S. Brown. Engineers and Their Knowledge: A Longitudinal Study of Practicing Engineers' Personal Epistemologies. 6th Research in Engineering Education Symposium. Dublin, Ireland. 2015.
12. Beddoes, K., Montfort, D. & **S. Brown.** Epistemological Foundations of Global Competencies: A New Theory to Advance Research on Global Competencies. 122nd ASEE Annual Conference & Exposition, Seattle, WA. 2015.
13. Koretsky, M., Bouwma-Gearhart, J., **Brown, S.**, Dick, T., Brubaker-Cole, S. J., Sitomer, A. Enhancing STEM Education at Oregon State University – Year 1. 122nd ASEE Annual Conference & Exposition, Seattle, WA. 2015.
14. Urlacher, M., **Brown, S.**, Steif, P. and F. B. Bornasal. Practicing Civil Engineers' Understanding of Statics Concept Inventory Questions. 122nd ASEE Annual Conference & Exposition, Seattle, WA. 2015.
15. Wallace, L. Bornasal, F. B., & **S. Brown**. Concepts in roundabout resources: A comparison between academic and practical text using content analysis. 122nd ASEE Annual Conference & Exposition, Seattle, WA. 2015.
16. Panther, G., Montfort, D., & **S. Brown**. Instructor Concerns and Use of Resources in the Development of Course Materials. 122nd ASEE Annual Conference & Exposition, Seattle, WA. 2015.
17. Peters, A. S., **Brown, S**., Chang, K., Thornton, K., Shinohara, K., & K. Beddoes. Refinement and Dissemination of a Digital Platform for Sharing Transportation Education Materials. 122nd ASEE Annual Conference & Exposition, Seattle, WA. 2015.
18. Montfort, D., **Brown, S**., Riley, C. E., Barroso, L. R., Pollock, D. G., Light, J. L., & A. Lenz. Lessons Learned from Collaborative Development of Research-Based Course Materials. 122nd ASEE Annual Conference & Exposition, Seattle, WA. 2015.
19. Arbogast, C. A., Montfort, D., & **S. Brown.** Examining Interruptions in a Student's Solution Generating Process for Indicators of Conceptual Knowledge. 122nd ASEE Annual Conference & Exposition, Seattle, WA. 2015.
20. Little, D. L., Quardokus-Fisher, K., **Brown, S.**, Koretsky, M. & J. Bouwma-Gearhart**.** Measuring Student Perceptions of Engineering Classroom Activities and the Use of Such Measures by STEM Faculty: The Development of the Student Class Activity and Engagement Instrument. 122nd ASEE Annual Conference & Exposition, Seattle, WA. 2015.
21. Bornasal, F.B.*, Lester, J.N., & **S. Brown.** Recollecting experience in interviews: the structure and organization of engineering 'interview talk'. 121st ASEE Annual Conference & Exposition, Indianapolis, IN. 2014.
22. Bornasal, F.B.* & **S. Brown.** Prevalence of inscriptions in transportation engineering text: Clues to context. 121st ASEE Annual Conference & Exposition, Indianapolis, IN. 2014.
23. Bernhardt, K., D. S. Hurwitz, R. K. Young. R. E. Turochy, **S. A. Brown**, J. Swake, A. R. Bill, K. Heaslip, and M. Kyte. A Model for Collaborative Curriculum Design in Transportation Engineering Education. American Society for Engineering Education Annual Conference, Atlanta, GA. 2013.
24. Frye, N.L., D. Montfort, and **S. Brown**. Personal Epistemology and Sophomore Engineering Students. American Society for Engineering Education Annual Conference, Atlanta, GA. 2013.
25. Montfort, D. G. L. Herman, **S. Brown**, H. Matusovich, and R. A. Streveler. Novice-Led paired thematic analysis: A method for conceptual change in engineering. American Society for Engineering Education Annual Conference, Atlanta, GA. 2013.
26. **Brown, S.**, Conceptual Change in Mechanics of Materials. American Society for Engineering Education Annual Conference, Atlanta, GA. 2013.

27. Burgher, J., D. Finkel, B. J. VanWie, O. Adesope, **S. Brown** and J. W. Atkinson. New Hands on Fluid Mechanics Cartridges and Pedagogical Assessment. American Society for Engineering Education Annual Conference, Atlanta, GA. 2013.
28. Arasteh, A., C. M. Clark, B. J. VanWie, N. Abu-lail. O. Adesope, and **S. Brown.** Work in progress: Development of Hands-on Desktop Learning Modules for Bioengineering Courses. American Society for Engineering Education Annual Conference, Atlanta, GA. 2013.
29. *Martinkus, N., A. Kulkarni, N. Lovrich, P. Smith, W. Shi, J. Pierce, M. Wolcott, and **S. Brown**. An Innovative Approach to Identify Regional Bioenergy Infrastructure Sites. 55th International Convention of Society of Wood Science and Technology, Beijing, China. August 2012.
30. *Easley, A., **S. Brown**, J. Adam, D. Montfort, and B. Vanwie. Open Channel Flow Misconceptions and Ontological Categories. Frontiers in Education Annual Conference, Seattle, WA. 2012.
31. Herman, G., R. Streveler, D. Montfort, and **S. Brown**. Work in Progress: Do students need to learn to speak "Engineerin-ese?" Conceptual change as language acquisition in engineering. Frontiers in Education Annual Conference, Seattle, WA. 2012.
32. Montfort, D., G. Herman, R. Streveler, and **S. Brown**. Assessing the application of three theories of conceptual change to interdisciplinary data sets. Frontiers in Education Annual Conference, Seattle, WA. 2012.
33. Montfort, D., **S. Brown**, and N. Frye. Work in Progress: Theoretical Approach to Characterizing Changes in Students' and Engineers' Conceptual Understanding and Personal Epistemologies. Frontiers in Education Annual Conference, Seattle, WA. 2012.
34. LeBeau, J., D. Davis, M. Trevisan, B. French, **S. Brown**, H. Davis, B. Dorgan, and S. Brooks. Work in Progress: Help in Finding Evaluation Instruments for Engineering Education Innovations. Frontiers in Education Annual Conference, Seattle, WA. 2012.
35. Frye, N., D. Montfort, **S. Brown**, and O. Adesope. I'm absolutely certain that's probably true: Exploring epistemologies of sophomore engineering students. Frontiers in Education Annual Conference, Seattle, WA. 2012.
36. **Brown, S**., *S. Davis, and *C. Nicholas. Practicing Engineers Conceptions of Sight Distance and Stopping Sight Distance within the Context of Highway Design. American Society for Engineering Education Annual Conference, Vancouver, BC. 2011.
37. *Gerlick, R., D. Davis, and **S. Brown**. Establishing Inter-rater Agreement for TIDEE's Teamwork and Professional Development Assessments. American Society for Engineering Education Annual Conference, Vancouver, BC. 2011.
38. Klingbeil, N., S. Molitor, B. Randolph, **S. Brown**, R. Olsen, and R. Cassady. The Wright State Model for Engineering Mathematics Education: Highlights from a CCLI Phase 3 Initiative, Volume 2. American Society for Engineering Education Annual Conference, Vancouver, BC. 2011.
39. **Brown, S**., *D. Lewis, *D. Montfort, and *R.L. Borden. The Importance of Context in Students' Understanding of Normal and Shear Stress in Beams. American Society for Engineering Education Annual Conference, Vancouver, BC. 2011.
40. **Brown, S.**, *N. Frye, *D. Montfort, and P.M. Smith. Understanding Faculty and Practitioner Involvement in a Capstone Interdisciplinary Design Experience. American Society for Engineering Education Annual Conference, Vancouver, BC. 2011.
41. Montfort, D. and **S. Brown.** Building Fundamental Engineering Knowledge: Identification and Classification of Engineering Students' Preconceptions in Mechanics of Materials. Annual Meeting of the American Educational Research Association, New Orleans, LA. 2011.
42. Moore, T.L., Z. Azizova, D. Shinew, **S. Brown**, and M. Wang. Connecting Faculty Epistemology and Graduate Education in the Engineering Disciplines. Annual Meeting of the American Educational Research Association, Denver, CO. 2010.
43. *Montfort, D. and **S. Brown**. Conceptual Change and Understanding in Engineering Education. American Society for Engineering Education Pacific Northwest Annual Conference, Reno, NV. 2010.
44. *Montfort, D. and **S. Brown**. Secondary Students' Conceptions of Engineers and Engineering: A Case Study Approach. American Society for Engineering Education Annual Conference, Louisville, KY. 2010.

45. *Gerlick, R., D. Davis, **S. Brown**, and M. Trevisan. Reflective Practices of Engineering Capstone Design Teams. American Society for Engineering Education Annual Conference, Louisville, KY. 2010.
46. *Schramm, C., **S. Brown,** and *D. Street. Peer Tutors Perceptions of the In-Class Peer Tutoring Program in Mechanics of Materials. Proceedings of 2009 Frontiers in Education Conference, San Antonio, TX.
47. *Street, D., **S. Brown**, *C. Schramm, and K. Gillespie. The Impact of an In-Class Peer Tutoring Program on Student Social Capital. Proceedings of 2009 Frontiers in Education Conference, San Antonio, TX.
48. *Montfort, D., **S. Brown**, and J. Pegg. An Investigation of the Adoption of an Assessment Instrument for Capstone Design Courses. Proceedings of 2009 Frontiers in Education Conference, San Antonio, TX.
49. *Andrews, B. and **S. Brown**. An Investigation of Student Conceptual Understanding of Geometric Design, Proceedings of 2009 Frontiers in Education Conference, San Antonio, TX.
50. **Brown, S.** and *D. Montfort. Development, Implementation, and Assessment of a Bending Stress Tutorial, Proceedings of 2007 Frontiers in Education Conference, Milwaukee, WI.
51. **Brown, S.** and *D. Montfort. Using Interviews to Identify Student Misconceptions in Dynamics, Proceedings of 2007 Frontiers in Education Conference, Milwaukee, WI.
52. **Brown, S.**, *D. Montfort, and K. Findley. Student Understanding of States of Stress in Mechanics of Materials, Proceedings of 2007 Annual Conference of the American Society of Engineering Education, Honolulu, HI.
53. **Brown, S. and** *K. Hildreth. A Comparison of Student Social Networks Between Students Living In and Out of Living Learning Communities, Proceedings of 2007 Annual Conference of the American Society of Engineering Education, Honolulu, HI.
54. **Brown, S.**, L. Flick, and K. Williamson. Social Capital in Engineering Education, Proceedings of 2005 Frontiers in Education Conference, Indianapolis, IN.
55. **Brown, S.**, and K. Williamson. Student Social Capital and Retention in the College of Engineering. Proceedings of 2005 Annual Conference of the American Society of Engineering Education. Portland, OR.
56. Thompson, T., D. Heer, **S. Brown**, R. Traylor, and T. Fiez. Educational Design, Evaluation, & Development of Platforms for Learning. Proceedings of 2004 Frontiers in Education Conference, Nashville, TN.

TECHNICAL REPORTS

Organizational Network Analysis for Two Networks in the Washington State Department of Transportation. Research Project T4120, Task 14. February 2010.

INVITED SPEAKER/FORUM PARTICIPANT

MHTI TALK IN JULY2017

Student and Engineers Knowledge of Engineering Concepts, Virginia Tech Engineering Education Invited Lecture Series, November 2016

Case Examples of Knowing. Learning, and Transfer, Annual Meeting of the TRB, January 2015.

Clemson University-Virginia Tech Engineering Education Invited Lecture Series, Conceptual Change and Situated Cognition in Engineering Education. September 2013

OTREC Invited Lecture Series, Conceptual and Embedded Transportation Engineering Knowledge: Student, Faculty, and Engineers' Understandings of Sight Distance and Stopping Sight Distance, Oregon State University and Portland State University, October 2011.

National Academy of Engineering & NSF Forum on Impact and Diffusion of Transformative Engineering Education Innovations, New Orleans, LA, February 2011.

Engineering Learning and Conceptual Change, Summer Meeting of the Transportation Signals and Systems Committee of the TRB, July 2010.
Learning How to Train Employees for the Workforce, Annual Meeting of the TRB, January 2010.
The Future of Engineering Education, ASEE PNW Section Annual Conference, April 2007.

WORKSHOPS AND SEMINARS

Active Learning in Mechanics of Materials Classrooms, Portland, OR. 2012-2016
Ranking Tasks Exercises for Mechanics of Materials, ASEE PNW Meeting, Spring 2010.

OTHER CONFERENCE PROCEEDINGS

1. *Frye, N.L., **S. Brown**, M.P. Wolcott, and P.M. Smith. Exploratory Research into Sustainability Education Using Diffusion of Innovation Theory and Concerns Based Adoption Model. Presented at the Forest Products Society 65th International Convention, Portland, OR. 2011.
2. *Howard, K., T. VanReken, T. Jobson, and **S. Brown**. Conceptual Challenges in Learning Ozone Formation for Collegiate Students. American Geophysical Union Fall Meeting, San Francisco, CA. 2010.
3. Chung, S., *K. Howard, T. Jobson, **S. Brown** and T. VanReken. Student-Accessible Modeling Tools for Inquiry-Based Learning in the Atmospheric Sciences. American Association for Aerosol Research Annual Meeting, Portland, OR. 2010
4. **Brown, S**. In-Class Peer Mentoring as a Model for Engineering Instruction. Pacific Northwest Section of the American Society for Engineering Education Annual Meeting, Cheney, WA. 2008.
5. Thompson, M. and **Brown, S**. An Investigation of the Benefits of a Living Learning Community to Freshmen Engineering Students. Pacific Northwest Section of the American Society for Engineering Education Annual Meeting, Cheney, WA. 2008
6. **Brown, S.** and M. Millar. Social Capital & Engineering Undergraduates: An Analysis of the Effect of Living-Learning Communities on Student Achievement & Retention. Pacific Sociological Association Annual Conference, Portland, OR. 2008.
7. **Brown, S.** and *D. Montfort. Using Interviews to Identify Student Misconceptions. Pacific Northwest Section of the American Society for Engineering Education Annual Meeting, Pullman, WA. 2006.
8. **Brown, S.** and *K. Hildreth. Student Social Networks and Living Learning Communities. Pacific Northwest Section of the American Society for Engineering Education Annual Meeting, Pullman, WA. 2006.
9. **Brown, S.** Social Capital and Retention in Engineering Students. Pacific Northwest Section of the American Society for Engineering Education Annual Meeting, Seattle, WA. 2006

RESEARCH GRANTS/CONTRACTS

External Grants PI - $3,890,000 ($88,445 Internal Matching)

Title	Agency	Duration	Amount
Representation of Engineering Concepts in Academic and Engineering Workplace Settings: How situated are engineering concepts in these contexts?	National Science Foundation Research on the Formation of Engineers	9/17-9/20	$350,000
Collaborative Resesarch: Tools of Engagement Measurement to Propel Academic Success of Students	NSF Division of Graduate Education Program Evaluation	1/15-12/18	$800,000
Safety Data Management and Analysis: Addressing the Continuing Education Needs for the Pacific Northwest	Pacific Northwest Transportation Consortium (PacTrans)	5/14-9/16	$65,000
Collaboratively Developing Research-Based Curricular Materials to Improve Conceptual Understanding in Engineering Education	NSF Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics (TUES)	9/12-9/15	$599,798
Digital Dissemination Platform of Transportation Engineering Educational Materials Founded in Adoption Research	PacTrans	5/12-5/13	$200,000
Collaborative Research: Mental Models of Students and Practitioners in the Development of an Authentic Assessment Instrument for Traffic Signal Engineering (Collaboration with David Hurwitz from Oregon State University)	NSF TUES	6/12-6/14	$91,992
Collaborative Research: Building Theories That Inform Practice: Exploring Engineering Epistemologies Through Cross-Disciplinary Data Analysis (Collaboration with Ruth Streveler, Purdue and Holly Matusovich, Virginia Tech)	NSF Engineering Education and Centers (EEC)	8/11-8/14	$276,369
CAREER: Characterization of Cognitive Models of Conceptual Understanding in Practicing Civil Engineers and Development of Situated Curricular Materials	NSF EEC	8/11-8/16	$400,624
An Investigation of Transportation Professionals Understanding of Geometric Design (Collaboration with Mike Dixon, University of Idaho)	National Institute for Advanced Transportation Technology (NIATT)	1/10-12/10	$77,841
What is Engineering Knowledge: A Longitudinal Study of Conceptual Change and Epistemology in Engineering Students and Practitioners	NSF EEC	8/10-8/13	$398,353
Curricular Materials and Methods for Conceptual Understanding in Mechanics of Materials	NSF Course, Curriculum and Laboratory	8/09-8/11	$149,639

	Improvement (CCLI)		
An Investigation of Student Understanding of Geometric Design (Collaboration with Michael Kyte, University of Idaho)	NIATT	1/09-12/09	$35,613
In-Class Peer Tutoring: A Model for Engineering Education (Collaboration with Larry Flick, Oregon State University)	NSF EEC	1/09-12/10	$94,646
A National Model for Engineering Mathematics Education (Collaboration with Wright State University)	NSF CCLI	8/08-8/11	$99,521 ($88,445 CEA Match)
Organizational Network Analysis for the Washington State Department of Transportation (WSDOT) Climate Change and Tribal Networks	WSDOT	6/08-3/09	$32,438
Sustainable Roadway Design and Construction: An Online Course (Co-PI's – Shihui Shen, Michael Wolcott, Steve Muench – UW)	TransNOW	6/08-7/09	$23,833
Development and Implementation of Online Learning Modules in Geometric Design (Co-PI's - Shihiu Shen, Ming Lee, UAF)	UAF Transportation Center	8/08-12/09	$28,000
Development, Deployment and Assessment of a New Paradigm (Based on Active, Problem-Based Learning) for Transportation Professionals and University Students: A Collaboration of the Region X Transportation Consortium (Collaboration with Michael Kyte, UI)	FHWA	8/08-8/12	$144,289
Development of Learning Modules for Introductory Transportation Courses (Collaboration with Michael Kyte, UI)	NIATT	1/08-12/08	$16,312

External Grants Co-PI - $7,003,046 (Portion I controlled - $721,900)

Title	**Agency**	**Duration**	**Amount (Amount I controlled)**
Investigation of Context Across Engineering Domains: Bridging the Eye-Mind Divide	NSF IUSE	1/15-12/18	$300,000 ($100,000)
Enhancing STEM Education at Oregon State University (ESTEME@OSU)	NSF WIDER	1/14-12/16	$2,000,000 ($245,000)
REU Site: Regional Atmospheric Chemistry: State-of-the-art Measurement and Modeling in the Pacific Northwest (PI – Shelley Pressley)	NSF Research Experience for Undergraduates (REU)	5/12-5/15	$309,324 ($75,000)
Appraisal System for Superior Engineering Education Evaluation-instrument Sharing and Scholarship (PI – Denny Davis)	NSF TUES	12/11-1/14	$599,946 ($121,500)
Expanding and Improving the Women in Engineering Mentoring Program to Increase Retention at Washington State University (PI – Cara Poor)	Engineering Information Foundation	8/10-8/11	$17,689 (3,500)
IGERT: Nitrogen Systems: Policy Oriented Integrated Research and Education (PI – Brian Lamb)	NSF IGERT	8/09-8/14	$3,034,300 ($60,000)
A Model for Faculty, Student, and Practitioner Development in Sustainable Engineering through an Integrated Design Experience (PI – Mike Wolcott)	NSF EEC	8/09-8/11	$149,742 ($45,500)
Inquiry Based Learning Modules for Atmospheric Science Using Student-Accessible Modeling Tools (PI – Timothy Van Reken)	NSF CCLI	1/09/12/10	$149,774 ($28,000)

REU Site: Regional Atmospheric Chemistry: State-of-the-art Measurement and Modeling in the Pacific Northwest (PI – Brian Lamb)	NSF REU	5/08-8/11	$242,599 ($78,200)
Capstone Engineering Design Assessment: Development, Testing, and Adoption Research, (PI - Denny Davis; Co-PI - Michael Trevisan)	NSF CCLI	8/07-8/10	$499,672 ($65,200)

Internal Grants - $94,830

Title	Agency	Duration	Amount
Engineering Faculty Teaching Evaluation Practices	LL Stewart Grant	10/14-10/15	$4,400
Introduction of Sustainable Engineering to Freshman Engineering Students	Smith Teaching and Learning Endowment	6/08-6/09	$12,000
Development, Implementation, and Assessment of In-Class Peer Tutoring and Learning Modules in Sophomore Engineering Courses	WSU Office of Undergraduate Education (OUE)	6/07-6/08	$26,465
Implementation and Evaluation of a Program Designed to Develop Social Capital in Freshman Engineering Students	WSU OUE	6/07-6/08	$21,465
Implementation and Evaluation of the Science, Engineering, and Mathematics Living Learning Community	WSU OUE	6/06-6/07	$20,000
Assessment of Outcomes in Core Engineering Courses, Co-Principal Investigator (Co-PI's - Lisa Morris, Bill Cofer, Dave Stock)	WSU OUE	6/06-6/07	$14,900

STUDENT ADVISING

Undergraduate Honors Students

1. Lauren Wallace, Fall 2013-present
2. Samuel Heck, Fall 2014 – Spring 2015

Undergraduate Students

1. Moises Valiente, Fall 2013-2015
2. Advisor to seven undergraduate students at WSU (Matthew Barner, Kyle Morse, Kristen Kopcyzinski, Andrew Kracht, Ross Woods, Liam Corcoran and Caitlin Owsley).

Graduate Students - Major Professor - Current

1. Dominga Sanchez, M.S./Ph.D. 8/2017 to present
2. Allyson Ironside, M.S./Ph.D. 9/2016 to present
3. Sean Gestson, M.S./Ph.D. 9/2016 to present
4. Matthew Barner, Ph.D. 1/2015 to present

Graduate Students - Major Professor - Completed (4 Ph.D. and 26 M.S.)

1. Matthew Barner
2. Justine Bird
3. Jason Pascoe, M.S. 12/2016. Student Engagement in Engineering Courses: A Case Study Approach
4. Edgar Castro, M.S. 9/2016. Safety Data in Transportation Engineering
5. Keisha Villanueva, M.S. 9/2016. Teaching Evaluation Practices in Engineering Programs
6. Jorge Miranda, M.S. 6/2016. Engineering Expertise and the Student to Professional Transition

7. Floraliza Bornasal, Ph.D. 6/2015. Practicing Engineers Situated Understanding of Civil Engineering Concepts. Assistant Professor at St. Martin's University, August 2015 to present.
8. Howard Cooley, Ph.D. 5/2015. (Co-Advised with Ahmed Abdul-Rahim at University of Idaho) Conceptual Change in Transportation Engineering.
9. Amber Berger, M.S. 6/2015. Conceptual Change in Mechanics of Materials: Using the Framework Theory. Instructor in the College of Engineering at Oregon State University June 2015 - present.
10. Allie Peters, M.S. 5/2015. Transportation Faculty Adoption of Curriculum Materials and a Dissemination Website. Engineer at Kennedy Engineers.
11. Mark Urlacher, M.S. 5/2015. Civil Engineering Students and Practitioner's Understanding of Statics and Fluid Mechanics Concepts. Current PhD student.
12. Lee, Quincy, M.S. (project option) Conceptual Understanding in Mechanics of Materials.
13. Brooks, Sarah, M.S. 5/2013. Adoption of Technological Innovations: A Case Study of the ASSESS Website. Advances in Engineering Education. Published one peer-reviewed journal article.
14. Daratha, Kelvin, M.S. 5/2013. Traffic Signal System Misconceptions Across Three Cohorts: Novice Students, Expert Students, and Practicing Engineers. Published one peer-reviewed conference proceeding and one peer-reviewed journal article.
15. Key, Eleanor M.S. 5/2013. Creating Community Action: A Sustainable Approach to Humanitarian Engineering.
16. Easley, Andrew, M.S, 2012. The Effectiveness of a Physical Model Demonstrating Open Channel Flow Concepts. Engineer at KPFF in Seattle, WA. Published one peer-reviewed conference proceeding and one peer-reviewed journal article.
17. Davis, Shannon, M.S., 2011. Embedded Knowledge in Transportation Engineering: Comparisons Between Engineers and Instructors. Engineer in San Diego, CA. Published one peer-reviewed journal article and one peer-reviewed conference proceeding.
18. Nicholas, Chelsea, M.S., 2011. Evaluating the Effectiveness of Dynamic Traffic Simulations: A Case Study in Engineering Education. Engineer at Boeing in Seattle, WA. One peer-reviewed journal article published.
19. Montfort, Devlin, Ph.D., 2011. Conceptual and Epistemological Change in Civil Engineering Students. Published three journal articles and four refereed conference proceedings. Won the WSU College of Engineering and Architecture outstanding teaching assistant award, one regional best paper award, and runner up for a national best paper award.
20. Howard, Kristen, M.S., 2011. Student Conceptual Difficulties in Ozone Formation. One peer-reviewed journal article published.
21. Burnham, Jacob, M.S., 2011. Engineering Students Mathematics Self-Efficacy Development in a Freshmen Engineering Mathematics Course. Engineer at Casper Phillips and Associates Group in Seattle, WA. Published one peer-reviewed journal article.
22. Lewis, Dean Tyler, M.S., 2010. Student Conceptual Understanding of Stress in Beams and Axially Loaded Members. Engineer at DCI Engineers. Published one peer-reviewed conference proceeding and collected data that will contribute to at least two journal articles.
23. Gerlick, Robert, Ph.D., Co-Advisor with Denny Davis, 2010. Assessment of Student Learning in Capstone Design Courses. WSU Engineering Science. Assistant Professor at Pittsburgh State University. Published two peer-reviewed conference proceedings and one journal article is in preparation.
24. Barker, Fred, M.S., 2010. The Impacts of an Engineering –Mathematics Course on Freshmen Students' Mathematics Self-Efficacy. Engineer at Coffman Engineers. Published one peer-reviewed journal article.
25. Street, David, M.S., 2010. Engineering Student Social Capital Within an In-Class Peer Tutoring Program: Sources and Preferences. Engineer at Berger Abam. Published one peer-reviewed journal article and two peer-reviewed conference proceedings.
26. Andrews, Brock, M.S., 2009. Student Understanding of Sight Distance and Stopping Sight Distance. Engineer and Inspector at Kiewit Construction. Published one peer-reviewed journal article and two peer-reviewed conference proceedings.

27. Hammer, Kristina, M.S., 2009. Organizational Network Analysis for the Washington State Department of Transportation. Working for engineering firm in Pullman, WA. Published a technical report for WSDOT.
28. Schramm, Carrie, M.S., 2009. Impact of In-Class Peer Tutoring on Engineering Student Mechanics Self Efficacy. Engineer at RH2 Engineering, Kennewick, WA. Published two peer reviewed conference proceedings.
29. Laughlin, Kelsey, M.S., 2007. Design of a Green Roof System for Industrial Development. Civil Engineer, Browne Engineering Inc., Bainbridge Island, WA.
30. Montfort, Devlin, M.S., 2007. An Investigation of Students' Conceptual Understanding in Related Sophomore to Graduate-Level Engineering and Mechanics Courses. Published one journal article and two peer-reviewed conference proceedings.

Graduate Students - Committee Member

1. Brian Hartman, Ph.D. 1/2014 to present. College of Education, Oregon State University
2. White, Robin, Ph.D., 8/2011 to 9/2013. Department of Animal Sciences. Washington State University
3. Morrison, Briana Marie, Ph.D., 8/2010 to 8/2013. Educational Leadership and Counseling Psychology. Washington State University

Postdoctoral Trainees

1. Benjamin Lutz, 2017 to present
2. Natasha Perova, 2016 to present
3. Oai Ha, 2016-2017
4. Nicole Pitterson, 2016-2017
5. Kathy Quardokus Fisher, 2014-2016
6. Kacey Beddoes, 2014-2015
7. David Little, 2014-2015
8. Devlin Montfort, 2011-2013

PROFESSIONAL SERVICE ACTIVITIES

Member – Cambridge Editorial Advisory Board, 2017-present
Chair NAE-TRB-NCHRP Panel 20-104 – Knowledge Capture of Consultants, 2014-2017
Program Chair ASEE Educational Research and Methods Division, 2014-2015
Director, Educational Research and Methods (ERM) Division of ASEE, 2010-2012
Member – Transportation Research Board Task Force on Knowledge Management, AB010T, 2011-2014
Chair NAE-TRB-NCHRP Panel 20-93 - Development of a Guide for Transportation Technology Transfer, 2011-2013
Member NAE-TRB-NCHRP Panel 20-68A U.S. Domestic Scan Program, 2009-2015 (The Domestic Scan Program is focused on the dissemination of best practices in the transportation industry through travel to locations of best practices. I am part of the eight person panel that oversees this panel, including making funding decisions)
Reviewer, 2011 ERM Best Paper Award, ASEE National Conference
Chair, Frontiers in Education Helen Plants Best Special Session Committee, 2008-2010
Technical Session Moderator, Frontiers in Education Annual Conference, 2008, Saratoga Springs, NY
Review Panel Member, ASEE Educational Research and Methods Apprentice Faculty Grant, February 2008, 2011, 2012
Research Review Panel Member, National Science Foundation, Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM), January 2008.
Technical Session Moderator, Frontiers in Education Annual Conference, 2005, 2007

EDITORIAL ACTIVITIES

Senior Associate Editor for the Journal of Engineering Education, 2016-present
Associate Editor for the Journal of Engineering Education
Peer Reviewer for the ASCE Journal of Professional Issues in Engineering Education and Practice
Peer Reviewer for the Journal of Engineering Education
Peer Reviewer for Advances in Engineering Education
Peer Reviewer for IEEE Engineering Education Conference 2010 – The Future of Global Learning in Engineering Education
Peer Reviewer for the International Network for Engineering Education 2008 and 2009 Special Publication
Peer Reviewer of the 2004, 2006, 2007, 2008, 2009, and 2010 American Society for Engineering Education National Annual Conference Proceedings
Peer Reviewer of the 2006, 2007, 2008, and 2009 Frontiers in Education National Annual Conference Proceedings
Reviewer for Kavanaugh, Surveying, 5th Ed., Pearson Prentice Hall

PROFESSIONAL SOCIETIES

American Society for Engineering Education
American Society of Civil Engineers
National Association for Research in Science Teaching
American Educational Research Association
Tau Beta Pi
Phi Kappa Phi

UNIVERSITY SERVICE ACTIVITIES

OSU School Head of Civil & Construction Engineering Search Committee, Member, AY 14/15
OSU Interim School Head of Civil & Construction Engineering Search Committee, Member, AY 13/14
Co-Director, Engineering Education Research Center, 2011 to 2013
Co-Director, STEM Education Partnership, 2012 to 2013
American Society of Civil Engineers, Assistant Faculty Advisor 2005-2006, Lead Faculty Advisor, 2006-2010
Undergraduate Curriculum Committee, WSU Department of Civil and Environmental Engineering, 2005-present
Scholarship Committee, WSU Department of Civil and Environmental Engineering, 2005-2011

TEACHING EXPERIENCE

Engineering Teaching and Learning, Introduction to Engineering, Integrated Capstone Design, Hydraulics Engineering Laboratory, Water Resources Engineering, Surveying, Mechanics of Materials, Ethics and Professionalism, Innovation in Design, Statics, Dynamics, Electrical Fundamentals, Calculus and Algebra-Based Physics

CURRICULUM DEVELOPMENT

Revised WSU civil engineering capstone design course to actively involve engineering practitioners in the mentoring and review process. All projects are developed and mentored by practicing engineers.

Revised WSU surveying course to reflect current practice and focus on use of surveying data by engineers and construction managers. Developed 15 new laboratory assignments for surveying and 15 new laboratory assignments for AutoCAD.

Revised WSU mechanics of materials course to reflect expert novice learning theories. Rearranged curriculum to assist students in learning mechanics fundamentals. Developed new learning modules and ranking tasks to assist students in developing conceptual understanding.

STUDENT EVALUATIONS OF TEACHING

Course No.	Term	Enroll-ment	# Re-spond-ing	Student Evaluation (#1/#2)	College Averages* (#1/#2)	Δ	Required /Elective
Washington State University Courses (mean value of course and instructor ratings, rated on a five point scale)							
CE 301	Fall 2005	92		4.41 out of 5.0	Unavailable	NA	Required
CE 351	Fall 2005	35		4.6	Unavailable	NA	Required
CE 215	Fall 2005	87		4.40	Unavailable	NA	Required
CE 351	Spring 2006	43		4.63	4.20	+0.43	Required
CE 215	Spring 2006	60		4.38	4.20	+0.18	Required
CE 465	Spring 2006	38		3.83	4.20	-0.37	Required
CE 301	Fall 2006	120		4.48	4.21	+0.27	Required
CE 465	Fall 2006	38		4.72	4.21	+0.51	Required
CE 215	Fall 2006	57		4.67	4.21	+0.46	Required
Engr 120	Spring 2007	38		4.59	4.25	+0.34	Required
CE 416	Spring 2007	15		4.83	4.25	+0.58	Elective
CE 480	Fall 2007	48		4.36	4.22	+0.14	Required
Engr 120	Fall 2007	43		4.51	4.22	+0.29	Required
CE 465	Fall 2007	34		4.56	4.22	+0.34	Required
CE 465	Spring 2008	54		4.51	4.27	+0.24	Required
CE 465	Fall 2008	48		4.70	4.28	+0.42	Required
CE 301	Fall 2008	127		4.76	4.28	+0.48	Required
CE 302	Fall 2009	128		4.43	4.14	+0.29	Required
CE 600	Spring 2010	15		4.68	4.14	+0.54	Required
CE 580	Spring 2010	15		4.46	4.14	+0.32	Required
CE 537	Spring 2010	8		4.43	4.14	+0.29	Elective
CE 465	Spring 2011	55		4.65	4.14	+0.41	Required
CE 537	Spring 2012	9		4.86	4.01	+0.85	Elective
CE 465	Spring 2013	60		N/A			
Oregon State University Courses*							
Engr 111	Fall 2013	212	106	4.20/4.30	4.26/4.47	-0.06/-0.17	Required
Engr 111 INTO	Fall 2013	68	28	5.30/5.40	4.26/4.47	+1.04/+0.93	Required
CE 418	Winter 2014	105	90	4.60/4.90	4.62/4.74	-0.02/+0.16	Required
CE 419	Spring 2014	105	85	5.00/5.40	4.76/4.84	+0.24/+0.56	Required
ENGR 111	Fall 2014	223	152	4.80/5.10	4.26/4.47**	+0.54/+0.63	Required
ENGR 111 INTO	Fall 2014	56	31	5.60/5.60	4.26/4.47**	+1.44/+1.13	Required

- *College averages are shown separately for each level (e.g., 400, 500) taught.
- ** Values are from fall 2013

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A. EDUCATION AND EMPLOYMENT INFORMATION

A1. Education

2011	**Ph.D.**, Structural Engineering, University of California, San Diego Dissertation: "*Simplified Vector-valued Probabilistic Seismic Hazard and Seismic Demand Analysis of a 13-story Reinforced Concrete Frame-Wall Building.*" Faculty Advisors: *Prof. Joel P. Conte and Prof. Jose Restrepo*.
2002	**M.S.**, Structural Engineering, Instituto Superior Técnico (IST), Portugal, Thesis: *"Wavelets on the Interval Applied to Finite Elements"*. Faculty Advisor: *Prof. Luis Castro* (Instituto Superior Técnico, Portugal)
1998	**Licenciatura** (5 year undergraduate degree) in Civil Engineering, Instituto Superior Técnico (IST), Portugal, September 1998 Focus: *Structural Dynamics, Bridges, Foundations and design of special structures*

A2. Professional Experience

ACADEMIC	
12/2011 – Present	**Assistant Professor,** School of Civil and Construction Engineering Oregon State University.
03/2002 – 12/2010	**Tenure-track Assistant Lecturer,** Department of Civil Engineering, Universidade Nova de Lisboa, Lisbon, Portugal
PROFESSIONAL	
06/2006 – 09/2006	**Engineer**, Englekirk Partners Consulting Engineers, Los Angeles. *Developed a performance-based earthquake engineering design of a 39-story tower to be built in downtown San Diego, USA. Used Perform-3D for nonlinear structural analysis and performance-based design verifications that were submitted to a Peer Review panel.*
08/1998 – 01/2002	**Design Engineer**, Profico, Lda. Portugal. *Design and project management of several bridges and buildings.*

B. TEACHING, ADVISING, AND OTHER ASSIGNMENTS

B1. Instructional Summary

B1.1. Credit Courses

Number	Course Title	Term/Year	Credits	Enrollment
CE 534	Structural Dynamics (G)	Winter 2012	4	12
CE 419	CE Capstone (U)	Spring 2012	4	30
CE 382	Structural Theory II (U)	Winter 2013	4	108
CE 580	Advanced Seismic Design (G)	Spring 2013	3	18
CE 534	Structural Dynamics (G)	Fall 2013	4	16
CE 382	Structural Theory II (U)	Winter 2014	4	60
CE 580	Probability-based Analysis and Design (G)	Spring 2014	4	19
CE 534	Structural Dynamics (G)	Fall 2014	4	20
CE 382	Structural Theory II (U) - Section 1	Winter 2015	4	29
CE 382	Structural Theory II (U) - Section 2	Winter 2015	4	66
CE 580	Performance-based Design (G)	Spring 2015	3	8
CE 588	Probability-based Analysis and Design (G)	Winter 2016	4	11
CE 580	Performance-based Seismic Design (G)	Spring 2016	3	9
CE 382	Structural Theory II (UG)	Spring 2016	4	55
CE 534	Structural Dynamics (G)	Winter 2017	4	20
CE 382	Structural Theory II (U)	Spring 2017	4	46
CE 534	Structural Dynamics (G)	Winter 2018	4	17
CE 382	Structural Theory II (U)	Winter 2018	4	60

U – Undergraduate course; G – Graduate course

B1.2. Non-Credit Courses and Workshops

1. **Assessing, Coding, and Marking of Highway Structures in Emergency Situations.** Feb. 29 - Mar. 1, 2016. Irvine, CA. Co-taught with Michael Olsen and Gene Roe. Hosted by the National Academies of Sciences, Transportation Research Board.
2. **Workshop on Multi-Hazard Analysis of Structures using OpenSees** (July 2014)
   - URL 1: http://lese.fe.up.pt/OSDPt2014/
   - URL 2: http://web.engr.oregonstate.edu/~barbosa/products/Programme_final_OSD.pdf
   - Co-organized with researchers from three Portuguese Universities

- Attended by 66 people (Industry, Researchers, and Graduate Students) from 10 different countries.
- Keynote presentations from: Dr. Pedro Arduino (University of Washington, US); Dr. Andre Barbosa (OSU, US); Dr. Frank McKenna (UC Berkeley/PEER, US); Dr. Lauren Stewart (Georgia Institute of Technology, US); Dr. Asif Usmani (University of Edinburgh, UK)
- Other 12 presentations were made at the workshop by authors from 7 different countries.

3. **OpenSees on the Road at Oregon State University** (November 2013)
   - Co-organized with Dr. Michael Scott (Oregon State University)
   - URL 1: http://calendar.oregonstate.edu/event/89558/
   - Presentations from by: Dr. Frank McKenna (UC Berkeley/PEER); Professor Pedro Arduino (University of Washington); Dr. Michael Scott (Oregon State University); Dr. Andre Barbosa (Oregon State University)
   - Attended by 35 people (Industry, Researchers, and Graduate Students)

B1.3. Course and Curriculum Development

CE 382 - STRUCTURAL THEORY II. This course presents traditional methods in Structural Analysis. It is a continuation of CE 381 – Structural Analysis I. In both courses the book by Hibbeler (Structural Analysis) is covered from one end to the other. In CE382, topics covered include: Analysis of statically determinate and indeterminate structures (beams, frames, trusses); Deflections; Principle of Virtual Work; Introduction to matrix methods for Structural Analysis.

For this course, I prepared all the material from the ground up. Since CE 382 meets for three hours a week for regular lecture and two hours a week for recitation, class materials were developed for both. For the lectures, I developed lecture slides that include the main concepts that students need to understand. In addition, worked examples were prepared and are presented to illustrate how the main concepts and underlying theory are applied. During lecture, focus is placed on explaining the physics behind equations. At the end of each lecture, additional (challenging) problems with answers are provided to spur curiosity and stimulate thinking by exposing students to problems beyond the ones presented in the lecture. In recitation, each week, students are given a problem to work on as a group and turn it in at the end of each class. The objective is that all groups turn in correct and complete solutions, which is achieved in 95% of the cases. During recitation, both myself and the graduate teaching assistants are available in class to provide continuous feedback on an individual and group basis and to support peer group discussions on how to solve and complete the in-class assignments. Additional methods of assessment include weekly homeworks, a midterm examination, and a final examination. All assessment materials are prepared from scratch yearly. At the time of writing this statement, I completed the fifth consecutive year at teaching this course. I have worked hard to show continuous improvement and I have incorporated feedback from the students each year to improve the delivery of the material. Following the first year, I adopted an approach of setting SMART (S – specific, M – measurable, A – attainable, R – relevant, T – time-bound) goals and objectives and improved the communication with the students, which allowed me to show a significant increase in interest from the students.

CE 534 - STRUCTURAL DYNAMICS. In this course, I developed a traditional curriculum to teaching Structural Dynamics, following the first 13 chapters in Chopra's "Dynamics of Structures" textbook. For this course, I developed hand-written lecture notes, homework problems, and added new opportunities for experiential learning and cooperative learning,

namely through development of laboratory experiments as well as exposure to basic skills of computer programming through the use of MATLAB. Topics covered in the course include: analytical and numerical solutions for single, multi-degree of freedom and continuous vibrating systems, behavior of structures, dynamic forces and support motions, and seismic response spectra analysis.

For CE 534, the lecture notes developed complement the textbook by providing in-depth and extended theoretical derivations of the lectured material. Experiential learning opportunities are brought into this course through student exposure to several hands-on exercises in which they use an instructional shake-table to run a set of pre-defined experiments. In terms of creating a cooperative learning experience, students work in groups to apply methods and concepts learnt in the class to the observations from tests performed on the instructional shake-table. Since this course is intensive in terms of the mathematical preparation and background needed by students to succeed in the class, I work on explaining the physics behind the mathematical expressions, by bringing my industry experience to the classroom and presenting real life problems that relate to the mathematical problem under analysis. This approach has been very well received by the students. In terms of programming skills, Python and MATLAB are used as tools for developing solutions to homeworks and in group projects. As many students have no experience with Python or MATLAB when reaching this class, a set of introductory slides to Python and MATLAB were developed.

CE 580 - PERFORMANCE BASED DESIGN (3 credits). This is a course I developed from scratch. For this course, I developed a new set of slides and gathered literature from the state-of-practice to provide to the students, interesting and engaging, while sometimes challenging, material. The course addresses advanced seismic design of building and bridge systems with emphasis on structural reinforced-concrete building technology, analysis, performance-based design, and nonlinear analysis response verification. Base isolation, self-centering rocking systems, and other emerging systems for design of earthquake resilient systems are also presented. The advanced topics in seismic design are presented by providing journal papers for students to review, while presenting lecture slides with the summary of the main concepts. Models and “toys” are used extensively to illustrate basic structural engineering desired mechanisms. The students develop projects with complete building designs, which they can then use as sample documents presented to potential high-end consulting firms.

CE 588 - PROBABILITY-BASED ANALYSIS AND DESIGN (4 credits). This course focuses on providing students with an understanding of the types of uncertainty encountered in design of civil engineering systems. The main topics covered include: application of probability and statistics in the analysis and design of civil and mechanical engineering systems, probabilistic modeling of loading and resistance, and probability-based design criteria including load and resistance factor design. CE 588 also introduces students to modern methods of structural reliability analysis based on the theory of probability, including both theoretical and computational aspects of structural reliability analysis. Example applications are mainly geared towards structural mechanics, although other examples related to hydraulics, geotechnical, and transportation engineering are also provided. The students learn to derive probability distributions for functions of one or multiple random variables, perform a reliability analysis of an engineering system given the failure criterion, and determine which random variables are most significant in explaining the failure of an engineering system.

This course was completely restructured. A book by Nowak and Collins (2014) was used as the reference textbook and all but one chapter were covered. A set of lecture notes were developed to explain the theory and expand on many theoretical derivations not developed in the book. Students were also strongly encouraged to read additional material from the literature of

the field, which is vast, and a total of 10 book references were made available for the students on the Valley Library. Student assessment included 8 homeworks, a midterm examination, and a term project. Students were introduced to two open source finite element reliability software (FERUM and OpenSees), which were used for solving homework problems and final project. Development of both of these tools started at UC Berkeley, but have not gathered large number of contributors and users, which was the main reason for exposing students in this course to these tools, since it prepares students for industry in fields related to insurance engineering, while providing them with the knowledge for the next generation of civil and mechanical engineers. On the last year in which this course was taught, this course was also used to provide students with an opportunity to develop a seismic risk analysis of downtown Corvallis. Students worked with building inspectors of the City of Corvallis, and developed FEMA 154 – Rapid Visual Assessments of a city block and then developed a complete vulnerability assessment of the city block using reliability and risk concepts learned during the course. This form of assessment was very well received by the students, who were able to use complex concepts and risk assessment tools and bring them into the engineering practice.

B1.4. Team or Collaborative Efforts

CE 419 - CIVIL INFRASTRUCTURE DESIGN. This course provides the capstone design project experience exposing students to problems and issues similar to those encountered in the practice of civil engineering. In this course, in 2012 – which was the only time I taught this course –I was one of six instructors. The organization of the faculty in this course was that there was a lead instructor and additional five instructors, which advised different specialties. I advised the structural team members (30 students). This was taught in 2012, which was the last year that the course was administered in this format, since the format had been unsuccessful for several years. For this course, the main goal for the structural team members was to develop the preliminary design of a sky bridge and multi-modal center (conceptual design of alternatives, design of a representative frame for gravity loads, determination of lateral loads, and some detailing). When needed, minimal lecture notes were provided to guide students on the design of components. The design the students did in this section had to be integrated with the other project elements and detailed in a final report. To aid with the organization of the students and to give them a real-life project experience, weekly deliverables were defined, and these included written assignments. Because each team's projects were different, each assignment included formal letters of transmittal that briefly described the contents of the submittal. All submittals were written so that students could incorporate these easily into the final report. In addition, to introduce students to the concept of time management and book-keeping, students were required to keep track of their "timesheets" and presented those to other members of the team. A portfolio of the work submitted throughout the term was due in week 8.

B1.5. International Teaching

STRUCTURAL RELIABILITY AND RISK ANALYSIS, Universita La Sapienza, Rome, Italy (24 hours). This new course was presented in an "Advanced Summer Course." The objective of this course was to introduce students to modern methods of structural reliability analysis based on the theory of probability. The course covered both the theoretical and the computational aspects of structural reliability analysis. It also presents the formulation of probability-based or reliability-based design codes. A complete set of lecture slides and homeworks was developed for this intense four-day (24 hour) course.

B2. Student and Participant Evaluations

Course No. (credits)	Term	Enroll -ment	# Re-spond-ing	Student Evaluation (#1/#2)*	College Medians (#1/#2)*	Required /Elective
CE 534 (4)	Winter 2012	12	11	5.6/5.6	4.6/4.8	Elective
CE 419 (4)	Spring 2012	30	23	3.1/3.1	4.6/4.7	Required
CE 382 (4)	Winter 2013	108	53	4.0/4.2	4.6/4.8	Required
CE 580 (3)	Spring 2013	18	12	4.3/5.0	4.6/4.8	Elective
CE 534 (4)	Fall 2013	16	14	5.2/5.5	4.8/4.9	Elective
CE 382 (4)	Winter 2014	60	54	4.7/5.0	4.7/4.9	Required
CE 588 (4)	Spring 2014	18	16	5.3/5.5	4.9/5.1	Elective
CE 534 (4)	Fall 2014	20	17	5.4/5.7	4.8/4.9	Elective
CE 382 Sec. 1 (4)	Winter 2015	66	59	5.0/5.1	4.8/5.0	Required
CE 382 Sec. 2 (4)	Winter 2015	29	23	5.5/5.6	4.8/5.0	Required
CE 580 (3)	Spring 2015	7	5	6.0/6.0	4.8/5.1	Elective
CE 588 (4)	Winter 2016	11	9	4.7/5.3	4.6/4.8	Elective
CE 580 (3)	Spring 2016	9	7	5.0/5.3	4.7/4.9	Elective
CE 382 (4)	Spring 2016	55	42	4.8 /5.0	4.7/4.9	Required
CE 534 (4)	Winter 2017	20	19	5.1/5.7	4.9/5.2	Elective
CE 382 (4)	Spring 2017	46	35	5.3/5.2	5.0/5.2	Required
CE 534 (4)	Winter 2018	17				Elective
CE 382 (4)	Winter 2018	60				Required

*#1 – Course as a whole / #2 – Instructor's Contribution; Max. score 6.0/6.0

B3. Advising

B3.1. Graduate Advisees – Completed

Student	Degree	Thesis	Graduated
1. Rajendra Soti	Ph.D.	*Seismic Assessment of Unreinforced and Retrofitted Masonry Buildings using the Applied Element Method (AEM)*	Fall 2017
2. Andre Belejo	Ph.D.	*Evaluation of Ground Motion Duration Effects on the Damage Prediction of Building and Bridge Structural and Soil-Structural Systems*	Summer 2017
3. Vahid Mahdavifar (co-advised A. Sinha)	Ph.D.	*Cyclic Performance of Connections Used in Hybrid Cross-Laminated Timber*	Spring 2017
4. Mackenzie Lostra (co-advised C. Higgins, CCE)	M.S.	*Seismic Performance of Square Reinforced Concrete Columns Retrofitted with Titanium Alloy Bars*	Summer 2016
5. Curtis Blank	M.S.	*Performance Based Tests on Cross Laminated Timber - Concrete Composite Floor Panels*	Summer 2016
6. Syed Baqir Hussain	M.S.	*Evaluation of seismic response directional combination rules for existing plan irregular reinforced concrete buildings*	Summer 2016
7. Patrick Burns (co-advised M. Olsen, CCE)	M.S.	*Multi-objective Loss Assessment of Oregon Bridges Due to Cascading Seismic and Tsunami Hazards*	Summer 2015
8. Drew Nielson (co-advised D. Trejo, CCE)	M.S.	*High-strength reinforcement for bridges*	Spring 2015
9. Amrutha Das (co-advised J. Gambatese, CCE)	M.S.	*Risk and Reliability Associated with Use and Reuse of Vertical Formwork*	Spring 2014
10. Trevor Carey (co-advised Ben Mason, CCE)	M.S.	*Multi-hazard Framework and Analysis of Soil-bridge Systems: Long Duration Earthquake and Tsunami Loading*	Summer 2014
11. Timothy Link (co-advised D. Trejo, CCE)	M.S.	*Seismic Performance of Reinforced Concrete Bridge Columns Constructed with Grade 80 Reinforcement*	Spring 2014
12. Anthonie Kramer (co-advised A. Sinha, WSE)	M.S.	*Cross-Laminated Timber Engineering: Improvement and Application*	Winter 2014
13. Jessica Cawley (co-advised H. Yeh, CCE)	M.S.	*Review of Guidelines for the Design of Tsunami Vertical Evacuation Buildings*	Winter 2014

14. Garlan Ramadhan	M.S.	*Seismic Performance of Diagrid Steel Structures Using Single and Double Friction Mass Dampers*	Fall 2013
15. Kyle Romney (co-advised H. Ben Mason, CCE)	M.S.	*Soil-bridge Interaction during Long-Duration Earthquake Motions*	Spring 2013
16. Yicheng Long	M.S.	*Effect of Subduction Zone Earthquakes on SDOF Bridge Models*	Spring 2013

B3.2. Graduate Advisees – Current

Student	Degree	Expected Graduation	Advanced to Candidacy (Y/N)
1. Mohammad Shafiqual Alam	Ph.D.	Summer 2018	Y
2. Feras Khlef (co-advised J. Ideker)	Ph.D.	Fall 2018	Y
3. Sharoo Shrestha (co-advised C. Higgins)	Ph.D.	Spring 2019	N
4. Mohammed Asaad	Ph.D.	Summer 2019	N
5. Mustafa Buniya	Ph.D.	Fall 2019	N
6. Zeyad Al-Sayhood (co-advised M. Scott)	Ph.D.	Winter 2020	N
7. Ignace Mugabo (co-advised M. Riggio, WSE)	Ph.D. / M.S.	Winter 2019 / Winter 2018	N
8. Brian DeMeza (co-advised with A. Sinha, WSE)	Ph.D. / M.S.	Summer 2020 / Spring 2018	N
9. Nicolas Matus (co-advised D. Trejo)	M.S.	Fall 2018	N/A
10. Brad Taylor (co-advised with A. Sinha, WSE)	M.S.	Summer 2019	N/A
11. Kolton Mahr (co-advised with A. Sinha, WSE)	M.S.	Summer 2019	N/A

B3.3. Graduate Thesis or Project Committees

MEng Advisor:
Graduated

1. Matthew Kessler, MEng, 2016

Minor Professor or Committee Member:
Graduated

1. Lei Zhang, Ph.D., 2017
2. Junhui Lou, Ph.D., 2017
3. Qiang Li, Ph.D., 2017
4. Aiyad Alshimaysawee, M.S., 2017
5. Silas Shields, M.S., 2017
6. Kyle Sullivan, M.S., 2017
7. Thanh Huynh, M.S., 2016

8. Jonathan Knudtsen, M.S., 2016
9. Benjamin Hunter, M.S., 2016
10. William M. Short, M.S., 2016
11. Wennan Li, M.S., 2016
12. Blake Larkin, M.S., 2016
13. Hyoungsu Park, Ph.D., 2016
14. Andrew Hanek, M.S., 2014
15. Therese Pflaum, M.S., 2013
16. Nataliya Kozlova, M.Eng., 2013
17. Anthony Sorentino, M.S., 2012
18. Kathryn Pfretzschner, M.S., 2012
19. Anthony Hafner, M.S., 2012
20. David Taylor, Undergraduate University Honors Thesis, 2012
21. Christina Garrett, Undergraduate University Honors Thesis, 2012

Current

1. Jon Huffman, Ph.D. (Civil Engineering)
2. Ming Chen, Ph.D. (Civil Engineering)
3. Matt Barner, Ph.D. (Civil Engineering)
4. Christopher Anderson, M.S. (Wood Science and Engineering)

Graduate Council Representative:

1. Shardul Khandke, M.S., 2018 (Industrial Engineering)
2. Hari Nagarajan, M.S., 2017 (Industrial Engineering)
3. Brandon Massoni, M.S., 2016 (Mechanical Engineering)
4. Mitchell Daniels, M.S., 2016 (Mechanical Engineering)
5. Addison Wisthoff, M.S., 2016 (Mechanical Engineering)
6. Robin Kiff, M.S., 2016 (Mechanical Engineering)
7. Mitchell Colby, M.S., 2013 (Mechanical Engineering)
8. Min Ye, M.S., 2013 (Wood Science and Engineering)
9. Ryan Siegel, PhD, 2012 (Agricultural and Resource Economics)
10. Thomas J. Wright, M.S., 2012 (Mechanical Engineering)
11. Stephen Sills, M.S., 2012 (Mechanical Engineering)

B3.4. Undergraduate Research Assistants

1. Anna Tsai (Summer 2017)
2. Zeping Liu (Summer 2017)
3. Gokul Vasudevan (Summer 2017)
4. Glen Galant (Winter 2017 – present)
5. Christopher Anderson (Fall 2016 – Summer 2017)
6. Kirsten Fox (Summer 2016 – present)
7. Brad Taylor (Summer 2016 – Spring 2017)
8. Elshae Tanimoto (Summer 2016 –Winter 2017)
9. Lance Parson (Fall 2015 – present)
10. Amy McKee (Fall 2015)
11. Kyle Logan (Spring 2015 – Spring 2016)
12. Kaitlyn Dorr (Spring 2015)
13. Vandad Mazarei (Winter 2015 – Spring 2015)
14. Sam Gardner (Summer 2014 – Winter 2015)

15. Matthew Kessler (Winter 2014 – Winter 2015)
16. Paul Schroeder (Winter 2014 – Winter 2015)
17. Gabriel Asch (Winter 2014 – Winter 2015)
18. Kristina Milaj (Winter 2014)
19. Nicholas James Mc Elmurry (Fall 2013)
20. Huijing (Sheela) Wang (Fall 2013)
21. Cody Tibbits (Summer 2013 – Winter 2015)
22. Amy Kordosky (Winter 2013)
23. Anthonie Kramer (Spring – Summer 2012)

B3.5. Postdoctoral Trainees

1. Rajendra Soti, Ph.D. (December 2017 – present)
2. Sabarethinam Kameshwar, Ph.D. (September 2017 – present)

B3.6. Other Advising

Faculty Advisor for the Student Group: Earthquake Engineering Research Institute (EERI) student chapter (Winter 2015 – present) During this period the EERI student chapter was revamped following 20 years of exemplary service of Dr. Thomas Miller as faculty advisor to the EERI Student Chapter. A student steering committee was defined with undergraduate and graduate students, and a plan for the next three years was describing main goals and timelines by the students. The students have now organized several events with the ASCE student chapter, which were a success. In the coming years, the students will restart participating in the EERI annual student competitions. Co-faculty advisor is H. Ben Mason and Erica Fischer.

Visiting Scholars

1. Leonardo Rodrigues, Ph.D. Student, University of Minho, Portugal (Winter & Spring 2017).
2. Gerald Jaho, MS Student, University of Genoa, Italy (Fall 2016 – Winter 2017).
3. Emanuele Aldo Mortola, MS Student, University of Genoa, Italy (Fall 2016 – Winter 2017).
4. Alessandro Rizzi, MS Student, University of Torino, Italy (Spring 2016 – Summer 2016).
5. Micaela Cappozzo, MS Student, University of Torino, Italy (Spring 2016 – Summer 2016).
6. Milena Massari, Ph.D. Student, University of Bologna, Italy (Fall 2015 – Spring 2016)
7. Luís Miranda, Visiting Scholar, LNEC, Lisbon, Portugal (Fall 2014)
8. Filipe Ribeiro, Ph.D. Student, Universidade Nova de Lisboa, Portugal (Spring 2013)

Co-advisor of students enrolled at other institutions (Current Students)

1. Jamil Haddad, Ph.D., University of Genoa, Italy (2014-present)
2. Sam White, M.S., Washington State University (2017-present)
3. Leonardo Rodrigues, Ph.D. Student, University of Minho, Portugal (2015 – present).
4. Luís Miranda, Visiting Scholar, LNEC, Lisbon, Portugal (2014-present)

Co-advisor at other institutions (Graduated)

1. Milena Massari, Ph.D., University of Bologna, Italy (2014 – 2017)
2. Filipe Ribeiro, Ph.D., Universidade Nova de Lisboa, Portugal (2012 –2017)
3. Hanshun Yu, M.S., Tufts University, MA, USA (2014 –2016)
4. Eliyar Asgarieh, Ph.D., Tufts University, MA, USA (2012 –2015)
5. Ruben Rosario, M.S., Universidade Nova de Lisboa, Portugal (2013 –2014)
6. Filipe Ribeiro, M.S., Universidade Nova de Lisboa, Portugal (2012)
7. Khaled Mashfiq, M.S., Sapienza University of Rome, Italy (2012)

C. SCHOLARSHIP AND CREATIVE ACTIVITY

C1. Publications

Bold font indicates students for which the I served as an advisor.

C1.1. Books & Book Chapters

6. Varum, H., Dumaru, R., Furtado, A., Barbosa, A.R, Gautam, D., Rodrigues, H. (2018). "Seismic performance of buildings in Nepal after the Gorkha earthquake." In: Gautam, D., Rodrigues, H. (eds) Impacts and Insights of the Gorkha Earthquake, pp 47-63. DOI: 10.1016/B978-0-12-812808-4.00003-1
5. **Mohammed, M. A.**, Yu, H., Furtado, A., Barbosa, A. R., Moaveni, B., Varum, H., Rodrigues, H., Vila-Pouca, N., Wood, R. L. (2017). "Post-earthquake Field Measurement-Based System Identification and Finite Element Modeling of an 18-Story Masonry-Infilled RC Building." In: Conte J., Astroza R., Benzoni G., Feltrin G., Loh K., Moaveni B. (eds) Experimental Vibration Analysis for Civil Structures. EVACES 2017. Lecture Notes in Civil Engineering, Vol 5. Springer, Cham. DOI:10.1007/978-3-319-67443-8_66
4. Bose, S., Nozari, A., Mohammadi, M., Stavridis, A., Moaveni, B., Wood, R., Gillins, D., Barbosa, A.R. (2016). "Structural Assessment of a School Building in Sankhu, Nepal Damaged Due to Torsional Response During the 2015 Gorkha Earthquake." *Dynamics of Civil Structures*, edited by Pakzad S., Juan C., Conference Proceedings of the Society for Experimental Mechanics Series (2). Springer International Series, 31-42. DOI: 10.1007/978-3-319-29751-4_5.
3. Yeh, H., Barbosa, A.R., and Mason, B. (2015). "Tsunamis Effects in Man-Made Environment." *Encyclopedia of Complexity and Systems Science*, edited by Meyers, A.R., Springer, Berlin Heidelberg, 1-27. ISBN: 978-3-642-27737-5, 10.1007/978-3-642-27737-5_623-1.
2. **Asgarieh, E.**, Moaveni, B., Nozari, A., Barbosa, A.R., Chatzi, E. (2014). "Nonlinear Identification of a Seven-story Shear Wall Building Based on Numerically Simulated Seismic Data." Dynamics of Civil Structures, edited by Fikret Necati Catbas, Conference Proceedings of the Society for Experimental Mechanics Series, Springer International Series, 245-254. DOI: 10.1007/978-3-319-04546-7_28.
1. Faggella, M., Barbosa, A.R., Conte, J.P., Spacone, E., Restrepo, J.I. (2008). "Probabilistic Seismic Response Sensitivity Analysis of 3D Nonlinear Model of R/C Building Structure." *Valutazione e riduzione della vulnerbilita sismica di edifici esistenti in concreto armado*, edited by E. Cosenza, G. Manfredi, G. Monti, Polimetrica International Scientific Publisher Monza/Italy, 331-338. ISBN: 8876991298, 9788876991295.

C1.2. Refereed Journal Publications

29. **Alam, M.S.**, Barbosa, A.R., Scott, M.H., Cox, D.T., van de Lindt, J.W. (2018). "Development of Physics-based Tsunami Fragility Functions considering Structural Member Failures." ASCE Journal of Structural Engineering. In-Press. http://doi.org/10.1061/(ASCE)ST.1943-541X.0001953
28. Barbosa, A.R., Fahnestock, L., Fick, D., Gautam, D., **Soti, R.**, …, Rodrigues, H. (2017). "Performance of Medium-to-High Rise Reinforced Concrete Frame Buildings with Masonry Infill in the 2015 Gorkha Nepal Earthquake." (2017). Earthquake Spectra. Vol. 33, No. S1, pp. S197-S218. https://doi.org/10.1193/051017EQS087M

27. Brando,G., Rapone,D., Spacone,E., O'Banion,M., Olsen,M., Barbosa,A.,…, Stravidis, A. (2017). "Damage Reconnaissance of Unreinforced Masonry Bearing Wall Buildings after the 2015 Gorkha, Nepal, Earthquake." Earthquake Spectra. Vol. 33, No. S1, pp. S243-S274. https://doi.org/10.1193/010817EQS009M
26. Wood, R.L., Mohammadi, M.E., Barbosa, A.R., Abdulrahman, L., **Soti, R.**, Kawan, C.K., Shakya, M., Olsen, M.J. (2017). "Damage Assessment and Modeling of the Five-Tiered Pagoda Style Nyatapola Temple." Earthquake Spectra. Vol. 33, No. S1, pp. S377-S384. https://doi.org/10.1193/121516EQS235M
25. **Rodrigues, L.G.**, Branco, J.M., Neves, L.A.C, Barbosa, A.R. (2017). "Seismic Assessment of a Heavy-Timber Frame Structure with Ring-doweled Moment-Resisting Connections." Bulletin of Earthquake Engineering, DOI: https://doi.org/10.1007/s10518-017-0247-y, URL: http://rdcu.be/xyR4
24. **Ribeiro, F.**, Neves, L., Barbosa, A.R. (2017). "Implementation and calibration of finite-length plastic hinge elements for use in seismic structural collapse analysis." Vol. 21, 8, pg 1197-1219, Journal of Earthquake Engineering, DOI: http://dx.doi.org/10.1080/13632469.2015.1036327.
23. **Belejo, A.**, Barbosa, A.R., Bento, R. (2017). "Influence of Ground Motion Duration on Damage Index-Based Fragility Assessment of a Plan-Asymmetric Non-Ductile Reinforced Concrete Building," Elsevier Journal of Engineering Structures. Volume 151, 15 November 2017, Pages 682-703, DOI: https://doi.org/10.1016/j.engstruct.2017.08.042
22. Attary, N., Unnikrishnan, V., van de Lindt, J., Cox, D., and Barbosa, A.R. (2017). "Performance-Based Tsunami Engineering Methodology for Risk Assessment of Structures." Engineering Structures, 141, 676–686. https://doi.org/10.1016/j.engstruct.2017.03.071.
21. Barbosa, A.R., Trejo, D., **Nielson, D.** (2017). "Effect of High Strength Steel on Shear Friction Behavior." ASCE Journal of Bridge Engineering, 22 (8). http://dx.doi.org/10.1061/(ASCE)BE.1943-5592.0001015.
20. Park, H., Cox, D., Barbosa, A.R. (2017). "Comparison of Inundation Depth and Momentum Flux Based Fragilities for Probabilistic Tsunami Damage Assessment and Uncertainty Analysis." Coastal Engineering, 122, 10-24. DOI: 10.1016/j.coastaleng.2017.01.008.
19. Li, Q., Stuedlein, A.W., Barbosa, A.R. (2017). "Torsional Load Transfer of Drilled Shaft Foundations." ASCE Journal of Geotechnical and Geoenvironmental Engineering, 143(8). DOI: http://dx.doi.org/10.1061/(ASCE)GT.1943-5606.0001701.
18. **Asgarieh, E.**, Moaveni, B., Barbosa, A.R., Chatzi, E. (2017). "Nonlinear Model Calibration of a Shear Wall Building Using Time and Frequency Data Features." Mechanical Systems and Signal Processing, 85, 236-251. DOI: 10.1016/j.ymssp.2016.07.045.
17. Park, H., Cox, D., **Alam, M.S.**, Barbosa, A.R. (2017). "Probabilistic Seismic and Tsunami Hazard Analysis Conditioned on a Megathrust Rupture of the Cascadia Subduction Zone." Frontiers Built Environment - Earthquake Engineering; Mega Quakes: Cascading Earthquake Hazards and Compounding Risks, 3:32. DOI: 10.3389/fbuil.2017.00032.
16. Yu, H., **Mohammed M.A.**, Mohammadi, M.E., Moaveni, B., Barbosa A.R., Stavridis, A., Wood, R.L. (2017). "Structural Identification of an 18-Story RC Building in Nepal Using Post-Earthquake Ambient Vibration and Lidar Data." Front. Built Environ – Structural Sensing, 3:11. DOI: 10.3389/fbuil.2017.00011.

15. Barbosa, A.R., **Ribeiro, F.**, and Neves, L. (2017). "Influence of Earthquake Ground-Motion Duration on Damage Estimation: Application to Steel Moment Resisting Frames." Earthquake Engineering & Structural Dynamics, 46(1), 27–49. DOI: 10.1002/eqe.2769.
14. **Lostra, M.**, Higgins, C., Barbosa, A.R. (2017). "Seismic Retrofit of Reinforced Concrete Rectangular Bridge Columns Using Titanium Alloy Bars." Portuguese Journal of Structural Engineering, Series III (3), 75-82, URL: https://goo.gl/xdhFX1
13. Attary, N., van de Lindt, J.W., Unnikrishnan, V.U., Barbosa, A.R., and Cox, D.T. (2016) "Methodology for Development of Physics-Based Tsunami Fragilities." ASCE Journal of Structural Engineering, 143(5). DOI: 10.1061/(ASCE)ST.1943-541X.0001715.
12. Gidaris. I., Padgett, J., Barbosa, A.R., Chen, S., Cox, D. Webb, B., Cerato, A. (2016). "Multiple-Hazard Fragility and Restoration Models of Highway Bridges for Regional Risk and Resilience Assessment in the U.S.: A State-of-the-art Review." ASCE Journal of Structural Engineering, 143(3). DOI: 10.1061/(ASCE)ST.1943-541X.0001672.
11. Trejo, D., **Link, T.**, Barbosa, A.R. (2016). "Effect of Reinforcement Grade and Ratio on Seismic Performance of RC Columns." ACI Structural Journal, 113 (05), 907-916.
10. **Kramer, A.**, Barbosa, A.R., and Sinha, A. (2015). Performance of Steel Energy Dissipators Connected to Cross-Laminated Timber Wall Panels Subjected to Tension and Cyclic Loading. ASCE Journal of Structural Engineering, 142(4). DOI:10.1061/(ASCE)ST.1943-541X.0001410.
9. Barbosa, A.R., **Link, T.**, Trejo, D. (2015). "Seismic Performance of High-Strength Steel RC Bridge Columns." ASCE J. Bridge Eng., 21(2). DOI:10.1061/(ASCE)BE.1943-5592.0000769.
8. **Ribeiro, F.L.A.**, Barbosa, A.R., Scott, M.H., and Neves, L.A.C. (2015). "Deterioration Modeling of Steel Moment Resisting Frames Using Finite-Length Plastic Hinge Force-Based Beam-Column Elements." ASCE Journal of Structural Engineering, 141(2), DOI: 10.1061/(ASCE)ST.1943-541X.0001052, 04014112.
7. Barbosa, A. R., and **Ramadhan, G.** (2014). "Seismic Performance of a Tall Diagrid Steel Building with Tuned Mass Dampers." International Journal of Innovations in Materials Science and Engineering, 1(2), 90-102.
6. **Ribeiro, F.L.A.**, Barbosa, A.R., and Neves, L.A.C. (2014). "Application of Reliability-Based Robustness Assessment of Steel Moment Resisting Frame Structures under Post-Mainshock Cascading Events." ASCE Journal of Structural Engineering. 140 (8), Special Issue: Computational Simulation in Structural Engineering, A4014008. DOI: 10.1061/(ASCE)ST.1943-541X.0000939.
5. **Kramer, A.**, Barbosa, A.R., and Sinha, A. (2014). "Viability of Hybrid Poplar in ANSI Approved Cross-Laminated Timber Applications." ASCE Journal of Materials in Civil Engineering, 26(7). DOI: 10.1061/(ASCE)MT.1943-5533.0000936.
4. Moaveni, B., Barbosa, A.R., Conte, J. P., and Hemez, F. M. (2014). "Uncertainty analysis of system identification results obtained for a seven-story building slice tested on the UCSD-NEES shake table." Structural Control and Health Monitoring, 21(4), 466-483. DOI: 10.1002/stc.1577.
3. Faggella, M., Barbosa, A.R., Conte, J. P., Spacone, E., and Restrepo, J. I. (2013). "Probabilistic seismic response analysis of a 3-D reinforced concrete building." Structural Safety, 44, 11-27.

2. Pestana, A., Alves, T., and Barbosa, A.R. (2013). "Application of Lean Construction Concepts to Manage the Submittal Process in AEC Projects." ASCE J. Manage. Eng., 30(4). DOI: 10.1061/(ASCE)ME.1943-5479.
1. Castro, L.M.S.S. and Barbosa, A.R. (2006). "Implementation of a Hybrid-Mixed Stress Model based on the use of Wavelets." Computers and Structures, 84(10-11), 718-731. DOI: 10.1016/j.compstruc.2005.11.012.

C1.3. Peer-Reviewed Archival Conference Publications

The following papers appeared in archival proceedings that were distributed to libraries (the next section covers other types of proceedings). The acceptance rate is indicated as part of the entry whenever the selection process was rigorous.

13. Schmidt E.L., Riggio M., Laleicke P.F., Barbosa A.R., Van Den Wymelenberg K. (2017). "How Monitoring CLT Buildings Can Remove Market Barriers and Support Designers in North America: An Introduction to Preliminary Environmental Studies." II Congresso Latinoameriano de Estrutras de Madera, CLEM+CIMAD, Buenos Aires, Argentina
12. Wood, R. L., Mohammadi, M.E., Barbosa, A.R., Kawan, C.K., Shakya, M., Olsen, M.J. (2017). "Structural Damage Assessment of a Five-Tiered Pagoda Style Temple in Nepal." Proceedings of the 16th World Conference on Earthquake Engineering, The International Association for Earthquake Engineering, Santiago, Chile, 12pp.
11. Yu, H., Levine, A., Van Oss, T., **Mohammed, M.**, Moaveni, B., Barbosa, A.R., Stavridis, A. (2017). "System Identification and Modeling of an 18-Story Building in Nepal Using Post-Earthquake Ambient Vibration Data." Proceedings of the 16th World Conference on Earthquake Engineering, The International Association for Earthquake Engineering, Santiago, Chile, 12pp.
10. **Miranda, L.**, Barbosa, A.R., Serra, J., Caldeira, L. (2017). "Parameter Sensitivity Analysis of the Manzari-Dafalias Model for Modeling the Cyclic Response of a Sand." Proceedings of the 16th World Conference on Earthquake Engineering, The International Association for Earthquake Engineering, Jan. 9 to 13, Santiago, Chile, Paper 2211, 12pp.
9. **Cappozzo, M.**, **Rizzi, A.**, Cimellaro, G.P., Barbosa, A.R., Cox, D. (2017). "Earthquake and Tsunami Resiliency Assessment for a Coastal Community in the Pacific Northwest, USA." *ASCE Structures Congress 2017*, ASCE, Denver, Colorado, 122-133. DOI: https://doi.org/10.1061/9780784480427.011.
8. Bose, S., Nozari, A., Mohammadi, M., Stavridis, A., Moaveni, B., Wood, R., Gillins, D., Barbosa, A.R. (2016). "Structural Assessment of a School Building in Sankhu, Nepal Damaged Due to Torsional Response During the 2015 Gorkha Earthquake." *IMAC XXXIV A Conference and Exposition on Structural Dynamics*, Society for Experimental Mechanics, Orlando, FL, 12pp.
7. **Asgarieh, E.**, Moaveni, B., Nozari, A., Barbosa, A.R., Chatzi, E. (2014). "Nonlinear Identification of a Seven-story Shear Wall Building Based on Numerically Simulated Seismic Data." *IMAC XXXII, A Conference and Exposition on Structural Dynamics*, Society for Experimental Mechanics, Dynamics of Civil Structures, Vol. 4, pp 245-254, Orlando, FL.
6. Yeh, H. Barbosa, A.R., Ko, H., and **Cawley, J.** (2014). "Tsunami Loadings on Structures: Review and Analysis." 34th *International Conference of Coastal Engineering*,

Coastal Engineering Research Council of the COPRI of the American Society of Civil Engineers Seoul, Korea, 13pp. DOI: https://doi.org/10.9753/icce.v34.currents.4

5. Barbosa, A.R., Gambatese, J., **Das, A.**, Pestana, A.C. (2014). "Mapped Workflow for Safety and Reliability Assessments of Use and Re-use of Formwork." *Construction Research Congress 2014,* ASCE, Atlanta. Georgia, 1821-1830. DOI: 10.1061/9780784413517.186.
4. **Ribeiro, F.L.A.**, Barbosa, A.R., and Neves, L.A.C. (2013). "Reliability-Based Robustness Assessment of Structures Subjected to Post-Mainshock Hazard Events." *11th International Conference on Structural Safety & Reliability (ICOSSAR),* The International Association for Structural Safety and Reliability, New York, U.S.A., 8pp.
3. Barbosa, A. R., Panagiotou, M., Conte, J.P., and Restrepo, J.I., (2009). "Comparison of Dynamic Strut-and Tie and Fiber Beam-Column Models for the UCSD Seven-Story Full-scale Building Slice Test." *Sixth International Conference on Urban Earthquake Engineering,* The Center for Urban Earthquake Engineering, Tokyo.
2. Moaveni, B., Barbosa, A.R., Panagiotou, M., Conte, J.P., and Restrepo, J.I. (2009). "Uncertainty Analysis of Identified Damping Ratios in Nonlinear Dynamic Systems."*27th International Modal Analysis Conference (IMAC-XXVII),* Society for Experimental Mechanics, Orlando, Florida, USA, 14pp.
1. Moaveni, B., Barbosa, A.R., Conte, J. P., and Hemez, F. M. (2007). "Uncertainty Analysis of Modal Parameters Obtained from Three System Identification Methods." *25th International Modal Analysis Conference (IMAC-XXV)*, Society for Experimental Mechanics, Orlando, Florida, USA, 12pp

C1.4. Other Peer-Reviewed Publications

The following papers appeared in proceedings that were distributed primarily to attendees (as CDs, printed volumes, availability through a public website, etc.).

28. Schmidt, E.L., Riggio, M., Barbosa, A.R., **Mugabo, I.**, Paul, F.L. (2018). "Moisture response of a full-scale cross laminated timber panel during environmental simulation: key factors in design and management." World Conference on Timber Engineering, Seoul, Republic of Korea (abstract submitted).
27. **Lostra, M.**, Higgins, C., Barbosa, A.R. (2016). "Seismic Retrofit of Reinforced Concrete Rectangular Bridge Columns Using Titanium Alloy Bars." XII International Conference on Structural Repair and Rehabilitation, Instituto da Construção, Porto, Portugal.
26. Sa, P., Rodrigues, H., Furtado, A.F., Varum, H., Vila-Pouca, N., Barbosa, A.R. (2016). "Evaluation of the Seismic Vulnerability of a School Building in Nepal – Proposal for Retrofit Solutions." (in Portuguese), Betão Estrutural 2016, GPBE and DCUC, Coimbra, Portugal.
25. Sa, P., Rodrigues, H., Furtado, A.F., Varum, H., Vila-Pouca, N., Barbosa, A.R. (2016). "Numerical Study on the Seismic Vulnerability of a School Building with a Proposed Retrofit Solution" (in Portuguese), XII International Conference on Structural Repair and Rehabilitation, Instituto da Construção, Porto, Portugal.
24. **Mahdavifar, V.**, Barbosa, A.R., Sinha, A. (2016). "Nonlinear Layered Modeling Approach for Cross Laminated Timber Panels Subjected to Out-of-Plane Loading." 41st IAHS World Congress on Sustainability and Innovation for the Future, The International Association for Housing Science, Albufeira, Algarve, Portugal, 10pp.

23. **Mahdavifar, V.**, Barbosa, A.R., Sinha, A., Gupta, R., Muszyński, L. (2016). "Hysteretic behavior of metal connectors for hybrid (high- and low-grade mixed species) cross-laminated timber." World Conference of Timber Engineering, WCTE, Vienna, Austria, 8pp.
22. Varum, H., Pouca, N., Rodrigues, H., Furtado, A., Oliveira, J., Arêde, A., Barbosa, A. (2016) "Infilled RC Structures Performance in the 25th April, 2015 Gorkha Nepal Earthquake: Observations and Dynamic Characterization Tests." 16th International Brick and Block Masonry Conference, IBMAC, Padova, Italy.
21. Varum, H., Arêde, A., Rodrigues, H., Pouca, N.V., Oliveira, J., Furtado, A., Barbosa, A. (2016) "Earthquake in Nepal 2015: Lessons Learnt from the Behavior and Damage Observed in Buildings." Congreso Euro - Americano Rehabend 2016, Patología de la Construcción, Tecnología de la Rehabilitación y Gestión del Patrimonio, Burgos, Spain
20. **Ribeiro, F.**, Barbosa, A.R., Neves, L. (2016). "Fragility and Loss Assessment of Pre-Northridge Steel Moment Frames Using the Opensees Framework." 10º National Congress of Seismology and Earthquake Engineering, The Earthquake Engineering Research Institute, Portugal, 11pp.
19. **Ribeiro, F.**, **Rosario, R.**, Barbosa, A.R., Neves, L. (2016). "Sensitivity Analysis of Steel Moment Frames Subjected to Structural Fire Using the Opensees Framework." 10º National Congress of Seismology and Earthquake Engineering, The Earthquake Engineering Research Institute Portugal, 10pp.
18. Varum, H., Barbosa, A.R., Arêde, A., Pouca, N., Rodrigues, H., Furtado, A., Mário, J. (2016) "April 2015 Gorkha earthquake in Nepal: field observations." 10º National Congress of Seismology and Earthquake Engineering, The Earthquake Engineering Research Institute Portugal, 12pp.
17. Brando G., Rapone, D., Spacone, E., Barbosa, A.R., Olsen, M., Gillins, D., **Soti, R.**, Varum, H., Arêde, A., Vila-Pouca, N., Furtado, A., Oliveira, J., Rodrigues, H., Stavridis, A., Bose, S., Fagella, M., Gigliotti, R., Wood, R. (2015). "Reconnaissance report on the 2015 Gorkha Earthquake effects in Nepal." XVI Convegno ANIDIS, L'Aquila, Italy, 20pp.
16. Barbosa, A.R., **Ribeiro, F.L.A.**, Neves, L.C.A. (2014). "Effects of Earthquake Ground-motion Duration on the Response of a 9-story Steel Moment Resisting Frame." Tenth National Conference on Earthquake Engineering, The Earthquake Engineering Research Institute, Anchorage, Alaska, 11pp.
15. Ramadhan, G., Barbosa, A. R. (2014). "Improving the Seismic Performance of Diagrid Steel Structures using Friction Mass Dampers." Tenth National Conference on Earthquake Engineering, The Earthquake Engineering Research Institute, Anchorage, Alaska, 11pp.
14. **Carey, T.**, Mason, H. B., Barbosa, A. R., and Scott, M. H. (2014). "Modeling framework for soil-bridge system response during sequential earthquake and tsunami loading." Tenth National Conference on Earthquake Engineering, The Earthquake Engineering Research Institute Anchorage, Alaska, 11pp.
12. **Romney, K.T.**, Barbosa, A. R., and Mason, H. B. (2014). "Developing a soil bridge-interaction model for studying the effects of long-duration earthquake motions." Tenth National Conference on Earthquake Engineering, The Earthquake Engineering Research Institute, The Earthquake Engineering Research Institute, Anchorage, Alaska
11. **Soti, R.**, Barbosa, A. R., and Stavridis, A. (2014). "Numerical Modeling of URM Infill Walls Retrofitted with Embedded Reinforcing Steel. Tenth National Conference on

Earthquake Engineering, The Earthquake Engineering Research Institute, Anchorage, Alaska, 11pp.

10. Barbosa, A.R., Neves, L.A.C. and **Ribeiro, F.L.A.** (2012). "Preliminary Proposal for Performance-Based Structural Engineering for Fire Following Earthquake." First International Conference on Performance-Based and Life-Cycle Structural Engineering (PLSE 2012), Centre for Infrastructure Engineering and Safety, Hong Kong, CHina, 8pp.
9. **Ribeiro, F.L.A.**, Barbosa, A.R., and Neves, L.A.C. (2012). "Robustness Assessment for Consecutive Seismic Events." 4º Encontro Nacional de Risco, Segurança e Fiabilidade, European Safety and Reliability Association, Lisboa, Portugal.
8. **Ribeiro, F.L.A.**, Barbosa, A.R., and Neves, L.A.C. (2012). "Seismic Robustness Assessment of Code Compliant Steel Moment Resisting Frame under Seismic Triggered Sequences of Events." 15th World Conference on Earthquake Engineering (15WCEE), The International Association of Earthquake Engineering Lisbon, Portugal, 10p
7. Faggella, M., Barbosa, A.R., Conte, J. P., Spacone, E, and Restrepo, J.I. (2009). "Use of High Performance Computing for Probabilistic Seismic Response Sensitivity Analyses of a Building Structure." First International Conference on Parallel, Distributed and Grid Computing for Engineering, edited by Topping, B.H.V. and Iványi, P., IEEE, Civil-Comp Press, Stirlingshire, UK, 10pp. DOI:10.4203/ccp.90
6. Faggella, M., Barbosa, A.R., Conte, J. P., Spacone, E, and Restrepo, J.I. (2008). "Seismic Assessment of R/C Building Structure through Nonlinear Probabilistic Analysis with High-performance Computing." Seismic Engineering International Conference, MERCEA08, Reggio Calabria, Italy.
5. Barbosa, A.R. and Silva, M.A.G. (2007). "Bridge Abutment Interaction under Seismic Loading." 2nd International Conference on Structural Condition Assessment, Monitoring and Improvement, SCAMI-2, Changsha, China, 6pp.
4. Barbosa, A.R., Caldeira, L., and Silva, M.A.G. (2007). "Modelação Numérica de Pontes Incluindo Interacção Encontro-Superestrutura." (in Portuguese) 7th Congresso de Sismologia e Engenharia Sísmica, Sociedade Portuguesa de Engenharia Sísmica, Porto, Portugal
3. Silva, M., Barbosa, A.R., Pereira, E., Castro. L. (2005). "Utilização de um Modelo Híbrido-Misto na Análise Dinâmica de Estruturas Reticuladas Planas." (in Portuguese) Métodos Numéricos en Ingeniería, SEMNI and APMTAC, Granada, Spain
2. Castro, L.M.S.S. and Barbosa, A.R. (2003). "Resolução de Problemas de Elasticidade com Wavelets no Intervalo." (In Portuguese) VII Encontro Nacional de Mecanica Aplicada e Computacional, APMTAC, Évora, Portugal.
1. Castro, L.M.S.S. and Barbosa, A.R. (2003). "Implementation of a Hybrid-Mixed Stress Model Based on the Use of Wavelets." IX International Conference on Civil and Structural Engineering Computing, CC2003 (Civil-Comp press), Egmond an Zee, Netherlands, 20pp. DOI:10.4203/ccp.77.41.

C1.5. Other Publications

18. Higgins, C., Barbosa, A.R., Blank, C. (2017). "Structural Tests of Concrete Composite-Cross-Laminated Timber Floors Final Report." Report No. 17-01. http://bit.ly/2AxDRkn. Structural Engineering Research Laboratory, School of Civil and Construction Engineering, Oregon State University
17. Barbosa, A. R., Trejo, D., **Nielson, D.**, Tibbits, C., and Mazerei, V. (2017). "High-strength Reinforcing Steel Bars: Low-cycle Fatigue Behavior." Report SRP 762-B, Oregon Department of Transportation, Salem, Oregon.

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9. Barbosa, A. R., Mason, H. B., and Romney, K. T. (2014). "SSI-Bridge: Soil-Bridge Interaction during Long-Duration Earthquake Motions." Report No. 2012-OSU-0008. Pacific Northwest Transportation Consortium (PacTrans), Seattle, Washington.
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5. Gambatese, J., Barbosa, A.R., Das, A. (2014). "Use and Re-use of Formwork: Safety Risks and Reliability Assessment." Report No. 13-2-PS, CPWR, Silver Spring, MD.
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2. Panagiotou, M., Geonwoo, K., Barbosa, A.R., and Restrepo, J.I. (2007). "Response Verification of a Reinforced Concrete Bearing Wall Building Located in an Area of High Seismic Hazard." Report No. SN2961, Portland Cement Association, Skokie, Illinois.
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C2. Professional Meetings, Symposia, and Conferences

C2.1. Presentations to Professional Groups (includes presentations of papers cited in C1.3)

1. Invited Talk, *NSF NHERI Coastal Hazards Engineering New User Workshop,* "NHERI UCSD Shake Table User Case Study." July 20, 2017, Corvallis, OR, USA.
2. Contributed Talk, *Center for Risk-based Community Resilience Planning,* "Multi-Hazard Damage and Loss Estimation: Application to Seaside, OR." NIST CORE Meeting, April, 2017, Colorado State University, Fort Collins, Colorado.
3. Contributed Talk, *ASCE Structures Congress 2017,* "Earthquake and Tsunami Resiliency Assessment for a Coastal Community in the Pacific Northwest, USA." SEI Structures Congress, April 6 - 8, 2017, Denver, Colorado.
4. Poster, *Center for Risk-based Community Resilience Planning.* "A Probabilistic Framework for Seismic and Tsunami Hazard Analysis (PSTHA): Application to the City of Seaside, OR, Conditional on A Megathrust Rupture of the Cascadia Subduction Zone." April 27-28, 2017, Fort Collins, CO.
5. Poster, *EERI Annual Meeting 2017*. "Probabilistic seismic and tsunami hazard analysis (PSTHA) conditional on a megathrust rupture of the Cascadia Subduction Zone." March 7-10, 2017, Portland, OR.
6. Invited Talk, *1st International Workshop on Resilience,* "Earthquake and Tsunami Fragility Surfaces for a Masonty Infilled Concrete Building." September 20-22, 2016, Torino, Italy.
7. Contributed Talk, *XII International Conference on Structural Repair and Rehabilitation,* "Seismic Performance of Square Reinforced Concrete Columns Retrofitted with Titanium Alloy Bars," CINPAR 2016, October 26-28, 2016, Porto, Portugal.
8. Invited Talk, *Cascadia Lifelines Program,* "Cost-effective Retrofitting of Unreinforced Masonry Walls." Meeting with DOGAMI, September 26, 2016, Corvallis Oregon.
9. Contributed Talk, *41st IAHS World Congress,* "Nonlinear Layered Modeling Approach for Cross Laminated Timber Panels Subjected to Out-Of-Plane Loading." IAHS World Congress on Sustainability and Innovation for the Future, Sept. 13-16, 2016, Albufeira, Portugal.
10. Contributed Talk, *2016 WCTE World Conference,* "Hysteretic Behavior of Metal Connectors for Hybrid (High- and Low-grade Mixed Species) Cross Laminated Timber." World Conference in Timber Engineering, August 25, 2016, Vienna, Austria. (Presented by Ph.D. student Vahid Mahdavifar).
11. Contributed Talk, *2016 Engineering Short Course on Cascadia Resilience,* "Seismic Robustness and Resilience of Existing Built Environment." Oregon State University, July 14, 2016, Corvallis, Oregon.

12. Contributed Talk, *2016 Summer REU Program Kick-off Workshop,* "Multi-Hazard Damage and Loss Estimates to Buildings and Lifelines." Oregon State University, June 20, 2016, Corvallis, Oregon.
13. Contributed Talk, *2016 ADSC Faculty Workshop,* "Full Scale Response and Numerical Simulation of Traffic Sign and Signal Foundations Subjected to Torsional (Wind) Loading." ADSC, June 8, 2016, Chattanooga, Tennessee. (Presented by Armin Stuedlein).
14. Contributed Talk, *EMI 2016 Conference,* "Structural Identification and Modeling of a Three-Story School Building Damaged During the 2015 Gorkha Earthquake." Engineering Mechanics Institute, ASCE, May 22-25, 2016, Nashville, Tennessee. (Presented by Babak Moaveni).
15. Contributed Talk, *EMI 2016 Conference*, "Modeling Infill Strut Model Class Uncertainty on Seismic Response of Reinforced Concrete Masonry Infilled Frames," Engineering Mechanics Institute, May 22-25, 2016, Nashville, Tennessee. (Presented by Ph.D. student M. Shafiqual Alam).
16. Contributed Talk, *Mass-timber Conference*, "Composite Timber Structures." Forest Business Network, March 23, 2016, Portland, Oregon. (Presented by Benton Johnson, SOM).
17. Contributed Talk, *2016 Northwest Transportation Conference,* "Full Scale Response and Numerical Simulation of Traffic Sign and Signal Foundations Subjected to Torsional (Wind) Loading." NWTC, March 16, 2016, Corvallis, Oregon. (Presented by Armin Stuedlein).
18. Contributed Talk, *Meeting on Opportunities for University of Hawaii – Oregon State University Collaborations*, "Engineering Resilient Coastal Communities." Oregon State University, February 18, 2016, Corvallis, Oregon.
19. Contributed Talk, *Geo-Structures 2016*, "Soil-Bridge Modeling in OpenSees Considering Long Duration Earthquake Motions and Soil Liquefaction." *Geotechnical & Structural Engineering Congress*, February 14-17, 2016, Phoenix, Arizona. (Presented by Ben Mason)
20. Invited Panelist, *Geo-Structures 2016,* "Post-Earthquake Reconnaissance Findings from The M7.8 Gorkha Earthquake, Presentation on Remote sensing and laser scanning." Geotechnical & Structural Engineering Congress, February 14-17, 2016, Phoenix, Arizona. (Presented by Daniel Gillins).
21. Contributed Talk, *Geo-Structures 2016,* "Simulation Framework for Reliability-based Serviceability Assessments of Multi-story Steel-framed Structures Supported on Spatially-variable Soil." Geotechnical & Structural Engineering Congress, February 14-17, 2016, Phoenix, Arizona. (Presented by Armin Stuedlein).
22. Invited Talk, *DCA Meeting at the City of Corvallis*, "Lessons Learnt from Recent Earthquakes and Implications for Oregon." Oregon State University and Corvallis Seismic Strategies, February 3, 2016, Corvallis, Oregon.
23. Contributed Talk, *IMAC XXXIV A Conference and Exposition on Structural Dynamics,* "Structural Assessment of a School Building in Sankhu, Nepal Damaged Due to Torsional Response During the 2015 Gorkha Earthquake." Society for Experimental Mechanics, January 25-28, 2016, Orlando, Florida. (Presented by Supratik Bose).
24. Contributed Talk, *ATC-SEI Conference*, "Performance of URM Walls and Infilled RC Frame Retrofitted with Near Surface Mounted Steel Bars." 2nd Conference on Improving the Seismic Performance of Existing Buildings and Other Structures, December 10-12, 2015, San Francisco, California. (Presented by Ph.D. student Rajendra Soti).

25. Invited Talk, *Mayor of City of Corvallis*, "Lessons Learnt from Recent Earthquakes and Implications for Oregon." Oregon State University and Corvallis Seismic Strategies, October 27, 2015, Corvallis, Oregon.
26. Invited Talk, *Special Seminar, "*Earthquake and Tsunami Loss Assessment." Oregon State University, October 27, 2015, Corvallis, Oregon.
27. Invited Talk, *WTS October Luncheon,* "Emergency Preparedness - Are We Ready? Earthquake Preparedness: Lessons Learnt from Recent Earthquakes and Implications for Oregon." WTS, October 13, 2015, Portland, Oregon.
28. Contributed Talk, *Cascadia Lifelines Program*, "Cost-effective Improvements in Seismic Performance of Legacy Infrastructure." Oregon State University, October 8, 2015, Portland, Oregon.
29. Invited Talk, *Eugene Country Club*, "Earthquake Preparedness: Lessons Learnt from Recent Earthquakes and Implications for Oregon." September 29, 2015, Eugene, Oregon.
30. Contributed Talk, *Center for Risk-based Community Resilience Planning,* "Multi-Hazard Damage and Loss Estimation: Application to Seaside, OR." NIST CORE Meeting, September 18, 2015 Portland, Oregon.
31. Invited Talk, *Corvallis Seismic Strategies*, "2014 Napa, California and 2015 Nepal Earthquake: Overview of Observations and Implications for Oregon." Downtown Corvallis Association, September 9, 2015, Corvallis, Oregon.
32. Invited Talk, *PEER – EERI – GEER Reconnaissance Briefing on the April 2015 Gorkha (Nepal) Earthquake,* "Structures and Data Collection." UC Berkeley, August 13, 2015, Berkeley, California. (*Presentation slides and video copy available online: http://peer.berkeley.edu/events/wp-content/uploads/2015/07/03-PEER_Barbosa_2015_Aug13_FINAL.pdf. (Attended by 80 in-room participants and more than 600 participants online live*)
33. Invited Talk, *National Science for Earthquake Technology – Nepal,* "Field Work Closing Seminar". NSF RAPID/NSET, July 2, 2015, Kathmandu, Nepal.
34. Invited Talk, *10th Annual Energy & Construction Best Practices Summit* - Clean Tech. - Washington's WISE Future, "Designing for Resilience in the Pacific Northwest." Center of Excellence for Clean Energy, May 29, 2015, Tacoma, Washington.
35. Invited Talk, *Monthly Meeting of the Cascade Chapter of The American Society of Safety Engineers,* "Oregon Resilience Plan and Current Status of the Implementation Task Force." The American Society of Safety Engineers, May 19, 2015, Eugene, Oregon.
36. Invited Talk, *AWC Meeting* "Hybrid CLT Project." American Wood Council, April 21, 2015, Portland, Oregon.
37. Invited Talk, *EERI 2015 Annual Meeting*, "Review of Post-hazard event Safety Evaluation Procedures for Civil Infrastructure." EERI, March 31-April 3, 2015, Boston, Massachusetts.
38. Poster, *EERI 2015 Annual Meeting*, "Multi-Objective Loss Assessment of Oregon Bridges due to Seismic Hazards. EERI, March 31-April 3, 2015, Boston, Massachusetts.
39. Invited Talk, *LCUCC monthly lunch meeting,* "Lessons Learned from Recent Earthquakes: Implications for Oregon." Lane County Utilities Coordinating Council, November 2014, Springfield, Oregon. (*Presented to 40 members of the LCUCC)*
40. Invited Talk, *EERI – PEER Reconnaissance Briefing on the Aug 24, 2014 South Napa Earthquake*, "Structures." UC Berkeley, September 15, 2014. (*Presentation slides and video copy available online: http://www.eqclearinghouse.org/2014-08-24-south-*

napa/files/2014/08/4-EERI-PEER-Briefing-Structures-Barbosa.pdf. (Attended by 80 in-room participants and more than 1,100 participants online live)

41. Invited Talk, *NEES Quake Summit,* "Integration of Simulation Data Within the NEES Project Warehouse – NEES Research." Earthquake Engineering Research Institute, July 21-25, 2014, Anchorage, Alaska. (*Closing session of NEES Quake Summit – attended by 20 people*)
42. Contributed Talk, *10th National Conference on Earthquake Engineering,* "Effects of Earthquake Ground-motion Duration on the Response of a 9-story Steel Moment Resisting Frame." Earthquake Engineering Research Institute, July 21-25, 2014, Anchorage, Alaska.
43. Contributed Talk, *10th National Conference on Earthquake Engineering,* "Developing a soil bridge-interaction model for studying the effects of long-duration earthquake motions." July 21-25, 2014, Anchorage, Alaska.
44. Contributed Talk, *10th National Conference on Earthquake Engineering,* "Numerical Modeling of URM Infill Walls Retrofitted with Embedded Reinforcing Steel." Earthquake Engineering Research Institute, July 21-25, 2014, Anchorage, Alaska.
45. Contributed Talk, *International Conference on Coastal Engineering, Seoul, Korea*. "Tsunami Loadings on Structures: Review and Analysis." July 2014.
46. Contributed Talk, SWST 2014 International Convention, "Cross Laminated Timber Panels Using Hybrid Poplar." International Society of Wood Science & Technology (*SWST*), June 23-27, 2014, Zvolen, Slovakia.
47. Contributed Talk, 34th *International Conference of Coastal Engineering*, "Tsunami Loadings on Structures: Review and Analysis." Coastal Engineering Research Council of the COPRI of the American Society of Civil Engineers, June 15-20, 2014, Seoul, Korea.
48. Contributed Talk, *Construction Research Congress 2014,* "Mapped Workflow for Safety and Reliability Assessments of Use and Re-use of Formwork." ASCE, May, 19-21, Atlanta. Georgia. *(Presented by Ph.D. Student A.C. Pestana)*
49. Poster Presentation, *OSU CCE/MIME Graduate Research Exposition,* "Hybrid CLT panels for sustainable building solutions." Oregon State University, March 6, 2014, Portland, Oregon. (*Awarded First Place – Presented by Ph.D. student Vahid Mahdavifar*)
50. Poster Presentation, *OSU CCE/MIME Graduate Research Exposition,* "Manufacturing hybrid Cross Laminated Timber (CLT) panels." Oregon State University, March 6, 2014, Portland, Oregon. (*Presented by Ph.D. student Vahid Mahdavifar*)
51. Contributed Talk, *IMAC XXXII, A Conference and Exposition on Structural Dynamics,* "Nonlinear Identification of a Seven-story Shear Wall Building Based on Numerically Simulated Seismic Data." Society for Experimental Mechanics, February 3-6, 2014, Orlando, Florida.
52. Invited Talk, *OpenSees Days 2013,* "Modeling of Frame Structures in Fire." PEER and NEES, August 26-27, 2013. Berkeley, California. (A*ttended by 20 people live, YouTube video has been seen by 650+ viewers*)
53. Invited Talk, *NEES Quake Summit,* "NEES/OSG: Experiences in the use of "opportunistic" computing resources." NEES, August 7-8, 2013, Reno, Nevada. *(attended by 20 people)*
54. Contributed Talk, *11th International Conference on Structural Safety & Reliability, ICOSSAR 2013.* "Reliability-Based Robustness Assessment of Structures Subjected to Post-Mainshock Hazard Events." International Association for Structural Safety and Reliability, June 16-20, 2013, New York.

55. Contributed Talk, *First International Conference on Performance-Based and Life-Cycle Structural Engineering (PLSE 2012).* "Preliminary Proposal for Performance-Based Structural Engineering for Fire Following Earthquake." FCE and RISUD, December 5-7, 2012, Hong Kong.
56. Invited Talk, *2012 PEER Annual Meeting,* "Vector-valued Probabilistic Seismic Hazard Analysis and Probabilistic Seismic Demand Analysis Application to the 13-story NEHRP Reinforced Concrete Frame-Wall Building Design Example." PEER, October 2-7, 2012. Berkeley, California.
57. Contributed Talk, *15th World Congress on Earthquake Engineering (15WCEE),* "Seismic Robustness Assessment of Code Compliant Steel Moment Resisting Frame under Seismic Triggered Sequences of Events." The International Association of Earthquake Engineering, September 24-28, 2012, Lisbon, Portugal. (presented by co-advised Ph.D. student Filipe Ribeiro)
58. Contributed Talk, *2012 Joint Conference of the Engineering Mechanics Institute and the 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability.* "Identifying the Hysteretic Models of Structural Elements using Instantaneous Modal Parameters." EMI, ASCE, June 17-20, 2012, Notre Dame, Indiana. (presented by Babak Moaveni)
59. Invited Talk, *2011 PEER Annual Meeting,* "High Fidelity Nonlinear Building Simulation and Use of Open Science Grid." PEER, Sept. 30-Oct. 1, 2011, Berkeley, California.
60. Keynote talk, *2nd International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2009).* "System and Damage Identification Studies of a Seven-Story Reinforced Concrete Building Structure Subjected to Shake Table Tests." CERTH, June 22-24, 2009, Rhodes, Greece. (Presented by Joel Conte)
61. Contributed Talk, *First International Conference on Parallel, Distributed and Grid Computing Engineering,* "Use of High Performance Computing for Probabilistic Seismic Response Sensitivity Analyses of a Building Structure." Civil-Comp Press, April 6-8, 2009, Pécs, Hungary. (*Presented by Marco Faggella*).
62. Invited Talk, *Sixth International Conference on Urban Earthquake Engineering,* "Comparison of Dynamic Strut-and Tie and Fiber Beam-Column Models for the UCSD Seven-Story Full-scale Building Slice Test." CUEE, March 3-4, 2009, Tokyo, Japan.
63. Contributed Talk, *27th International Modal Analysis Conference (IMAC-XXVII).* "Uncertainty Analysis of Identified Damping Ratios in Nonlinear Dynamic Systems." Society for Experimental Mechanics, February 9-12, 2009, Orlando, Florida. (*Presented by Babak Moaveni*).
64. Contributed Talk, *Seismic Engineering International Conference,* "Seismic Assessment of R/C Building Structure through Nonlinear Probabilistic Analysis with High-performance Computing." MERCEA08, June 24-27, 2008, Messina and Reggio Calabria, Italy. (*Presented by Marco Faggella*).
65. Contributed Talk, *Convegno "Valutazione e riduzione della vulnerabilità sismica di edifici esistenti in cemento armato",* "Probabilistic Seismic Response Sensitivity Analysis of a 3-D Nonlinear Model of a Building Structure." May 29-30, 2008, Rome, Italy. (*Presented by Marco Faggella*).
66. Contributed Talk. "Bridge Abutment Interaction under Seismic Loading." *SCAMI-2,* November 19-21, 2007, Changsha, China. (*Presented by Marco Faggella*).
67. Contributed Talk, *7th Congresso de Sismologia e Engenharia Sísmica,* "Modelação Numérica de Pontes Incluindo Interacção Encontro-Superestrutura." Sociedade Portuguesa de Engenharia Sísmica, September 26-28, 2007, Porto, Portugal. (*Presented by Laura Caldeira*).

68. Contributed Talk, *25th International Modal Analysis Conference (IMAC-XXV).* "Uncertainty Analysis of Modal Parameters Obtained from Three System Identification Methods." SEM, Feb. 19-22, 2007. (*Presented by Joel Conte*).
69. Contributed Talk, *Congreso de Métodos Numéricos en Ingeniería 2005,* "Utilização de um Modelo Híbrido-Misto na Análise Dinâmica de Estruturas Reticuladas Planas." SEMNI and APMTAC, July 4-7, 2005, Granada, Spain. (*Presented by Mario Silva*).
70. Contributed Talk, *IX International Conference on Civil and Structural Engineering Computing, CC2003,* "Implementation of a Hybrid-Mixed Stress Model Based on the Use of Wavelets." Civil-Comp press. September, 2-4 2003, Egmond-aan-Zee, Netherlands. (*Presented by Luis Castro*).

C2.2. Participation at Invitational Workshops

1. Keynote Talk, *OpenSees Days Europe*, "Use of OpenSees for the development of physics-based tsunami fragility functions." First European Conference on Opensees, June 19-20, 2017, Porto, Portugal.
2. Keynote Talk, *OpenSees Days Europe*, "Dynamic Analysis with Examples – Seismic and Tsunami Loadings." Workshop on Multi-Hazard Analysis of Structures using OpenSees, July 3-4, 2014, Porto, Portugal.
3. Keynote Talk, *OpenSees Days Europe*, "Uncertainty and Sensitivity Analysis using High-throughput Computing (HTC) and High-performance Computing (HPC)." Workshop on Multi-Hazard Analysis of Structures using OpenSees, July 3-4, 2014, Porto, Portugal.

C3. Grant and Contract Support

The table below covers grants/contracts on which I served as PI or coPI, including those funded through other institutions. *My Share* indicates the amount of funding, over which I had control.

Agency & Dates	*PI (and coPIs)*	*Title*	*Total Budget*	*My Share*
NSF CMMI 7/17 – 6/20	**Cox, D.T.** Barbosa, A.R.	Collaborative Research: Wave, Surge, and Tsunami Overland Hazard, Loading and Structural Response for Developed Shorelines	$385,882	$192,241
NCHRP 7/17 – 6/18	**Barbosa, A.R.**, Trejo, D.	Project 20-07/Task 402: Improved Reinforced Concrete Interface Shear Design and Detailing for LRFD Specifications	$95,000	$47,500
ODOT 2/17 – 2/19	**Barbosa, A.R.**, Trejo, D.	Performance of High-Strength Steel Reinforcement in Shear Friction Applications	$400,000	$200,000
USDA Agricultural Research Service	**Barbosa, A.R.**, Sinha, A., Higgins, C.	Seismic Performance of CLT and CLT-Concrete Composite Floor Diaphragms	$250,000	$84,000

6/17 – 5/20				
USDA Agricultural Research Service 6/17 – 5/20	Higgins, C., Sinha, A., **Barbosa, A.R.**	Composite Concrete-CLT Floor Systems for Tall Building Design	$250,000	$84,000
USDA Agricultural Research Service 6/17 – 5/20	Riggio, M., **Barbosa, A.R.,** Wymelenberg, K.	Living Lab @ Peavy Hall: Structural Health Performance of Mass Timber Buildings	$156,331	$52,110
USDA Agricultural Research Service 7/16 – 6/19	Riggio, M., **Barbosa, A. R.,** Van Den Wymelenberg, K.	SMART-CLT – "Structural Health Monitoring and Post-Occupancy Performance of Mass Timber Buildings."	$147,497	$36,874
KPFF Consulting Engineers	**Barbosa, A.R.**, Sinha, A., Higgins, C.	Structural Testing for the Framework Project	$109,224	$36,408
Oregon DOT 1/16 – 12/17	Higgins, C., **Barbosa, A.R.**	Development of Titanium Seismic Retrofits for Deficient Concrete Columns	$400,000	$200,000
Skidmore, Owings & Merrill, SOM 10/15 – 9/16	**Barbosa, A. R.,** Higgins, C.	Composite Long-span Mass-timber Floor System for Building Applications	$48,000	$24,000
NSF ENH 7/2015 – 6/2016	**Barbosa, A. R.,** Olsen, M., Stavridis, A.	RAPID/Collaborative Research: Post-Disaster, Reinforced Concrete Building Performance Data Collection following the April 25, 2015 Nepal Earthquake	$81,326	$28,643
NIST 2/15 – 1/20	Cox, D., Scott, M.H., **Barbosa, A. R.**	NIST Center of Excellence in Community Resilience	$1,147,532	$344,260
Cascadia Lifeline Prog. 10/15 – 12/16	**Barbosa, A.R.**	Cost-Effective Improvements in Seismic Performance of Legacy Infrastructure (Year 3)	$48,961	$48,961
PacTrans 6/15 – 5/16	**Barbosa, A. R.** and Stuedlein, A.	Torsional Safety of Highway Traffic Signal and Signage Support Structures	$20,971	$11,000

Oregon DOT 09/14-10/15	Stuedlein, A. and **Barbosa, A. R.**	Shafts in Torsion	$60,000	$20,000
Oregon BEST 10/14-08/16	Muszynski, L., **Barbosa, A. R.**, Sinha, A., and Gupta, R.	Commercialization of Cross Laminated Timber Panels Production in Oregon	$150,000	$37,500
Cascadia Lifeline Prog. 10/14 – 09/15	**Barbosa, A.R.**	Cost-Effective Improvements in Seismic Performance of Legacy Infrastructure (Year 2)	$92,961	$92,961
USDA NIFA 01/14-08/16	Muszynski, L., **Barbosa, A. R.**, Sinha, A., and Gupta, R.	Hybrid Cross-Laminated Timber Panels for Sustainable Building Solutions	$289,631	$72,485
NAS/NCHRP 11/13-11/15	Olsen, M. and **Barbosa, A. R.,** Veletzos, M., Chen, Z.	NCHRP 14-29: Assessing, Coding, and Marking of Highway Structures in Emergency Situations (Phase II)	$299,655	$150,000
NAS/NCHRP 11/13-11/15	Olsen, M. and **Barbosa, A. R.,** Veletzos, M. Chen, Z.	NCHRP 14-29: Assessing, Coding, and Marking of Highway Structures in Emergency Situations (Phase I)	$100,000	$50,000
CalTrans 11/13 – 08/15	**Barbosa, A. R.** and Ashford, S.	Assessment of Soil Arching Factor for Retaining Wall Pile Foundations (Phase 1)	$185,257	$92,629
Cascadia Lifeline Prog. 10/13-09/14	**Barbosa, A.R.**	Cost-Effective Improvements in Seismic Performance of Legacy Infrastructure (Year 1)	$48,961	$48,961
PACTRANS 9/13 – 12/14	**Barbosa, A.R.** and Trejo, D.	High-Performance Bridge Systems for Lifeline Corridors in the Pacific Northwest	$100,000	$50,000
Oregon DOT 9/13 – 12/15	**Barbosa, A.R.** and Trejo, D.	High Strength Steel Reinforcement for Bridges	$135,000	$67,500
PACTRANS 9/13 – 10/14	Mason, H.B. and **Barbosa, A.R.**	SSI Bridge 2: Evaluation of Soil-structure Interaction Effects on PNW Bridges	$20,000	$10,000
CPWR / NIH 07/13 – 06/14	Gambatese, J. and **Barbosa, A. R.**	Use and Re-use of Formwork: Safety Risks and Reliability Assessment	$29,925	$14,963

PACTRANS + ODOT 9/12 – 12/13	Trejo, D. and **Barbosa, A.R.**	Inspection, Assessment, Monitoring, and Renewal Strategies for Structures on Critical Lifeline Corridors	$180,000	$90,000
PACTRANS 9/12 – 8/13	**Barbosa, A.R.** and Mason, H. B.	SSI Bridge: Evaluation of Soil-structure Interaction Effects on PNW Bridges	$44,727	$22,363
		Totals	**$5,276,841**	**$2,210,059**

C3.1. Donations

Year	*Source*	*Donation*	*Approx Value*
2014	Perryman Company	Strengthening of Civil Infrastructure (50% for C. Higgins and 50% my share)	$115,000

C3.2. Proposals Currently under Review

Agency	*PI (and coPIs)*	*Title*	*Budget*	*Duration*
Oregon State University	Fischer, E. Barbosa, A.R., Liu, J.	Innovation Grant on Experiential Structural Fire Engineering Learning	$9,431	1 year
NSF	Olsen, M.J. Barbosa, A.R.	Collaborative Research: Enabling Robust Post-Event Building Damage Assessment by Engaging Remote Experts	$325,000	3 years
ODOT	Barbosa, A.R.,	Development of the Next-Generation Fragility Curves for Oregon Bridges	$250,000	2 years
ODOT	Barbosa, A.R., Ideker, J.	Development of a Non-Proprietary Fiber-Reinforced Concrete Mixture	$400,000	2 years
USDA Agricultural Research Service	Fischer, E. Barbosa, A.R., Sinha, A.	Fire Performance of Cross-Laminated Timber-Concrete Composite Floors	$150,000	2 years
USDA Agricultural Research Service	Sinha, A., Morell, J., Barbosa, A.R., Nairn, J.	Water in Mass Timber: How Could That Ever Happen?	$250,000	2 years
USDA Agricultural Research Service	Barbosa, A.R., Sinha, A.	Impact of Moisture on the Cyclic Performance of a Two-Story Post-Tensioned CLT Rocking Wall with External Hysteretic Energy Dissipators	$25,000	1 year

C4. Patents Filed and In Process

None

C5. Other Scholarship and Creative Activities

C5.1. Non-refereed Conference Proceedings

1. Barbosa, A.R., Castro, L.M.S.S., (2003). "Resolução de Problemas de Elasticidade com Wavelets no Intervalo." *VII Encontro Nacional de Mecanica Aplicada e Computacional,* APMTAC, Évora, Portugal.
2. Barbosa, A.R., Castro, L.M.S.S., (2011). "Wavelets on the Interval - Application to elasticity problems, *Ondelettes et équations aux dérivées partielles*, Luminy, Marseille, France.

C5.2. Conference Abstracts

1. Barbosa, A.R., Sinha, A., Higgins, C., Rodrigues, L., Zimmerman, R., McDonnell, E., Breneman, S., Pei, S., van de Lindt, J., Berman, J., Branco, J., **DeMeza, B.** (2018). "Design and Shake-Table Experimental Results of CLT and CLT-Concrete Composite Diaphragms." World Conference on Timber Engineering, August 20-23,2018, Seoul, Rep. of Korea. (Abstract submitted).
2. Barbosa, A.R., **Rodrigues, L.G.**, Sinha, A., Higgins, C., DeMeza, B., Zemmerman, R., Breneman S., Pei, S., van de Lindt, J.W., Berman, J., McDonnell, E. , Branco, J.M., Neves, L.A.C., (2018). "Numerical Modeling of CLT And CLT-Concrete Composite Diaphragms Tested on A Shake Table Experiment." World Conference on Timber Engineering, August 20–23, 2018, Seoul, Republic of Korea. (Abstract submitted).
3. **Rodrigues, L.G.**, Branco, J.M., Neves, L.A.C., Barbosa, A.R. (2018). "Fragility Analysis of A Heavy-Timber Frame Structure with Ring-Doweled Moment-Resisting Connections." World Conference on Timber Engineering, August 20–23, 2018, Seoul, Republic of Korea. (Abstract submitted).
4. Cox, D.T., Park, H., **Alam, M.S**., Barbosa, A. R. (2018). "Probabilistic tsunami hazard assessment and damage estimation of the built environment: Application to the Cascadia Subduction Zone and Seaside, OR." *36th International Conference on Coastal Engineering*, July 30 - August 3, 2018, Baltimore, Maryland. (Abstract submitted).
5. Lomonaco, P., **Alam, M.S.**, Arduino, P., Barbosa, A.R, Cox, D., Do, T., Eberhard, M.O., Motley, M.R., Shekhar, K., Tomiczek, T., Park, H., van de Lindt, J.W., Winter, A.O. (2018). "Experimental Modeling of Wave Forces and Hydrodynamics of Elevated Coastal Structures Subjected to Waves, Surge or Tsunamis: The Effect of Breaking, Shielding And Debris." *36th International Conference on Coastal Engineering*, July 30 - August 3, 2018, Baltimore, Maryland. (Abstract submitted).
6. Misra, S., Padgett, J.E., Barbosa, A.R., Webb, B. (2018). "Post-Earthquake Restoration Modelling of Roadways and Bridges – A survey based approach." *Eleventh U.S. National Conference on Earthquake Engineering,* June 25-29, 2018, Los Angeles, CA. (Abstract submitted).
7. Berman, J., Wichman, S., Pei, S., van de Lindt, J., Barbosa, A., Dolan, J., Blomgren, H., McDonnell, E., Zimmerman, R. (2018). "Dynamic Testing and Analysis of Multi-Story Rocking Cross Laminated Timber Walls." *Eleventh U.S. National Conference on Earthquake Engineering,* June 25-29, 2018. Los Angeles, CA. (Abstract submitted).
8. Pei, S., Lindt, J.W., Berman, J., Barbosa, A.R., Ricles, J., Sause, R., Dolan, J., Ryan, K., Blomgren, H. McDonnell, E., Zimmerman, R., Robinson, T., Rammer, D., Buchanan, A. and Popovski, M. (2018). "NHERI Tallwood investigative testing: Full-scale shake table test of a two-story mass-timber building. *Eleventh U.S. National Conference on Earthquake Engineering,* June 25-29, 2018. Los Angeles, CA. (Abstract submitted).

9. **Kameshwar, S.**, Barbosa, A.R., Cox, D. (2018). "Surrogate Model Based Tsunami Fragility and Sensitivity Analysis of a Three Story Steel Building." *ASCE Engineering Mechanics Institute Conference 2018*, May 29 - June 1, Cambridge MA (Abstract submitted).
10. Cox, D.T., Barbosa, A.R., Park, H., **Alam, M.S.** (2018). "A Probabilistic Framework for Seismic and Tsunami Community Loss Assessment." *ASCE-SEI Structures Congress*, ASCE-SEI, April 19–21, 2018, Fort Worth, Texas. (Abstract submitted).
11. Barbosa, A.R., Higgins, C., Sinha, A., **Rodrigues, L.**, **DeMeza, B.** (2018). "Seismic Design and Response of CLT and CLT-Concrete Floor Diaphragms." *ASCE-SEI Structures Congress*, ASCE-SEI, April 19–21, 2018, Fort Worth, Texas. (Abstract submitted).
12. **DeMeza, B.**, Barbosa, A.R., Sinha, A., Higgins, C. (2018). "Design and Shake-Table Experimental Results of CLT and CLT-Concrete Composite Diaphragms." *Poster,* International Mass Timber Conference, March 20-22, Portland, OR.
13. O'Banion, M.S., Olsen, M.J., Barbosa, A.R. (2017). "Post-Earthquake Damage Assessment of a UNESCO Heritage Site in Nepal Using Lidar and a Virtual Reality Visualization Environment." *International Workshop on Computing in Civil Engineering (IWCCE 2017)*, ASCE, Seattle, WA.
14. **Mahdavifar, V.**, Barbosa, A.R., Sinha, A., Muszynski, L., Gupta, R. (2017). "Lateral and Withdrawal Capacity of One Screw Type on Hybrid Cross Laminated Timber Panel Applications." *71st International Convention*, Forest Products Society, June 26-28, 2017, Starkville, Mississippi
15. Barbosa A. R., **Soti, R.** (2017). "Three-Dimensional Numerical Evaluation of Masonry Walls Retrofitted with Near Surface Mounted Reinforcing Steel Bars." *ASCE Engineering Mechanics Institute 2017 Conference*, ASCE, June 4-7, San Diego, CA.
16. **Rodrigues, L.**, Branco, J., Neves, L., Barbosa, A.R. (2017). "Robustness of Multi-Story Timber Buildings in Seismic Regions." *Third INFRARISK- Summer Workshop*, LNEC, Lisbon, Portugal.
17. Attary, N., van de Lindt, J.W., Barbosa, A.R., Cox, D. T., Unnikrishnan, V. (2017) "Performance-Based Risk Assessment of Structures Subjected to Multi-Hazard Case of Tsunamis Following Earthquakes." *ASCE Engineering Mechanics Institute 2017 Conference*, ASCE, June 4-7, San Diego, CA.
18. **Alam, M.S.**, Barbosa, A.R., Park, H., Cox, D. (2017). "Probabilistic Seismic and Tsunami Hazard Analysis (PSTHA) Conditional on A Mega-Thrust Rupture of The Cascadia Subduction Zone." *2017 EERI annual meeting*, March 7-10, Portland, OR.
19. **Soti R.**, Barbosa, A.R., Jaho G., Mortola, E. A., Lagomarsino S., Cattari S. (2017). "New Generation Fragility Functions for Unreinforced Masonry Buildings: Application to the City of Portland, Oregon." *EERI annual Meeting*, on March 7-10, Portland, OR.
20. **Mahdavifar, V.**, Barbosa, A.R., Sinha, A., Muszynski, L., Gupta, R. (2016). "Shear and Withdrawal Capacity of Fasteners on Hybrid Cross-Laminated Timber Panels." *70th International Convention- Forest Products Society,* June 26-29, 2016, Portland, OR.
21. Larkin B., Muszynski, L., Barbosa, A.R., Sinha, A., Gupta, R. (2016). Effective bonding parameters for hybrid cross-laminated timber (CLT) layups. *70th International Convention-* Forest Products Society, June 26-29, 2016, Portland, OR.
22. **Alam, M.S.**, Barbosa, A.R. (2016). "Infill Strut Model Class Uncertainty of Seismic Response of Reinforced Concrete Masonry Infilled Frames." *ASCE Engineering Mechanics Institute Conference*, ASCE, May 22-25, 2016, Nashville, TN.
23. Chang, W.Y., Nozari, A., **Alam, M.S.**, Stavridis, A. Moaveni, B., Barbosa, A.R., Wood, R.L. (2016). "Structural Identification and Modeling of a Three-Story School Building Damaged

During the 2015 Gorkha Earthquake." *EMI 2016, ASCE Engineering Mechanics Institute Conference*, ASCE, May 22-25, 2016, Nashville, TN.

24. Huffman, J.C., Barbosa, A.R., Stuedlein, A.W. (2016). "Simulation Framework for Reliability-based Serviceability Assessments of Multi-Story Steel-framed Structures Supported on Spatially-variable Soil." *ASCE Geotechnical & Structural Engineering Congress*, ASCE, Phoenix, AR.
25. **Soti, R.**, Barbosa, A.R., Stavridis, A. (2015). "Analytical and Experimental Study of Seismic Performance of URM Walls and Infilled RC Frames Retrofitted with Near Surface Mounted Steel Bars." *2nd Conference on Improving the Seismic Performance of Existing Buildings,* ATC-SEI, Dec. 10-12, San Francisco, CA.
26. Larkin, B., Muszynski, L., Sinha, A., Barbosa, A.R., Gupta, R. (2015). "Effective adhesive systems and optimal bonding parameters for hybrid CLT."*58th SWST International Convention. Renewable Materials and the Bio-Economy,* SWST, June 7-12, Jackson Lake Lodge, Grand Teton NP, Jackson, WY
27. Sinha A., Barbosa, A.R., **Kramer, A.** (2015). "Design and Performance of Steel Energy Dissipators to be Used in Cross-Laminated Timber Self-Centering Systems." *58th SWST International Convention. Renewable Materials and the Bio-Economy*, SWST , June 7-12, Jackson Lake Lodge, Grand Teton NP, Jackson, WY (*corresponding author; primary advisor of MS student author*)
28. **Alam, M.**, Barbosa, A.R. (2015). "Modeling Uncertainties in Reinforced Concrete Masonry Infilled Frames." *Poster, ASCE Structures Congress,* ASCE, Portland, OR.
29. Mason, H.B., Barbosa, A.R., **Carey, T.**, Scott, M. (2015). "Tsunami bore impact on soil-bridge systems." *Oral Presentation, ASCE Structures Congress,* ASCE, Portland, OR.
30. Asgarieh, E., Moaveni, B., and Barbosa, A. R. (2015). "Probabilistic Nonlinear Identification of a Shear Wall using Time and Frequency Data." *IMAC XXXIII,* Society for Experimental Mechanics, February 2015, Orlando, FL.
31. **Belejo, A.**, Barbosa, A.R. (2014). "Mainshock – Aftershock Interaction Diagram for a 3D Plan-Asymmetric Structure." *11th World Congress on Computational Mechanics (WCCM XI)*, International Association for Computational Mechanics, July 2014, Barcelona, Spain.
32. **Kramer, A.K.**, Sinha, A., Barbosa, A.R. (2014). "Cross-Laminated Timber Panels Using Hybrid Poplar." *57th International Convention of Society of Wood Science and Technology,* Society of Wood Science and Technology, June 23-27, Zvolen, Slovakia, 321-322.
33. Conte, J. P., Moaveni, B., He, X., and Barbosa, A.R. (2009). "System and Damage Identification Studies of a Seven-Story Reinforced Concrete Building Structure Subjected to Shake Table Tests." *2nd International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2009)*, The International Association for Computational Mechanics, June 22-24, Rhodes, Greece.

C5.3. Press

1. CBS 8 News, San Diego, California (2017). "Engineers test new building material on world's largest quake simulator. URL: http://www.cbs8.com/story/35889987/engineers-test-new-building-material-on-worlds-largest-quake-simulator#.WWmaygjItes.twitter (accessed, 2017/7/31).

2. Chalmers, K., KGW News, Oregon (2017). "Tests show timber buildings do well in quakes"; URL: http://api.tegna-tv.com/video/v2/play/1283002663400/283/progressive?subscription-key=ad03606241d049e0b478145b70de72e2 (accessed, 2017/7/31).
3. DJC Staff (2017) "DJC announces its Newsmakers for 2017." Daily Journal of Commerce Oregon, January 23, 2017. https://goo.gl/MVV2aV (accessed, 2017/7/31).
4. KTVZ News, Oregon (2017). "Test to see how special wood structures fare in quakes Cross-laminated timber to get seismic check." URL: http://www.ktvz.com/news/test-to-see-how-special-wood-structures-fare-in-quakes/585971852 (accessed, 2017/7/31).
5. Robbins, G. (2017). "Engineers to simulate 6.7 earthquake at UC San Diego." URL: http://www.sandiegouniontribune.com/news/science/sd-me-earthquake-test-20170712-story.html (accessed, 2017/7/31).
6. NBC 10 News, San Diego, California (2017) "Researchers studying whether wood can stand up to Mother Nature's worst earthquakes." URL: http://www.10news.com/news/researchers-studying-whether-wood-can-stand-up-to-mother-natures-worst-earthquakes (accessed, 2017/7/31).
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8. Kipfer, A. (2017). Two-story cross-laminated timber structure simulated with 6.7 earthquakehttp://www.woodworkingnetwork.com/two-story-cross-laminated-timber-simulated-67-earthquake (accessed, 2017/7/31).
9. Macdonald, C. (2017). "Researchers to simulate 1994 LA quake that killed 60 on giant 'shake table' to test design for quakeproof wooden buildings." URL: http://www.dailymail.co.uk/sciencetech/article-4694416/Researchers-simulate-6-7-quake-test-new-building.html
10. Oregon State University (2017). "Seismic experiments will test performance of innovative cross-laminated timber structure." URL: http://www.publicnow.com/view/108F8E7603B0A076E5FC9AEEBE3F338680F8309D (accessed, 2017/7/31).
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13. Seismic experiments to test performance of CLT structure https://www.woodbusiness.ca/industry-news/news/seismic-experiments-to-test-performance-of-clt-structure-4340 (accessed, 2017/7/31)
14. U.S. study to test seismic performance of innovative cross-laminated timber structure http://english.ts.cn/Science/content/2017-07/12/content_12725405.htm (accessed, 2017/7/31)
15. U.S. study to test seismic performance of innovative cross-laminated timber structure http://www.china.org.cn/world/Off_the_Wire/2017-07/12/content_41197305.htm (accessed, 2017/7/31)

16. Day, J. (2017). "Sobering Panel on Safety Issues." URL: http://www.gazettetimes.com/news/local/govt-and-politics/sobering-panel-on-seismic-safety-issues/article_42f2a176-ed52-59a8-8603-4b6609856a2a.html (accessed, 2017/6/30)
17. Flaccus, G., Le, P. (2016). "New wood technology may offer hope for struggling timber." Associated Press, https://goo.gl/snyMNf (text and video, accessed: 2017/2/19)

    This news piece and video was published in several other news outlets including:

    a. New York Times
    b. Boston Herald
    c. Chicago Tribune
    d. Washington Post
    e. Miami Herald
    f. San Francisco Chronicle
    g. Seattle Post-Intelligencer
    h. Several TV stations in Oregon and Washington, e.g. KTVZ http://www.ktvz.com/
18. "Top of the tree: The case for wooden skyscrapers is not barking." (2016). The Economist, September 10, 2016, https://goo.gl/Hh7DIA (accessed: 2017/2/19).
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21. Lau, W. (2016). "Testing a New Composite System for Tall Timber." Architect Magazine, August 31, 2016. https://goo.gl/e1qqGM (accessed: 2017/2/19).
22. Andrews, G. (2016). "Putting Innovation to the Test." Daily Journal of Commerce." April 13, 2016. https://goo.gl/DZCqav (accessed: 2017/2/19).
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24. The Oregon State Engineer (2015) "Preparing for the Really Big One" and "Listing of Endowed Positions and Professors. https://goo.gl/j5Ri5E (accessed: 2017/2/19)
25. Mason, H. B. and Barbosa, A. R. (2014) "Napa disaster should offer a timely lesson for Oregonians." The Oregonian, Opinion Editorial, September 5, 2014. Also available online with the title "Napa earthquake argues for better education in Oregon: Guest opinion." https://goo.gl/BJ8rQj (accessed: 2017/6/27).
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31. OSU Building Together, Industry Newsletter, (2012). "Welcome New Faculty." https://goo.gl/P3QHEP (accessed: 2017/6/27)

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33. PEER NEWS, (2009). “PEER Students attend CUEE Conference and Visit E-Defense Shaking Table in Japan.” https://goo.gl/xEoSAe (accessed: 2017/6/27).

C5.4. Guest Lectures and Other Presentations

1. Barbosa, A.R. (2015). “Earthquake and Tsunami Loss Assessment.” *University of Porto, Faculdade de Engenharia*, November 2015.
2. Barbosa, A.R. (2015). “PEER-EERI-GEER Reconnaissance Briefing on the April 25, 2015 Nepal Earthquake.” *UC Berkeley and live broadcast to the world* (presentation paper and video copy available online)
3. Barbosa, A.R. (2014). “EERI-PEER Reconnaissance Briefing on the August 24, 2014 South Napa Earthquake.” *UC Berkeley and live broadcast to the world* (presentation paper and video copy available online)
4. Barbosa, A.R. (2014). “EERI-PEER Reconnaissance Briefing on the August 24, 2014 South Napa Earthquake.” *UC Berkeley and live broadcast to the world* (presentation paper and video copy available online)
5. Barbosa, A.R. and Ashford, S. (2014). “Lessons Learned from Recent Earthquakes: Implications for Oregon.” *Presentation at the Lane County Utilities Coordinating Council*. November 2014
6. Barbosa, A.R., Birely, A, Hacker, T., Lowes, L., Pordes, R. and Gazorglio, G. (2014). “Integration of Simulation Data within the NEES Project Warehouse – NEES Research.” *NEES Quake Summit*, Anchorage, Alaska, July 2014
7. Barbosa, A.R. (2013). “NEES/OSG: Experiences in the use of “opportunistic” computing resources.” *NEES Quake Summit*, Reno, Nevada, August 2013
8. Barbosa, A.R., Rosario, R., and Neves, L.A.C. (2013). “Modeling of Frame Structures in Fire.” *OpenSees Days 2013, UC Berkeley*, August 2013
9. Barbosa, A.R., Conte, J.P., Restrepo, J.I., Baker, J.W. (2012). “Vector-valued Probabilistic Seismic Hazard Analysis and Probabilistic Seismic Demand Analysis Application to the 13-story NEHRP Reinforced Concrete Frame-Wall Building Design Example.” *PEER Annual Meeting, Berkeley,* CA, August 2012
10. Barbosa, A.R., Conte, J.P., Restrepo, J.I., Baker, J.W. (2011). “High Fidelity Nonlinear Building Simulation and Use of Open Science Grid.” *PEER Annual Meeting, Berkeley, CA*., August 2011

C5.5. Refereed Publications Under Review and Under Preparation

Archival Journals Under Review

1. **Alam, M.S.** and Barbosa, A.R. (201X). “Probabilistic Seismic Demand Assessment including Modeling Class Uncertainty for Unreinforced Masonry Infill Reinforced Concrete Structures.” *Earthquake Engineering and Structural Dynamics* (*Submitted February 2018*).
2. **Feras, K.**, Barbosa, A.R., Ideker, J. (201X). “Cyclic Behavior of High-Performance Fiber-Reinforced Cementitious Composites.” *ASCE Journal of Materials in Civil Engineering*. (*Submitted February 2018*).

3. Li, Q., Stuedlein, A.W., Barbosa, A.R. (201X). "Role of Torsional Shear in Combined Loading of Drilled Shaft Foundations." *ASCE Journal of Geotechnical and Geoenvironmental Engineering.* (*Submitted January 2018*).
4. **Alam, M.S.**, Winter, A., **Galant, G.**, Shekhar, K., Motley, M., Barbosa, A.R., Eberhard, M.O., Cox, D.T., Arduino, P., Lomonaco, P. (201X). "Experimental investigation of lateral and uplift forces on an elevated structure subjected to tsunami-like waves." *Earthquake Engineering and Structural Dynamics.* (*Submitted December 2017*).
5. Winter, A., **Alam, M.S.**, Shekhar, K., Motley, M., Eberhard, M.O., Barbosa, A.R., Cox, D.T., Lomonaco, P. (201X). "Effects of Shielding and Channeling of Tsunami-like Waves due to Macroroughness Elements." *Earthquake Engineering and Structural Dynamics.* (*Submitted December 2017*).
6. Shekhar, K., Arduino, P., **Alam, M.S.**, Motley, M., Cox, D.T., Miller, G., Eberhard, M.O., Barbosa, A.R. (201X). "Experimental Evaluation of Tsunami Debris Damming and Impact Forces." *Earthquake Engineering and Structural Dynamics.* (*Submitted December 2017*).
7. **Mahdavifar, V.**, Barbosa, A.R., Sinha, A., Muszynski, L., Gupta, R. (201X). "Hysteretic Behavior of Metal Connectors on Hybrid Cross Laminated Timber Application." *ASCE Journal of Structural Engineering* (*Submitted December 2017*).
8. **Mahdavifar, V.**, Barbosa, A.R., Sinha, A. (201X). "Experimental and Numerical Modelling for Out-of-Plane Response Prediction of Cross-Laminated Timber Panels." *Wood Material Science and Engineering* (*Submitted November 2017*).
9. **Mahdavifar, V.**, Sinha, A., Barbosa, A.R., Muszynski, L., Gupta, R. (201X). "Lateral and Withdrawal Capacity of Fasteners on Hybrid Cross-Laminated Timber Panels." *Forest Products Journal* (*Submitted September 2017; Accepted pending revisions; revisions to be submitted Winter 2018*).
10. Barbosa, A.R., Mason, H.B., **Soti, R.** (201X). "The 2014 South Napa, California Earthquake: Performance and Restoration Times of Unreinforced Masonry Buildings." *Journal of Earthquake Engineering.* (*Submitted Fall 2016; Accepted pending revisions; revisions to be submitted Winter 2018*).
11. Barbosa, A.R., Trejo, D., **Nielson, D.** (201X). "Performance of Shear Specimens Reinforced with High Strength Reinforcing Bars." *ACI Structural Journal.* (*Submitted Fall 2016; Accepted pending revisions; revisions to be submitted Winter 2018*).
12. **Burns, P.**, Barbosa, A.R., Olsen, M., Wang, H. (201X). "Multi-hazard Damage and Loss Assessment of a Highway Bridge Network Subjected to Earthquake and Tsunami Hazards." *ASCE Natural Hazards Review*. (*Submitted Fall 2016; Accepted pending revisions; revisions to be submitted Winter 2018*).

Archival Journals Under Preparation

1. **Hussain, S.B.**, **Belejo, A.**, and Barbosa, A.R. (201X). "Evaluation of Seismic Response Directional Combination Rules for Existing Plan Irregular Reinforced Concrete Buildings." To be submitted to *Bulletin of Earthquake Engineering* (Being prepared for submission in Winter 2018).
2. Park, H., Cox, D., **Alam, M.S.**, Barbosa, A.R. (201X). "Multi-Hazard Damage Assessment of Building Portfolio for Earthquake and Tsunami Cascading Events: Application to Seaside, OR." To be submitted to *Earthquake Spectra* (Being prepared for submission in Winter 2018).
3. Park, H., Cox, D., Barbosa, A.R. (201X). "Probabilistic Tsunami Hazard Assessment (PTHA) for assessment of community resilience." To be Submitted to *Natural Hazards [Springer]* (Being prepared for submission in Winter 2018).

4. **Mugabo, I.**, Barbosa, A.R., Riggio, M., Schmidt, E.L. (201X). "Dynamic Testing and Characterization of Cross-Laminated Timber Floor Section." To be submitted to *ASCE Journal of Architectural Engineering* (Being prepared for submission in Winter 2018).
5. **Mugabo, I.**, Barbosa A.R., Riggio, M., Schmidt, E.L. (201X). "Ambient vibrations testing of a four story building." To be submitted to *Frontiers in Built Environment - Structural Sensing* (Being prepared for submission in Spring 2018).
6. **Belejo, A.**, Barbosa, A.R., and Higgins, C. (201X). "Study of Ground Motion Duration Effects in the Seismic Assessment of Bridges Retrofitted with Titanium Alloy Bars." To be submitted to *ASCE Journal of Bridge Engineering* (Being prepared for submission in Spring 2018).
7. **Soti, R.**, Barbosa A.R. (201X). "Applied Element Simulation of URM walls retrofitted with Near Surface Mounted Steel Bars." To be Submitted to *ASCE Journal of Structural Engineering* (Being prepared for submission in Spring 2018).
8. **Soti, R.**, Barbosa, A.R., Stavridis, A. (201X?). "Experimental and Numerical Assessment of URM Infilled RC Frames Retrofitted with Near-Surface Mounted Steel Bars." To be Submitted to *ASCE Journal of Structural Engineering* (Being prepared for submission in SPring 2018).
9. Scott, M.H., Barbosa, A.R., and **Alam, M.S.** (201X). "Force-Based Distributed Plasticity Finite-Length Plastic Hinge Elements." To be submitted to *Computers and Structures* (Being prepared for submission in Spring 2018).
10. Barbosa, A. R. and **Long, Y.** (201X). "Effect of Subduction Zone Earthquakes on SDOF Bridge Models." (Being prepared for submission in Summer 2018).
11. Barbosa, A.R., Conte, J.P., Baker, J.W., and Restrepo, J.I. (201X). "Vector-Valued Probabilistic Seismic Hazard Analysis Using USGS Probabilistic Seismic Hazard Results." To be Submitted to *Earthquake Spectra* (being prepared for submission in Summer 2018).
12. **Carey T.J.,** Mason, H.B., Barbosa, A.R., and Scott, M.H. (201X). "Multi-Hazard Effects on Soil-Foundation-Bridge Systems." To be Submitted to *Journal of Bridge Engineering* (Being prepared for submission in Summer 2018).
13. Barbosa, A. R., Conte, J.P., Restrepo, J.I., and Baker, J.W. (201X). "Probabilistic Seismic Demand Analysis of a 13-story RC Frame Wall Building based on Efficient Vector-Valued Probabilistic Seismic Hazard Analysis." (Being prepared for submission in Summer 2018).
14. Barbosa, A. R., Conte, J.P., and Restrepo, J.I. (201X). "Three-Dimensional Nonlinear Finite Element Modeling and Earthquake Response Analysis of the 13-Story NEHRP reinforced concrete Frame-Wall Building Example." To Be Submitted to *ASCE Journal of Structural Engineering* (Being prepared for submission in Summer 2018).
15. **Rodrigues, L.**, Barbosa, A.R., Branco, J., Neves, L. (201X). "Progressive Collapse Modeling of Multi-Story Timber Buildings." To be Submitted to *Engineering Structures* (Being prepared for submission in Summer 2018).
16. Huffman, J., Stuedlein, A., **Belejo, A.**, and Barbosa, A.R. (201X). "Simulation Framework for Reliability-based Serviceability Assessments of Multi-Story Steel-framed Structures Supported on Spatially-variable Soil." To Be Submitted to *ASCE Journal of Structural Engineering* (Being prepared for submission in Fall 2018).
17. **Belejo, A.**, Barbosa, A.R., and Stuedlein, A. (201X). "Impact of Soil-Structure Interaction on the Ground Motion Duration Effects Assessment of Steel Moment Resisting Frame Buildings." To be submitted to *Engineering Structures* (Being prepared for submission in Fall 2018).

18. Barbosa, A.R., Mason, H. B., **Carey, T.**, Scott, M.H. (201X). "Tightly Coupled Modeling Framework for Tsunami following Earthquake Event Analysis using OpenSees." To be Submitted to the *Journal of Earthquake and Tsunami* (Being prepared for submission in Fall 2018).

D. SERVICE

D1. University Service

- College of Engineering Change Team for Diversity, Equity, and Inclusion; College of Engineering, 2017-2018 (Chair J. McGuire)
- Structures Faculty Search Committee, School of Civil & Construction Engineering, 2016-2017 (Chair I. Burkan)
- Search Committee for Advanced Wood Products Lab Director, School of Civil & Construction Engineering, 2015-2016 (Chair Laurence Schimleck – Wood Science)
- School Head Search Committee Member, School of Civil & Construction Engineering, 2014-2015 (Chair Christine Kelly – COE)
- Scholarship Committee, School of Civil & Construction Engineering, 2014-2015 (Chair J. Ideker)
- Interim School Head Search Committee Member, School of Civil & Construction Engineering, 2014
- Faculty Search Committee Member, Construction and Engineering Management, School of Civil & Construction Engineering, 2013-2014 (Chair D. Trejo)
- Strategic Planning Committee, School of Civil & Construction Engineering, 2013 (Chair D. Sillars)
- Faculty Search Committee Member, Structural Engineering, School of Civil & Construction Engineering, 2012-2013, (Chair J. Gambatese)
- Graduate Committee Representative for several Masters Theses Defenses

D2. Service to the Profession

D2.1. Journal Editorships

None

D2.2. Conference and Workshop Organization

- Organizing Committee, First European Conference on Opensees, URL: http://opensees.fe.up.pt/EOSD17/index.html, June 19-20, 2017, Portugal
- Organizing Committee – OpenSees Days 2014 – Portugal, http://lese.fe.up.pt/OSDPt2014/
- Organizing Committee – OpenSees on the Road at Oregon State University Workshop, November 21-22, 2013, Corvallis, Oregon; co-organized with Prof. Michael Scott.

D2.3. Conference Program Committees

- Session co-chair (w/ Craig Davis and Haizhong Wang) and presenter at the ASCE 2018 Fall Convention on "2017 Mexico Earthquakes: Infrastructure, Community Resilience Reconnaissance." ASCE Fall 2018 Convention, Sponsored by the ASCE Infrastructure Resilience Division, October 2018, Denver, Colorado
- Mini-Symposium 08, co-organizer and chair, ASCE EMI 2018, Engineering Mechanics Institute Conference, Mini-Symposium 22, Computational Modeling in Civil Engineering, June 2018, Cambridge, MA, USA.

- Technical Committee, International Workshop on Computing for Civil Engineering (IWCCE) 2017, sponsored by the Computing Division of American Society of Civil Engineers (ASCE), June 25-27, 2017, Seattle, WA, USA.
- Mini-Symposium 22, co-organizer and chair, ASCE EMI 2017, Engineering Mechanics Institute Conference, Mini-Symposium 22, Computational Modeling in Civil Engineering, June 4-7, 2017, San Diego, CA, USA.
- Chair and co-organizer of session on High-Strength Materials (Seismic Performance and Design), 2017 World Conference of Earthquake Engineering, Santiago, Chile, 2017
- Scientific Committee, CINPAR 2016, 12th International Conference on Structural Repair and Rehabilitation, 26-29 October 2016, Porto, Portugal.
- Mini-Symposium 37, co-organizer and chair, ASCE EMI 2016, Engineering Mechanics Institute Conference, Computational Modeling in Civil Engineering, May 22-25, 2016, San Diego, USA.
- Scientific Committee, International Conference on Earthquake Engineering and Post Disaster Reconstruction Planning, 24-26 April 2016, Bhaktapur, Nepal.
- Panel member on the Cascadia Region Earthquake Readiness Report at the 10th Annual Energy and Construction Best Practices Summit. *10th Annual Energy & Construction Best Practices Summit - Clean Tech. - Washington's WISE Future, Tacoma, WA*, May 29, 2015.
- Session Chair, Performance-based Engineering (Organizer, Michele Barbato, LSU), 11th International Conference on Structural Safety & Reliability (ICOSSAR 2013), June 2013.

D2.4. Reviewing

- National Science Foundation, Hazard Mitigation and Structural Engineering, 2013/2014 submission cycle (Program manager: Kishor Mehta)
- Other Funding Agencies:
  - Romanian-Executive Agency for Higher Education, Research, Development and Innovation Funding (www.uefiscdi.gov.ro), 4 proposals, 2014
  - Italian-Cineca (Min. Dell'Instruzione, Dell'Universita e Della Ricerca), 6 proposals, http://www.cineca.it/en, 2012
- Archival Journal Reviewer
  - America Concrete Institute, ACI
  - Bulleting of Earthquake Engineering
  - Computer and science
  - Earthquake Engineering and Structural Dynamics
  - Elsevier Fire Structural Journal
  - Engineering Structures
  - Forest Products Journal
  - Georisk
  - Journal of Bridge Engineering, ASCE
  - Journal of Earthquake Engineering
  - Journal of Engineering Management, ASCE
  - Journal of Maderas, Chile
  - Journal of Structural Engineering, ASCE

  - Journal of Wood Science
  - Portuguese Journal of Structural Engineering
  - Structural Safety
- Refereed Conference Proceedings
  - 2017, 16th World Conference in Earthquake Engineering, Chile, several abstracts
  - 2016, CINPAR XII International Conference on Structural Repair and Rehabilitation
  - 2014, 10th National Conference in Earthquake Engineering, Alaska, 9 papers
  - 2013, 11th Int. Conf. on Structural Safety & Reliability – ICOSSAR, 3 papers

D2.5. Other

- Chair of the ASCE SEI Wood Research Committee
- Member of the ASCE SEI Methods of Monitoring Structural Performance Committee
- Member of the ASCE SEI Performance-Based Design for Structures Committee
- Member of the ASCE SEI Advances in Simulation Committee
- Member of the ASCE SEI Seismic Effects for Structures Committee
- Member of the ASCE SEI Wood Research Committee
- American Concrete Institute (ACI), Member, 2014 – present
- Consortium of Universities for Research of Earthquake Engineering (CUREE), Member, 2012 – 2016
- American Society of Civil Engineers (ASCE), Member, 2008 – present
- Earthquake Engineering Research Institute (EERI), Member, 2008 – present
- Professional/Licensed Engineer in Portugal (1999-present).

D3. Service to the Public

D3.1. Professionally Related

- Appraiser for the Oregon CLT Design Contest (2016) http://oregonbest.org/what-we-offer/expertise/competitions/clt/
- Mass-timber Conference (2016) Construction Lessons Learned, Track leader and panel moderator https://www.masstimberconference.com/2016-home/2016-agenda/
- Member of the ASCE Infrastructure Resilience Division Disaster Response and Recovery Committee (2015)
- Member of the NEES (2013-2014) Requirements Analysis and Assessment Subcommittee (RAAS)
- NIST GCR 14 917-30 (2013), "Use of High-Strength Reinforcement in Earthquake-Resistant Concrete Structures." Acknowledgement
- Bridge to the future: End-to-end Simulations and Integration of Simulation Data within the NEES Project Warehouse (2013)
- Oregon Wood Innovation Center (2013), "Bending stiffness and strength of massive (8'x40') engineered timber composites." (URL: http://owic.oregonstate.edu/evaluation-massive-timber-composites, accessed 1/15/2015)

- Open Source Code Development (OpenSees):
  - Led updates, implementation, and committed three material models in OpenSees for cyclic/earthquake analysis of strength and stiffness degrading force-deformation models:
    - Bilinear model with degradation
    - Peak oriented with degradation
    - Pinching material with degradation
  - Updated examples for dynamic analysis of 2-Story moment resisting frame: http://opensees.berkeley.edu/wiki/index.php/Dynamic_Analysis_of_2-Story_Moment_Frame
- Oregon Resilience Plan (2012) – Participated in the Critical Buildings Task Group; served as Resource Manager, and co-authored the section on Critical Buildings. Available online at: http://www.oregon.gov/OMD/OEM/osspac/docs/Oregon_Resilience_Plan_Final.pdf
- Led the Production-demo Phase of Integration of the Network for Earthquake Engineering Simulation (NEES) running OpenSees on the Open Science Grid, https://twiki.opensciencegrid.org/bin/view/Engagement/EngageOpenSeesProductionDemo

D3.2. Other Public Service

- Volunteer and Appraiser for Destination Imagination (2016 and 2017)
- Currently working on the development of an Incentive Program for Improving Resilience of Downtown Corvallis (w/ Cathy Kerr, Historic Resources Commission, City of Corvallis).

D3.3. On the Media

- Daily Journal of Commerce Oregon, January 23, 2017. https://goo.gl/MVV2aV (accessed: 2017/2/19).
- http://www.enr.com/articles/40146-soms-timber-tower-floor-system-passes-muster
- https://twitter.com/benjohnson_som/status/766345362537783296
- https://www.fastcodesign.com/3062920/timber-skyscrapers-arent-sci-fi-heres-the-research-that-proves-it
- http://archpaper.tumblr.com/post/149700102878/working-with-oregon-state-university-osu
- http://archpaper.com/2016/08/som-timber-tower-technology/#gallery-0-slide-0
- http://www.architectmagazine.com/technology/q-a-soms-benton-johnson-on-testing-a-new-composite-system-for-tall-timber_o

E. AWARDS

E1. National and International Awards

- Invited Young Researcher, Tokyo Tech, Japan, CUEE/PEER Young Research Workshop, Mar. 2009
- NEES Graduate Summer Internship (NEES GSI) Program, August, 2008 at the San Diego Supercomputer Center (SDSC) at the University of California, San Diego (UCSD)
- Ph.D. scholarship by the Fundação para a Ciência e a Tecnologia for performing Ph.D. studies at UCSD - BD/17266/2004, Portugal
- M.S. scholarship by the Fundação para a Ciência e a Tecnologia – Portugal

E2. State and Regional Awards

- 2017 State of Oregon Daily Journal of Commerce Newsmaker for contributions to the Cross-Laminated Timber Industry in Oregon.
- 2014 Recognition by State of Oregon Senator's office for contributions to the development of the Oregon Resilience Plan in 2013.

E3. University or Community Awards

- 2017 Award for Research Excellence, School of Civil and Construction Engineering (http://bit.ly/2gBNAAE)
- 2014-2017 Kearney Faculty Scholar for Outstanding Achievements by an Assistant Professor

Tracy Arras

Tracy.Arras@oregonstate.edu (541) 737-9697

Experience Summary

2003 – Present	Senior Instructor Oregon State University, Corvallis
1999 – 1999	Associate Professor University of Alaska, Anchorage
1994 - 1999	Assistant Professor University of Alaska, Anchorage
1995 - 1998	Research Associate University of Alaska, Anchorage, ICHS
1994 - 1996	Consultant Alaska GIS Services
1991 - 1993	Research Assistant CSU, Fresno - GeoIPS and ERI
1988 - 1991	R&D Engineer Brunswick Defense

Education

Water Resources Engineering, Ph.D., Oregon State University. 2014.
Civil/Surveying Engineering. M.S., California State University, Fresno. 1993. LSIT.
Engineering Technology, B.S., California State Polytechnic University, Pomona. 1986.

Employment History

SENIOR INSTRUCTOR, Oregon State University, School of Civil and Construction Engineering, Corvallis, OR. 2003 – Present.

- Instructor for civil and construction engineering courses
  - Engineering Graphics and Design - AutoCAD and Civil 3D
  - Introduction to Virtual Design and Construction – Revit, Navisworks
  - GIS in Water Resources − GIS and Spatial Information
  - Hydrology
  - Engineering Problem Solving
- OSU CCE ASCE Teacher of Year 2011

Principal Investigator

- **ESTEEM Fellow 2016:** Learning Assistants in Engineering Graphics and Design
- **ESTEEM Fellow 2015:** Cooperative Learning in Engineering Graphics and Design: Adopting Greenwater Infrastructure Devices

- **A GIS approach to estimating continuous hydraulic conductivity and equivalent hydraulic conductivity. 2012-2014**
  The study investigated the plausibility of using GIS to estimate continuous hydraulic conductivity values in Oak Creek watershed, Oregon. The effects of stream density and DEM resolution on conductivity values were investigated. Innovative methods for estimating equivalent conductivity values for the watershed were explored using GIS.

Co-Investigator

- **Developed a comprehensive GIS hydraulic model of the wastewater conveyance system for Seattle Public Utilities, Washington. 2008-2009.**
  Lead the OSU team in developing the GIS model of Seattle Public Utilities' wastewater conveyance system. This entailed networking conveyance systems, delineating sewersheds, attaching consumption data and creating prepared sewersheds models ready for EPA SWMM5 modeling.

- **Leveraging a Wireless Network with Active and Cooperative Learning, 2004-2005.**

ASSISTANT PROFESSOR, University of Alaska, Anchorage, School of Engineering, Department of Geomatics, Anchorage, AK. August 1994 to 1999.

- Promoted to Associate Professor and received tenure, August 1999
- Expertise in Geomatics and spatial information technology
- Supervised teacher aids, lab technicians, classrooms and laboratories
- Collaborated and coordinated with other faculty, research institutes, state and federal agencies for program strengthening, research and application projects.
- Served appointment by the Governor on the State Information Systems and Telecommunications Committee

Principal Investigator

- **UAA, GIS Master Plan and Facility Management Plan**
  Compiled and developed a GIS master plan for evaluation of current resources and future development planning.

- **Spatial information science research for natural resource management**
  Development of a fuel model using satellite images and GIS of forests damaged by spruce bark beetle on Kenai Peninsula, Alaska.

RESEARCH ASSOCIATE / AFFILIATE ASSOCIATE PROFESSOR, University of Alaska Anchorage, Institute for Circumpolar Health Studies 4/95-6/99.
Provided the Institute for Circumpolar Health Studies (ICHS) with GIS project development.

CONSULTANT, Alaska GIS Services, Eagle River, AK. 1994 - 1996.
Provided technical expertise in GIS and remote sensing/image analysis. Consultation was provided for natural resource, planning, and land use applications.

RESEARCH ASSISTANT, Geographic Image Processing Systems (GeoIPS) CSU, Fresno, CA, 5/92-5/93. Performed image processing, image analysis of remotely sensed data and compiled into GIS for wetland and vegetation identification as part of JPL NASA research grant.

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RESEARCH ASSISTANT, Engineering Research Institute (ERI), CSU - Fresno, CA. 9/91-5/92. Performed and assisted in environmental water quality re-mediation study for the Lower Kings River, Ca. utilizing GPS, Surveying, GIS and Image Processing.

RESEARCH & DEVELOPMENT ENGINEER, Brunswick Defense, Marion, VA. 8/88 - 8/91.

- Designed, manufactured, tested and evaluated Department of Defense special security and non-security projects, related to missile and aircraft components.
- Assisted in trouble-shooting engineering and manufacturing on problems and provided solutions to product areas of non-conformance.
- Provided project interface with customers on engineering design, scheduling, and quality testing.