



EARTHQUAKE ENGINEERING RESEARCH INSTITUTE
499 14th Street, Suite 220
Oakland, CA 94612-1934 USA

Cover photo: Boats move in and out of the Bell Harbor
Marina with the Seattle skyline as a backdrop
(photo: Tim Thompson).

65th Annual Meeting
2013 EERI ANNUAL MEETING

February 12-15, 2013 • Seattle, Washington

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*BUILDING RESILIENT COMMUNITIES
THROUGH POLICY AND MITIGATION*



February 12-15, 2013
Grand Hyatt Hotel
Seattle, Washington



Earthquake Engineering
Research Institute

65th Annual Meeting

2013 EERI ANNUAL MEETING

*BUILDING RESILIENT COMMUNITIES
THROUGH POLICY AND MITIGATION*

Tuesday, February 12, 2013

5:00–7:30 pm REGISTRATION OPENS

THE 10th ANNUAL UNDERGRADUATE SEISMIC DESIGN COMPETITION will be held throughout the meeting. The competition, organized by EERI's Student Leadership Council (SLC), is an opportunity for undergraduate teams to design, analyze, fabricate (with balsa wood), and subject to earthquake motions a scale model of a high-rise office building. The Awards Ceremony will take place at 1:45 p.m. on Friday.

6:00–7:30 pm **WELCOME RECEPTION:** Join us for an informal get-acquainted icebreaker with complimentary snacks and a hosted bar.

Wednesday, February 13, 2013

7:00 am REGISTRATION CONTINUES

8:00–8:20 am **WELCOME AND OPENING STATEMENT**
Ian Buckle, *President, EERI*

8:20–8:30 am **WELCOME FROM ORGANIZERS**
Cale Ash, *Degenkolb Engineers*
Scott Miles, *Western Washington University*
Local Organizing Committee Co-Chairs

8:30–10:00 am **EARTHQUAKES IN CASCADIA**
Why, where, and how often Cascadia earthquakes occur, how Cascadia's built environment will likely fare in future earthquakes, and what tools, activities, and policies facilitate mitigation of Cascadia's earthquake hazards.

Moderator:
Joan Gomberg, *U.S. Geological Survey*

Speakers:
David Schmidt, *University of Washington*
Brian Sherrod, *U.S. Geological Survey*
John Hooper, *Magnusson Klemencic Associates*
Vicki McConnell, *Oregon Department of
Geology and Mineral Industries*

10:00–10:30 am BREAK

10:30–12:30 pm **RESILIENCE PLANNING**
The application of community resilience for disaster planning from national, state, and local perspectives. Relative successes and failures of recent planning processes, as well as imperatives

for future planning processes.

Moderator:
Chris Poland, *Degenkolb Engineers*

Panelists:
Lucy Arendt, *University of Wisconsin, Green Bay*
Jason Bierman, *Snohomish County Emergency
Management*
Susan Cutter, *University of South Carolina*
Yumei Wang, *Oregon Department of Geology and
Mineral Industries*

12:30–2:00 pm **LUNCHEON AND EERI DISTINGUISHED LECTURE: Resilience: An Engineering Challenge**
Mary Comerio, *University of California, Berkeley*

2:00–3:30 pm **PANEL: RETROFIT AND REHABILITATION OF VULNERABLE BUILDINGS**
The policy challenges of remediation, public perception and willingness to engage in retrofits, grassroots attempts, and methods used to quantify risk, case studies of specific retrofit projects, application of design techniques and return on investment prospects for retrofits.

Moderator:
Franz Rad, *Portland State University*

Panelists:
Richard Conlin, *Seattle City Council*
David Johnston, *GNS Science*
Peter May, *University of Washington*
Michael Wright, *Lund Wright Opsahl*
Jim Graham, *Graham Baba Architects*

3:30–4:00 pm BREAK

4:00–5:30 pm **SCHOOL SEISMIC SAFETY**
An overview of the current state of seismic safety of schools and multiple perspectives on how to improve it, followed by a cross-cutting panel discussion on "how to protect students in seismically dangerous schools by 2033."

Moderators:
Phil Gould, *Washington University in St. Louis*
Yumei Wang, *Oregon Department of Geology
and Mineral Industries*

Speakers:
Janise Rogers, *GeoHazards International*
John Schelling, *Washington Military Department
Emergency Management Division*
Liam Finn, *University of British Columbia*,
Barbara Thurman, *Washington Office of
Superintendent of Public Instruction*
Mike Mahoney, *FEMA*
Edward Wolf, *Oregon Parents for Quake-
Resistant Schools*

5:30–6:30 pm EERI COMMITTEE MEETINGS

6:00–7:30 pm **GENERAL RECEPTION AND POSTER SESSION**

Thursday, February 14, 2013

7:00–8:30 am EERI COMMITTEE MEETINGS

8:30–10:00 am **UNUSUAL EARTHQUAKES AND THEIR IMPLICATIONS FOR RISK**
Some of the notable earthquakes of the past decade were unusually large or unusually strong, and some were located in unusual places. This session addresses such seismological "surprises" from the perspective of hazard assessment and risk management.
Moderator: Lori Dengler, *Humboldt State University*
Speakers: Art Frankel, *U.S. Geological Survey*
Brian Atwater, *U.S. Geological Survey*
Annie Kammerer, *Nuclear Regulatory Commission*

10:00–10:30 am BREAK

10:30–12:30 pm **CONCURRENT SESSIONS**
I: TSUNAMI DESIGN
Moderator: John Schelling, *Washington State Emergency Management Division*
Speakers: Kent Yu, *Degenkolb Engineers*
Omar El-Anwar, *University of Washington*
Harry Yeh, *Oregon State University*
Frank Gonzalez, *University of Washington*

II: EARTHQUAKE-INDUCED GROUND FAILURES
Moderator: Timothy J. Walsh, *Washington State Department of Natural Resources*
Speakers: Steven L. Kramer, *University of Washington*
Kate Allstadt, *University of Washington*
Rob Kayen, *U.S. Geological Survey*

12:30–2:30 pm **AWARDS LUNCHEON AND ANNUAL BUSINESS MEETING**

2:30–4:00 pm **MODELING RESILIENCE**
An overview of the state of the art of loss and recovery modeling methodologies and implementation with respect to building stock, lifelines, and socio-economic impacts.
Moderator: Scott Miles, *Western Washington University*
Speakers: Craig Davis, *Los Angeles Department of Water and Power*
Steve Folga, *Argonne National Labs*
Charlie Huyck, *ImageCAT Inc.*
Scott Miles, *Western Washington University*

The Experience Music Project and the Seattle Space Needle.



2013 EERI ANNUAL MEETING

Building Resilient Communities through Policy and Mitigation

◀ Historic King Street Station is undergoing a seismic upgrade
(photo: John Stamets)

The Public Market sign above Pike Place Market. ▶
(photo: Tim Thompson)



Structural Research Laboratory in the Department of Civil Engineering at the University of Washington ▶



4:00–4:30 pm **2011-2012 EERI/FEMA NEHRP GRADUATE FELLOW**
Kevin Franke, *Brigham Young University*

4:30–5:00 pm **GRADUATE STUDENT PAPER PRESENTATION**

5:00–6:00 pm EERI COMMITTEE MEETINGS

6:00–7:30 pm **GENERAL RECEPTION & POSTER SESSION**

7:00–8:00 pm **SUBSCRIBING MEMBERS & MAJOR DONORS RECEPTION**

Friday, February 15, 2013

7:00–8:30 am EERI COMMITTEE MEETINGS

8:30–10:00 am **CONCURRENT SESSIONS**
I: LINKING PERFORMANCE-BASED SEISMIC DESIGN WITH SUSTAINABILITY
Moderator: Lindsey Maclise, *Forell/Elsesser Engineers*
Speakers: Kathrina Simonen, *University of Washington*
Evan Reis, *AIR Worldwide*
Tona Rodriguez, *California State University, Los Angeles*

II: TECHNOLOGY FOR POST-EARTHQUAKE ASSESSMENT AND MONITORING
Moderator: Recep Cakir, *Washington State Department of Natural Resources*
Speakers: Mehmet Celebi, *U.S. Geological Survey*
David Wald, *U.S. Geological Survey*
EERI Information Technology Committee

10:00–10:30 am BREAK

10:30–11:00 am **UPDATE ON EERI ACTIVITIES**
Jay Berger, *Executive Director, EERI*

11:00–12:00 pm **REPORT-OUT ON PRE-MEETING CHRISTCHURCH EARTHQUAKES WORKSHOP**
Mark Pierepiekarz, *MRP Engineering*

12:00–1:45 pm **LUNCHEON: 10th ANNUAL SSA/EERI WILLIAM B. JOYNER MEMORIAL LECTURE:** Kelvin Berryman, *GNS Science*

1:45–2:00 pm **UNDERGRADUATE SEISMIC DESIGN COMPETITION AWARDS CEREMONY**

2:00 pm Technical Program Adjourns

2:15–4:30 pm **OPTIONAL FIELD TRIPS:**

- **Preserving and Protecting Historic Buildings in Seattle:** a walking tour of earthquake retrofit and rehabilitation projects in the historic Pioneer Square district of Seattle.
- **Innovations in Earthquake Engineering:** a visit to two University of Washington facilities. The first will be the Pacific Northwest Seismic Network and the second will be the Structural Research Laboratory at the Department of Civil and Environmental Engineering.
- **Geologic Hazards in Seattle:** travel across Puget Sound on a ferry to view evidence of regional faults and other geologic hazards. The return trip will provide a memorable view of downtown Seattle and a view of the Alaskan Way Viaduct and seawall, two seismically-deficient structures that will soon be replaced.

HOTEL INFORMATION

Grand Hyatt Seattle, 721 Pine Street, Seattle, Washington, USA 98101. Hotel reservations can be made from a link on the meeting registration page, <https://eeri.org/cohost/registration/eeri-2013-annual-meeting>. To make a reservation by phone, call 1-888-421-1442 using the code EERI.

IN ORDER FOR EERI TO FILL ITS ROOM BLOCK, YOU MUST MAKE YOUR RESERVATION BY **JANUARY 22, 2013**.

- EERI group rate: \$165.00 for single and double rooms; triple and quad: add \$25.00 per person. Hotel room tax: 15.6%.
- Check-in time is 3:00 p.m.; check-out time is 12 noon.
- Valet parking: \$41.48 per day (includes in/out privileges).
- Self parking: \$30 per night (includes in/out privileges when prepaid).
- The hotel is 15 miles from the Seattle/Tacoma International Airport (SEA-TAC). Seattle Link Light Rail: \$2.75; Downtown Airporter Shuttle: \$19 one way; Taxi: approximately \$40-\$50 one way.

Supporting Organization



EERI ANNUAL MEETING REGISTRATION

(Clip and mail/fax, or register online at <https://www.eeri.org/registration/am.php>)

Name (first to last) EERI Membership ID Number

Business Name/Affiliation (for name tag)

Street Address/PO Box

City/State/Zip/Country

Daytime Telephone/Daytime Fax

e-mail address

- ☐ I wish to participate in the Friday field trip: **Preserving and Protecting Historic Buildings in Seattle**, 2:15-4:30 pm, **OR**
- ☐ I wish to participate in the Friday field trip: **Innovations in Earthquake Engineering**, 2:15-4:30 pm, **OR**
- ☐ I wish to participate in the Friday field trip: **Geologic Hazards in Seattle**, 2:15-4:30 pm.

EERI Member \$475 ____ **Non-Member** \$675* ____

Circle one applicable EERI member category:
Student / **Young Professional** / **Retired** \$295 ____

☐ I would like vegetarian meals.
If you have any other special dietary needs please contact Juliane Lane at juliane@eeri.org.

***NEW MEMBERS: JOIN EERI TODAY**—Join as a Regular Member for only \$200 (regular dues are \$270) and save \$200 on registration:
☐ I wish to join and attend the meeting (enclose total of \$675).

REGISTRATION DEADLINE: January 15, 2013, add \$50 for late registration.

TOTAL Amount Enclosed ____ (Add \$50 after January 15, 2013)

CANCELLATIONS: If received in writing on or before January 29, 2013, refund less \$25; after January 29, 50% will be refunded.

Make check payable to: **EERI, 499 14th Street, Suite 220, Oakland, CA 94612-1934**. For more information, phone (510) 451-0905, fax (510) 451-5411, e-mail: eeri@eeri.org.

Please do not fax registration form unless you are paying with a credit card (VISA or MasterCard).

VISA/MasterCard No. Expiration Date

Authorized Signature

PDH Credits—Certificates for PDH credits will be available after the meeting through a link on the meeting website: <http://2013am.eeri.org>

EERI ANNUAL MEETING
February 12-15, 2013



Brick parapet and wall failure after the 2001 Nisqually, Washington, earthquake

