

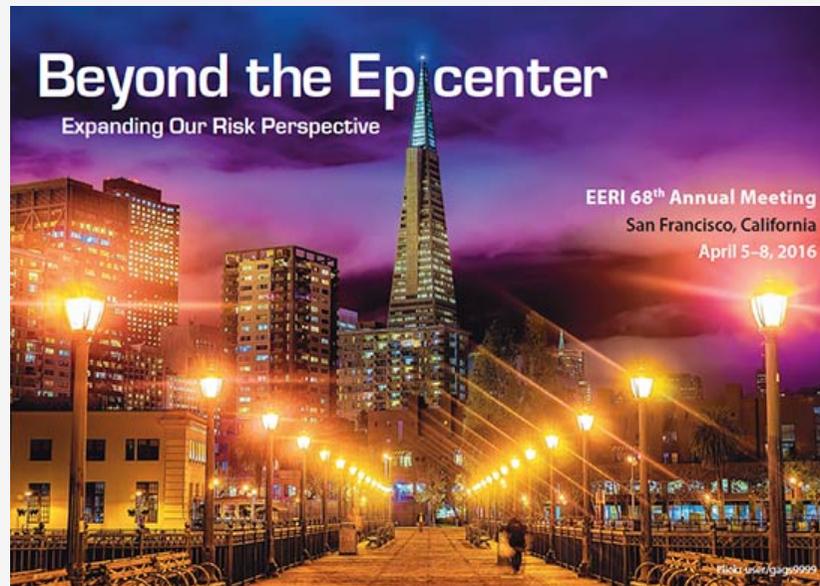


## EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

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

#### ▶ 2016 EERI Annual Meeting - Registration Open



The Earthquake Engineering Research Institute will hold its 68th Annual Meeting, April 5–8, 2016, in San Francisco, California.

Registration and full program details are now available on the [2016 Annual Meeting website](#). With a theme of "Beyond the Epicenter: Expanding Our Risk Perspective," the meeting program will delve into unanticipated effects, blind spots, and new insights in earthquake engineering.

For program, logistic, and registration details, visit the [2016 Annual Meeting website](#).

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## ▶ Washington State School Assessment Project Receives Attention



*A geologist from the Washington Department of Natural Resources receives some input from Thurston County students.*

Efforts underway by EERI volunteers and other regional engineering societies to assess the earthquake safety of school buildings in Washington State recently received coverage from National Public Radio, the Seattle Times, and other Northwest media outlets.

The project in Thurston County, Washington, consists of a partnership between the state and county's emergency management departments, Degenkolb Engineers, local school districts, the Washington Office of Superintendent of Public Instruction, the Washington Department of Natural Resources, FEMA, EERI, and volunteer engineers from EERI and the Structural Engineers Association of Washington. The engineers visited approximately 15 schools to evaluate and assess seismic safety of their buildings, while geologists measured the near-surface geology conditions at schools in the participating school districts.

The volunteer engineers examined both structural and non-structural deficiencies through the use of the ASCE 41-13 Seismic Evaluation and Retrofit of Existing Buildings preliminary assessment protocols. This preliminary assessment included both visual observations during visits to the school buildings and a review of building construction drawings. The results from the preliminary assessment by the volunteer engineers and the site characteristics measured by the WA DNR team geologists will be used in a HAZUS risk assessment study being conducted by FEMA Region 10. The combination of the ASCE Seismic Evaluation and the HAZUS results will provide the necessary knowledge for school districts to determine which buildings provide an adequate level of safety and which buildings do not. The results will support the development mitigation strategies to retrofit or replace the buildings with the highest risk, and help districts prioritize resources.

"We hope that our volunteer engineers can give Thurston County and its school district administrators a better understanding of their earthquake risk portfolio," said Structural Engineer **Cale Ash** (M. EERI, 2003), who is managing the project with funding from FEMA. "We will be using these assessments to identify possible earthquake vulnerabilities, while also introducing possible mitigation solutions that could increase safety for building occupants."

[Schools get tested on their seismic safety — with kids' help](#) [↗](#) (Seattle Times)

[Washington, Oregon Striving To Make Schools Earthquake Safe](#) [↗](#) (NW Public Radio)

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## ▶ 2015 EERI Distinguished Lecture Online

If you haven't had an opportunity to see "Cities, Earthquake, and Time," the 2015 EERI Distinguished Lecture by **Robert Olshansky** (M. EERI, 1987), the video of his November 19, 2015, presentation to the EERI Northern California Chapter is now available on the Pacific Earthquake Engineering Research center's YouTube Channel: [Watch the Video](#) 



Robert Olshansky

The EERI Distinguished Lecture Award is given to members of the Institute to recognize and encourage communication of outstanding professional contributions of major importance for earthquake hazard mitigation. In 2015, Professor Olshansky has so far delivered the lecture to hundreds of individuals through EERI Student and Regional Chapters across the country.

Abstract: Earthquakes occur suddenly, in a brief instant of time. But their effects—and the actions we take to reduce their effects—stretch over many years. In this talk, I explore some of the characteristics of the relationship between earthquakes and time. More importantly, I explain how these various time characteristics affect policy decisions. I draw four policy conclusions from this rumination on time, relating to: mitigation, speed and quality of recovery, planning for resilience, and construction standards.

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## ▶ EERI Endowment Donors

EERI would like to thank donors to the Endowment Fund and acknowledge their recent contributions. EERI's Endowment supports innovative projects that assure the Institute's continuing leadership in the earthquake engineering profession.

*The list below reflects donations that the Institute received in December 2015.*

<b>\$5000</b>	<b>\$280</b>	<b>\$100</b>
The Blume Foundation	T. Leslie Youd	Jeff Bond
<b>\$3000</b>	<b>\$200</b>	Jonathan Bray
David Friedman and Paulette Meyer	A.J. Eggenberger Ugo Morelli Solveig Thorvaldsdottir	Kubilay Hicyilmaz Joseph Maffei Maurice Power
<b>\$1000</b>	<b>\$125</b>	<b>Other Amounts</b>
Robert Hanson	Tim Hart	Hal Cain Claudio Chesi Sohrab Esfandiari Bozidar Stojadinovic

Thank you for your support!

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[Back to top >](#)

## NEWS OF THE PROFESSION

▶ [Links to Recent News and Views](#)

Ten recent stories, reports, or opinions from around the Web:

- 1 Geologist: Oklahoma's earthquake problem 'only going to get worse'** (Al Jazeera America) OSU professor says regulatory choices made decades ago set state up. <http://america.aljazeera.com> 
  - 2 Companies asking Oklahoma judge to toss earthquake lawsuit** (Fire Engineering) Woman claims she was injured in an earthquake caused by injection of wastewater into the ground. <http://www.fireengineering.com> 
  - 3 Christchurch's new building skins** (The Press) Copper is perhaps the most successful building material that's popping up in the Christchurch central city rebuild. There's at least one downside, however. <http://www.stuff.co.nz> 
  - 4 Earthquake rubble dump to expand** (The Press) Christchurch's earthquake dump unlikely to close until 2021—four years later than originally planned. <http://www.stuff.co.nz> 
  - 5 What Can Australia Learn from the Christchurch Rebuild?** (Sourceable) Examining a disaster's applicable lessons in building, engineering, and leadership. <https://sourceable.net> 
  - 6 Tourists photos show Japanese region destroyed by earthquake and tsunami** (Daily Mail) "Disaster tourists" document northeast Japan five years after disaster. <http://www.dailymail.co.uk> 
  - 7 Scientists develop 'Shazam for earthquakes'** (Phys.Org) An algorithm inspired by a popular song-matching app is helping Stanford scientists find previously overlooked earthquakes in large databases of ground motion measurements. <http://phys.org> 
  - 8 West Hollywood to catalog every building for earthquake risk** (Los Angeles Times) City officials hire engineering firm to inventory over 6,000 buildings. <http://www.latimes.com> 
  - 9 "Seismic Psychic" Wrong Again** (Express) Predictor of "world-changing" earthquake silent after mega-tremor fails to materialize. <http://www.express.co.uk> 
- (And meanwhile...)
- 10 UW seismologists lack funding to make Earthquake Early Warning system public** (The Daily) Waiting on Congress to act: "We don't want this to be on the budget chopping block every few years." <http://www.dailyuw.com> 

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[Back to top >](#)

## CHAPTER SPOTLIGHT

- ▶ [EERI-NYNE Chapter Brings Together Students and Consulting Firms in New York](#)



Students, professors, and professionals touring Arthur Ashe Stadium at the United States Tennis Association campus. EERI subscribing member firms [WSP](#) and [MRCE](#) addressed the particular seismic design challenges of the roof structure.

On November 20–21, 2015, the New York-Northeast Chapter of EERI (EERI-NYNE) brought 25 students from the Civil, Structural and Environmental Engineering (CSEE) Department of the University at Buffalo (UB) to visit five consulting engineering firms and three construction sites in the New York metropolitan area.

Organized by EERI-NYNE in collaboration with **Andreas Stavridis** (M. EERI, 2004) of the University at Buffalo, the multi-day event introduced students to engineering firms and the consulting engineering culture, while enhancing their education with exposure to real-world large-scale projects presented onsite by designers and contractors. This pilot event also fostered relations between the university and practicing firms to develop direct links for internship and employment placement. The trip was attended by 22 Reinforced Concrete Design seniors and three graduate students, all of whom were speed-interviewed by the participating firms.

A fuller report on the UB Field Trip to New York City will be featured in the next *Pulse* newsletter.

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[Back to top >](#)

## ANNOUNCEMENTS

### ▶ ATC and SEI Announce Winners of the 2015 Champions of Earthquake Resilience Awards:

The Applied Technology Council (ATC) and the Structural Engineering Institute (SEI) of the American Society of Civil Engineers presented the winners of the 2015 Champions of Earthquake Resilience Awards during the *ATC-SEI 2nd Conference on Improving Seismic Performance of Existing Buildings and Other Structures* on December 11, 2015.

The awards recognize and publicize innovative earthquake engineering programs and projects that have (or will have) substantial impact on public safety and property loss reduction. Winners were selected by a jury commissioned by ATC and SEI following a call for nominations distributed to more than 50,000 structural engineering and earthquake hazard reduction professionals in the United States, Canada, and other countries.

"We are honored to be able to publicly recognize these community, regional, and national programs and projects, and the organizations and agencies that created them, for the extraordinary contributions they will make in saving lives and property from the devastating effects of earthquakes," said **Christopher Rojahn** (M. EERI, 1973), Director Emeritus of the Applied Technology Council, who announced the awards.

[View the complete list of award winners](#) 

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### ▶ **Reminder: National Awards in Excellence Nominations Due Jan 4**

Nominations are now being accepted for the National Awards in Excellence, which recognize organizations and agencies in acknowledgment of their achievements as demonstrated through exemplary programs, projects, and products that address earthquake risk reduction within the United States.



The National Awards in Excellence are awarded every four years by a partnership of the Western States Seismic Policy Council (WSSPC), the Northeast States Emergency Consortium (NESEC), the Central U.S. Earthquake Consortium (CUSEC), and the Cascadia Region Earthquake Workgroup (CREW). Awards are considered in the categories of mitigation, response and recovery, plans/materials, research, multi-jurisdictional planning, and overall programs. Winners are honored at the [National Earthquake Conference](#)  in Long Beach, California, May 4-6, 2016.

The nomination period will close **January 4, 2016**. More information, guidelines, and nomination submission forms are available at <http://www.wsspc.org/awards/call-nominations/> 

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[Back to top >](#)

## PUBLICATIONS

### ▶ **Earthquake Spectra: November 2015 Issue**

The November 2015 issue of *Earthquake Spectra* (volume 31, issue 4) is now available online at <http://earthquakespectra.org/toc/eqsa/31/4> 

Print copies of the new issue of *Earthquake Spectra* have been mailed, and you may order additional copies at <https://www.eeri.org/earthquake-spectra/> 

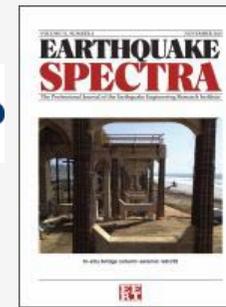
In addition to traditional research manuscripts, this issue includes the publication of three Data Papers and a Technical Note. Later this month, the special issue on the USGS Seismic Hazard Maps will also be published online and in print.

If you have questions about this, or any issue, contact Managing Editor Liz Stalnaker at [liz@eeri.org](mailto:liz@eeri.org)

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## ▶ NEHRP Technical Briefs

Among key outputs of its National Earthquake Hazards Reduction Program (NEHRP) research since 2006, the National Institute of Standards and Technology (NIST) has produced through contractors at the Applied Technology Council (ATC) and Consortium of Universities for Research in Earthquake Engineering (CUREE), a series of concise technical briefs on practical issues related to earthquake-resistant design of buildings.



These compact volumes are authored by leading practitioners and researchers, and they combine summaries of code and standard requirements, latest research results, and design and construction experience. NIST continues to develop new briefs and update existing ones as needed.

To date, eleven guides for practicing engineers have been produced:

- *Seismic Design of Reinforced Concrete Moment Frames* (NIST GCR 8-917-1)
- *Seismic Design of Steel Special Moment Frames* (NIST GCR 09-917-3)
- *Seismic Design of Cast-in-Place Concrete Diaphragms, Chords, and Collectors* (NIST GCR 10-917-4)
- *Nonlinear Structural Analysis for Seismic Design* (NIST GCR 10-917-5)
- *Seismic Design of Composite Steel Deck and Concrete-Filled Diaphragms* (NIST GCR 11-917-10)
- *Seismic Design of Cast-in-Place Concrete Special Structural Walls and Coupling Beams* (NIST GCR 11-917-11REV-1)
- *Seismic Design of Reinforced Concrete Mat Foundations* (NIST GCR 12-917-22)
- *Seismic Design of Steel Special Concentrically Braced Frame Systems* (NIST GCR 13-917-24)
- *Seismic Design of Special Reinforced Masonry Shear Walls* (NIST GCR 14-917-31)
- *Seismic Design of Wood Light-Frame Structural Diaphragm Systems* (NIST GCR 14-917-32)
- *Seismic Design of Steel Buckling-Restrained Braced Frames* (NIST GCR 15-917-34)

Electronic files of all of these technical briefs may be downloaded from <http://www.nehrp.gov/library/techbriefs.htm>

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## ▶ Earthquake Spectra: Preprint Manuscripts

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



- "Response Spectra of the Ground Motion and Building Foundation Vibrations Excited by Rockbursts in the LGC Region" by Edward Maciag, Krystyna Kuzniar, and Tadeusz Tatar.
- "Quantifying Directional Dependencies from Infrastructure Restoration Data" by Conrad R. Zorn and Asaad Y. Shamseldin.
- "Comparison of Equivalent Linear and Nonlinear Site Response Analysis Results and Model to Estimate Maximum Shear Strain" by Brian Carlton and **Kohji Tokimatsu** (M. EERI, 1994).

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

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## MEMBER SPOTLIGHT

### ▶ Welcome New EERI Members

EERI welcomes the members who have recently joined the Institute. If you wish to connect with your fellow members, you can locate their contact information in the [EERI online membership directory](#), which requires logging in to the Member Resources Area of the EERI website.

#### STUDENT MEMBERS

Christine Aumueller, University of Natural Resources & Life Science, *Structural*

Randall Castain, San Jose State University, *Civil*

Rohit Dahiya, Amity University Noida, *Structural*

Ashley Gaur, Cal Poly San Luis Obispo, *Structural*

Nathan Jo, Cal Poly Pomona, *Structural*

Daniel McLoughney, University of MA - Amherst, *Civil*

Daniela Rincon, University of Wisconsin - Madison, *Structural*

Luis Sousa, University of Porto, *Risk Analysis*

Mareeya Tongkul, University of California Irvine, *Civil*

Michael Williams, UCLA, *Mechanical*

Han Xiao, University of Wisconsin - Madison, *Civil*

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[Back to top >](#)

## 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 do more.

[Download the 25 Ways flyer](#)  (PDF)

**25WAYS**

#### **#18: Work with international colleagues to develop a new World Housing report for their country**

The [World Housing Encyclopedia \(WHE\)](#) is a collection of resources related to housing construction practices in seismically active areas of the world. The mission is to share experiences with different construction types and encourage the use of earthquake-resistant technologies worldwide.

[View the database of WHE reports](#) in 43 countries, and [work with colleagues to contribute your own report](#).

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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](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](#)

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Monday, December 09, 2019 - December 13

### **AGU 2019 Fall Meeting**

9-13 December 2019 San Francisco, California

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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](#)

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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](#)

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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.](#)

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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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