



# The Pulse of Earthquake Engineering

News You Can Use — for members of the Earthquake Engineering Research Institute



February 15, 2014

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## Message from the President

Welcome to *The Pulse of Earthquake Engineering*, the bi-weekly email newsletter of the Earthquake Engineering Research Institute.



— David A. Friedman, EERI President

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## News of the Institute

**Register Now for 10NCEE:**

## News of the Institute

### Register Now for 10NCEE: Travel Grants, Events, and Papers

Register today for the Tenth U.S. National Conference on Earthquake Engineering (10NCEE) held this July in Anchorage, Alaska at <https://www.eeri.org/cohost/registration/10ncee-registration>. Below is the latest information about (1) Travel Grants, (2) Travel and Lodging, (3) Pre-Conference Events, (4) Thursday Evening at the Alaska Native Heritage Center, and (5) Paper Acceptances.

### Travel Grants Available for Graduate Students and Early Career Professionals

The Federal Emergency Management Agency (FEMA), the Pankow Foundation, and EERI have made funds available to award [travel grants](#) to graduate students and early career professionals to defray travel costs for attending the 10th U.S. National Conference on Earthquake Engineering (10NCEE). Awards are limited to graduate students and early career professionals. Graduate students and early career academics must attend or teach at a U.S. university as of March 1, 2014. These grants are being coordinated by the Earthquake Engineering Research Institute (EERI).



All recipients are expected to contribute four hours of voluntary service during the conference. We anticipate providing funding for 30–40 participants, with an average grant value of \$750. The application deadline is Friday, March 7. The award selection criteria are included on the application page at

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<https://www.eeri.org/cohost/registration/travel-grants>.

## Travel and Lodging

All 10NCEE participants are urged to book travel and lodging as soon as possible. Alaska is a popular summer tourist destination, and lodging and travel will become scarce and more expensive as the spring/summer season approaches.

## NEW Pre-Conference Event: Direct Displacement-Based Seismic Design of Buildings Seminar

Date: *Monday, July 21, 2014*

Time: *8:00 a.m. – 5:00 p.m.*

Location: *Hilton Anchorage*

Presenters: **Dr. Nigel Priestley**, **Dr. Michele Calvi** (M. EERI, 1990), and **Dr. Mervyn Kowalsky** (M. EERI, 1994)

This [seminar](#) will introduce participants to displacement-based seismic design (DDBD) and demonstrate how it can be implemented in the design office as a simple and rational alternative to current prescriptive methods of seismic design. The course will show that serious conceptual problems exist with current force-based seismic design and will demonstrate how these deficiencies are resolved when a simple displacement-based design approach is adopted. The DDBD approach results in structures with uniform seismic risk for a given performance level, which is compatible with uniform risk spectra. This is not achieved with current force-based design procedures. To read the seminar program, visit: [http://10ncee.org/images/program/DDBD\\_ProgramPage.pdf](http://10ncee.org/images/program/DDBD_ProgramPage.pdf).

Cost: *Early-bird registration is \$295. A companion textbook, if ordered as a part of early-bird registration for the seminar, can be obtained for the price of \$120, including shipping, and will be available for pickup at the seminar. Note that current prices for the textbook on Amazon are \$206. Registration increases to \$365 on June 15th, at which point companion textbooks are no longer available.*

Register for the event now at <https://www.eeri.org/cohost/registration/ddbd-july-21-2014>.

## Thursday Evening at the Alaska Native Heritage Center

Date: *Thursday, July 24, 2014*

Time: *7:00 p.m. – 10:00 p.m.*

## Student Spotlight

### **EERI Student Chapter Activities**

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## Announcements

### **Call for Abstracts: 3rd International Conference on Urban Disaster Reduction**

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### **California Vital Infrastructure Vulnerability Assessment (Cal VIVA) Project**

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### **One-Day Short Course on Liquefaction Hazard Evaluation**

[More >](#)

### **2014 Shamsher Prakash Research Award: Geotechnical Engineering**

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## Opportunities

### **United States Geological Survey (USGS) Research Structural Engineer: Job Posting**

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### **ABAG Regional Earthquake and Hazards Specialist: Job Posting**

[More >](#)

## Calendar

Join us on Thursday evening, July 24, for a night-out at the Alaska Native Heritage Center in Anchorage during 10NCEE. The Alaska Native Heritage Center is an amazing interactive cultural experience. More than a museum, the Center provides an opportunity to explore the indigenous cultures of Alaska firsthand.

Food and drink tables will be available throughout the large indoor/outdoor venue. The evening event will also feature [native dance](#) [performances](#) as well as demonstrations of [native games](#) [performances](#). Local hosts will be present to answer any questions you have about the different cultures of Alaska. For the latest info about the Thursday evening event, visit: <http://10ncee.org/tours/evening-at-the-alaska-native-heritage-center>.

Cost: \$40 for conference registrants and \$60 for guests. Cost includes transportation, entertainment, food, and drinks.

Register for 10NCEE and the Thursday evening event at <https://www.eeri.org/cohost/registration/10ncee-registration>.

### **New Sponsors**

**Shannon & Wilson, Inc.** is a new 10NCEE Silver Sponsor. The firm is a



nationally recognized leader in geotechnical, earthquake, and environmental engineering, providing integrated services to private and public clients. Shannon & Wilson's seismic experts have long been at the forefront in using ground response modeling to support the design of foundation support systems. They are experienced in specialized work for critical structures such as communications centers, nuclear facilities, dams, and hospitals. Visit: [www.shannonwilson.com](http://www.shannonwilson.com) [↗](#).

For the full list of 10NCEE sponsors, visit: <http://10ncee.org/sponsors>.

### **Paper Acceptances**

Acceptance notices indicating session assignments were sent to authors on Thursday, February 13, 2014.

Final revised papers are due by March 17, 2104. Final submission of the paper must be



Alaska Native Heritage Center

PEER-USGS Workshop: The HayWired Scenario & Building Codes

January 17, 2018  
Berkeley, California  
[peer.berkeley.edu](http://peer.berkeley.edu)

Pacific Earthquake Engineering Research Center (PEER) 2018 Annual Meeting

January 18-19, 2018  
Berkeley, California  
[peer.berkeley.edu/events](http://peer.berkeley.edu/events)

1st International Conference on Infrastructure Resilience  
February 14-16, 2018  
[resilienceconference.ethz.ch](http://resilienceconference.ethz.ch)

10th Gulf Seismic Forum for Seismology and Earthquake Engineering Studies in the Arabian Plate Region  
March 19-22, 2018  
Muscat, Oman  
[conferences.squ.edu.om](http://conferences.squ.edu.om)

Geotechnical Earthquake Engineering and Soil Dynamics Conference V  
June 10-15, 2018  
Austin, TX  
[www.geesd2018.org](http://www.geesd2018.org)

16th European Conference on Earthquake Engineering  
June 18-21, 2018  
Thessaloniki, Greece  
[www.16ecee.org](http://www.16ecee.org)

## **11th U.S. National Conference on**

accompanied by payment of the full conference registration fee for the presenting author. For more info on papers, visit: <http://10ncee.org/authors-speakers>.

### **Speakers without Papers**

All speakers for theme and special sessions who do not have papers are required to register and pay the full conference fee by March 17, 2014.

### **Masayoshi Nakashima to be Awarded Housner Medal**

**Masayoshi Nakashima** (M. EERI, 1988), professor at the Disaster Prevention Research Institute, Kyoto University, will be presented with the George W. Housner Medal at the 2014 EERI Annual Meeting, which takes place as part of the 10th U.S. National Conference on Earthquake Engineering (10NCEE). The Housner Medal is awarded to recognize Institute members and others who have made extraordinary and lasting contributions to public earthquake safety through the development and application of earthquake hazard reduction practices and policies.



*Masayoshi Nakashima*

Nakashima's research contributions have had a profound impact on the advancement of earthquake engineering. His seminal work in the development of hybrid simulation, notably the experimental error propagation and suppression associated with the control, the introduction and implementation of the concept of substructuring, and the extension of hybrid simulation in real time, led to extensive developments of the associated technologies in the subsequent fifteen years. His work opened up this new area of research. Hybrid simulation laboratories now exist at most major research universities and centers, and researchers worldwide are contributing to these developments.

Nakashima's contributions to these modern experimental techniques of hybrid simulation and large-scale shaking table tests were especially effective in advancing seismic resistant design because they were rooted in his original research background in the analysis and design of steel structures.

His leadership at the E-Defense facility in Japan resulted in forty large-scale shaking table tests within six years, many more than all the large-scale shaking table tests combined in other countries. A summary of the E-Defense's large-scale shaking table tests can be found at

<http://www.bosai.go.jp/hyogo/ehyogo/index.html> 

Masayoshi Nakashima has been a leader in promoting research collaboration between the United States and Japan. His participation goes back to the 1980s when a



## Earthquake Engineering

June 25–29, 2018

Los Angeles, CA

[www.11ncee.org](http://www.11ncee.org)

Deep Foundations Institute  
(DFI) 43rd Annual Conference

October 24–27, 2018

Anaheim, California

[www.dfi.org](http://www.dfi.org)

Sixth International Symposium  
on Life-Cycle Civil Engineering  
(IALCCE2018)

October 28–31, 2018

Ghent, Belgium

[www.sarcos.eng.cam.ac.uk](http://www.sarcos.eng.cam.ac.uk)

GeoMEast 2018 International

November 24–28, 2018

Cairo, Egypt

[www.GeoMEast2018.org](http://www.GeoMEast2018.org)

### **EERI 71st Annual Meeting**

March 5–8, 2019

Vancouver, B.C., Canada

[2019am.eeri-events.org](http://2019am.eeri-events.org)

### Social Links



### Tell Us Your Thoughts

Submit your questions  
regarding *The Pulse of*

U.S./Japan joint research program was implemented under the auspices of the National Science Foundation (NSF) and the Japanese Ministry of Construction. Starting 2005, Masayoshi Nakashima has led joint research between NEES and E-Defense. Three large-scale tests funded through the NEES program (a six-story wood frame, a three-story innovative rocking frame, and a five-story base-isolated structure) were successfully implemented at E-Defense facilities. Recognizing his important contributions to U.S.-Japan collaboration, the NEES community bestowed upon him the recognition of "Outstanding Service to the NEES Research Community (2008)." To date, he is the sole foreign individual who has received this recognition.

Professor Nakashima served as Vice-President of the Architectural Institute of Japan (2007-2009), Vice-President of the Japanese Society for Earthquake Engineering (2009-2011), and a Director of EERI (2008-2010).

*Note: See the full list of 2014 EERI Award Recipients at <http://bit.ly/1c3HttF>. In the next issue of The Pulse, we will feature the 2014 EERI Distinguished Lecturer.*

### **EERI Membership Survey Summary**

EERI conducted its 2013 online membership survey to better understand the needs and interests of its members. The survey was designed to collect information about how EERI members value and use the Institute's many programs, projects, resources, and other offerings. EERI received 473 survey responses total, which is an 18% response rate.

Here are some highlights from the membership survey:

The survey responses conveyed that EERI is a highly valued organization. Many more respondents indicated that "EERI was more valuable" (28%-45%) or "equally valuable" (40%-53%) to other professional associations they belong to than those respondents who listed "EERI was less valuable" (14-19%).

EERI has an important role in advocating on behalf of its community. Almost 80% of respondents indicated that EERI should engage in advocacy for the adoption of better engineering practices.

As a whole, EERI's current suite of programs is working for its members, but there is room for incremental improvement. Over 80% of respondents indicated they didn't think EERI should make significant changes to its programs and publications, and less than 20% indicated EERI should make significant changes.

Read the complete 2013 EERI Membership Survey Summary ([PDF](#)).

Earthquake Engineering at [pulse@eeri.org](mailto:pulse@eeri.org). You may also submit your content for consideration at [pulse@eeri.org](mailto:pulse@eeri.org).

*The Pulse* is sent on the first and fifteenth day of each month (or the first business day after). Please contact us if you don't receive these issues.

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## Member Spotlight

### Moehle and Fenves Elected to National Academy of Engineering

**Jack P. Moehle** (M. EERI, 1981) and **Gregory Fenves** (M. EERI, 1985) have been elected to the National Academy of Engineering, among the highest professional distinctions accorded to an engineer.

Academy membership honors those who have made outstanding contributions to "engineering research, practice, or education, including, where appropriate, significant contributions to the engineering literature," and to the "pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education."



Jack Moehle

Gregory Fenves

Jack Moehle, T.Y. and Margaret Lin Professor of Engineering at the University of California, Berkeley, was recognized by the Academy for contributions to earthquake-resistant design and analysis of building structures, and for leadership in engineering education. Moehle is also founding director of PEER from 1996 to 2008.

The National Academy's statement on Gregory Fenves' principal engineering accomplishments cited his "contributions to computational modeling, creation of open source software for earthquake engineering analysis, and academic leadership." Fenves is currently executive vice president and provost, University of Texas, Austin. Fenves is former associate director of PEER and developer of PEER's [OpenSees software](#) [↗](#).

For more information, read the [NAE New Members press release](#) [↗](#).

*This article is reprinted from the [PEER website](#) [↗](#).*

### Anderson Family Creates Fund to Further Disaster Mitigation Research and Education

Late sociologist **Bill Anderson** (M. EERI, 2001) worked tirelessly in the field of disaster risk reduction and was a great proponent of attempting to understand and address the ways in which vulnerable populations suffer in disaster. With this in mind, his family has announced the creation of a new fund that will further those ideals.



The [William Averette Anderson Fund for Hazard and Disaster Mitigation Education and Research](#) [↗](#) will assist earth scientists, engineers, practitioners, and social scientists to focus on mitigating the impacts of disasters on vulnerable and underserved populations in the United States.

"As I considered how best to honor Bill, my thoughts were immediately directed to his deep commitment to promoting the study of women, children, African Americans, persons of color and of other vulnerable populations in disaster hazard mitigation," his wife **Norma Doneghy Anderson** wrote. "It is with his commitment

in mind that I am establishing the William Averette Anderson Fund for Hazard and Disaster Mitigation Education and Research."

Anderson passed away unexpectedly on December 29. For more than two decades, Bill served as a National Science Foundation program officer, providing invaluable guidance and support. His distinguished career included positions at the American Sociological Association, NSF, the World Bank, and the National Academies. He was a consummate researcher, mentor, and leader.

Those interested in learning more about the fund or making a contribution can visit the [Fund website](#) [↗](#), or check out the [Facebook page](#) [↗](#) that's been created to help promote the effort.

*(This article is reprinted with permission from the [Natural Hazards Center](#) [↗](#).)*

### **Celebration of Life**

The Anderson family has planned a Celebration of Life service for Bill on March 22, 2014 from 10:30 a.m. to 2:00 p.m. at:

Argyle Country Club  
14600 Argyle Country Club Road  
Silver Spring, MD 20906

The celebration will begin with a one-hour visitation at 10:30 a.m. followed by a memorial service at 11:30 a.m. The service will be followed, at the same location, with a buffet lunch. They request an RSVP for those planning to attend the celebration no later than **Monday, March 17, 2014**. Email your RSVP to [Norma@BillAndersonFund.org](mailto:Norma@BillAndersonFund.org).

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Learning from Earthquakes

## Report on the Recovery and Reconstruction in Sri Lanka Following the December 26, 2004 Tsunami Now Available

A report based on the findings of an EERI team that conducted a ten-day visit (July 20–August 7, 2013) to areas of Sri Lanka affected by the 2004 tsunami is now available in the [EERI Learning from Earthquakes Reconnaissance Archive](#). The team members were **Guillermo Franco** (M. EERI, 2005), Guy Carpenter; **Alpa Sheth** (M. EERI, 2010), VMS Consultants Private Limited; and **Michelle Meyer** (M. EERI, 2013), Texas A&M University.

The report will inform the drafting of a best practices guide for Disaster Recovery Frameworks. This initiative is being developed by the European Union, the United Nations Development Program's Bureau for Crisis Prevention and Recovery, and the [World Bank's Global Facility of Disaster Reduction and Recovery \(GFDRR\)](#) [↗](#). Individual case studies are being prepared on particular countries' rebuilding and reconstruction efforts, and several thematic case studies are being developed, including one on Building Back Better (BBB) practices, as defined by the GFDRR.



*Photo (left to right): Shyanaka Dananjaya, Research Assistant, University of Peradeniya; and EERI Team members Michelle Meyer; Guillermo Franco; and Alpa Sheth*

The report focuses on the following areas studied during the team's time in Sri Lanka:

- The definition of Building Back Better (BBB)
- Policies and the institutional framework created for the initial recovery and reconstruction
- The tsunami housing reconstruction programs and the strengths and weaknesses of the owner- and donor-driven reconstruction schemes
- Early warning systems put in place
- Advances related to the health, tourism, and fisheries sectors

*Funding for the team came from a grant agreement between EERI and the Global Facility for Disaster Reduction and Recovery (GFDRR) of the World Bank.*

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Publications



## Earthquake Spectra: Preprint Manuscripts

In early February, 24 preprint manuscripts were posted on the *Earthquake Spectra* website prior to their formal publication. The list of new preprint manuscripts, including authors, follows:

- "Risk Decision Making and Seismic Risk Preparedness at North American Seaports: Analysis of a System-wide Survey" by Tim Scharks, Ann Bostrom, Lori Reimann-Garretson, and **Glenn Rix** (M. EERI, 1990)
- "Determining rockfall risk in Christchurch using rockfalls triggered by the 2010/2011 Canterbury earthquake sequence, New Zealand" by Chris I. Massey, Mauri J. McSaveney, Tony Taig, Laurie Richards, Nicola J. Litchfield, David A. Rhoades, **Graeme H. McVerry** (M. EERI, 1990), Biljana Lukovic, David W. Heron, William Ries, and Russ J. Van Dissen
- "Common Structural Deficiencies Identified in Canterbury Buildings & Observed versus Predicted Performance" by Dan Bech, Paul Cordova, Bill Tremayne, Kenneth Tam, Benjamin Weaver, Nicholas Wetzel, Will Parker, Lisa Oliver, and Jenny Fisher
- "Geotechnical Aspects of Disaster Recovery Planning in Residential Christchurch and Surrounding Districts Affected by Liquefaction" by Nick Rogers, Kate Williams, Mike Jacka, Shamus Wallace, and John Leeves
- "Understanding Poor Seismic Performance of Concrete Walls and Design Implications" by **Sri Sritharan** (M. EERI, 1994), **Katrin Beyer** (M. EERI, 2010), Richard S. Henry, Y. H. Chai, **Mervyn Kowalsky** (M. EERI, 1994), and Desmond Bull
- "Seismic Hazard Modeling for the Recovery of Christchurch, New Zealand" by Matthew Gerstenberger, **Graeme McVerry** (M. EERI, 1990), David Rhoades, and Mark Stirling
- "Liquefaction Effects on Buildings in the Central Business District of Christchurch" by **Jonathan Bray** (M. EERI, 1990), Misko Cubrinovski, Joshua Zupan and Merrick Taylor
- "The demise of the URM building stock in Christchurch during the 2010/2011 Canterbury earthquake sequence" by Lisa Moon, Dmytro Dizhur, Ilenia Senaldi, Hossein Derakhshan, **Michael Griffith** (M. EERI, 1990), Guido Magenes, and **Jason Ingham** (M. EERI, 2012)
- "Telecommunication Systems Performance – Christchurch Earthquakes" by **Alex**

The logo for Earthquake Spectra, featuring the words "EARTHQUAKE" and "SPECTRA" in a bold, red, serif font, stacked vertically.

**Tang** (M. EERI, 1985), Alexis Kwasinski, John Eiding, Colin Foster, and Pete Anderson

- "Urban Disaster Recovery in Christchurch: The Central Business District Cordon and Other Critical Decisions" by **Stephanie E. Chang** (M. EERI, 1994), Josh E. Taylor, **Kenneth J. Elwood** (M. EERI, 1994), Erica Seville, **Dave Brunson** (M. EERI, 1997), and Mikaël Gartner
- "Performance of Electric Power Systems in the 2010–2011 Christchurch, New Zealand, Earthquake Sequence" by Alexis Kwasinski, John Eiding, **Alex Tang** (M. EERI, 1985), and Christophe TUDO-Bornarel
- "Lessons from the Post-Earthquake Evaluation of Damaged Buildings in Christchurch" by Bruce Galloway, **John Hare** (M. EERI, 2013), **Dave Brunson** (M. EERI, 1997), Peter Wood, Bret Lizundia, and Mike Stannard
- "Ground Motion and Seismic Source Aspects of the Canterbury Earthquake Sequence" by **Brendon A. Bradley** (M. EERI, 2012), Mark C. Quigley, Russ J. Van Dissen, and Nicola J. Litchfield
- "Earthquake Response of Underground Pipeline Networks in Christchurch, NZ" by **Thomas D. O'Rourke** (M. EERI, 1980), Sang-Soo Jeon, **Selcuk Toprak** (M. EERI, 1996), Misko Cubrinovski, Matthew Hughes, Sjoerd van Ballegooy, and **Dimitra Bouziou** (M. EERI, 2011)
- "Spreading-induced damage to short-span bridges in Christchurch (New Zealand)" by Misko Cubrinovski, Anna Winkley, Jennifer Haskell, **Alessandro Palermo** (M. EERI, 2011), Liam Wotherspoon, Kelly Robinson, **Brendon Bradley** (M. EERI, 2012), Pathmanathan Brabhaharan, and Matthew Hughes
- "Application of Recommendations of the Canterbury Earthquakes Royal Commission to Design, Construction, and Evaluation of Buildings and Seismic Risk Mitigation Policies in the United States" by **William T. Holmes** (M. EERI, 1975), **Nicolas Luco** (M. EERI, 2001), and **Fred Turner** (M. EERI, 1985)
- "Select Liquefaction Case Histories from the 2010–2011 Canterbury Earthquake Sequence" by **Russell A. Green** (M. EERI, 1993), Misko Cubrinovski, **Brady Cox** (M. EERI, 2004), Clint Wood, Liam Wotherspoon, **Brendon Bradley** (M. EERI, 2012), and Brett Maurer
- "Seismic Performance of Vertical Non-Structural Components in the 22nd February 2011 Christchurch Earthquake" by Andrew Baird, Ali Sahin Tasligedik, **Alessandro Palermo** (M. EERI, 2011), and **Stefano Pampanin** (M. EERI, 2011)

- "Damage Evaluations of Precast Concrete Structures in the 2010–2011 New Zealand Earthquakes" by Robert Fleischman, **Jose I. Restrepo** (M. EERI, 1997), **Stefano Pampanin** (M. EERI, 2011), **Joseph R. Maffei** (M. EERI, 1989), Kim Seeber, and Franz A. Zahn
- "Assessment of Liquefaction-Induced Land Damage for Residential Christchurch" by S. van Ballegooy, P. Malan, V. Lacrosse, M.E. Jacka, M. Cubrinovski, **J.D. Bray** (M. EERI, 1990), **T.D. O'Rourke** (M. EERI, 1980), S.A. Crawford, and H. Cowan
- "Transforming Governance: How National Policies and Organizations for Managing Disaster Recovery Evolved Following the 4 September 2010 and 22 February 2011 Canterbury Earthquakes" by **Laurie A. Johnson** (M. EERI, 1990) and Ljubica Mamula-Seadon
- "NGA-West2 Ground Motion Model for the Average Horizontal Components of PGA, PGV, and 5%-Damped Linear Acceleration Response Spectra" by **Kenneth W. Campbell** (M. EERI, 1975) and **Yousef Bozorgnia** (M. EERI, 1986)
- "Seismic Performance of Improved Ground Sites during the 2010–2011 Canterbury Earthquake Sequence" by Liam Wotherspoon, Rolando Orense, Mike Jacka, **Russell Green** (M. EERI, 1993), **Brady Cox** (M. EERI, 2004), and Clint Wood

To read preprint manuscripts or browse the complete list of preprint manuscripts, visit the *Earthquake Spectra* website at <http://earthquakespectra.org/toc/eqsa/0/0>.

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## Program Updates

### **EERI Housner Fellows Leadership Program: Call for Applications**

EERI is now accepting applications for the second class of its innovative leadership program, the Housner Fellows Program. This program has the strategic objective *"to recognize and equip promising and motivated young to mid-career professionals with the confidence, skills and sense of responsibility needed to become lifelong leaders and advocates of earthquake risk reduction."*

The comprehensive program includes: a one-week hands-on leadership institute, two years of professional mentoring, participation in the EERI Annual Meeting and possible participation in a policy or reconnaissance-related activity. For this class, the leadership institute and EERI annual meeting will be back-to-back in July in Alaska. Two highlights of this engaging program are the group and individual projects, both targeted at real

issues in seismic safety. Funding is being provided by a gift from Professor **George Housner**, one of EERI's founding members, and support from the Federal Emergency Management Agency (FEMA) and the Global Facility for Disaster Reduction and Recovery (GFDRR) of the World Bank.

Three Fellows in the next class will be GFDRR-Housner Fellows, specifically from priority GFDRR countries (see <https://www.gfdrr.org/node/156> for list). There is no set age range for the program—if you consider yourself a young to mid-career professional, this may be the program for you.

Each class will have 5 to 8 members. More information and application requirements are available at <http://www.eeri.org/projects/housner-fellows-program>.

Applications are due by **March 1, 2014**. Selected Fellows will be announced by April 15, 2014.

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## Student Spotlight

### **EERI Student Chapter Activities**

EERI Student Chapters engage in technical and social activities year-round, including hosting EERI Distinguished Lecturers and practitioners as part of the Friedman Family Visiting Professional Program. Many chapters also enter the annual EERI Undergraduate Seismic Design Competition (SDC). Described below are some of the student chapters' most energetic organizational and outreach efforts from their 2012–2013 annual reports.

### **University of Buffalo Student Chapter (UB-EERI)**

The EERI Student Chapter at the [University of Buffalo](#) officers were **Maria Koliou** (M. EERI, 2009), **Siamak Epackachi** (M. EERI, 2010), **Alireza Farhidzadeh** (M. EERI, 2011), **Zahrasadat Lotfian** (M. EERI, 2011), **Maikol Del Carpio Ramos**, **Mohammad Javad Hamidia** (M. EERI, 2011), **Bismarck Luna** (M. EERI, 2008), and **Konstantinos Oikonomou** (M. EERI, 2010). Professor **Andre Filiatrault** (M. EERI, 1986) and Professor Emeritus **Andrei M. Reinhorn** (M. EERI, 1986) are the chapter's faculty advisors.

The UB-EERI Chapter worked with other UB student groups to organize their Engineering Seminar Series, the T.T. Soong Distinguished Lecture Series, a Poster Competition, and other social activities.



*Professor Thomas D. O'Rourke and students who attended his presentation at the University of Buffalo*

This year's Engineering Seminar Series speakers were:

- "Recent Advances in Earthquake Loss Estimation in Buildings" by Associate Professor **Eduardo Miranda** (M. EERI, 1987)
- "Adaptive Stiffness and Negative Stiffness for Seismic Protection" by Professor **Satish Nagarajaiah** (M. EERI, 1994)
- "Recent Advances on Seismic Evaluation and Displacement-Based Design of Structures" by Professor Amado Gustavo Ayala-Milián
- "Collapse of Shoring during Construction of the Elevated Walkway for the Atlanta Botanical Gardens" by Associate Principal **Dominic J. Kelly** (M. EERI, 2001)
- "Size-Dependent Continuum Mechanics" by Research Scholar Alireza Hadesfandiari

This year's T.T. Soong Distinguished Lecturers were:

- "The New Normal for Natural Disasters" Professor **Thomas D. O'Rourke** (2012 EERI Distinguished Lecturer; EERI Honorary member; M. EERI, 1980)
- "Full-Scale Steel Building Tests Using the World's Largest Shake Table" and "Recorded Performance of Tall Buildings during the 2011 Great East Japan Earthquake" by Professor and Director Kazuhiko Kasai
- "Soil-Structure Interaction Effects of Building Clusters During Earthquakes" by Professor **Jacobo Bielak** (M. EERI, 1976)
- "Control of Inelastic Structures by Weakening and Damping" by Professor **Andrei M. Reinhorn** (M. EERI, 1986)

To view the UB-EERI Chapter's 2012–2013 annual report, visit:

<https://www.eeri.org/wp-content/uploads/UB-EERI-annual-report-2012-2013-1.pdf>.



## Iowa State University Student Chapter (EERI@ISU)

EERI Student Chapter at [Iowa State University's](#) officers **Aaron Shelman** (M. EERI, 2010), **Bradley Fleming** (M. EERI, 2011), **Mohammad Fotouhi**, and **Xiao Liang** led the group as they conducted educational outreach to local middle-school students on Earthquake Engineering Day, Nov. 10, 2012, and at VEISHEA Village on March 19, 2013. Professor **Sri Sritharan** (M. EERI, 1994), Grace Miller Wilson and T. A. Wilson Endowed Engineering Professor at ISU, is the Chapter's faculty advisor.

In addition, the EERI@ISU Chapter took ninth place at the 10th Annual EERI Undergraduate Seismic Design Competition, held in February 12-15, 2013 in Seattle Washington.

The Chapter also hosted four speakers, professionals from industry and academics, for their seminar series:

- "Transient Winds and Their Effects on Civil Structures" by Professor Partha Sarkar
- "An Interactive Lesson on the Direct Displacement- Based Design Approach" by Professor **Mervyn Kowalsky** (M. EERI, 1994)
- "Innovative Precast Seismic Structural System Moving from Academic Research to the Constructed Project" by Structural Engineer Suzanne Dow Nakaki
- "Seismic Response of Nonstructural Components: Effects of Partition Walls and Response of Cultural Heritage Artifacts" by Assistant Professor **Richard L. Wood** (M. EERI, 2011)

To view the EERI@ISU Chapter's 2012-2013 annual report, visit:

<https://www.eeri.org/wp-content/uploads/EERI-Annual-Report-at-ISU.pdf>.

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*EERI Student Chapter at Iowa State University's undergraduate Seismic Design Competition (SDC) team and their scale model that competed at the 2013 EERI Annual Meeting in Seattle.*

## Call for Abstracts: 3rd International Conference on Urban Disaster Reduction

The 3rd International Conference on Urban Disaster Reduction (3ICUDR) will be held September 28 – October 1, 2014 in Boulder, Colorado. The conference builds on an established practice of international collaboration and knowledge-sharing after disaster events in Japan, U.S., and Taiwan. In this third conference, New Zealand joins the three collaborating countries. The mission for this conference is to develop, integrate, and promote new knowledge and best practices in sustainable disaster recovery, with a particular emphasis on urban environments.

Abstracts that take bold steps in describing new strategies and ways of thinking to significantly reduce potential casualties, damage, and disruption from future disasters, and create safe, resilient, and adaptive communities, regions, and nations are being solicited. Young scholars are encouraged to present emerging research. Papers that bridge the knowledge gaps between research and practice are particularly welcomed. For more information and suggested topic areas, view the Call for Abstracts at <http://3icudr.org/call-for-abstracts/>. The deadline for submission is **May 1, 2014**.

The conference is being organized by the Earthquake Engineering Research Institute in collaboration with colleagues from the following partner organizations: (1) the Natural Hazards Center, Boulder, Colorado; (2) the Research Center for Disaster Reductions Systems (DRS), Disaster Prevention Research Institute, Kyoto University, Kyoto, and the Risk Management Office/Research Center for Natural Hazard & Disaster Recovery, Niigata University, Niigata, in coordination with the Institute of Social Safety Science; (3) the National Science and Technology Center for Disaster Reduction (NCDR) and the Disaster Management Society of Taiwan; and (4) the New Zealand Society for Earthquake Engineering (NZSEE) and GNS Science, New Zealand. For more information about the conference, visit: [www.3icudr.org](http://www.3icudr.org).



**3ICUDR**  
International Conference on  
Urban Disaster Reduction

## California Vital Infrastructure Vulnerability Assessment (Cal VIVA) Project


California has over 24,000 state-owned buildings ranging in age from the nineteenth century to present day. Many of these buildings, located in areas of high seismicity, are vital to post-earthquake recovery efforts. California now has a tool to identify, prioritize, and assess state-owned buildings that are vital to post-earthquake response and recovery.



In past decades, agencies and departments in the State of California have initiated multiple seismic vulnerability programs for state-owned buildings with seismic performance goals ranging from "life safety" to "reduced post-earthquake disruption." Until now, there has not been a statewide approach for the identification and assessment of the seismic vulnerability of these vital buildings. This tool provides California with a statewide coordinated plan that will reduce the State's seismic vulnerability and increase its natural hazard resiliency.

The California Vital Infrastructure Vulnerability Assessment (Cal VIVA) Project was a hazard-mitigation project funded by National Earthquake Hazard Reduction Program through the Federal Emergency Management Agency. It was sponsored by the California Governor's Office of Emergency Services and undertaken by engineering and planning faculty at California Polytechnic State University, San Luis Obispo.

The Cal VIVA project was composed of three phases: Cal VIVA I: Upgrading Critical Facilities; Cal VIVA II: The Next Steps; and Cal VIVA III: Mitigation and Reporting Plans. The first two phases were completed in March 2013. The third phase, completed in November 2013, received administrative assistance from EERI. The outcome of the Cal VIVA project is a statewide systematic approach to reducing the seismic vulnerability of state-owned buildings vital to post-earthquake response and recovery.

A paper titled *Cal VIVA: Assessing the Seismic Vulnerability of California's State-Owned Buildings* and presented at the 2012 Structural Engineers Association of California Convention contains more information and will be posted at <http://www.digitalcommons.calpoly.edu> . Other reports and papers will be posted as they become available.

### One-Day Short Course on Liquefaction Hazard Evaluation

*Date:* April 9, 2014

*Location:* To be determined

*Featured Instructor:* **W.D. Liam Finn**, Professor Emeritus, University of British Columbia,

Vancouver, BC, Canada

*Who would benefit from attending:* geotechnical engineers, structural engineers, building inspectors, policy makers, and risk analysts

*Sponsor:* Utah Chapter Earthquake Engineering Research Institute (EERI)

*Organizing Committee:* **Kevin Franke** (M. EERI, 2008), chair; **Brent Maxfield** (M. EERI, 2005); Rob Snow; and EERI Honorary member **Les Youd** (M. EERI, 1974)

**W. D. Liam Finn** (B. Eng National University of Ireland, 1954; M. Sc, Ph.D. University of Washington 1957, 1960; EERI Honorary member; M. EERI, 1976) initiated the first program of geotechnical earthquake engineering in Canada at UBC in 1966 and pioneered the development of effective stress dynamic analysis in 1975. Liam's main research interest is geotechnical earthquake engineering; he has published over 380 papers in this field. Liam consults internationally especially on the seismic safety of dams and seismic risk. He currently sits on the Technical Review Board for the Seismic Retrofit of British Columbia Schools and recently developed a risk management plan for this \$2 billion project on behalf of the BC Government.

Liam received the Quigley and Meyerhof awards of the Canadian Geotechnical Society, the Lo and Legget awards of the Engineering Institute of Canada, the Innovation in Engineering Award of the Canadian Society of Civil Engineers, the Consulting Engineers of Canada award and the President's Award of the Association of Professional Engineers and Geophysicists of British Columbia for his contribution to the seismic retrofit program for BC Schools. He was Editor of the *International Journal of Soil Dynamics and Earthquake Engineering* from 2000-2008 and is on editorial boards for other journals. He is a former Chairman of ISSMGE/TC-4 the Earthquake Geotechnical Engineering.

Among the discussion topics will be:


- Fundamentals of liquefaction hazard evaluation
- Procedures using SPT, CPT, and Vs
- Consequences of liquefaction
- Methods for estimating lateral ground displacement
- Methods for estimating settlements
- IBC requirements
- Mitigation of liquefaction hazard
  - Structural mitigation
  - Site mitigation

A second announcement with more detailed information including venue and costs will be published in a brochure and a future issue of *The Pulse*.

### **2014 Shamsheer Prakash Research Award: Geotechnical Engineering**

The Shamsheer Prakash Foundation solicits nominations (no applications) for the 2014 Shamsheer Prakash Research Award for young engineers, scientists, and researchers (40 years or younger) from all over the world.

The candidates should be specialists in Geotechnical Engineering and/or Geotechnical Earthquake Engineering, and it is necessary that they have significant independent contributions and show promise of excellence in research. Nominations should be submitted on or before **March 31, 2014**.


For more information, visit the foundation's website at [http://yoga10.org/research\\_award.html](http://yoga10.org/research_award.html) .

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## Opportunities

### **United States Geological Survey (USGS) Research Structural Engineer: Job Posting**

The USGS Geologic Hazards Science Center in Golden, Colorado, welcomes applications for a permanent researcher in earthquake engineering with knowledge, skills, and abilities in probabilistic seismic hazard and risk analysis, performance-based seismic design, and building code development.

The available position is for an early-to-mid career (GS-13) researcher, with significant promotion potential (GS-15). The closing date for the job announcement, which is open to U.S. citizens and federal employees, is **February 26, 2014** (midnight Eastern Time). For more information, visit the USAJOBS website at <http://www.usajobs.gov> .



### **ABAG Regional Earthquake and Hazards Specialist: Job Posting**

The Association of Bay Area Governments (ABAG) is recruiting for the grant-funded, limited duration position of Regional Earthquake and Hazards Specialist.






Under supervision, the Regional Earthquake and Hazards specialist performs a variety of professional and technical assignments. The principal program to which this position will be assigned focuses on natural hazards and the

relationship with the built environment. Initiatives in that program include: (1) infrastructure and airport system assessment, housing vulnerability assessment, and transportation vulnerability assessment, (2) regional disaster resilience and long-term recovery planning focusing on economic, social, and physical systems, and (3) outreach and education to the public about earthquakes and other hazards and their potential impact. The program does not deal directly with disaster response.

This grant-funded, full-time, limited duration position is for three months. Potential for position extension based on available grant funds.

For information about the position, qualifications, and the application process, visit the ABAG website at <http://www.abag.ca.gov/jobs.html> . Deadline to apply is 5:00 p.m. on **February 28, 2014.**

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