



EARTHQUAKE ENGINEERING RESEARCH INSTITUTE NEWSLETTER

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EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

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News of the Institute

Online Registration for 2011 Annual Meeting

Registration and detailed program information for the 2011 EERI Annual Meeting will be available online by November 15 at www.eeri.org. The meeting will be held February 9-12, 2011, in La Jolla, California, just north of San Diego, at the Hyatt Regency Hotel. With the theme of "Earthquakes without Borders," the planning committee created a timely program that will deal with cross-border issues, present methods to mitigate the tsunami risk, and address the integration of research and practice, effective application of strong motion records, and lessons learned from the major earthquakes of 2010. Additionally, Saturday morning will feature two parallel technical sessions on geotechnical engineering and innovations in structural engineering. The program brochure will be mailed to all EERI members later this month.

Post-Banquet Casino Night: Friday will come to a rousing conclusion with a post-banquet Casino Night. Not only will it offer a high-intensity networking and social opportunity for all, it will also help raise money for local student organizations at UCSD and SDSU.

Attention Undergraduates: We encourage academic and student members to let undergraduates know that the 8th Annual Undergraduate Seismic Design Competition will be held during the Annual Meeting (see the enclosed poster).



Geisel Library at the University of California, San Diego (photo: <http://www.yelp.com/biz/university-of-california-san-diego-ucsd-la-jolla>).

Stephanie Chang Selected as 2011 EERI Distinguished Lecturer

Stephanie Chang, professor in the College for Interdisciplinary Studies at the University of British Columbia in Vancouver, Canada, has been selected as EERI's 2011 Distinguished Lecturer. She will present her lecture for the first time in February 2011 during EERI's 63rd Annual Meeting in San Diego.



Stephanie Chang

Professor Chang has made numerous important contributions to the interdisciplinary field of disaster loss reduction. Her research encompasses the impacts of natural disasters on cities and regions, anticipating future disasters, and investigating strategies for reducing risk. At UBC, she is jointly appointed between the School of Community and Regional Planning and the Institute for Resources, Environment, and Sustainability. She holds a Canada Research Chair in Disaster Management and Urban Sustainability, and has recently served on the U.S. National Research Council's (NRC) Committee on Disaster Research in the Social Sciences, which resulted in the publication *Facing Hazards and*

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Learning from Earthquakes

EERI Baja California EQ Report Available

The EERI reconnaissance report on El Mayor Cucapah, Baja California earthquake of April 4, 2010 can be downloaded at no charge from the clearinghouse site <http://www.eqclearinghouse.org/20100404-baja/> by clicking on "EERI Reports and Presentations NOW AVAILABLE." The page also contains links to the July *Newsletter* insert and videos from the earthquake briefing in San Diego.

This report summarizes the observations from initial reconnaissance by all groups and individuals coordinated by EERI. It emphasizes the effects of the earthquake on buildings, transportation infrastructure, water and wastewater treatment systems, nonstructural aspects, some seismological aspects, agri-

culture, and the initial economic impacts. This report complements the GEER report (http://www.geerassociation.org/Post_EQ_Reports.html) that emphasizes all significant seismological, fault rupture, ground motion, tectonic, geologic, and geotechnical aspects of the earthquake.

One of the most significant features of El Mayor Cucapah earthquake was the occurrence of widespread liquefaction over almost the entire Mexicali Valley, BC. There was differential settlement of foundations leading to collapse or near collapse of hundreds of houses in Mexicali Valley. Liquefaction damaged extensive lengths of irrigation canals. Agriculture and consequently local and regional economies are se-

verely affected by this damage.

Despite the magnitude and intensity of ground shaking, there were only two fatalities, both in the Mexicali Valley, BC. Lessons from this earthquake include the need to:

1. develop and improve low-cost foundation systems for houses on liquefiable soil,
2. improve the seismic design of water and wastewater treatment systems,
3. improve the seismic design of nonstructural features of buildings, particularly hospitals and schools,
4. reduce economic impacts on agriculture.

A hard copy of the report can be purchased online for \$15 at https://www.eeri.org/cds_publications/catalog/.

News of the Institute

Electronic Voting in EERI Election

Instructions on how to cast your ballot electronically in the upcoming EERI Board of Directors election will be e-mailed to members, and will also be provided in the December *Newsletter*. Please check with your network administrator to make sure e-mail from EERI can get through. If you prefer to vote by paper ballot, e-mail Juliane Lane at juliane@eeri.org no later than November 30, 2010, or call 510/451-0905.

To ensure that we have your correct e-mail address on file, please take a moment to check your information in the online roster located in the "EERI Members Access" area of the website at www.eeri.org (click under "Member Access" in the right column). If your e-mail address is not correct, go to the "Roster Information Update" section to make corrections.

EERI Endowment Fund Donors

EERI would like to thank the donors to the Endowment Fund shown below and acknowledge their recent contributions. EERI's Endowment supports those innovative projects that ensure the Institute's continuing leadership in the earthquake engineering professions.

\$12,000

Computers & Structures, Inc.

\$2,500.00

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and an anonymous donor



News of the Institute

EERI Student Leadership Council

Twenty-two members of the EERI Student Leadership Council (SLC) convened October 9-10, 2010, in San Francisco for their annual retreat. The SLC is comprised of graduate students representing 15 EERI student chapters throughout the US and Canada. The main roles of the SLC have been to increase student awareness of earthquake engineering and to foster interaction among graduate students, young researchers, faculty, and practitioners.

To help achieve its goals and establish a strong network, the SLC, under the leadership of co-presidents Ben Kosbab (Georgia Tech) and Andreas Stavridis (UC San Diego), organized three major events during the 2009-10 academic year, :

- The 7th Annual Seismic Design Competition (SDC) was held in February 2010 during the EERI Annual Meeting in San Francisco. More than 200 students from 22 universities brought the structures they designed, analyzed, and built to be tested on a shake table provided by UC Davis.
- An international workshop for young researchers, professionals, and faculty was held in July 2010 in Toronto during the 9th US National/ 10th Canadian Conference on Earthquake Engineering. Workshop attendance exceeded expectations, as over 90 attendees from around the world participated in the technical and social programs.
- A workshop was held October 2009 in San Francisco in conjunction with the PEER Annual Meeting. Thirty students from PEER-related institutions in Japan, China, and the U.S. discussed their research findings through presentations and a poster session.

The 2010 retreat, organized by Lisa Star (UCLA) in coordination with the 2009-2010 co-presidents, was generously sponsored by Comput-

ers and Structures (CSI), an EERI Platinum Subscribing Member and a major sponsor of the SDC. CSI hosted a celebratory luncheon for the students at its Berkeley office. CSI President and CEO, Ashraf Habibullah welcomed the students warmly and gave an inspiring talk about the structural engineering profession. Students also had the opportunity to chat with other CSI staff and prominent EERI members, including Edward Wilson, professor emeritus at the University of California, Berkeley.

After the visit to CSI, the SLC members discussed their interests and vision for the future as well as projects for the coming year, including the 2011 SDC, to be held in San Diego (February 10–12, 2011). Other organizational goals include increasing the interaction between

the SLC and EERI student chapters from the U.S., Mexico, Puerto Rico, and Canada; establishing industry relationships for professional support; and collaborating with other academic and professional committees in holding outreach events for promoting earthquake engineering among students.

For 2010-11, these activities will be led by newly elected co-presidents Arash Khosravifar and Karthik Ramanathan. Other officers are Manuel Archila, Michael Barnes, and Nima Tafazzoli, Seismic Design Competition co-chairs; Behrouz Shafei, secretary; Juan Murcia-Delso, treasurer; Camilo Phillips, student chapter liaison; MingHei Cheng and Vanessa Heckman, webmasters; David Linton, outreach coordinator; Emel Seyhan, historian; and Irene Bendanillo, annual retreat chair.

For more information, visit <http://slc.eeri.org/> or contact the co-presidents at eeri.slc@gmail.com.



*EERI Student Leadership Council members. **Front row (l-r):** A. Sarlis (SUNY Buffalo), I. Bendanillo (CSU Fullerton), J. Dukes (Georgia Tech), V. Heckman (Cal Tech), A. Alipour (URS Corporation), L. Star (UCLA), E. Seyhan (UCLA), A. Stavridis (UCSD), K. T. Hung (BYU). **Back row:** A. Zandieh (U Memphis), G. Rocha (UC Davis), M. Archila (UBC Canada), A. Akthary (CSU Fullerton), C. Phillips (UIUC), K. Ramanathan (Georgia Tech), B. Shafei (UC Irvine), N. Tafazzoli (UC Davis), M. Barnes (UC Berkeley), D. Linton (Oregon State), A. Khosravifar (UC Davis), M.-H. Cheng (CalTech)*

Opportunity

Geotech Faculty Position at UCI

The Department of Civil and Environmental Engineering at University of California, Irvine, invites applications for a tenure-track faculty position in geotechnical engineering. Required: a Ph.D in civil engineering or closely related field and qualifications to teach a range of core undergraduate courses in CEE programs. For more information and to apply, visit <https://recruit.ap.uci.edu/apply>. Review of applications will begin December 1, 2010, and will continue until the position is filled.

News of the Institute

Summary of the Minutes of the Board of Directors Meeting of May 5, 2010

Call to order: President Farzad Naeim called the meeting to order at 8:38 a.m. Also present were Directors William Anderson, Reginald Des-Roches, Marshall Lew, Joseph Maffei, Jack Moehle, Masayoshi Nakashima (online), Ellen Rathje, and Thomas Tobin, Special Projects Manager Marjorie Greene, and Publications Manager Eloise Gilland. Executive Director Jay Berger was unable to attend in person but joined via conference call during portions of the meeting.

Publications Sales Report: Gilland summarized the 2010 Publication Sales Report for the first third of the year, showing total sales of \$8,393, compared to \$18,970 for the same period in 2009. Moehle observed that EERI is missing out in not developing new publications.

Membership Report: The current Membership Report compiled by Juliane Lane shows a decrease in regular members of 52 (1220 compared to 1272) from the same time last year, reflecting a continuing trend of losses in that category. On an optimistic note, the number of e-student members increased by 100 (260 compared to 160).

The Board approved a motion that the Board have the discretion to waive or reduce membership fees for faculty advisors who maintain and promote student chapters, if such action will facilitate the activity of the chapter.

Availability of EERI products on website: Moehle said that members have commented to him that they are upset about paying their dues when so much is available free of charge on EERI's web site. Many professional organizations, such as

SEAOC, protect their information, even though dissemination is their mission. Moehle suggested that, for example, newsletter headings could be publicly available, rather than the whole newsletter. On the other hand, Naeim pointed out that if too much is hidden, exposure to the news media and the general public would suffer. When EERI gets government grants for projects, it is expected the information will be available. The Board approved a motion that EERI staff develop options for reorganizing the website to move member-relevant information to members-only pages, while keeping general information available to the public, such as outlines, summaries, and thumbnails of images.

Liquefaction monograph: The Board discussed whether monographs are supposed to be authoritative, settled literature. Monographs are written by recognized authorities in their fields but not marketed as settled issues. A difference of opinion has existed for a while regarding the controversial aspects of the monograph *Soil Liquefaction During Earthquakes*. Legitimate technical issues need to be aired and discussed. Naeim will assemble a confidential panel of experts to make a recommendation to the Board.

Secretary/Treasurer's Report
Overview of revenue and expense reports: Lew said that, in general, EERI is doing well financially through the first part of the year. The Report of Revenue and Expenses dated March 31, 2010, shows a shortfall in dues revenue of \$120,788 (\$415,268 in revenue vs. \$536,056 budgeted). A substantial portion of the shortfall is due to the Subscribing Member firms that have not renewed yet.

Investment report and overview: The combined balance sheet showed positive revenue for Association Programs of \$455,242 for the first quarter of 2010. Adding this to the opening fund balance for Association Programs (January 1, 2010) of \$257,206 results in a total Fund Balance of

\$712,449 as of March 31, 2010. Association Programs liabilities as of March 31, 2010 were \$185,289, resulting in total assets of \$897,738. The Endowment Program's total assets on March 31, 2010 were \$1,481,621, an increase of \$53,539 over the total on December 1, 2009. The balance for the combined Association, Endowment and Technical Programs is \$2,379,359.

Wells Fargo merchant fees: Berger reported on his recent negotiations with Wells Fargo Bank over their charges to EERI for credit card processing. Wells Fargo has agreed to lower the discount fees from the current 4.5% for online store and conference registration charges and 3.37% for charges keyed in online to 0.5% for both types of charges. As a result of a contract addendum that Berger signed with Wells Fargo to this effect, EERI should save annually, in a non-conference year, roughly \$20,000 to \$25,000 on merchant account fees and possibly an additional ~\$30,000 for 9NCEE registrations, for total savings this year of around \$50,000.

ICC update: Berger indicated that he is working with ICC staff to develop a program in which each organization would offer coupons to members of the other so they can make their own choices of relevant materials. The Board agreed that Berger should continue discussions with ICC regarding (1) EERI partnering with ICC when the skills of earthquake engineers who are familiar with building codes and have global experience are needed, and (2) a collaboration between EERI and ICC on offering 2006 building codes in Spanish at a discount.

China-US Symposium: Several Chinese scientific, engineering, and architectural institutes and agencies are organizing the China/USA Symposium for the Advancement of Earthquake Sciences and Hazard Mitigation Practices, to take place October 11-15, 2010, in Beijing for three days followed by two days in Wenchuan County, the location of

the devastating May 12, 2008, M8.0 Sichuan earthquake. EERI is invited to participate and co-sponsor.

Concrete Coalition – OES funding:

A proposal requesting funding for Phase II of the Concrete Coalition in the amount of \$85,000 has been submitted to CalEMA/FEMA. The project offers a good opportunity for EERI to gain visibility among engineers who are not members, as the major role that volunteers had in Phase I will continue in Phase II. More than 250 volunteers contributed hundreds of hours in Phase I, which, conservatively estimated, amounted to more than \$400,000 in donated time.

2012 National Earthquake Conference: The 2012 National Earthquake Conference Organizing Committee has devised the theme “Historic Earthquakes: Learning from the Past to Protect the Future.” The NEC will be held in Memphis in conjunction with the 2012 EERI Annual Meeting.

New Madrid EQ Scenario: The NMES 2009 Annual Report indicates that the project’s name has changed to become plural (“Scenarios”), because the study will assess “expected earthquakes” smaller than major catastrophic events in three locations: Evansville, Indiana; Memphis, Tennessee; and the St. Louis metropolitan area of Illinois and Missouri. Other cities may be added.

NEHRP update: The legislation (H.R. 3820) that passed the House in early March re-authorizing NEHRP decreased the authorized funding levels considerably. EERI provided a letter in 2008 to House Speaker Pelosi’s office arguing for higher authorization and funding levels. EERI’s recommendation would bring the total appropriation to \$176 million, still well below the previous authorized level of \$192 million in 2004.

The future of LFE: Moehle said that funds must be lined up for LFE’s next phase. Berger will organize a visit to NSF with Naeim, Moehle, and Anderson. Naeim said that EERI

should be flexible and gear its message to NSF’s mission, which they see as focusing on new knowledge.

Housner Bequest update: Tobin talked to Bill Iwan about chairing a committee to explore the feasibility of the plan to implement a Housner Fellows Program proposed by the Ad Hoc Housner Bequest Planning Group.

Agreement with New Zealand Society for Earthquake Engineering (NZSEE): The NZSEE wishes to have a collaborative memorandum of understanding (MOU) with EERI similar to those the Institute has with the associations in Canada, Mexico, Japan, and Australia. The Board approved a motion for EERI to have an MOU with the NZSEE.

Proposed *Spectra* issues on Chile and Haiti earthquakes: Naeim said it was important to get funding for EERI to publish special issues of *Spectra* on both the Haiti and Chile earthquakes. If funding comes from another organization, its logo will go on the cover. Maffei emphasized the importance of EERI having international cooperation. Berger will let *Spectra* editor Polat Gulkan know that there will be two special issues, on the Haiti and Chile earthquakes, with DesRoches and Moehle as guest editors, respectively.

Staff will determine what kind of usage statistics for LFE reports are available from AIP, such as whether they are cited and who has purchased downloads of articles, in order to discern what effects they have on practice. Gabe Mulford will provide web statistics for usage of the clearinghouses and LFE pages.

EERI Chapter in Haiti: Tobin said that he, DesRoches, and Rathje met with Craig Cole, formerly of Degenkolb Engineers, who has said he would help establish an EERI chapter in Haiti. He has a committee that will petition for EERI membership. DesRoches said that EERI’s having a champion in Haiti is critical, but finding one is a challenge. There is an

opportunity to build capacity in Haiti, as no single source of credible information exists there, such as a clearinghouse. Tobin said that one eventual goal is to have a storefront presence disseminating information and training.

New chapters: Tobin would like to start a chapter in New York City. DesRoches is going there this summer. Tobin tries to go monthly. Stanford does not have a student chapter. Rathje called them several times when she chaired the Student Activities Committee. They prefer to encourage students’ involvement in SEAOC.

Increasing publications sales: Moehle accepted Naeim’s appointment to chair the Publications Policy Committee, which as a first order of business will address the need for a new publication series to replace the monograph series. Other ideas to increase EERI’s income stream from publications include creating “best of” series such as best of CDs, best of slide sets, best of reports, etc.

Adjournment: Naeim adjourned the meeting at 3:45 p.m.

Announcement

NRC Pre-Solicitation

The US Nuclear Regulatory Commission has posted a pre-solicitation notice on FedBizOpps.gov for a project entitled, “Earth Pressures on Deep Foundation Walls during Seismic Events” (Solicitation #RS-04-10-160). You can register to be notified as soon as the RFP is out.

The objectives of this contract are to assess existing analytical tools and develop recommendations on their appropriate use for calculating soil pressures and structural response of partially to fully embedded nuclear power plants under seismic loading conditions.

Chang Selected as Distinguished Lecturer

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Disasters: Understanding Human Dimensions (2006). She previously conducted research at the University of Washington and was a consultant for EQE International.

With her strong background in civil engineering, economic geography, and regional science, Chang has developed empirically grounded models that estimate socio-economic disruption of cities struck by natural disasters. One model takes into account disaster damage, interdependencies among infrastructure elements and social units, and a number of other relevant factors (including policy decisions) to present a holistic view of the complexities of community recovery. She grounded her initial insights on recovery in the disaster research literature and later validated her model using empirical data from the Kobe and Northridge post-earthquake recovery processes.

Chang currently serves on the NRC Committee on National Earthquake Resilience — Research, Implementation, and Outreach, and was previously on the Editorial Board of *Earthquake Spectra*. She has chaired EERI's Social Science Research Committee and has served on EERI's Learning from Earthquakes Advisory Committee. She has been a fellow in the Aldo Leopold Leadership Program of the Woods Institute for the Environment at Stanford, and received the 2001 EERI Shah Family Innovation Prize. She earned a B.S.E. in civil engineering from Princeton University (1989) and M.S. and Ph.D. degrees in regional science from Cornell University (1994).

News of the Membership

Award for Cox, Stokoe, Rathje

EERI members Brady R. Cox of the University of Arkansas (UA) at Fayetteville and Kenneth H. Stokoe and Ellen M. Rathje of the University of Texas (UT) at Austin, have received the C.A. Hogentogler Award from ASTM International Committee D18 on Soil and Rock. The Hogentogler Award is presented annually to the authors of a paper of outstanding merit on soil or rock for engineering purposes that is published by the Society. This honor was for the paper, "An In Situ Test Method for Evaluating the Coupled Pore Pressure Generation and Nonlinear Shear Modulus Behavior of Liquefiable Soils," published in the *Geotechnical Testing Journal* in 2009. Cox, a graduate of Utah State University, where he earned a B.S. and an M.S. in civil engineering, received his Ph.D. in civil engineering from UT. An assistant professor in the Department of Civil Engineering at UA since 2006, Cox was the recipient of the EERI-FEMA Graduate Fellowship in 2004. Stokoe was the EERI Distinguished Lecturer in 2004, and Rathje, a member of EERI's Board of Directors, was awarded the 2006 EERI Shah Family Innovation Prize.

Soil Liquefaction Translated

The 2008 EERI monograph *Soil Liquefaction during Earthquakes*, by I.M. Idriss and R.W. Boulanger, has been translated into Romanian by Vlad Perlea and published by Editura Politehnica, Timisoara. Perlea indicates that the translation has been well received in Romania. The publisher has given ten complimentary copies each to technical universities of Bucharest, Timisoara, Cluj, Iasi, and Constanta. With the authors' permission, Perlea added an appendix that includes a summary of liquefaction cases that occurred in Romania during the 1977 Vrancea earthquake.

Call for Papers

BESS 2011: Integrating Practices

The Cal Poly Pomona Department of Architecture and EERI Subscribing Member Simpson Gumpertz & Heger are cosponsoring the 2nd annual Building Enclosure Sustainability Symposium (BESS) 2011: Integrating Design & Building Practices, to be held on the Cal Poly campus April 29–30, 2011.

Architects, engineers, contractors, industry members, and related professionals are invited to submit papers for presentation and publication in the symposium proceedings. Papers should address the following topics: first principles, integrated design process, tools and validation, innovative enclosures and emerging technologies, building systems' optimization and integration, and rehabilitation and preservation.

Papers are due December 13, 2010, at 3:00PM (PST). For more information, visit www.besssymposium.org.

Subscribing Member News

CSI Issues CSiBridge

EERI Platinum Subscribing Member Computers and Structures, Inc., has announced the release of CSiBridge, a new comprehensive software product for the structural and seismic analysis, design, and rating of simple and complex bridges, enabling the quick design and retrofitting of steel and concrete bridges. All operations are integrated across a single user interface that provides a user-friendly, intuitive workflow environment. Bridge models are created parametrically, saving engineering time while redefining the standards of accuracy and versatility.

For complete details about the release, visit http://www.csiberkeley.com/CSiBridge_news/v15/.

Call for Abstracts

STESSA 2012

The 7th International Conference on the Behaviour of Steel Structures in Seismic Areas (STESSA) will be held January 9-11, 2012, in Santiago, Chile, organized by the University of Chile. Papers are invited in the following general areas: minimizing earthquake-induced structural and nonstructural damage to new steel structures; retrofit to improve the seismic performance of existing, critical structures; understanding the collapse behaviour of steel structures under extreme seismic loading; and utilizing advanced laboratory facilities to understand and improve the seismic performance of steel structures. For more information and abstract submission instructions, visit <http://www.ingcivil.uchile.cl/stessa2012>. Abstracts are due by December 31, 2010.

CALENDAR

The issue containing the first appearance is indicated at the entry's end. Items listed for the first time are shown in bold.

2010

NOVEMBER

3. SEAONC Retrofit Case Studies Seminar, San Francisco, CA. Info: www.seaonc.org/member/index.asp (10/10)

4. Young Engineers Conference, London, United Kingdom. Info: www.cege.uci.ac.uk/events/yec (5/10)

4. EERI Seminar on FEMA 547, Seattle, WA. Info: <https://www.eeri.org/registration/tech-seminar.php> (9/10,10/10)

5. EERI Seminar on FEMA 547, Salt Lake City, UT. Info: <https://www.eeri.org/registration/tech-seminar.php> (9/10,10/10)

10. SEAONC Retrofit Case Studies Seminar, San Francisco, CA. Info: www.seaonc.org/member/index.asp (10/10)

18-19. Short Course on Risk-Based Seismic Design and Evaluation, Redwood City, CA. Info: www.asce.org/Content.aspx?id=7238 (10/10)

19. COSMOS Annual Meeting & Technical Session, Millbrae, California. Info: www.cosmos-eq.org (10/10)

DECEMBER

1-3. 3rd Asia Conference on Earthquake Engineering (ACEE 2010) Bangkok, Thailand. Info: <http://acee2010.com/> (7/10)

18-20. 11th International Symposium on Structural Engineering (ISSE-11), Guangzhou, China. Info: <http://www.isse-11.org> (2/10)

2011

JANUARY

10-13. 5th International Geotechnical Earthquake Engineering Conference (5-ICEGE), Santiago, Chile. Info: www.5icege.cl (11/09)

26-28. 12th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-12), Hong Kong. Info: http://bccw.cityu.edu.hk/easec12/wp_special_session.asp (5/10)

FEBRUARY

9-12. EERI Annual Meeting, La Jolla, CA. Info: www.eeri.org/site/2011-annual-meeting. See page 1. (4/10, 9/10, 10/10, 11/10)

18. Khan Lecture Series, Lehigh University, Bethlehem, PA. Info: www.lehigh.edu/frkseries (10/10)

MARCH

25. Khan Lecture Series, Lehigh University, Bethlehem, PA. Info: www.lehigh.edu/frkseries (10/10)

APRIL

8. Khan Lecture Series, Lehigh University, Bethlehem, PA. Info: www.lehigh.edu/frkseries (10/10)

29-30. BESS 2011, Pomona, CA. See page 6. (11/10)

MAY

16-18. Sixth International Conference on Seismology and Earthquake Engineering (SEE6), Tehran, Iran. Info: www.see6.ir (8/10)

26-28. COMPDYN 2011: 3rd International Conference on Computational Methods in Structural Dynamics & Earthquake Engineering, Corfu, Greece. Info: <http://www.compdyn2011.org/> (10/10)

JUNE

26-28. GeoRisk 2011, Atlanta, GA. Info: www.georisk2011.org (8/10)

27-July 8. 25th International Union of Geodesy and Geophysics (IUGG) Assembly, Melbourne, Australia. Info: <http://www.iugg2011.com/> (6/09)

JULY

4-6. 8th European Conference on Structural Dynamics (EURODYN 2011), Leuven, Belgium. Info: www.eurodyn2011.org (6/10)

AUGUST

30-Sept. 1. 3rd International Workshop on Performance, Protection, & Strengthening of Structures under Extreme Loading (Protect 2011), Lugano, Switzerland. Info: www.protect2011.supsi.ch (8/10)

OCTOBER

2-6. 7th World Congress on Joints, Bearings, & Seismic Systems for Concrete Structures, Las Vegas, NV. Info: www.ijbrc.org/ (8/10)

2012

JANUARY

9-11. STESSA 2012, Santiago, Chile. See this page. (11/10)

FEBRUARY

15-18. 4th International Conference on Grouting & Deep Mixing, New Orleans, LA. Info: www.dfi.org/conferencedetail.asp?id=163 (5/10)

SEPTEMBER

24-28. 15th World Conference on Earthquake Engineering (15WCEE), Lisbon, Portugal. Info: www.15wcee.org (8/10)



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EERI Newsletter, November 2010 Volume 44, Number 11

News of the Profession

PEER/NEES Blind Prediction Contest

During September, EERI Subscribing Member PEER organized the Blind Prediction Contest for the full-scale reinforced concrete bridge column tested on the NEES Large High-Performance Outdoor Shake Table at UCSD's Englekirk Structural Engineering Center. (See page 1 of the October *Newsletter* for a photo of the column being tested.)

More than 50 teams registered for the contest and 41 teams submitted complete entries. The contest applicants were required to predict the global and local response of the specimen to six different earthquake records, including the failure mode, maximum displacement, moment demand, acceleration, shear force, axial force, curvature, strain, residual displacement and several other parameters.

Based on a comparison of the submitted response predictions and measured response quantities, overall winners were identified by the contest judges in two contest categories: professional engineer and researcher.

There was a tie for first place in the professional engineering category:

- **Lawrence Burkett** of Rutherford & Chekene, San Francisco, California, used the program SeismoStruct in conjunction with

force-based fiber elements for his winning entry.

- **Bill Tremayne** of Holmes Culley, San Francisco, used the program ANSR for his predictions. The column was modeled using 3D beam-column elements with concentrated plastic hinges that exhibit degrading strength and stiffness.

The first-place winner in the research category was ZheQu of the Tokyo Institute of Technology, Yokohama, Japan, using the program Abaqus with 2-node linear beam elements having end fiber sections employing special user-defined steel and concrete material property models.

The judges recognized the following six entries from both categories for their excellence in predicting some important parameters:

- **Antonio Arede and team**, faculty of engineering of the University of Porto, Portugal, used the program SeismoStruct in conjunction with an inelastic force-based element.
- **Eric Kelley and team**, Parsons Brinckerhoff, Inc., used the program SAP Release 14.1.0 with a Fiber Hinge model.
- **Otton Lara and team**, Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador used OpenSees with a nonlinear fiber-based beam-column element.
- **Bruce Maison**, consulting engineer, El Cerrito, California, used

PC-ANSR with fiber-hinge type elements.

- **Rui Pinho and team**, researcher, EUCENTRE, Pavia, Italy used the program SeismoStruct with a displacement-based fiber beam element.
- **Andreas Schellenberg**, Rutherford & Chekene, used OpenSees with a force-based beam-column element.

Certain types of modeling approaches were better able to predict certain response parameters, while other approaches did better at simulating others. PEER is currently compiling the results of the contest for a final report that will identify such trends. A summary will appear in an upcoming EERI *Newsletter*.

All winners were announced at Quake Summit 2010, the PEER and NEES Annual Meeting.

For more information, visit: http://nisee2.berkeley.edu/peer/prediction_contest/.



Bill Tremayne's Column Model