



EARTHQUAKE ENGINEERING RESEARCH INSTITUTE NEWSLETTER

Editor Mark Yashinsky
LFE Insert Editor Sarah Nathe
Associate Editor Gerald Brady
Editorial Assistant Eloise Gilland

Earthquake Engineering
Research Institute
499 14th Street, Suite 220
Oakland, California 94612-1934
Phone: 510/451-0905
Fax: 510/451-5411
E-mail: eeri@eeri.org
Web site: <http://www.eeri.org>

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EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

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News of the Institute

Register Soon for the EERI Annual Meeting

Do not delay any longer in registering for the joint 2012 EERI Annual Meeting and National Earthquake Conference (NEC), which kicks off Tuesday, April 10, 2012, at the Peabody Hotel in Memphis, Tennessee. The meeting theme is "Learning from the Past to Protect the Future." The fee will increase by \$100 on March 15, from \$450 to \$550. To register and find information on all sessions and speakers, visit <http://2012am.eeri.org/>. The New Madrid Earthquake Scenario Workshop, scheduled for April 10, was moved to a larger room and is now open to more participants.

One highlight of the meeting will be the luncheon speaker on Thursday, April 12. Timothy Galarnyk was the host of a six-part television series "Inspector America" on the History Channel, in which each episode focused on the decaying infrastructure in a different U.S. city. In his regular job as president and CEO of Construction Risk Management headquartered in St. Paul, Minnesota, he is an international expert on construction methods, specializing in safety and the identification of defects and construction problems.

Also featured during the meeting will be two exceptional speakers who were selected to give lectures in recognition of their career achievements. The 2012 EERI Distinguished Lecture, entitled "The New Normal for Natural Disasters," will be given Thursday morning at 8:20 a.m. by

continued on page 3



The departure point for Mississippi riverboat cruises is within walking distance of the Peabody Hotel (photo: www.memphisriverboats.net/).

Workshop on Japan and New Zealand EQs

EERI organized a Research Needs Workshop February 9-10 in Arlington, Virginia, at the direction of the National Science Foundation (NSF), for more than 50 recipients of RAPID awards who investigated the effects of the 2011 Japan and New Zealand earthquakes. Participants also included NSF program officers, representatives from NEHRP agencies, approximately 16 Japanese researchers with J-RAPID awards, and several researchers from New Zealand.

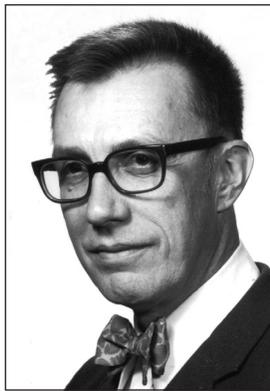
The goals of the workshop were for the attendees to (1) share some of the initial findings from their research projects; (2) have the opportunity to learn from and collaborate with other event researchers from a broad range of disciplines; and (3) provide NSF with recommendations for emerging research themes, opportunities, and needs in order to guide future solicitations related to mitigation, response, recovery, and rebuilding. The workshop included short oral and poster presentations on all RAPID award projects, followed by disciplinary, cross-disciplinary, and themed breakout discussions.

Visit the workshop page at <http://www.eeri.org/japan-new-zealand-nsf-rapid-workshop/> for more information about the meeting, including the participant list, abstracts, bios, posters, and presentation slides. The final report of the workshop will be openly available when published.

Obituary

Robert Whitman, 1928-2012

World-renowned geotechnical engineer Robert V. Whitman died on February 25, 2012, at age 84. One of the brightest stars in EERI's firmament, Bob was one of only two people, along with George Housner, to have been the Institute's President, a Distinguished Lecturer, a Housner Medal recipient, and an Honorary Member. A native of Pennsylvania, he was the first EERI president (1985-86) whose career was spent almost entirely outside California. Devoted to teaching and research, Bob served on the faculty of the Department of Civil and Environmental Engineering at the Massachusetts Institute of Technology from 1951 until his retirement in 1993, with the exception of two years spent in military service.



Robert V. Whitman

Bob was concerned about converting research into practice, and used his term as EERI president to encourage the development of seismic provisions for building codes and to engage the Federal Emergency Management Agency in developing and promulgating those provisions. His technical and policy contributions lie at the foundation of much that is now the state of knowledge and state of practice in risk assessment and mitigation. His career-long leadership contributed to improved understanding of complex soil behavior during earthquakes and analytical and design methods now used worldwide.

Early in his career, he served on the Air Force's advisory panel for the earliest hardened missile complexes. In the 1960s, he worked on developing stable foundations for long-range tracking radars, research that led him to become a leading expert in the new discipline of soil dynamics. The field was just getting into high gear when the study of liquefaction and earthquake-induced ground failures burst onto the scene following the 1964 Alaska and Niigata earthquakes. The 1969 book *Soil Mechanics*, which he co-authored with his colleague at MIT, T. William Lambe, has become a classic. "Of all the things I've done, I'm probably proudest of that book," he said in his EERI oral history (page 45) published in 2009.

During the 1970s, Bob worked on framing the National Earthquake Hazards Reduction Program. He helped introduce centrifuge testing to the U.S. geotechnical community. Bob was one of the first engineers to apply probabilistic concepts to geotechnical problems, concentrating on seismic performance and lifeline earthquake engineering. Over the years, Bob served on many scientific and government advisory boards, including the committee of the National Research Council (NRC) that produced the influential report *Liquefaction of Soils During Earthquakes* (1985).

He also made significant contributions to the Applied Technology Council's report *Tentative Provisions for the Development of Seismic Regulations for Buildings*, which includes the first national earthquake hazard maps. He chaired the NRC panel that proposed a loss estimation methodology and led the committee that developed HAZUS, the nationally applicable standardized methodology for estimating potential losses from earthquakes, floods, and hurricanes.

Among numerous honors, Bob was elected to the National Academy of Engineering in 1975. In his hometown of Lexington, he served as an elected official for decades. In addition to his wife of 57 years, Elizabeth, he is survived by two of his three daughters and four grandchildren.

News of the Institute

CBF NEES-EERI Webinar Now Online

There was good cyberattendance for the webinar on "Improving the Seismic Performance of Concentrically Braced Frames (CBFs): Design and Analysis," held on February 15, 2012. It was the fourth webinar in the NEES-EERI series "Reducing Earthquake Losses: From Research to Practice." All four webinars can be viewed free of charge at <http://nees.org/education/for-professionals/researchtopracticeseries>. The presentation slides for the CBF webinar are posted at <http://nees.org/resources/4267>.

Professors Charles Roeder and Dawn Lehman from the University of Washington discussed the inelastic performance of CBFs and the limitations of current design practices. They presented a balanced design procedure for the gusset plates, which significantly improves the seismic performance of the system.

More than 180 attendees logged in, with many others listening in groups in conference rooms at various companies and universities. About 80% of the audience consisted of practitioners from both the public and private sectors. In addition faculty, post-docs, research scientists, and students attended.

While most registrants were from the U.S., 41 participants from around the world joined in. Countries represented included Australia, Bulgaria, Canada, Germany, Greece, Guatemala, Iran, Ireland, Italy, Mexico, New Zealand, Peru, Romania, Russia, Serbia, Switzerland, Trinidad and Tobago, Turkey, the United Arab Emirates, and Venezuela.



News of the Institute

2011 Northern California Chapter Awards

At its December holiday party, the EERI Northern California Chapter bestowed two awards for “Leadership, Innovation, and Outstanding Accomplishments in Earthquake Risk Reduction” — one to an individual and one to an institution.

The individual award went to **Laurence Kornfield** (M.EERI), who has been a champion for seismic safety in the public administration of San Francisco for many years. As chief building official, he helped conceive of the Community Action Plan for Seismic Safety (CAPSS) and was instrumental in finding support and funding for the program. He worked for over a decade to make CAPSS a reality, bringing it to successful closure in December of 2010. He made sure a diverse panel of stakeholders was actively involved in

every step of the program. The recommendations from CAPSS provide a roadmap for how San Francisco can reduce earthquake risk and become a more resilient community. Kornfield has worked on innovative, simple, and affordable retrofit techniques, including development of a system to brace garage doors to improve house-over-garage structures so prevalent in San Francisco. He also continually encourages companies and engineers to develop standardized and affordable retrofit methods. He made sure that CAPSS focused on the social, economic, and cultural consequences of future earthquakes in San Francisco.

The institution award went to the **East Bay Municipal Utilities District**, represented by its manager of design, David Pratt. Since 1994,

EBMUD has been working diligently to reduce the risk of damage to their Bay Area water system following a catastrophic seismic event. To cost effectively upgrade their facilities, EBMUD has used the latest advances in seismic strengthening, adopting new technologies where possible. To date EBMUD has spent over \$200 million on its Seismic Improvement Program. To maintain public support for the program, EBMUD disseminates information to 1.2 million customers through an extensive community outreach program. This program has partnered with other agencies and state and local offices of emergency services.

New EERI Student Chapter in India

The Institute is pleased to announce that the Veermata Jijabai Technological Institute (VJTI) in Mumbai, India, now has an EERI student chapter. The chapter’s faculty advisor is K. K. Sangle, Dean of Infrastructure & Planning, and its professional contact is Alpa Sheth, managing director of VMS Consultants Pvt. Ltd., Mumbai. The chapter will participate in the upcoming Undergraduate Seismic Design Competition (SDC) during the Annual Meeting in Memphis. The chapter has already built its model and exhibited it early in February at Technovanza 2012, a technical festival of VJTI (<http://technovanza.org/index.php/events/megastructures/vjti-unshakables>). According to Sameer Dhuri, the chapter secretary, a video about the SDC played continuously, attracting a constantly gathering curious crowd to the booth.



Student chapter members at Technovanza 2012, with the SDC model in the background on the left.

Annual Meeting/National Earthquake Conference

continued from page 1

Thomas O’Rourke, professor of engineering at Cornell University. By exploring how infrastructure networks and their interdependent linkages are impaired by natural disasters, O’Rourke will set the stage for the day’s theme of assessing vulnerabilities. The William B. Joyner Memorial Lecture will be given after lunch on Friday, April 13, by Jonathan Bray, professor of geotechnical engineering at UC Berkeley, reflecting his commitment to the exchange of information at the interface of earthquake science and earthquake engineering.

The meeting registration site (<http://2012am.eeri.org/>) has a link to make hotel reservations for the EERI group rate of \$149/single or double. The brochure can be viewed and downloaded on the site. The group room rate of \$149 single/double expires March 23, but the hotel might sell out, so take action now.

Subscribing Member Sponsorship Opportunities

In addition to FEMA, EERI thanks the following co-sponsors of the Annual Undergraduate Student Design Competition to be held during the Annual Meeting: Computers and Structures, Degenkolb Engineers, Kinometrics, Hayward Baker, and Tobolski Watkins Engineering. Thanks also to the West Tennessee Seismic Safety Council for hosting the Friday field trip to earthquake-resistant facilities. There are many other sponsorship opportunities! Companies interested in fully or partially sponsoring one of the following events should contact Sonya Hollenbeck (sonya@eeri.org): one of three luncheons, one of two poster sessions, the Opening Reception, one of three continental breakfasts, or one of six coffee/refreshment breaks.

News of the Profession

PEER-Caltrans Lifelines Contract

The Pacific Earthquake Engineering Research Center (PEER) recently signed a three-year contract with the California Department of Transportation (Caltrans) to carry out a comprehensive multidisciplinary research program on the seismic evaluation and performance of lifelines. Additional sustained funding comes from the Pacific Gas and Electric Company (PG&E). Both PG&E and PEER are EERI Subscribing Members.

This funding launches a new phase for the PEER Lifelines Research Program that will support multidisciplinary research projects focused on the quantification of seismic hazard and risk as well as the performance-based earthquake engineering of lifelines. These projects will likely involve aspects of earth science, structural engineering, geotechnical engineering, tsunami science and engineering, and the financial impacts of earthquakes.

Since its inception in 1997, PEER's Lifelines Research Program has successfully completed over 110 research projects. Outcomes of the program have had national and international impacts on seismic analysis and design of a wide range of civil engineering facilities. For more information, visit <http://peer.berkeley.edu/lifelines/>.

Announcement

Seismic Design Manual Review

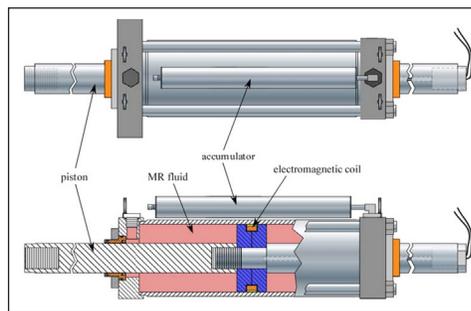
The two-part Spring Seminar of the Structural Engineers Association of Northern California (SEAONC) will be a review of the SEAOC Structural/Seismic Design Manual, providing step-by-step approaches to applying the relevant provisions of the 2009 International Building Code® and 2010 California Building Code. The speakers will cover Volumes II and

NEES News

NEEShub: Share your Computational Models

The new "Computational Models" resource on the NEEShub can be used to share numerical models with the earthquake engineering community. Public computational models can be found under the "Simulation" menu on the main NEEShub web page. Earthquake engineering researchers are invited to share their computational models with the overall community. These models can be input files for structural, geotechnical, or tsunami systems as well as models of structural control devices. Start your contribution today at <http://nees.org/contribute>. An example of a computational model currently available on the NEEShub is described below.

Hyperbolic Tangent Model for 200 kN Large-Scale Magneto-Rheological Fluid (MR) Damper (<http://nees.org/resources/project/3479>). Contributors: Zhaoshuo Jiang and Richard Christenson of the University of Connecticut.



This Matlab Simulink model simulates large-scale MR dampers for a wide variety of structural control strategies. Input files for a specific set of MR dampers based on experimental data are provided. This particular model represents dampers tested at the Smart Structures Technology Laboratory at the University of Illinois at Urbana Champaign and the Lehigh University

NEES facility. The 23" stroke damper weighs approximately 615 lb, provides forces of over 45 kip, and is commanded with a low-voltage signal.

\$1.2M Liquefaction Mitigation Grant for NEU

Northeastern University (NEU) was awarded a \$1.2 million research grant for a project entitled "Induced Partial Saturation (IPS) Through Transport and Reactivity for Liquefaction Mitigation" from the National Science Foundation (NSF) through the George E. Brown Jr. Network for Earthquake Engineering Simulation (NEES). The research program is under the direction of Mishac Yegian (M.EERI) and Akram Alshawabkeh, both professors at NEU. Their preliminary research has demonstrated that generating gas bubbles in saturated sands causes IPS, which prevents the occurrence of liquefaction during earthquakes. Minute gas bubbles, once introduced within the void spaces of sands, remain entrapped even under ground shaking.

The team's research will advance the IPS technique to field applications. The development and implementation of a cost-effective and practical field technique for prevention of ground failure due to liquefaction will have world-wide impact on human safety and protection of property. A full patent application on IPS has been filed by NEU.

III, which provide in-depth design examples for buildings with steel, concrete, masonry, and wood and cold-formed steel bracing systems. The two parts will take place on consecutive Wednesdays, March 14 and 21, 2012, 6-9 p.m., at the PG & E Auditorium, 245 Market Street, San

Francisco. Seminar fees for both parts are \$250 for SEAONC/EERI members, \$350 for nonmembers, and \$60 for students. **Fees increase by \$30 after March 8.** For more information and to register, visit http://www.seaonc.org/member/member_s/events/order_form.asp.

PLEASE POST IMMEDIATELY



**EARTHQUAKE ENGINEERING RESEARCH INSTITUTE
2012-2013 EERI/FEMA
GRADUATE FELLOWSHIP IN
EARTHQUAKE HAZARD REDUCTION**

EERI is pleased to announce the availability of a Graduate Fellowship for the 2012-2013 academic year to support one full-time student in a discipline contributing to the science and practice of earthquake hazard mitigation.

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.

AWARD

The EERI/FEMA fellowship provides a nine-month stipend of \$12,000 with an additional \$8,000 for tuition, fees, and research expenses.

CRITERIA

Applicants must be enrolled in a graduate degree program at an accredited U.S. college or university and must hold U.S. citizenship or permanent resident status. All applications must include an academic transcript and a statement of educational and career goals.

All application materials must be submitted electronically to EERI, including a letter of nomination from a faculty sponsor at the student's institution and two additional reference letters. They should evaluate the applicant's recent academic performance and the candidate's potential to contribute to the field.

TO APPLY

Candidates may download an application by visiting
<http://www.eeri.org/about-eeri/honors-awards/graduate-fellowship/>.

**Deadline for submission of all application materials is MAY 14, 2012.
Announcement of the award will be made on JUNE 18, 2012.**

Calls for Abstracts

JSE Special Issue, SEAOC, AEI

Special Issue on Sustainable Building Structures: A call for papers has been issued for this special issue of ASCE's *Journal of Structural Engineering*. Possible topics include but are not limited to: (1) use of recycled or more sustainable materials as related to structural design, analysis, behavior, and construction; (2) reduction of materials in construction through more efficient design, life-cycle cost analysis, and design optimization methods; and (3) reuse or extended use of structures through structural health monitoring, repair, retrofit, and rehabilitation. A guest co-editor is EERI member Arzhang Alimoradi. Abstracts are due by April 30, 2012. For submission instructions, visit <http://www.asce.org/JSEsbs>.

SEAOC Convention: Abstracts are invited for papers to be presented at the 2012 Structural Engineers Association of California (SEAOC) Convention, to be held September 12-15 in Santa Fe, New Mexico. Submissions are encouraged on the topics of lessons learned from recent earthquakes and trends and applications in seismic evaluation and retrofit, among others. For more information and to submit an abstract (due 5 p.m. March 23), visit <http://convention.seaoc.org/> (password: newmexico12).

Architectural Engineering Institute (AEI) Conference: The Planning Committee of the 2013 AEI Conference invites submission of abstracts, due June 15, 2012. To be held April 3-5, 2013, the conference will be hosted by the AE Department at Pennsylvania State University. Proposals for workshops and special sessions are also invited, due September 15. To encourage industry participation, practitioners are not obliged to write papers but rather should submit a PDF of their presentations. For submission instructions and suggested topics, visit http://www.engr.psu.edu/ae/AEI-2013/Call_for_Papers.asp.

Announcements

PEER BridgePBEE Analysis Framework

The Pacific Earthquake Engineering Research Center (PEER) recently announced the release of the new PEER Bridge PBEE Analysis Graphical User Interface (GUI) Beta Version (BridgePBEE). It is free to use and easily accessible at <http://peer.berkeley.edu/bridgepbee/>, along with the executable software and the user's manual.

BridgePBEE was created to facilitate the execution of a full performance-based earthquake engineering (PBEE) analysis within the relatively simple environment of a two-span single-column bridge, supported on a ground soil mesh. It is the first GUI software that greatly facilitates execution of the entire PBEE framework within the area of highway bridges.

The three-dimensional finite element computations in BridgePBEE are conducted using the OpenSees platform developed by PEER, which facilitates powerful and unique nonlinear dynamic response assessment for both the structure and the soil domains. Available analysis options in BridgePBEE include push-over analysis, base input acceleration analysis, and full PBEE analysis.

Geophysical Data Workshop

The International Centre for Theoretical Physics (ICTP), in cooperation with the Karlsruhe Institute of Technology (Germany), the University of Trieste (Italy), and the Russian Academy of Sciences (Moscow), are organizing the Workshop on Geophysical Data Analysis & Assimilation, October 29 - November 3, 2012, in Trieste, Italy. The workshop will cover the state of the art in analysis and assimilation of seismological, geodetic, and geodynamic data and the challenges that presently exist. The workshop will be

Nominations Sought

Geotech Young Researcher Award

Technical Committee 203 (Geotechnical Earthquake Engineering and Associated Problems) of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) seeks nominees for a new award to be presented biennially that recognizes early-career scientists and engineers who have exceptional promise of excellence in research in the field of geotechnical earthquake engineering and significant contribution thereto. Candidates must be age 40 or younger. The deadline for submissions is March 15, 2012. The first award will be presented during the 2nd International Conference on Performance-Based Design in Geotechnical Earthquake Engineering (2ICPDGEE) in Taormina, Italy, May 28-30, 2012. The recipient will be invited to give a lecture and will receive a plaque and waived registration fee. Nomination packages consisting of a letter, a brief CV, and a list of refereed publications must be e-mailed to Ellen Rathje at e.rathje@mail.utexas.edu.

Early Bird Registration for the 2ICPDGEE expires on April 6. To view the program and to register, visit <http://www.2pbd-taormina.org/>. A symposium in honor of Professor Shamsheer Prakash (M.EERI) will be part of the conference.

conducted in English and will provide training in advanced methodologies of R&D in fundamental studies of the Earth's structure, evolution, and dynamics. The main purpose of the ICTP is to help researchers from developing countries, but a limited number from developed countries may attend. A degree in physics, mathematics, geophysics, computer science, or a similar discipline is required. For more information and to apply, visit <http://agenda.ictp.it/smr.php?2373>. The deadline is May 30, 2012. There is no registration fee.

CALENDAR

The issues containing the first and subsequent appearances are indicated at the entry's end. Items listed for the first time are shown in bold.

2012

MARCH

14 & 21. Struct./Seis. Design Manual Review Seminar, San Francisco, CA. See page 4. (3/12)

23. Khan Distinguished Lecture, Lehigh Univ., Bethlehem, PA. <http://www.lehigh.edu/~infrk/> (11/11)

28. Training Webinar on ATC-20 Procedures for Post-EQ Safety Evaluation of Bldgs. See p. 8. (3/12)

30. Short Course on Analysis, Design, and Testing of Piles, Carlsbad, CA. <https://www.eeri.org/registration/register.php> (12/11)

APRIL

2-3. Tech. Seminar on New Trends in Seis. Evaluation & Retrofit, Brooklyn, NY. See page 8. (3/12)

10-13. EERI Annual Meeting/Nat'l EQ Conf., Memphis, TN. <http://2012am.eeri.org/>. See page 1. (5/11, 9/11, 11/11, 12/11, 1/12, 2/12, 3/12)

13-15. New Zealand Soc. for EQ Eng. Annual Conf., Christchurch, NZ. conference.nzsee.org.nz/ (10/11)

17-19. Seismological Soc. of America Annual Mtg. San Diego, CA. www.seismosoc.org/meetings/2012/index.php (10/11, 1/12)

18-20. Steel Conference, Grapevine, TX. www.aisc.org/nascc (2/12)

19. Liquefaction State-of-the-Art Forum, St. Louis, MO. <http://dfi.org/conferencedetail.asp?id=208> (2/12)

20. Khan Distinguished Lecture, Lehigh Univ., Bethlehem, PA. <http://www.lehigh.edu/~infrk/> (11/11)

MAY

4. Los Angeles Tall Bldgs Struct. Design Council Conf., LA, CA. See this page. (3/12)

16-17. SuperPile 2012, Portland, OR. dfi.org/conferences.asp (12/11)

18-21. Int'l Conf. on EQ Eng.: Research Challenges, Harbin, China. e-mail Ms. Bing Bai, iceer2012@iem.cn. (9/11)

28-30. 2nd Int'l Conf. PBD in EQ Geotech. Eng., Taormina, Italy.

<http://www.2pbd-taormina.org/>. See page 6. (5/11, 3/12)

JUNE

17-20. 11th ASCE Joint Specialty Conf. on Probabilistic Mechanics & Structural Reliability (EMI/PMC 2012), South Bend, IN. <http://www.nd.edu/~emipmc12/> (12/11)

18-22. Short Course on Grouting Fundamentals & Current Practice, Golden, CO. <http://csmospace.com/events/grouting/> (2/12)

20-22. Int'l Conf. on Public Works for Public Learning, San Francisco, CA. www.pwplconference.com (2/12)

JULY

8-12. 6th Int'l Conf. on Bridge Maintenance, Safety and Management (IABMAS 2012), Lake Como, Italy. www.iabmas2012.org (12/10, 1/11)

AUGUST

26-30. 4th Int'l Disaster & Risk Conf. (IDRC), Davos, Switzerland. <http://www.idrc.info/> (2/12)

31-September 1. 5th Int'l Tsunami Symp. (ITS), Davos, Switzerland. <http://www.tsunamisociety.org/5thTsunamiSymposiumDAVOS2012.pdf> (2/12)

SEPTEMBER

12-15. SEAOC Convention, Santa Fe, NM. <http://convention.seaoc.org/>. See page 6. (2/12, 3/12)

19-21. Council on Tall Buildings & Urban Habitat (CTBUH) World Cong., Shanghai, China. <http://www.ctbuh.org/shanghai2012/> (11/11)

19-21. 18th IABSE (Int'l Ass'n for Bridge & Structural Eng.) Cong., "Innovative Infrastructures: Toward Human Urbanism," Seoul, Korea. www.iabse.org/Seoul2012 (12/11)

24-28. 15th World Conf. on EQ Eng. (15WCEE), Lisbon, Portugal. www.15wcee.org/ (8/10, 8/11, 11/11, 12/11)

OCTOBER

3-6. Symp. on Life-Cycle Civil Eng. (IALCCE), Vienna, Austria. www.ialcce2012.org (12/10, 1/11)

15-17. 8th Int'l Conf. on Structural Analysis of Historical Construction (SAHC 2012), Wrocław, Poland.

www.sahc2012.org (1/12)

16-19. Deep Foundations Institute (DFI) Annual Conf., Houston, TX. www.dfi.org/conferencedetail.asp?id=193 (12/11)

2013

APRIL

3-5. Architectural Eng. Institute Conf., University Park, PA. See page 6. (3/12)

29-May 4. 7th Int'l Conf. on Case Histories in Geotech. Eng., Wheeling, IL (Chicago area). <http://7icchge.mst.edu> (12/11, 2/12)

MAY

19-23. 4th Session of the Global Platform for Disaster Risk Reduction, Geneva Switzerland. <http://www.internationaldisasterconference.com/>. (1/12)

AUGUST

18-23. 22nd Int'l Conf. on Structural Mechanics in Reactor Technology (SMiRT-22), San Francisco, CA. www.smirt22.org (2/12)

Announcement

Los Angeles Tall Buildings Conference

The all-day 2012 Conference of the Los Angeles Tall Buildings Structural Design Council will be held Friday, May 4, 2012, at the Federal Reserve Bank of Los Angeles, with the theme "Advances in Structural Design of Tall and Special Buildings for Seismic Regions." The meeting is cosponsored by the Pacific Earthquake Engineering Research Center. Highlights will include the potential impacts of tsunami hazards and nuclear power plant failures, new ACI code changes, innovative retrofit techniques, green tall buildings, basement wall design for tall buildings, and a panel discussion on the future of code developments. Several EERI members are among the 11 speakers. The early bird registration fee of \$225 increases to \$275 after April 20. For more information and to download the registration form, visit <http://www.tallbuildings.org>.



**EARTHQUAKE ENGINEERING
RESEARCH INSTITUTE**
499 14th Street, Suite 220
Oakland, CA 94612-1934
ADDRESS SERVICE REQUESTED

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Announcements

ATC-20 Webinar on Post-Earthquake Eval- uation of Buildings

The Applied Technology Council (ATC) is sponsoring an introductory training webinar on Wednesday, March 28, 2012. 12:00–2:15 p.m. PDT. It will be based on the ATC-20 series of documents (ATC-20 *Procedures for Postearthquake Safety Evaluation of Buildings*; ATC-20-1 *Field Manual*; ATC-20-2 *Addendum to the ATC-20 Procedures*; and ATC-20-3 *Case Studies*). The webinar has been designed for architects, engineers, building inspectors, and skilled construction personnel who may serve as post-earthquake building safety evaluators.

Registrants will receive a hard copy of the ATC-20-1 *Field Manual* and access to the electronic version of the training in advance of the webinar. The registration fee is \$199 per computer site (\$189 for ATC subscribers) until March 21, after which a late fee of \$25 will be applied.

For more information and to register, visit <https://www.atcouncil.org/events.html>. Registrants can earn 2.25 PDHs. Each additional participant sharing the registrant's computer may obtain PDH documentation for \$5. To purchase copies of ATC-20 series reports, visit www.ATCCouncil.org.

For information on more in-depth, in-person ATC-20 trainings, contact Tom McLane, tmclane@atcouncil.org.

News of the Institute

EERI-FEMA Fellowship Report by Alimoradi on Ground Motion Simulation

The recipient of the 2010 EERI-FEMA Professional Fellowship in Earthquake Hazard Reduction, Arzhang Alimoradi, recently completed a 179-page report entitled "Earthquake Ground Motion Simulation Using Novel Machine Learning Tools." The work relied on recorded data provided by the PEER-NGA program. To download the report, visit <http://www.eeri.org/site/images/awards/reports/aalimoradi.pdf>.

Alimoradi worked for two years under the supervision of Professor James Beck at the California Institute of Technology in Pasadena. His report focuses on a novel three-phase method of model-independent probabilistic seismic hazard analysis (PSHA) and ground motion simulation, verified using previously recorded data and machine learning. Alimoradi introduces the concept of "eigenquakes," representing characteristic earthquake records in a large database. They encapsulate the information that seismic stations collect over time. Comparison of the eigenquakes before and after events would indicate whether new events have contributed to our state of knowledge. Alimoradi emphasizes the benefits of using a model-independent method of PSHA and ground motion simulation, particularly in large urban areas where dense instrumentation is available or expected. Many convenient methods of data analysis can be borrowed from the field of machine learning. The problem of ground motion selection and scaling that has been the subject of controversy in the past ten years is avoided in the proposed procedure. To exhibit its effectiveness, Alimoradi uses eight scenario examples for downtown areas of Los Angeles and San Francisco, where he shows that no dependency on specific ground motion prediction equations or processes of selection and scaling would be needed. Furthermore, principal component analysis allows systematic analysis of large databases of ground motion records that are otherwise difficult to handle by conventional methods.

Seismic Evaluation & Retrofit Seminar in NY

A Technical Seminar & Exhibition on "New Trends in Seismic Evaluation and Retrofit" offering PDHs will be held April 2-3, 2012, in Brooklyn, New York, co-sponsored by ASCE's New York Metropolitan Section and the Dept. of Civil Engineering of the Polytechnic Institute of New York University. Several EERI members are among the ten speakers. The early bird registration fee is \$170 for ASCE Members (\$150 each for groups of 5 or more) (nonmembers, add \$30) and \$50 for full-time students with ID. Fees increase by \$60 after March 26. For more information and to download the registration form, visit www.ascemetsection.org/images/files/infrastructure/2012-seminar.pdf.