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

Reid Zimmerman to Receive EERI 2018 Shah Family Innovation Prize

With a generous gift from the Shah family, EERI annually awards the Shah Family Innovation Prize. This prize rewards younger professionals and academics for creativity, innovation and entrepreneurial spirit in the field of earthquake risk mitigation and management. EERI congratulates Reid Zimmerman (M.EERI,2013), the 2018 recipient of the Shah Family Innovation Prize. Presentation of the Shah Prize will take place Thursday, March 7, 2019 at the EERI Honors Ceremony and Annual Business Meeting in Vancouver, British Columbia.

Reid has focused his career on performance-based seismic design and advanced structural systems (e.g., seismic isolation, energy dissipation, rocking/re-centering, and low-damage systems), previously at Rutherford + Chekene in San Francisco, CA and currently at KPFF Consulting Engineers in Portland, Oregon. He is known for collaboration on applied research with universities and translating this research into state-of-the-art, innovative technologies for professional practice. Most recently, Reid is helping advance the profession’s understanding and application of mass timber seismic force-resisting systems such as cross-laminated timber (CLT) rocking walls. He is also expanding the use of the FEMA P-58 method and the United States Resiliency Council rating system for building owner decision-making.

Reid has been and continues to be an active member of code development and seismic initiative committees. He has contributed significantly to the nonlinear analysis, seismic isolation, and energy dissipation provisions in past cycles of ASCE 7 and ASCE 41. Reid recently served as the structural engineering representative for the Oregon Structural Specialty Code Review Committee, advising the building codes
division on adoption of the 2019 Oregon building code. Locally, he was involved in the multi-year effort to define the technical standards and eventual policy brought to City Council in 2018 for the City of Portland's unreinforced masonry retrofit program. Reid is the current chair of the Seismic Committee of the Structural Engineers Association of Oregon.

Reid earned his Bachelor of Science in Civil and Environmental Engineering and Master of Science in Structural Engineering, Mechanics and Materials from the University of California Berkeley. His work has been featured in publications including *Earthquake Spectra, The Journal of Structural Engineering*, numerous conference proceedings, *STRUCTURE* magazine, and *The Atlantic*.

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**Meet the 2018-2019 EERI/FEMA NEHRP Graduate Fellows in Earthquake Hazard Reduction**

The Institute has selected **Anne Hulsey** (M.EERI,2012) and **Trevor Carey** (M.EERI,2013) as 2018-2019 EERI/FEMA NEHRP Graduate Fellows. The one-year fellowship, underwritten with funds provided by the Federal Emergency Management Agency, is designed to foster the participation of capable individuals in working toward goals and activities of the National Earthquake Hazards Reduction Program. The Institute looks forward to highlighting the Fellows' research at the EERI 2019 Annual Meeting. To learn more about the EERI/FEMA NEHRP Graduate Fellowship click here.

**Anne Hulsey**  
PhD Candidate  
Stanford University

Anne Hulsey performs earthquake engineering research in order to support communities as they develop resilience strategies. She is currently a PhD candidate in structural engineering at Stanford University, studying how damage to individual buildings has the potential to influence the broader neighborhood (and vice versa). Anne's previous graduate work was at The University of Texas, including a master’s degree from the LBJ School of Public Affairs.

Anne has been involved in EERI since 2012 and has served as president and treasurer for the student chapters at UT and Stanford, respectively. She currently sits on the board of directors for the Northern California chapter and will be participating in the Learning From Earthquake Travel Study Program to New Zealand later this year.

**Trevor Carey**  
PhD Student in Geotechnical Engineering  
University of California, Davis
Trevor Carey’s doctoral research focuses on the validation of numerical models used to predict soil liquefaction. His work is part of a larger international collaborative project titled, Liquefaction Experiments and Analysis Projects (LEAP). This project uses replica centrifuge experiments from different centrifuge facilities around the world to generate high quality data that can be used for model validation. Trevor’s contributions to this work have been designing and performing centrifuge experiments, developing new hardware for the centrifuge testing, and archiving processed data. The latest LEAP data set is available for validation of numerical models in the NHERI Design Safe-CI Data Depot.

Younger Members Award to be Presented to Xin Ma

The purpose of the Younger Members Award (YMA) is to recognize a younger member who has demonstrated exceptional engagement and contributions to the EERI Younger Members Committee (YMC) and also to other EERI programs, committees, and projects. Presentation of the YMA Award will take place Thursday, March 7, 2019 at the EERI Honors Ceremony and Annual Business Meeting in Vancouver, British Columbia.

Xin Ma (M.EERI,2016) is a Geotechnical Engineer with the Geotechnical & Tunneling Technical Excellence Center of WSP USA in NYC. Her main areas of expertise include performance and risk-based design, seismic hazard analysis, geotechnical field investigations, construction support systems, and slope stability analysis. In her career as an engineer, she has worked on projects in New York City and Mexico City including a massive tunnel transportation project, an airport terminal building and break water design for disaster prevention.

Ms. Ma earned her bachelor's degree in civil and mineral engineering from the University of Toronto in Canada. She pursued her master's degree in geo-systems engineering at the University of California, Berkeley, and she was part of an exchange program in Japan at Waseda University.

EERI 2019 Annual Meeting
We are very excited about EERI's upcoming 2019 Annual Meeting, and encourage you to register now if you haven't already done so. It's just a few weeks away! New technical sessions, speakers, interactive workshops, and program details have been recently added to the website. Listed below are a few highlights, but there is much more to see and do. Click here to view the full program.

Topics include:

- New Technologies and Instrumentation
- Public Education, Emergency Preparedness and Understanding Risk
- Improving New and Existing Building Performance
- Post-Earthquake Response and Recovery
- Utilities and Infrastructure; including Geotechnical
- Policy, Insurance and Funding Incentives, Resilience Plans

Sessions include:

- EERI 2019 Distinguished Lecture: *Liquefaction: Lessons, Challenges and Opportunities*. Speaker: Ross Boulanger, UC Davis
- Joyner Lecture: *Simulating Realistic Earthquake Ground Motions*. Speaker: Robert W. Graves, USGS
- Improving New Building Performance - Codes vs. Cost/Benefit Data vs. Resilience Ratings
- What are the Thresholds of Disaster Recovery? Connecting the dots between theory, models and practice
- Performance Based Design and Resiliency of Utilities & Bridges
- Learning from Earthquakes: Lessons and Impacts from recent earthquakes in Northern Haiti, the Dominican Republic, and Indonesia
Learning from Earthquakes: M7.0 Anchorage, Alaska Earthquake
Exploring the LFE Resilience Reconnaissance Framework in the Context of the Puebla-Morelos Earthquake
Recent Legislative Policy Outcomes in Support of Earthquake Risk Reduction
Measuring the Resilience of Businesses after Earthquakes

This is only a fraction of what's on the schedule. The wealth of knowledge offered over the course of just a few days on such a critical topic is immeasurable! We hope to see you there.
To register for the meeting, please click here.

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Earthquake Spectra: February 2019 issue now available

The February 2019 issue of Earthquake Spectra (Vol. 35 Issue 1) is now available online: click here

Print copies of the new issue of Earthquake Spectra have been mailed, and you may order additional copies as well as past issues from the EERI Knowledge Center & Online Store.

Some highlights of this issue include the manuscripts:

- "Ground Motion Model for Small-to-Moderate Earthquakes in Texas, Oklahoma, and Kansas" by Georgios Zalachoris and Ellen M. Rathje (M.EERI,1996)
- "MEMS Accelerometer Mini-Array (MAMA): A Low-Cost Implementation for Earthquake Early Warning Enhancement" by Ran N. Nof, Angela I. Chung, Horst Rademacher, Lori Dengler (M.EERI,1998) and Richard M. Allen
- "Correlation of Spectral Acceleration Values of Mainshock-Aftershock Ground Motion Pairs" by Athanasios N. Papadopoulos (M.EERI,2017), Mohsen Kohrangi and Paolo Bazzurro
- "Development and Application of FEMA P-58 Compatible Story Loss Functions" by Athanasios N. Papadopoulos (M.EERI,2017), Dimitrios Vamvatsikos (M.EERI,2002) and Athanasia K. Kazantzi
EERI PROGRAM NEWS

ConVERTed: EERI Team Takes Virtual Reconnaissance in a New Direction

EERI's Virtual Earthquake Reconnaissance Team (VERT) is the subject of an article by Jolie Breeden that was published January 31, 2019 on the Natural Hazards Center website. An excerpt is reprinted below with a link to the original article:

After disasters, the information gained from early reconnaissance efforts can be invaluable to responders and researchers alike. The problem is, often times reconnaissance requires reconnaissance. Luckily, there's a team for that.

Within hours of a disaster, the Earthquake Engineering Research Institute (EERI) can deploy a team of investigators from around the world to collect information ranging from the general characteristics of the event to the specifics of how a particular school was affected. And they never have to leave their desk.

This is VERT—the Virtual Earthquake Reconnaissance Team—a group of mostly new professionals and students that work remotely to apprise decisions being made on the ground.

“It’s like drinking from a firehose after one of these events,” said Erica Fischer (M.EERI,2010), a civil and construction engineering professor at Oregon State University and co-chair of VERT. “The goal is to inform reconnaissance teams. That way their time in the field is more...
Virtual reconnaissance isn’t necessarily a new concept, Fischer said, but there are several ways that VERT is moving in new directions. One of those is by streamlining the method for bringing together teams and collecting information, so that members are able to activate quickly, coordinate with each other effectively, and collect data consistently.

For instance, when a magnitude 7.0 earthquake struck near Anchorage, Alaska, on the morning of November 30, VERT issued a call to gather data. By that afternoon, 30 of the group’s 150 members where compiling information in topic areas that included lifeline performance, emergency response, tsunami warnings, hospitals, geotechnical damage, transportation networks, schools, and housing.

The data is collected from a wide swath of information sources—official documents, news reports, social media, and on-the-ground reports from other EERI members. With two or three people collecting data in standardized topic areas, the team assures output that can later be used across different disaster events.

To read the complete article, please click here.

Photo: Damage from the November 30, 2018, Anchorage Earthquake ©Patrick Murran, SOM, 2018. Photos are one of many resources collected by VERT volunteers.

EERI Job Opportunity: Membership and Communications Manager

The Earthquake Engineering Research Institute (EERI) is seeking a proactive, creative, experienced, and technology-aware Membership and Communications Manager. This person will be a primary liaison with our approximately 3,000 members with lead responsibility to design, implement, and assess our membership retention and recruitment campaigns. The Membership and Communications Manager will also be responsible for developing and deploying an integrated communications plan to increase the overall branding, visibility and reach of the Institute to its members, other stakeholders, and the public.

The Membership and Communications Manager must be self-motivated, flexible, an excellent communicator, and an outstanding team player. This position requires someone eager to use our data and their knowledge of industry trends to develop innovative strategies then deliver on that vision by completing necessary tasks from simple to complex. Strong planning and organizational skills are essential because activities will vary in scope, timeline, and team size. Experience with membership development and retention is necessary, preferably with a nonprofit association.
To view the full job description including job duties, desired qualifications, compensation and benefits, please [click here](#).

Application Instructions: Candidates should send a letter of interest and resume with supporting qualifications to [jobs@eeri.org](mailto:jobs@eeri.org). All applications will be kept in strictest confidence. No calls please.

Application Deadline: March 10, 2019 or until filled.

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**USGS recruiting Senior Science Advisor to coordinate earthquake and geologic hazards activities**

The U.S. Geological Survey (USGS) is seeking to fill one of its most critical leadership positions for carrying out our natural hazards mission. The Senior Science Advisor for Earthquake and Geologic Hazards is a Senior Level (SL) position reporting to the USGS Associate Director for Natural Hazards. The position serves as coordinator of the Earthquake Hazards Program (EHP), Geomagnetism Program, and the USGS portion of the Global Seismographic Network (GSN). These three programs collectively had an appropriated budget of about $92 million in fiscal year 2018, funding work at regionally managed USGS science centers as well as by university and state partners. The EHP and GSN represent the USGS contributions to the four-agency National Earthquake Hazards Reduction Program (NEHRP), which was recently reauthorized by Congress. The USGS Geomagnetism Program is the USGS contribution to the multi-agency National Space Weather Program.

This position also has broad responsibility within our Natural Hazards Mission Area to guide the breadth of USGS geologic hazards work, ensuring strong coordination with the activities supported by our volcano, landslide and coastal/marine programs along with the many other hazard-related activities supported throughout the Survey. In addition to internal program management responsibilities, the Senior Science Advisor is an ambassador for the USGS to our many partners and stakeholders in the US and around the world.


Applications will be accepted until March 18.

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**OSU Research Fellowships for Undergraduates**
Applications due March 31, 2019

Oregon State University is excited to announce summer internships for undergraduate students interested in research experience. The Engineering for Bouncing Back (EBB) program will award approximately 10 fellowships of $5,000 per student, along with travel and subsistence support, to support participation in hands-on research in the interdisciplinary area of Resilience. During the ten-week program, students will work with a faculty mentor and graduate student on a specific project and will develop research skills to increase graduate school opportunities. To learn more or apply please visit the webpage.

REGIONAL CHAPTER NEWS

EERI Washington Regional Chapter Elects New Board Members

The Washington State Regional Chapter has announced new Board members:

Kyle Steuck, President
Erik Bishop, Treasurer
Menzer Pehlivan, Secretary
David Gonzalez, Past President
Mark Piepkekarz, Director
Andrew Makdisi, Director
The Chapter would like to thank the following directors that have completed their terms for their service: Dr. Scott Miles, Dr. Steve Kramer, and Dr. Lynn Salvati.

Does your Regional Chapter have news or events to report in the Pulse? Email pulse@eeri.org.

EERI Younger Members to Present ACI Webinar on Feb. 21

**ACI Webinar: Innovation in Concrete Construction: Use of New Technology in Post-Extreme Event Reconnaissance**

**DATE:** February 21, 2019  
**TIME:** 1:00 pm to 2:00 pm EST  
**PRESENTERS:** Anahid Behrouzi (M.EERI,2013), Erica Fischer (M.EERI,2010), Stephanie German Paal (M.EERI,2010), and Anne Ellis

**REGISTER FOR THE WEBINAR**

Description: Post-Extreme event, social media has become a powerful tool to inform those organizing the response. Social media also provides a means of rapid and reliable data collection key to documenting structural engineering effects. Panelists will share industry efforts to build capacity for reliable post-event reconnaissance. Additionally, panelists will demonstrate how collected data is leveraged utilizing new technologies to advance research and practice.

This webinar is offered by the American Concrete Institute (ACI). For more information, including CEC/CEU requirements, please visit the website.
New PEER Report Available


View the Report

NEWS OF THE PROFESSION

Links to Recent News & Views

Seven (7) recent news articles, stories, opinions and reports from around the web.

1. Inside the Plan to Prepare the Pacific Northwest for a Catastrophic Earthquake (Gizmodo) A new bill—HR 876, the Pacific Northwest Earthquake Preparedness Act of 2019—is the latest sign that the idea of an early warning system for the Pacific Northwest’s version of the “Big One” is gaining traction. Read more

2. House Passes Bill to Fund Early Earthquake Warning System (The News-Review) The U.S. House of Representatives passed legislation Feb. 6 that would fund an earthquake early warning system. H.R. 876 requires the Federal Emergency Management Agency to develop a plan to purchase and install an early warning system. It also directs the president to establish an Earthquake and Tsunami Task Force to study the issue and make recommendations about how to plan for an earthquake and handle the aftermath if one occurs. Read more

3. Dark Fiber Lays Groundwork for Long-Distance Earthquake Detection and Groundwater Mapping (Science Daily) Researchers at the U.S. Department of Energy's Lawrence Berkeley National Laboratory (Berkeley Lab) have turned parts of a 13,000-mile-long testbed of 'dark fiber', unused fiber-optic cable, owned by the DOE Energy Sciences Network (ESnet), into a highly sensitive seismic activity sensor that could potentially augment the performance of earthquake early warning systems currently being developed in the western United States. Read more
Fracking Firms Denied Permission to Relax Earthquake Rules (The Guardian) The government has rejected pleas by fracking companies to review strict rules around earthquakes caused by their operations, in a major blow that could spell the end for Britain's nascent shale industry. But Cuadrilla and Ineos complained that strict regulations around earthquakes hinder their work. Read more

Deadly Earthquake Traveled at ‘Supersonic’ Speeds — Why That Matters (National Geographic) A powerful temblor that struck on September 28, 2018 in Indonesia offered a detailed look at supershear, a phenomenon that can create the geologic version of a sonic boom. A pair of new studies, published February 4 in Nature Geoscience, tackles another remarkable aspect: The earthquake itself was likely an unusual and incredibly fast breed of temblor known as supershear. Read more

Why Quake Proofing Schools Is Shaking up Resistance (The Tyee) Eric Hamber Secondary is set to be replaced with a new $80-million facility, the biggest upgrade project in Vancouver history for one of the city's most seismically at-risk schools. So why isn't the community happy? It's a seismic trade-off happening in schools all over the city, as the B.C. government has mandated that replacement schools be smaller than their predecessors. Read more

10 Best Earthquake Apps and Earthquake Tracker Apps for Android (Android Authority) We noticed two different types of earthquake apps. The first tracks them worldwide. The other type are actual vibration meters. They use the accelerometer in your phone to measure vibrations where you are. We have a healthy supply of both on this list! Here are the best earthquake apps and earthquake tracker apps for Android! Read more
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."

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.

Friday, May 15 2020 5:00 PM - May 16 2:00 AM
**2020 Los Angeles Tall Buildings Conference**
The 2020 Los Angeles Tall Buildings Structural Design Council conference will cover a variety of topics related to recent advances in structural design of tall and special buildings. Learn more: www.latallbuildings.org

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.

Sunday, February 07, 2021 - February 10
**ASCE/UCLA San Fernando Earthquake Conference**
For more information: http://lifelines2021.ucla.edu/