



EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

Founded in 1948, EERI's mission is to reduce earthquake risk by (1) advancing the science and practice of earthquake engineering, (2) improving understanding of the impact of earthquakes on the physical, social, economic, political, and cultural environment, and (3) advocating comprehensive and realistic measures for reducing the harmful effects of earthquakes.

NEWS OF THE INSTITUTE

▶ Countdown to Old Cities, New Earthquakes

The 67th EERI Annual Meeting is the first ever held in Northeastern United States, and excitement is building for [Old Cities, New Earthquakes](#) in Boston, Massachusetts, March 31–April 3, 2015.

Tour the WTTTC wind blade test facility, take a FEMA training on Rapid Visual Screenings, explore the seismicity and hazard characteristics of Central and Eastern North America, hear the EERI Distinguished Lecture on the relationships of earthquakes to time, learn more about the new School Earthquake Safety Initiative, reconnect with old colleagues, make new acquaintances, and do much more at the 2015 EERI Annual Meeting.



Visit the [at-a-glance program](#) and start planning your time with us in historic Boston.

Visit the [2015 EERI Annual Meeting website to register now](#).

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▶ EERI Bylaws Amendments Approved

Eligible voting members of EERI overwhelmingly approved proposed amendments to the Institute's Bylaws in an active online vote that concluded February 15, 2015.

The approved changes fall into four categories: 1) adding two Appointed Directors to the Board to increase the diversity of opinions; 2) lengthening the term of Directors from one three-year term to two consecutive two-year terms; 3) clarification of individual and organizational membership types; and 4) updating the Bylaws to keep pace with technology, match current practice, improve timing of meetings and elections, and resolve language conflicts.

In 2014, the EERI Board of Directors established a working group to review the Institute's Bylaws. This review resulted in a number of recommended changes to the Bylaws, and the Board voted unanimously last December to recommend to the membership that the Bylaws of

the Institute be amended. Such amendments require an affirmative vote of two-thirds of ballots cast by eligible members (Article XIII). Ninety-five percent of the voting eligible members approved the set of recommended amendments, which went into effect on February 16, 2015.

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▶ EERI Outstanding Student Paper Awardees: Ashly Cabas and Laura Pavone

The purpose of the EERI Outstanding Student Papers Competition is to promote active involvement of students in earthquake engineering and the earthquake hazards community. Graduate and undergraduate students compete by submitting papers that are original work. The papers are judged based on their contribution to the field and their overall quality.

Each paper is ranked on technical merit, clarity of expression, and relevance for the earthquake engineering community. Following synthesis of individual judge rankings, the Student Activities Committee chooses undergraduate and graduate student winners.

The following students were awarded 2014 EERI Outstanding Graduate and Undergraduate Papers. Each paper will be reprinted in the 2015 EERI Annual Meeting Program and graduate student winner Ashly Cabas will present her paper at the meeting on Friday, April 3, 2015.

Graduate Student Paper Award

"Vs- κ Correction Factors for Input Ground Motions used in Seismic Site Response Analyses"

Ashly Cabas, Virginia Tech

Ashly Cabas (M. EERI, 2013) is a Ph.D. candidate in the department of Civil and Environmental Engineering at Virginia Tech (VT). She is part of the Geotechnical Engineering program, and her advisor is Dr. **Adrian Rodriguez-Marek** (M. EERI, 1999). Ashly's research focuses on improving the assessment of site-specific seismic hazards by achieving better predictions of site response, and quantifying the uncertainty introduced to the analysis by simplifying assumptions. Ashly completed her undergraduate studies in Universidad Católica Andrés Bello (UCAB) in Caracas, Venezuela, where she also worked as a civil engineer for nearly two years. She currently serves as the president of the EERI Student Chapter of VT, which will be hosting one of the EERI Friedman Family visiting professionals for the first time later this year. Upon completion of her Ph.D., Ashly would like to pursue a career in academia in the United States.



Ashly Cabas

Paper Abstract: Input motions used in seismic site response analyses (SRA) are commonly selected based on similarities between the shear wave velocity (V_s) at the recording station, and the reference depth at the site where such input motion will be applied. This traditional approach disregards the influence of the attenuation in the shallow crust, and the degree to which it can alter the estimates of site response. Given that this attenuation (or damping) is characterized by the high-frequency attenuation parameter kappa (κ), a Vs- κ correction framework for input motions is proposed to render them compatible with the assumed properties of the reference depth at the site (i.e., the depth at which the elastic half-space boundary (EHS) condition is assumed to apply). This methodology will allow records from stations with V_s values not as high as the one associated with the EHS boundary condition to be used in SRA without introducing systematic errors. The performance of the proposed Vs- κ correction factors was assessed by applying them to a subset of recordings from the KiK-net database and comparing them to more traditional deconvolution techniques. Results indicate that Vs- κ corrected motions outperform deconvolved motions in the characterization of the spectral energy in the high-frequency range. However, motions recorded at sites with very soft near surface deposits may not be good candidates for the Vs- κ correction approach. Additionally, stations with strong resonances should be disregarded as input motions for SRA because they introduce narrow-banded peaks that may not be representative of an outcropping rock motion.

Honorable Mention, Graduate Student Paper:

"Quasistatic Cyclic Testing of a Strongback System"

Barb Simpson, University of California, Berkeley

Undergraduate Student Paper Award

"Effect of Window Openings on Reinforced Concrete Frames with Masonry Infill"

Laura C. Pavone, University at Buffalo, The State University of New York

Laura C. Pavone is a senior at the University at Buffalo-SUNY in Buffalo, New York. After graduation she plans to continue her education at the Masters level in structural and earthquake engineering. In the summer before her senior year, Pavone participated in the Research Experience for Undergraduates program as part of the George E. Brown Jr. Network for Earthquake Engineering Simulation (NEES) at the University at Buffalo's (UB) Structural Engineering and Earthquake Simulation Laboratory. It was through this opportunity that Pavone wrote her winning paper.



Laura C. Pavone

Paper Abstract: Reinforced concrete (RC) frames with masonry infills are commonly found in many structures and their behavior during seismic activity has been studied by a number of researchers. However, the assessment of the seismic performance of these buildings is still rather difficult. Many of these structures contain window openings which have a rather significant effect on the overall strength and behavior of the structure, the extent to which has not yet been fully understood. This investigation addresses this issue by using finite element modeling to analyze the weak frame-weak infill and strong frame-strong infill combinations in order to better understand the effect the openings have on the behavior of the structure under lateral loads. The results of this study show a reduction of strength compared to the respective base model with solid infill, depending on the material properties, window size and location. The results of this study can be used to further improve the simplified methods of estimating the strength and behavior of RC frames with masonry infill.

To learn more about the EERI Outstanding Paper Award, visit the EERI website at <https://www.eeri.org/about-eeri/honors-awards/outstanding-paper-award/>

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NEWS OF THE PROFESSION

► Bray, Hamburger, and Nakashima Elected to NAE

Three longtime EERI members, each a past member of the Institute's Board, 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."



Jonathan D. Bray

Ron Hamburger

M. Nakashima

Jonathan D. Bray (M. EERI, 1990), faculty chair in earthquake engineering excellence and professor of geotechnical engineering at the

University of California, Berkeley, was recognized for contributions to earthquake engineering and advances in mitigation of surface faulting, liquefaction, and seismic slope failure. **Ronald O. Hamburger** (M. EERI, 1988), senior principal at Simpson Gumpertz & Heger, was recognized for advances in seismic design principles and practices for buildings through research and development of codes and guidelines.

For his large-scale dynamic testing of buildings that has advanced structural earthquake engineering, **Masayoshi Nakashima** (M. EERI, 1988), professor at the Disaster Prevention Research Institute at Kyoto University in Japan, was one of only 12 foreign members elected this year.

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

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► **NIST Awards Colorado State \$20 Million for Research Center to Help Communities Increase Resilience to Disaster**

The U.S. Department of Commerce's National Institute of Standards and Technology (NIST) announced on February 19, 2015, that it has awarded a \$20 million cooperative agreement to Colorado State University (CSU) to establish the Community Resilience Center of Excellence. Working with NIST researchers and partners from 10 other universities, the center will develop computer tools to help local governments decide how each can best invest resources intended to lessen the impact of extreme weather and other hazards on buildings and infrastructure and to recover rapidly in their aftermath.

John W. van de Lindt (M. EERI, 2000) CSU's George T. Abell Distinguished Professor of Infrastructure, serves as the center's principal investigator and co-director. Bruce Ellingwood, CSU professor of civil and environmental engineering, is the other co-director. Associate directors are Paolo Gardoni, associate professor of civil and environmental engineering at the University of Illinois at Urbana-Champaign, and Daniel Cox, professor of civil and construction engineering at Oregon State University.

The center's multi-disciplinary team includes experts in engineering, economics, data and computing, and social sciences from the University of Oklahoma, Rice University, Texas A&M University, the University of Washington, the University of South Alabama, the California Polytechnic University in Pomona and Texas A&M-Kingsville.

For more information, [read the NIST press release](#). 

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ANNOUNCEMENTS

► **Request for Qualifications - CSMIP 2015 Data Interpretation Projects**

The California Strong Motion Instrumentation Program (CSMIP) of the California Geological Survey in the Department of Conservation plans to fund several data interpretation projects for the analysis and interpretation of strong motion data recorded from earthquakes. These projects are intended to further understanding of strong ground shaking and the response of structures during earthquakes, and to increase the utilization of strong motion data in improving seismic code provisions, seismic design practices and post-earthquake response.

The CSMIP Program is soliciting for proposals from private engineering firms and universities to interpret and analyze the strong motion data on the topics given in the Request of Qualifications (RFQ). The RFQ includes a description of the data interpretation topics, the required proposal contents, and the contract conditions. Proposals must be received by CSMIP no later than **March 24, 2015**. To receive a copy of the RFQ, send an e-mail to Shirley Rowley at Shirley.Rowley@conservation.ca.gov, or contact CGS by phone at 1-916-322-3105.

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▶ 2015 NZSEE Annual Conference

The 2015 New Zealand Society for Earthquake Engineering (NZSEE) Annual Technical Conference will take place in Rotorua, New Zealand, **April 10–12, 2015**.

Over less than a century, New Zealand earthquake engineering has promoted advanced earthquake knowledge, pioneering technologies and new design philosophies. NZSEE and its members, then and now, have inspired new dimensions in earthquake science, design and engineering, and disaster planning, through vital collaboration across disciplines. This year's conference is dedicated to the memory of Dr. Ivan Skinner's lifetime contribution to the broad collaboration. EERI Members can register at NZSEE member rate.

Read more on the conference website: <http://confer.co.nz/nzsee2015/> 

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▶ 10th Pacific Conference on Earthquake Engineering, November 6–8, 2015

The Australian Earthquake Engineering Society and the New Zealand Society for Earthquake Engineering are co-hosting the Tenth Pacific Conference on Earthquake Engineering (PCEE) in Sydney, Australia. The conference, to be held **November 6–8, 2015**, provides a forum for practitioners and researchers to present and evaluate the latest developments and experience in mitigating the effects of earthquakes and earthquake related hazards. This conference will challenge participants to define how to work toward "Building an Earthquake Resilient Pacific" by re-evaluating the requirements of a truly resilient society. Special sessions will focus on building the social, economic and management aspects as well as the technical preparation required by the cascading system failures often observed during earthquakes. EERI Members can register at AEEES member rate.

Read more on the conference website: <http://www.aees.org.au/10pcee/> 

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PUBLICATIONS

▶ Earthquake Spectra: Preprint Manuscripts

Two additional preprint manuscripts have been posted on the *Earthquake Spectra* website prior to formal publication. The papers to be published are:

**EARTHQUAKE
SPECTRA**

- "United States earthquake policy activity and coverage" by **Scott Miles** (M. EERI, 2009) and Brian Gouran.
- "Subsurface shear-wave velocity characterization using P-wave seismograms in Central and Eastern North America" by **Byungmin Kim** (M. EERI, 2014), **Youssef M. A. Hashash** (M. EERI, 1999), **Ellen M. Rathje** (M. EERI, 1996), **Jonathan P. Stewart** (M. EERI, 1994), **Sidao Ni** (M. EERI, 2014), **Paul G. Somerville** (M. EERI, 1983), **Albert R. Kottke** (M. EERI, 2004), **Walter J. Silva** (M. EERI, 1988), and **Kenneth W. Campbell** (M. EERI, 1975)

To read all current preprint manuscripts posted, visit [Earthquake Spectra preprints](#). [↗](#)

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▶ Change in Earthquake Spectra Publication Procedures

A small change was made to the submission guidelines for *Earthquake Spectra*: As of March 1, 2015, all papers submitted for review should include line numbering in order to make it easier for reviewers to comment on specific passages and sections in a paper. Authors submitting a new manuscript for review should make sure that line numbering is turned on in the manuscript file.

The Publication Procedures ([Download PDF](#) [↗](#)) and Manuscript Template ([Download Word template](#) [↗](#)) files have been updated accordingly.

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▶ Seismological Research Letters - Focus Section

The March/April issue of the Seismological Society of America's *Seismological Research Letters* has a focus section dedicated to the "24 August 2014 Magnitude 6.0 South Napa Earthquake," guest edited by Erol Kalkan. The focus section contains a special collection of six technical papers. These papers cover different aspects of the South Napa earthquake from seismological, geodetic, geological, and engineering perspectives.

The issue is now available online at <http://www.seismosoc.org/publications/srl/srl-toc.php> [↗](#)

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PROFESSIONAL OPPORTUNITIES

▶ GEM Foundation Job Opportunity - Secretary General

The Global Earthquake Model (GEM) Foundation invites applications for the position of Secretary General, GEM's organizational leader and chief executive. The position is based in Pavia, Italy.

The role of Secretary General has a predominantly external focus, with the responsibility to grow the organization's leadership in collaborative assessment and reduction of earthquake risk. The successful candidate will demonstrate an extensive track-record of success leading organizations or international initiatives in the domain of science policy or risk reduction.

The GEM Foundation drives a global collaborative effort on development of open, accessible tools and information for transparent earthquake risk assessment worldwide and facilitates their use to help inform better policy and action for disaster risk reduction. See www.globalquakemodel.org for more information on GEM and the GEM Foundation.

The position is full-time and deadline for applications is **April 15, 2015**. Further details and application instructions can be [found here \(PDF\)](#)

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25 WAYS TO GET INVOLVED

▶ Get Involved with EERI

Looking to be more involved with EERI? We've come up with a list of opportunities for members. Each edition of *The Pulse* will highlight a way to get involved with EERI. [Download the 25 Ways flyer](#) (PDF)



This issue, we'll start with an easy one you're doing right now:

#10: Read *The Pulse*, EERI's online newsletter.

And you can do more than read. Submit content for consideration. Let us know what you like, and what you don't, and how *The Pulse* can best serve your needs and EERI's mission. Contact us at pulse@eeri.org

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CALENDAR

Follow these steps to add EERI Calendar to your own Google calendar.

1. Open [Google Calendar](#)
2. On the left, above "My Calendars," click Add + and then **From URL**.
3. Enter the EERI calendar's address in the field provided. EERI Calendar ics link
https://calendar.google.com/calendar/ical/eeri.org_s9151tit0ab26dnf2epn25d7rg%40group.calendar.google.com/public/basic.ics
4. Click **Add Calendar**. The calendar will appear on the left side under "Other calendars."

Tuesday, October 29, 2019 - October 30

APGCE

The Asia Petroleum Geoscience Conference & Exhibition (APGCE)

29 – 30 October 2019

KUALA LUMPUR CONVENTION CENTRE, MALAYSIA

[REGISTER](#)

Monday, December 09, 2019 - December 13

AGU 2019 Fall Meeting

9-13 December 2019 San Francisco, California

Tuesday, March 03, 2020 - March 06

EERI 2020 Annual Meeting/Natl EQ Conference

National Earthquake Conference & 72nd EERI Annual Meeting

March 3 - 6, 2020

Sheraton San Diego Hotel & Marina

San Diego, California

[website](#)

Wednesday, March 04, 2020 - March 06

2020 RBDCC

5th Residential Building Design & Construction Conference (RBDCC)

Hosted by The Pennsylvania Housing Research Center

March 4-6, 2020

Penn Stater Conference Center

State College, PA.

[website](#)

Monday, April 27, 2020 - April 30

SSA 2020 Annual Meeting

SSA 2020 Annual Meeting

27-30 April 2020 — Albuquerque, New Mexico

The 2020 Annual Meeting will be held in Albuquerque, New Mexico.

[Check back later for more information.](#)

Monday, September 14, 2020 - September 18

17th WCEE

The 17th WCEE will be hosted in Sendai, Japan, from September 14th to 18th 2020. Check <http://www.iaee.or.jp/> for more information.



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