

**SCHOOL OF CIVIL AND CONSTRUCTION ENGINEERING**  
**OREGON STATE UNIVERSITY**  
College of Engineering

**YIM, Solomon C.**  
Professor

**CITIZENSHIP**  
U.S.

**DEGREES**

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

**ACADEMIC POSITIONS**

University of California, Berkeley

1976-77 Earle Anthony University of California 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  
1997- Professor of Civil Engineering  
Adjunct Professor of Mathematics and Mechanical Engineering  
1992- Structural Engineering Program Coordinator, Department of Civil 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- Acting Director of Hinsdale Wave Researcher Laboratory

**NON-ACADEMIC POSITIONS**

1978 Consultant, Chin and Hensolt Engineering Company, San Francisco, CA  
1984-85 Research Engineer, Exxon Production Research Company, Houston, TX  
1986-87 Senior Research Engineer, Exxon Production Research Company, Houston, TX  
1993- Consultant, Naval Facilities Engineering Service Center, Port Hueneme, CA

**FIELDS OF SPECIALIZATION**

Fluid and structural mechanics in the marine environment  
High-performance computing of multi-physics, multi-scale, multi-domain contact/impact systems  
Turbulent free-surface flow and impact on deformable structures in shallow water and the surf zone  
Near field waves, tsunami and storm surge modeling and simulation in laboratory environments  
Mechanics of wave-energy conversion systems  
Applications including structural response prediction, analysis and design for extreme contact/impact loads (wave, current, tsunami, storm-surge, earthquake, solid-body water-reentry and debris flow problems) for civil, naval and ocean and coastal systems (floating/submerged/moored vessels, crafts, buoys, wave energy devices; and ocean and coastal infrastructure)

## **PROFESSIONAL ACTIVITIES**

### **Registration**

Professional Engineer, State of Oregon, No. 18645PE

### **Professional Societies**

American Society of Mechanical Engineers (ASME), Member (No.1358084), 1986-2007,  
Fellow, 2007-present  
American Society of Civil Engineers (ASCE), Member (No.00211014), 1982-2009, Fellow,  
2009-present  
International Society of Offshore and Polar Engineers (ISOPE), Charter Member, 1991-present  
American Society of Engineering Education (ASEE), Member (26545), 1991-97  
Society of Naval Architects and Marine Engineers (SNAME), Member, 1994-97  
Consortium of Universities for Research in Earthquake Engineering (CUREE), Member, 2001-06  
Earthquake Engineering Research Institute (EERI), Member, 2002-present  
Network for Earthquake Engineering Simulations Consortium, 2003-present  
U.S. Association for Computational Mechanics, 2003-present

### **Commissions**

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-present  
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 21<sup>st</sup> Century, 2009-11

### **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-present

### **Editorship**

Journal of Offshore Mechanics and Arctic Engineering, American Society of Mechanical  
Engineers, Editor in Chief, 2007-present  
International Journal of Ocean Engineering, Associate Editor, 2006-present  
Journal of Offshore Mechanics and Arctic Engineering, American Society of Mechanical  
Engineers, Associate Editor, 2000-2007

### **Editorial Boards**

Journal of Waterway, Port, Coastal and Ocean Engineering Division, American Society of Civil  
Engineers, Editorial Board, 1996-2005  
International Journal on Advances in Civil Engineering, Member of Editorial Board, 2008-present

### **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, 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 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)

### **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-present)
- Tainan Hydraulic Laboratory, Physical Modeling Division and Numerical Modeling Division, Taiwan, Republic of China (OSU-THL MOU technical representative, 2004-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 Expert Task Group, 2000-present  
Oregon Department of Transportation, Research Technical Advisory Committee, 2000-present  
Consortium of Universities for Research in Earthquake Engineering, Oregon State University Representative, 2001-05  
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-present  
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) Consortium, Site Operations Committee, 2005-09  
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Equipment Site Policies Compliance Check Work Group, 2006-07  
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Equipment Site Metrics Work Group, 2006-07  
American Society of Mechanical Engineers, Ocean, Offshore and Arctic Engineering Division, Extended Executive Committee, 2006-present  
National Science Foundation Network for Earthquake Engineering Simulation (NEES) Consortium, NEES-MCEER Annual Meeting Program Committee, 2011-present

### **Conference, Workshop and Short Course Organization**

#### 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)

#### 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 9<sup>th</sup> US National and 10<sup>th</sup> 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  
International Conference on Particle-Based Method, International Scientific Advisory Committee,  
Barcelona, Spain, 2011

#### Technical Program Chair

Twenty-Sixth Offshore Mechanics and Arctic Engineering International Conference, San Diego,  
California, Technical Program Chair, 2006-07

#### Technical Program Committee

Second International Offshore and Polar Engineers Conference, San Francisco, USA, Technical  
Program Committee, 1992  
Third International Offshore and Polar Engineers Conference, Singapore, Technical Program  
Committee, 1993  
Fourth International Offshore and Polar Engineers Conference, Technical Program Committee,  
Osaka, Japan, 1994  
Fifth International Offshore and Polar Engineers Conference, Hague, the Netherlands, Technical  
Program Committee, 1995  
Sixth International Offshore and Polar Engineers Conference, Los Angeles, USA, Technical  
Program Committee, 1996  
Seventh International Offshore and Polar Engineers Conference, Honolulu, HI, Technical  
Program Committee, 1997  
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, 2004
- Twenty-Third Offshore Mechanics and Arctic Engineering International Conference, Vancouver, British Columbia, Canada, Ocean Engineering Symposium Technical Program Committee, 2004
- Twenty-Fourth Offshore Mechanics and Arctic Engineering International Conference, Halkidiki, Greece, Offshore Technology Scientific Committee, 2005
- Twenty-Fifth Offshore Mechanics and Arctic Engineering International Conference, Hamburg, Germany, Ocean Engineering Symposium Scientific Committee, 2006
- Twenty-Fifth Offshore Mechanics and Arctic Engineering International Conference, Hamburg, Germany, Offshore Technology Scientific Committee, 2006
- Offshore Mechanics and Arctic Engineering 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, 2007
- Twenty-Sixth Offshore Mechanics and Arctic Engineering International Conference, San Diego, USA, Offshore Technology Scientific Committee, 2007
- Twenty-Seventh Offshore Mechanics and Arctic Engineering International Conference, Estoril, Portugal, Ocean Engineering Symposium Scientific Committee, 2008
- Twenty-Seventh Offshore Mechanics and Arctic Engineering International Conference, Estoril, Portugal, Offshore Technology Symposium Scientific Committee, 2008
- 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, 2009
- Twenty-Eighth Offshore Mechanics and Arctic Engineering International Conference, Honolulu, USA, Offshore Technology Symposium Scientific Committee, 2009
- International Conference in Ocean Engineering, 2009, IIT Madras, India, International Scientific Committee, 2008-09.
- Twenty-Ninth Offshore Mechanics and Arctic Engineering International Conference, Shanghai, China, Ocean Engineering Symposium Scientific Committee, 2010
- Twenty-Ninth Offshore Mechanics and Arctic Engineering International Conference, Shanghai, China, Offshore Technology Symposium Scientific Committee, 2010
- Thirtieth Offshore Mechanics and Arctic Engineering International Conference, Rotterdam, The Netherlands, Ocean Engineering Symposium Scientific Committee, 2011
- Thirtieth Offshore Mechanics and Arctic Engineering International Conference, Rotterdam, The Netherlands, Offshore Technology Symposium Scientific Committee, 2011

#### Session Chair

- 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 2010, Network for Earthquake Engineering Simulation and Pacific Earthquake Engineering Research Annual Meeting, San Francisco, Tsunami Research and Performance-Based Tsunami Engineering Session, 2010

#### **External Examiner**

India Institute of Technology, Hauz Khas, New Delhi, 1999-2000  
Norwegian University of Science and Technology, 2006

#### **Reviewer**

*Earthquake Spectra*, Earthquake Engineering Research Institute  
*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 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 Engineering Structures*  
*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*

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, 2007  
American Society of Civil Engineers, 2009

### **Research 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

### **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*, 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, 1975  
Phi Beta Kappa, 1976  
Xi Epsilon, 1977

### **Invited Speaker**

*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")

*ONR Workshop on Reliability of Nonlinear Ocean Structures under Stochastic Excitation*, Arlington, Virginia, July 7-8, 1993. ("Chaos and Extremes")

*Keynote Speaker, The Twenty-Fifth Israel Conference on Mechanical Engineering*, Technion City, Haifa, Israel, May 25-26, 1994. ("Stochastic Aspects of Nonlinear Dynamical Systems"), Nonlinear Dynamics Session.

*ONR Workshop on Reliability of Nonlinear Ocean Structures under Stochastic Excitation*, Arlington, Virginia, July 18-19, 1994. ("Stochastic Aspects of Chaos")

*IUTAM Symposium on Advances in Nonlinear Stochastic Mechanics*, Trondheim, Norway, July 3-7, 1995. ("Unified Analysis of Complex Nonlinear Motions Via Densities")

*ONR Workshop on Reliability of Nonlinear Ocean Structures under Stochastic Excitation*, Arlington, Virginia, July 24-25, 1995. ("Unifying Analysis of Complex Nonlinear Motions Via Densities")

*ONR Investing in the Future, 1946-1996, Fiftieth Anniversary Volume*. ("Chaotic Roll Motion and Capsizing of Ships Under Periodic Excitation with Random Noise")

*ONR 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")

*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")

*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")

*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")

*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")

*First NSF NEES Consortium Annual Meeting*, Park City, UT, May 21-23, 2003. ("Upgrading Oregon State's Multi-Directional Wave Basin for Collaboratory Tsunami Research")

*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")

*NSF Integrated Tsunami Scenario Simulations Workshop*, Oregon State University, Aug. 8, 2003. ("NSF Networks for Earthquake Engineering Simulations Grand Challenge")

*NSF Integrated Tsunami Scenario Simulations Workshop*, University of Washington, Seattle, WA, Sept. 20, 2003. ("Tsunami-Structure Interaction Simulation and Experimentation")

*NSF 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”)
- Thirty-Sixth Joint Panels Meeting on Wind and Seismic Effects*, 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”)
- Second NSF NEES Consortium Annual Meeting*, San Diego, CA, May 20-21, 2004. (“The NEES Multi-Directional/Tsunami Wave Basin Upgrade”)
- 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”)
- NSF Tsunami Scenario Workshop*, San Francisco, CA, Oct. 29-30, 2004. (“Tsunami-Structure- Foundation Interaction, Modeling and Simulation”)
- First International Workshop on Coastal Disaster Mitigation*, Kobe, Japan, Jan. 17-18, 2005. (“Numerical Model on Tsunami Behavior of Deformable Bodies”)
- 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”)
- 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”)
- Twenty-Fist US-Japan Bridge Engineering Workshop*, Tsukuba, Japan, Oct. 4-6, 2005. (“Tsunami and Storm Surge Hydrodynamic Loads on Coastal Bridges”)
- 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”)
- 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”)
- NEES World Forum on Collaborative Research in Earthquake Engineering*, San Francisco, CA, March 17-18, 2006. (“Barriers and Challenges in International Collaborative Simulation”)
- 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”)
- 100<sup>th</sup> Anniversary Earthquake Conference*, San Francisco, CA, April 18-22, 2006. (“Tsunami and Storm Wave Interaction with Structures”)
- NSF/NOAA National Tsunami Research Workshop*, Oregon State University, Corvallis, OR, July 25-26, 2006. (“Overview of NEES Tsunami Facility at Oregon State University”)
- NEES Training and Tsunami Modeling Workshop*, Oregon State University, Corvallis, OR, July 27-28, 2006. (“A Review of Experimental Capabilities at the NSF NEES Tsunami Wave Basin Facility”)
- NSF Tsunami Workshop*, Hilo, HI, Dec. 26-28, 2006. (“The Physics of Structure-Structure Impact in Free-Surface Flow”)
- Third International Workshop on Coastal Disaster Prevention*, Colombo, Sri Lanka, Feb. 12-13, 2007. (“Structure-Structure Impact Modeling for Tsunami Debris Flow”)
- 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”)
- 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”)
- 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”)
- 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”)

- 28<sup>th</sup> American Towing Tank Conference*, Ann Arbor, Michigan, Aug. 9-10, 2007. (“Ocean and Coastal Engineering Research at Oregon State University Wave Basin Facility”)
- 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”)
- Naval Facilities Engineering Service Center*, Port Hueneme, CA, Oct. 4, 2007. (“Recent Research on Extreme Loads and Nonlinear Responses of Ocean and Coastal Structures”)
- Fourth International Workshop on Coastal Disaster Prevention*, Yokohama, Japan, Nov. 30- Dec. 1, 2007. (“Physical and Numerical Fluid-Structure Interaction Impact Simulations”)
- Fifth International Workshop on Coastal Disaster Prevention*, Yogyakarta, Indonesia, July 22, 2008. (“Recent Advances in Tsunami Research and Practice in the United States”)
- 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”)
- 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”)
- 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”)
- 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”)
- 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”)
- 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”)
- Department of Homeland Security Tsunami Research Workshop*, 20 Oct. 2009, (“Fluid-Structure Interaction Analysis for Tsunami Applications”)
- 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”)
- 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”)
- 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”)
- 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”)
- Coastal Engineering Conference*, Gunsan, Korea, 5 Nov. 2010. (“Research and Testing at the Hinsdale Wave Research Laboratory”)
- Wave Energy Center Seminar Kwandong University*, Gangneung, Korea, 9 Nov. 2010. (Some Recent Research on Wave Energy Conversion Systems at Oregon State University”)

- Korean Ocean Research and Development Institute, Ansan, Korea, 10 Nov. 2010. (Recent Advances in Experimental and Numerical Wave Basin Testing at Oregon State University”)*
- KOCED Wave Simulation and Research Laboratory, Chonnam University, Yeosu, Korea, 11 Nov. 2010. (Recent Research Activities at the Oregon State University Hinsdale Wave Research Laboratory”)*
- Korea Ocean Engineering Research Institute, Daejeon, Korea, 12 Nov. 2010. (Recent Advances in Experimental and Numerical Wave Basin Testing at Oregon State University”)*
- Ocean Engineering Seminar, University of California at Berkeley, 18 March 2011 (“Oregon State University Collaborative Research on Wave Energy Conversion”)*

### **Invited Panellist**

- Seventh National Conference on Earthquake Engineering, Boston, MA, July 21-25, 2002. (“Use of Experimental Facilities in NEES Collaboratory Research”)*
- First World Conference on Disaster Reduction, Kobe, Japan, Jan. 18-22, 2005. (“Disaster Reduction Due to Tsunami Inundation”)*
- Wave Force Symposium, Turner-Fairbank Highway Research Center, Federal Highway Administration, McLean, VA, Dec. 5-7, 2005. (“Identification of Gaps and Opportunities for Collaboration”)*
- Second International Workshop on Coastal Disaster Prevention, Tokyo, Japan, Jan. 18-19, 2006. (“Disaster Reduction Due to Tsunami and Storm Surge Inundation”)*
- Third International Workshop on Coastal Disaster Prevention, Colombo, Sri Lanka, Feb. 12-13, 2007. (“Tsunami Hazard Map Seminar”)*
- 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”)*

### **PUBLICATIONS**

#### **Books and Chapters**

1. S.C.S. Yim and H. Lin, “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, 1992, pp.219-241.
2. H. Lin and S.C.S. Yim, “Chaotic Roll Motion and Capsizing of Ships Under Periodic Excitation with Random Noise,” *ONR Investing in the Future - 1946-1996, 50<sup>th</sup> Anniversary Volume*, edited by M. Pelaez, 1996, pp.221-231.
3. S.C.S. Yim and H. Lin, “A Methodology for Analysis and Design of Sensitive Nonlinear Ocean Systems,” Chapter 4, *Stochastically Excited Nonlinear Ocean Structures*, edited by M. Shlesinger and T.F. Swain, World Scientific Publisher, 1998, pp.105-128.
4. L. Dengler, A. Kelly, B. Uslu, A. Barberopoulou and S.C. Yim, “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: PartII: Observation and Data Analysis*, PAGEOPH Topical Volumes in Geosciences, Birkhauser, 2009.
5. Y. Oda, K. Ito and S.C. Yim, “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*, Editors V. Badescu and R.B. Cathcart, Springer-Verlag, 2010.

### Technical Journals

1. S.C.S. Yim, A.K. Chopra, and J. Penzien, "Rocking Response of Rigid Blocks to Earthquake," *Earthquake Engineering and Structural Dynamics*, Vol.8, No.6, 1980, pp.565-587.
2. S.C.S. Yim and A.K. Chopra, "Earthquake Response of Structures with Partial Uplift on Winkler Foundation," *Earthquake Engineering and Structural Dynamics*, Vol.12, No.2, 1984, pp.263-281.
3. S.C.S. Yim and A.K. Chopra, "Dynamics of Structures on Two-Spring Foundation Allowed to Uplift," *Engineering Mechanics*, ASCE, Vol.110, No.7, 1984, pp.1124-1146.
4. A.K. Chopra and S.C.S. Yim, "Simplified Earthquake Response Analysis of Structures with Foundation Uplift," *Structural Engineering*, ASCE, Vol.111, No.4, 1985, pp.906-930.
5. S.C.S. Yim and A.K. Chopra, "Earthquake Response Analysis of Multistory Buildings with Foundation Uplift," *Structural Engineering*, ASCE, Vol.111, No.12, 1985, pp.2708-2731.
6. S.C.S. Yim and H. Lin, "Chaotic Behavior and Stability of Free-Standing Offshore Equipment," *Ocean Engineering*, Vol.18, No.3, 1991, pp.225-250.
7. S.C.S. Yim and H. Lin, "Nonlinear Impact and Chaotic Response of Slender Rocking Objects," *Engineering Mechanics*, ASCE, Vol.117, No.9, 1991, pp.2079-2100.
8. O. Gottlieb, S.C.S. Yim, and R.T. Hudspeth, "Analysis of Nonlinear Response of Articulated Tower," *International Journal of Offshore and Polar Engineering*, Vol.2, No.1, 1992, pp.61-66.
9. S.C.S. Yim, R.M. Burton, and M.R. Goulet, "Practical Methods of Extreme Value Estimation Based on Measured Time-Series for Ocean Systems," *Ocean Engineering*, Vol.19, No.3, 1992, pp.219-238.
10. S.C.S. Yim and H. Lin, Closure to Discussion on "Nonlinear Impact and Chaotic Response of Slender Rocking Objects," *Engineering Mechanics*, ASCE, Vol.118, No.11, 1992, pp.2333-2334.
11. O. Gottlieb and S.C.S. Yim, "Nonlinear Oscillations, Bifurcations, and Chaos in a Multi-Point Mooring System," *Applied Ocean Research*, Vol.14, No.6, 1992, pp.241-257.
12. O. Gottlieb and S.C.S. Yim, "Drag Induced Instabilities and Chaos in Mooring Systems," *Ocean Engineering*, Vol.29, No.6, 1993, pp.569-599.
13. E.B. Carpenter, J.W. Leonard, and S.C.S. Yim, "Experimental and Numerical Investigations of Tethered Spar and Sphere Buoys in Irregular Waves," *Ocean Engineering*, Vol.22, No.8, 1995, pp.765-784.
14. H. Lin and S.C.S. Yim, "Chaotic Roll Motion and Capsizing of Ships Under Periodic Excitation with Random Noise," *Applied Ocean Research*, Vol.17, No.3, 1995, pp.185-204.
15. O. Gottlieb, M. Feldman, and S.C.S. Yim, "Parameter Identification of Nonlinear Ocean Mooring Systems Using the Hilbert Transform," *Offshore Mechanics and Arctic Engineering*, ASME, Vol.118, No.1, 1996, pp.29-36.
16. A. Naess and S.C.S. Yim, "Stochastic Response Analysis of Dynamically Sensitive Offshore Structures Excited by Drag Forces," *Engineering Mechanics*, ASCE, Vol.122, No.5, 1996, pp.442-448.
17. H. Lin and S.C.S. Yim, "Nonlinear Rocking Motions I: Chaos Under Noisy Periodic Excitations," *Engineering Mechanics*, ASCE, Vol.122, No.8, 1996, pp.719-727.
18. H. Lin and S.C.S. Yim, "Nonlinear Rocking Motions II: Overturning Under Random Excitations," *Engineering Mechanics*, ASCE, Vol.122, No.8, 1996, pp.728-735.
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21. K. Idris, J.W. Leonard, and S.C.S. Yim, "Coupled Dynamics of Tethered Buoy Systems," *Ocean Engineering*, Vol.24, No.5, 1997, pp.445-464.

22. O. Gottlieb and S.C.S. Yim, "Nonlinear Dynamics of a Coupled Surge-Heave Small-Body Ocean Mooring Systems," *Ocean Engineering*, Vol.24, No.5, 1997, pp.479-495.
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24. H. Lin, and S.C.S. Yim, "Noisy Nonlinear Motions of a Moored System, Part I: Analysis and Simulation," *Waterway, Port, Coastal and Ocean Engineering*, ASCE, Vol.123, No.5, 1997, pp.287-295.
25. O. Gottlieb, S.C.S. Yim and H. Lin, "Analysis of Bifurcated Superstructure of Nonlinear Ocean System," *Engineering Mechanics*, ASCE, Vol.123, No.11, 1997, pp.1180-1187.
26. H. Lin, S.C.S. Yim, and O. Gottlieb, "Experimental Investigation of Response Stability and Transition Behavior of a Nonlinear Ocean Structural System," *Ocean Engineering*, Vol.25, No.4-5, 1998, pp.323-343.
27. H. Lin and S.C.S. Yim, "An Experimental Calibration of Bifurcation Superstructure of Nonlinear System," *Engineering Mechanics*, ASCE, Vol.124, No.4, 1998, pp.471-475.
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29. S.C.S. Yim, and H. Lin, "Noisy Nonlinear Motions of a Moored System, Part II: An Experimental Study," *Waterway, Port, Coastal and Ocean Engineering*, ASCE, Vol.126, No.3, 2000, pp.113-120.
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41. C. Higgins, T.K. Daniels, D.V. Rosowsky, T.H. Miller and S.C. Yim, "Assessment and

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  44. H. Lin and S.C.S. Yim, “An IFF Model for a SDOF Nonlinear Structural System, Part II: Analysis of Complex Responses,” *Offshore Mechanics and Arctic Engineering*, ASME, Vol.128, Feb. 2006, pp.23-30.
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  49. D. Yuk, S.C. Yim, A. Naess and I.M. Shih, “Global and Local Nonlinear System Responses under Narrowband Excitations, Part II: Prediction, Simulation and Comparison,” *Engineering Mechanics*, ASCE, Vol.133(1), Jan 2007, pp.30-40.
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  52. I.N. Robertson, H.R. Riggs, S.C. Yim and Y.L. Young, “Lessons Learned from Hurricane Katrina Storm Surge Effect on Engineered Structures,” *Waterway, Port, Coastal and Ocean Engineering*, ASCE, Vol.133(6), Nov. 2007, pp.463-483.
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  62. D. Elwood, S.C. Yim, J. Prudell, C. Stillinger, A. von Jouanne, T. Brekken, A. Brown and R. Paasch, "Design, Construction, and Ocean Testing of a Taut-Moored, Dual-Body Wave-Energy Converter with a Linear Generator Power Take-Off," *Journal of Renewable Energy*, (doi:10.1016/j.renene.2009.04.028), 2009.
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- Dynamics: Experiment and Semi-Analytical Approximation,” *Offshore Mechanics and Arctic Engineering*, ASME, OMAE-10, submitted for publication.
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### Conference Proceedings

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## **INVITED LECTURE AND SEMINAR PRESENTATIONS**

1. "Effects of Transient Foundation Uplift on Earthquake Response of Structures," Structural Engineering Seminar, Ohio State University, Apr. 23, 1983.
2. "Dynamic Response of Structures with Transient Foundation Uplift," Structural Engineering Seminar, University of Utah, May 4, 1983.
3. "Dynamic Analysis of Multi-Story Structures to Earthquake Excitations," Civil Engineering Seminar, California Institute of Technology, Oct. 12, 1983.
4. "Dynamic Analysis of Nonlinear Structural Systems to Earthquake Excitations," Mechanical Engineering Seminar, University of California, Santa Barbara, Apr. 4, 1984.



5. "Nonlinear Response of Multi-Degrees-of-Freedom Systems to Seismic Excitations," Structural Engineering and Structural Mechanics Seminar, University of California, Berkeley, May 25, 1984.
6. "Design Calibration of Compliant Ocean Structural Systems Using Field Data," Civil Engineering and Engineering Mechanics Seminar, University of Arizona, Mar. 14, 1987.
7. "Fatigue Analysis of a Compliant Floating Production System," Structural Engineering Seminar, Oregon State University, Mar. 16, 1987.
8. "Calibration of Fatigue Design of a Single-Anchor Leg Mooring System," Structural Engineering, Mechanics and Materials Seminar, University of California, Berkeley, Apr. 7, 1987.
9. "Review of State-of-the-Art on Stochastic Analysis Methods," NCEL Nonlinear Systems Identification Research and Development Workshop, Naval Civil Engineering Laboratory, Port Hueneme, California, Mar. 8-9, 1989.
10. "Chaotic Response and Stability of Offshore Equipment," Civil Engineering Seminar, North Carolina State University, Feb. 12, 1990.
11. "Chaotic and Stochastic Response of Multi-Point Mooring Systems," Fluid Mechanics Division Seminar, Naval Research Laboratory, Center for Advanced Space Sensing, Washington, D.C., Oct. 1-2, 1990.
12. "Stochastic Aspects of Chaos in Offshore Systems," Ocean Engineering Seminar, Oregon State University, Jan. 10, 1991.
13. "Practical Applications of Adomian Solution Method to Stochastic Nonlinear Differential Equations, Phase 1: Analysis of Steady-State System Responses," NCEL Nonlinear Systems Identification Research and Development Workshop, Naval Civil Engineering Laboratory, Port Hueneme, California, Dec. 10-15, 1991.
14. "Adomian Solution Method to Stochastic Nonlinear Differential Equations: Analysis of Steady-State System Responses," ONR-URI Seminar, Oregon State University, Nov. 17, 1991.
15. "Chaotic and Stochastic Responses of Ocean Structural Systems," Naval Architecture and Offshore Engineering Seminar, University of California, Berkeley, Apr. 1, 1992.
16. "Nonlinear Stochastic Response of Ocean Structural Systems," Ocean Engineering Division Seminar, Naval Civil Engineering Laboratory, Port Hueneme, California, July 29, 1992.
17. "Nonlinear Deterministic and Stochastic Responses of Sensitive Systems," Center for Reliability of Marine Structures, Stanford University, Aug. 7, 1992.
18. "Deterministic, Chaotic, and Stochastic Behavior of a Nonlinear Mooring System," Ocean Engineering Seminar, Oregon State University, Mar. 9, 1993.
19. "Nonlinear Oscillations and Chaos in a Submerged Mooring System Experiment," 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," Ocean Engineering Division Seminar, Naval Civil Engineering Laboratory, Port Hueneme, California, Mar. 26, 1993.
21. "Analytical and Experimental Studies of Nonlinear Submerged Mooring Systems," Civil Engineering Seminar, University of Connecticut, Storrs, Connecticut, Apr. 30, 1993.
22. "Estimation of Mid-Range Extreme Values Based on Measured Time Series," Naval Architecture and Offshore Engineering Seminar, University of California, Berkeley, California, Nov. 8, 1993.
23. "Meso-Scale Extreme Value Estimators, Theory and Applications," Reliability Analysis Seminar, Structural Engineering, Mechanics, and Materials, Department of Civil Engineering, University of California, Berkeley, California, Nov. 9, 1993.
24. "Unified Deterministic and Stochastic Approach to Analysis of Chaotic Systems -- A Preliminary Study" Nonlinear Dynamics Seminar, Department of Physics, University of California, Berkeley, California, Nov. 17, 1993.
25. "Nonlinear Dynamics and Chaos -- Lecture Series," 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.
26. "Characteristic Behavior of Nonlinear and Chaotic Systems," Nonlinear Dynamics Seminar Series,

- Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Jan. 17, 1994.
27. "Geometric and Computational Aspects of Nonlinear and Chaotic Systems," Nonlinear Dynamics Seminar Series, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Jan. 31, 1994.
  28. "Application of Averaging Methods in the Analysis of Nonlinear Systems," Nonlinear Dynamics Seminar Series, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Feb. 14, 1994.
  29. "Application of Perturbation Methods in the Analysis of Nonlinear Systems," Nonlinear Dynamics Seminar Series, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Feb. 28, 1994.
  30. "A Path Integral Numerical Procedure for the Fokker-Planck Equation," International Workshop on Numerics for Perturbed Dynamical Systems Workshop, Department of Mathematics, Iowa State University, Mar. 8, 1994.
  31. "Chaotic Dynamics of Nonlinear Marine Systems," Industry Liaison Program, 16th Annual Conference, University of California, Berkeley, Mar. 9, 1994.
  32. "Harmonic, Subharmonic and Chaotic Responses of Nonlinear Systems," Nonlinear Dynamics Seminar Series, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Mar. 11, 1994.
  33. "Methods of Stability Analysis of Harmonic, Subharmonic and Chaotic Responses of Nonlinear Systems," Nonlinear Dynamics Seminar Series, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Mar. 21, 1994.
  34. "Existence Theorems of Periodic Responses of Nonlinear Systems," Nonlinear Dynamics Seminar Series, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Apr. 11, 1994.
  35. "Bifurcations, Structural Stability and Chaos of Nonlinear Systems," Nonlinear Dynamics Seminar Series, Dept. of Naval Architecture and Offshore Engineering, University of California, Berkeley, Apr. 25, 1994.
  36. "Chaotic and Stochastic Behavior of Nonlinear Structural Systems," Department of Structural Engineering, Faculty of Civil Engineering, The Norwegian Institute of Technology, University of Trondheim, Norway, June 23, 1994.
  37. "State-of-the-Art Stochastic Analysis of Nonlinear Ocean Structural Systems -- A Selective Review," Identification of Nonlinear Operators from Stochastic Data Workshop, Ocean Structures Division, Naval Facilities Engineering Service Center, Port Hueneme, California, Aug. 2-3, 1994.
  38. "Analysis of Complex Nonlinear Motions via Densities," Mechanical Engineering Department Seminar, the University of Hong Kong, Dec. 19, 1995.
  39. "Probabilistic Analysis of Complex Nonlinear Motions of Ocean Structures Under Combined Periodic and Random Excitations," Civil Engineering Department Seminar, National University of Singapore, Dec. 6, 1996.
  40. "Stochastic Analysis of Complex Nonlinear Motions of Moored Structures in Regular and Random Seas," Civil Engineering Department Seminar, Bandung Institute of Technology, Dec. 13, 1996.
  41. "Stochastic Dynamic Analysis of Ocean Systems," Civil and Structural Engineering Department Seminar, The Hong Kong University of Science and Technology, Dec. 20, 1996.
  42. "Analysis of Dynamic Response of Sensitive Nonlinear Ocean Systems," Civil Engineering Department Seminar, The University of Hawaii, Honolulu, Hawaii, May 27, 1997.
  43. "Stochastic Analysis of Response of Nonlinear Structural Systems," Civil and Structural Engineering Department, Korea University, Seoul, Korea, Aug. 22, 1997.
  44. "Application of Chaos Theory for Response Analysis of Ocean Structures," Eleventh Structural Research Seminar, Structural Systems and Computer Aided Engineering Department, Chungbuk National University, Cheongju, Korea, Aug. 23, 1997.

45. "A Unified Analysis Methodology for Sensitive Nonlinear Structural Systems," Civil Engineering Department, Yonsei University, Seoul, Korea, Aug. 25, 1997.
46. "Analysis of Complex Nonlinear Motions of Engineering Systems via Densities," Mathematics Department, North Carolina State University, North Carolina, Feb. 6, 1998.
47. "Active Control of Noisy Oscillations in Sensitive Nonlinear Structural Systems," Mechanical Engineering Department, Hong Kong University, Hong Kong SAR, China, July 13, 1998.
48. "Experimental Analysis and Control of Nonlinear Structural Systems," Civil Engineering Department, South China University of Technology, Guangzhou, China, July 14, 1998.
49. "A Methodology for Analysis and Control of Sensitive Nonlinear Structural Systems," Engineering Mechanics Department, Zhongshan University, Guangzhou, China, July 15, 1998.
50. "Upgrading Oregon State's Multi-Directional Wave Basin Facility," National Science Foundation Network for Earthquake Engineering Simulations (NEES) Awardees Meeting, National Science Foundation, Arlington, VA, Feb. 22-23, 2001.
51. "Future Tsunami Research Using Oregon State's Multi-Directional Wave Basin Facility," Pacific Marine Environmental Laboratory Review Panel Meeting, Port of Portland, Portland, Oregon, May 17-18, 2001.
52. "Deterministic and Stochastic Analyses of Nonlinear Moored Ocean Structures," Office of Naval Research Northwest Region Progress Review, College of Oceanographic and Atmospheric Sciences, Oregon State University, Corvallis, OR, June 19, 2001.
53. "Upgrading Oregon State's Multi-Directional Wave Basin for Tsunami Research," National Science Foundation Network for Earthquake Engineering Simulations (NEES) Awardees Meeting, National Science Foundation, Arlington, VA, Dec. 6-7, 2001.
54. "A Large-Scale Multidisciplinary Research Project: the NSF NEES Wave Research Basin," Chemical Engineering Department, Oregon State University, May 15, 2002.
55. "Oregon State's Early Adopter Experience, Training and Education," National Science Foundation Network for Earthquake Engineering Simulations (NEES) Awardees Meeting, University of Nevada, Reno, NV, Nov. 14-15, 2002.
56. "Collaborative Experimental Tsunami Research Using Oregon State's Multi-Directional Wave Basin," Science Connections, Oregon State University, May 15, 2003.
57. "Research on Shear-Cracked Reinforced Concrete Deck-Girder Bridges in Oregon," University of Hawaii at Manoa, Oahu, Hawaii, May 30, 2003.
58. "Oregon State's Tsunami Wave Basin - The User Experience," National Science Foundation Network for Earthquake Engineering Simulations (NEES) Awardees Meeting, Oregon State University, Corvallis, OR, Sept. 11-12, 2003.
59. "Analytical, Numerical and Experimental Research at the Oregon State Tsunami Wave Basin," Physics Department, Oregon State University, Nov. 3, 2003.
60. "Experimental Fluid-Structure Interaction Systems Research at the Oregon State University Using the Tsunami Wave Basin," Space Warfare Systems (SPAWARS), US Navy, San Diego, Nov. 24, 2003.
61. "Analytical, Numerical and Experimental Studies of Fluid-Structure Interaction Systems," Structural Engineering Department, University of California at San Diego, Nov. 24, 2003.
62. "A State-of-the-Art Virtual Tsunami Wave Basin for Experiment Design, Calibration and Coastal Structures Performance Prediction," Sandia National Laboratory, Albuquerque, New Mexico, Dec. 17, 2003.
63. "State-of-the-Art Tsunami Wave-Structure Interaction and Visualization Tools for Experiment Design and Calibration and Prototype Structural Performance Prediction," Los Alamo National Laboratory, Los Alamo, New Mexico, Dec. 18, 2003.
64. "State-of-the-Art Tsunami Wave-Structure Interaction and Visualization Tools for Experiment Design and Calibration and Prototype Structural Performance Prediction," Flow Science, Inc., Santa Fe, New Mexico, Dec. 18, 2003.
65. "A Framework for High-Performance Tsunami Wave-Structure Interaction Computation and

- Visualization with Application to Experiment Design and Prototype Response Prediction,” TeraScale, Inc., Albuquerque, New Mexico, Dec. 19, 2003.
66. “Collaborative Research on Tsunami Wave-Structure Interaction,” Civil Engineering Department, Oregon State University, Corvallis, Oregon, Jan. 30, 2004.
  67. “International Collaborative Research Using the Oregon State Tsunami Wave Basin,” Tainan Hydraulic Research Laboratory, National Cheng Kung University, Tainan, Taiwan, Apr. 8, 2004.
  68. “The Future of Coastal Engineering and Tsunami Research at Oregon State University,” Tainan Hydraulic Research Laboratory, National Cheng Kung University, Tainan, Taiwan, Apr. 8, 2004.
  69. “International Collaborative Research Using the Oregon State Tsunami Wave Basin,” Coastal and Naval Engineering Department, National Taiwan Ocean University, Keelung, Taiwan, Apr. 9, 2004.
  70. “The Future of Coastal Engineering and Tsunami Research at Oregon State University,” Coastal and Naval Engineering Department, National Taiwan Ocean University, Keelung, Taiwan, Apr. 9, 2004.
  71. “National Collaborative Research Opportunities in Fluid-Structure Interaction Using the NSF NEES Tsunami Wave Basin at Oregon State University,” Lawrence Livermore National Laboratory, July 13, 2004.
  72. “Industrial Collaborative Research Opportunities in Fluid-Structure Interaction Using the NSF NEES Tsunami Wave Basin at Oregon State University,” Livermore Software Technology Corporation, July 16, 2004.
  73. “Collaborative Research Opportunities Using the NSF NEES Tsunami Wave Basin at Oregon State University,” University of Hawaii, Manoa, HI, July 21, 2004.
  74. “Assessment and Risk-Ranking of Conventionally Reinforced Concrete Bridges for Shear,” 84th Annual Meeting of the Transportation Research Board, Washington, DC, January 2005.
  75. “Analytical, Numerical and Experimental Studies of Fluid-Structure Interaction Systems,” CCEE Department, Oregon State University, Corvallis, OR, May 4, 2005.
  76. “Recent Research on Fluid-Structure Interaction and Tsunami Wave Basin Modeling,” Mathematics Department, Oregon State University, Corvallis, OR, May 6, 2005.
  77. “NSF NEES Tsunami Wave Basin Operation and Maintenance,” NSF NEES Site Operation and Maintenance Managers Workshop, Minneapolis, MN, May 11-12, 2005.
  78. “Experimental and Numerical Simulations of Tsunami-Structure Interaction,” National Maritime Research Institute, Mitaka, Japan, May 23, 2005.
  79. “A Survey of Challenging Topics in Numerical Simulation of Fluid-Structure Interaction Systems,” Mechanical Engineering Department, Oregon State University, Corvallis, OR, June 3, 2005.
  80. “Numerical Modeling and Simulations of Tsunami-Structure Interaction at Oregon State’s Wave Research Laboratory,” Leichtweiss Institute for Hydraulic Engineering, Department of Hydromechanics and Coastal Engineering, Technical University of Braunschweig, Braunschweig, Germany, June 17, 2005.
  81. “An Arbitrary Lagrangian-Eulerian Based Numerical Method for Complex Coupled Fluid-Structure Interaction Systems,” Office of Naval Research Northwest Region Progress Review, College of Oceanographic and Atmospheric Sciences, Oregon State University, Corvallis, OR, June 30, 2005.
  82. “Experimental and Numerical Modeling and Simulation of Coupled Fluid-Flexible Structure Systems at the Oregon State University Wave Research Laboratory,” International Center for Numerical Methods in Engineering, Barcelona, Spain, July 15, 2005.
  83. “Numerical and Experimental Simulation of Wave-Structure Interaction Systems Using Oregon State University’s Wave Basin Facilities,” ChevronTexaco Energy Technology Company, San Ramon, CA, Aug. 11, 2005.
  84. “Finite-Element Analysis of Nonlinear Wave Effects on Bridge Structures,” Ocean Engineering Symposium, Oregon State University, Corvallis, OR, Nov. 19, 2005.
  85. “Development of Advanced Finite-Element Methods for the Analysis of Nonlinear Coupled Fluid-Structure Interaction Systems,” Structural Engineering Department, University of California, San

- Diego, CA, Nov. 28, 2005.
86. "Numerical Simulation of Tsunami Propagation and Coastal Inundation," Scripps Institute of Oceanography, University of California, San Diego, CA Nov. 29, 2005.
  87. "Development of Advanced Finite-Element Methods for the Analysis of Nonlinear Coupled Fluid-Structure Interaction Systems," California Department of Transportation, Sacramento, CA, Nov. 30, 2005.
  88. "Numerical Simulation of Tsunami Propagation and Coastal Inundation," California Department of Transportation, Sacramento, CA, Nov. 30, 2005.
  89. "Effects of Storm Surge and Tsunami on the Built Environment," Life Long Learning, Oregon State University Outreach Seminar, Corvallis, OR, Feb. 23, 2006.
  90. "Numerical Modeling of Fluid-Structure Interaction Experiments at the Oregon State NEES Tsunami Wave Basin," Notre Dame University REU Site Visit Seminar, Oregon State University, Corvallis, OR, Aug. 1, 2006.
  91. "Overview of NEES Tsunami Facility at Oregon State University," NEES Board of Director Visit Seminar, Oregon State University, Corvallis, OR, Aug. 24, 2006.
  92. "Numerical and Experimental Tsunami Research at Oregon State University," Civil Engineering Capstone Design Seminar, Oregon State University, Corvallis, OR, Feb. 28, 2007.
  93. "National Tsunami Research Plan: Report of a Workshop Sponsored by NSF and NOAA," NOAA Technical Memorandum OAR, PMEL – 133, Pacific Marine Environmental Laboratory, Seattle, WA, March 2007.
  94. "Planning a NEES Tsunami Wave Basin Research Project," 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.
  95. "NEES/ISEC Tsunami Training Workshop Survey Summary," 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.
  96. "Multi-Physics, Multi-Scale Modeling and Simulation of Coupled Fluid-Structure Interaction Problems," ONR T-Craft Program Review, Florida Atlantic University, Fort Lauderdale, FL, Jan. 14, 2011.
  97. "Multi-Physics, Multi-Scale Modeling and Simulation of Fluid-Structure Interaction Systems," Mathematics Department, Oregon State University, Jan. 21, 2011.

#### **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," National 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 Polytechnic 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," 9<sup>th</sup> 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.

## RESEARCH FUNDING

### Current Research

- "Vulnerability of California's Bridges to Tsunami: Phase I. Preliminary Scope Study," (PI: Solomon Yim), California Department of Transportation, \$128,785, 2010-12.
- "Generation and Validation of Tsunami in a Large-Scale Wave Flume," (PI: Tony Song, NASA, co-PI: Solomon Yim), \$100,000 (Yim's share for testing and analysis), 2011-13.
- "Integration of Multi-Institutional NICOP Research on T-Craft via Complementary Computational Models and Physical Experiment," (PI: Solomon Yim), Office of Naval Research, ONR-N0014-11-1-, \$900,000, 2010-13.
- "Modeling and Simulation of Wave Energy Conversion Devices," (PI: Solomon Yim), National Renewable Energy Laboratory, \$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, \$39,950, 2010-11.
- "Operation and Maintenance of NEES Tsunami Wave Research Facility," (PI: Solomon Yim, Co-PI: Dan Cox, Cherri Pancake and Harry Yeh), NEEScomm (NSF CMMI-0402490), \$1,000,000, 2009-10.
- "Northwest National Marine Renewable Energy Center," (PI: Robert Paasch, co-Investigator: Solomon Yim, Annette von Jouanne and Ted Brekken), Department of Energy, \$13,545,481, 2008-13.

### Prior Research

- "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.