



EARTHQUAKE ENGINEERING RESEARCH INSTITUTE NEWSLETTER

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News of the Institute

Online Registration for 2010 Annual Meeting

Registration and detailed program information will be available online by November 15 at www.eeri.org for the 2010 EERI Annual Meeting, which will be held February 3-6, 2010, in downtown San Francisco, California, at the Parc 55 Hotel. With the theme "Back from the Future," the planning committee has created an exceptional program that kicks off in a future year — 2056 — with a repeat of the 1906 San Francisco earthquake. The reconnaissance efforts of 2056 reveal that, remarkably, casualties and damage are less than expected. Sessions will explore the breakthroughs in engineering, public policy, research, and education that are needed to achieve such a minimal level of damage. The program brochure will be mailed to all EERI members later this month.

The hotel's group room rate for EERI is \$209 plus tax. Hotel reservations can be made from a link on the page noted above. In order for EERI to fill its room block, reservations must be made by January 13, 2010, but don't delay — the hotel might fill up before that date!

Attention undergraduates: We encourage academic and student members to let undergraduates know that the 7th Annual Undergraduate Seismic Design Competition will be held during the Annual Meeting (see enclosed poster).



A cable car climbs Hyde Street in San Francisco, with Alcatraz in the background (SFCVB photo by Lewis Sommer).

Sharon Wood Named 2010 EERI Distinguished Lecturer

Sharon L. Wood, the Robert L. Parker, Sr., Centennial Professor in Engineering in the Department of Civil, Architectural, and Environmental Engineering at the University of Texas at Austin, and the chair of the department, is EERI's 2010 Distinguished Lecturer. She will present her lecture for the first time during EERI's 62nd Annual Meeting in February 2010 in San Francisco.

Wood's current research interests include developing sensor networks to monitor the condition of civil infrastructure systems, investigating the fatigue response of fracture-critical bridges, and improving the seismic response of reinforced concrete buildings.

An EERI member since 1986, Wood is past director of the Phil M. Ferguson Structural Engineering Laboratory, one of the nation's leading research centers in the large-scale study of the behavior of bridges, buildings, and structural components.

Wood has served on the Editorial Board for *Earthquake Spectra* and chaired the EERI Technical Seminars Committee. She has participated in post-event investigations of the 1985 Chile, 1994 Northridge, and 1999 Turkey earthquakes. She found that buildings in Chile performed well during the earth-



Sharon L. Wood

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News of the Institute

EERI Endowment 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.

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Distinguished Lecturer *(continued from page 1)*

quake because Chilean engineers tended to use structural walls to resist both gravity and lateral loads. In Northridge, she found that parking garages were susceptible to a brittle mode of failure in the floor diaphragms and made recommendations to help prevent this type of failure in the future.

Wood currently serves on the Structural Concrete Building Code Committee for ACI and the national Advisory Committee on Earthquake Hazards Reduction. She previously served on the Scientific Earthquake Studies Advisory Committee for USGS and chaired the National Steering Committee for the Advanced National Seismic System.

She also served on the 2008 Provisions Update Committee for BSSC and the Advisory Committee on Structural Safety for the Department of Veterans Affairs. She is a past member of the Board of the NEES Consortium and ACI, and is the past chair of the Technical Activities and Publications Committees within ACI.

Wood received the Alfred Noble Award from ASCE, the Joe W. Kelly and Henry L. Kennedy Awards from ACI, and the A.J. Boase Award from the Reinforced Concrete Research Council. She is a fellow of ACI.

She earned degrees in civil engineering from the University of Virginia (BS) and the University of Illinois (MS and PhD), and taught at UI for ten years before joining UT in 1996. She received the 2007 Distinguished Alumnus Award from the UI Civil and Environmental Engineering Alumni Association.

RC Tutorial Translated for Indonesia

EERI member Sugeng Wijanto, principal of PT Gistama Intisemesta of Jakarta, Indonesia, and his colleague Takim Andriano have translated EERI's World Housing Encyclopedia tutorial, *At Risk: The Seismic Performance of Reinforced Concrete Frame Buildings with Masonry Infill Walls*, into Bahasa and had it printed for distribution in Indonesia. The next edition of the tutorial will include their chapter on specific Indonesian construction practices.

This tutorial is one of the most significant documents to come out of the WHE and has important lessons for construction practice around the world. By producing this translation, Wijanto and Andriano have taken an important step in ensuring that these lessons are shared among contractors and engineers in their country.

To download the English version of the tutorial at no charge, visit <http://www.world-housing.net/>. Tutorials on construction of adobe buildings (in English and Spanish) and masonry houses (in English, Spanish, and Chinese) are also available.

Electronic Voting

Instructions on how to cast your ballot electronically in this fall's election for the EERI Board of Directors will be e-mailed to members and also provided in the December *Newsletter*. If in doubt, check with your network administrator to make sure e-mail from EERI can get through. You can check your information in the online Roster by visiting 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 and edit it.

If you prefer to vote by paper ballot, e-mail Juliane Lane at juliane@eeri.org no later than November 13, 2009, or call 510/451-0905.

News of the Institute

EERI/FEMA Professional Fellowship Awarded to Arzhang Alimoradi

Arzhang Alimoradi, a senior research engineer at John A. Martin & Associates, Inc., in Los Angeles, and a lecturer at the University of Southern California, has been selected as the 2010 NEHRP Professional Fellow in Earthquake Hazard Reduction, awarded by EERI under a cooperative program funded by the Federal Emergency Management Agency. Granted annually by FEMA as part of the National Earthquake Hazards Reduction Program, this fellowship provides an opportunity for a practicing professional to gain greater skills and broader expertise in earthquake risk reduction.

Alimoradi will work with James Beck, professor of engineering and applied science at the California Institute of Technology, on multidisciplinary research into a novel approach to improve seismic hazard assessment and ground motion simulation, by applying machine learning tools.

According to Beck, this research “has the potential to influence the practice of designing safer structures...by broadening our understanding of complex processes that result in strong ground motion generation and propagation.” Alimoradi hypothesizes that the effects of dynamic processes resulting in a record of ground motion during a seismic event have to be reflected in the waveforms generated by them. “Therefore, a careful study of the generated data ... may reveal information that is not available in more common methods of forward analysis and assessment of ground motion shaking and seismic hazard.”

Alimoradi’s teaching and practice apply multidisciplinary research findings to critical engineering problems. He has published more than 30 papers, reports, book chapters, and computer software in peer-reviewed venues. He originated the



Arzhang Alimoradi

EERI Annual Graphics Competition in 2006 and continues to oversee it. He earned his Ph.D. from the University of Memphis in 2004 and is an alumnus of the International Institute of Earthquake Engineering and Seismology in Tehran, Iran.

The fellowship will commence in January 2010 and provides a stipend of \$30,000, for tuition, fees, and living expenses for a 12-month period. The Institute extends thanks to the reviewers, Thalia Anagnos of San Jose State University and Jack Moehle of the University of California, Berkeley.

Call for Abstracts

New Madrid Chapter to Hold Student Poster Competition

EERI’s New Madrid Chapter (NMC) is organizing a student poster competition. The two levels of prizes are graduate and undergraduate, with first place awards of \$350 and \$250, respectively. Second place awards will also be given.

All students will present their posters in a professional forum at the competition during Earthquake Awareness Week (late January or early February 2010) in St. Louis, Missouri. Awardees will be acknowledged during the week’s activities and will have earned an honor useful for their resumes and employment searches. If the competition is held during the first week of Febru-

ary, students who wish to attend the EERI Annual Meeting can submit posters without attending EQ Awareness Week.

Students may apply for the competition by submitting an application with a tentative abstract. The topic can be any discipline of earthquake hazard study or earthquake-resistant design. Disciplines may include seismology, geology, engineering, response and recovery issues, and socio-economic issues. Topics related to central U.S. earthquakes may receive higher scores.

Application forms and competition rules are available from a link on EERI’s home page, www.eeri.org.

Individual student applicants or groups (maximum of three per group) are welcomed. Completed applications with abstracts must be received by Wednesday, December 9, 2009. Applicants will be notified of decisions by Friday, December 18. The exact date and location in the St. Louis area will accompany the notices.

In addition to preparing a poster, accepted student entrants will give a five-minute presentation (unless they are attending the EERI Annual Meeting). The poster will include the final abstract, a problem statement, references, and a researched conclusion. The posters may be retained for other events during EQ Awareness Week by the NMC.

For additional information, contact Greg Hemen at greg_hemen@urscorp.com.

Learning from Earthquakes

EERI Team to Padang, Indonesia

Check out first-hand reports from the field posted by members of the EERI Padang, Indonesia, earthquake reconnaissance team on the blog site <http://www.eqclearing-house.org/20090930-padang/>.

Under the leadership of Professor Gregory Deierlein of Stanford University, the team comprised of researchers and practitioners from various fields departed Wednesday, October 7th. It investigated the September 30, 2009, M7.6 earthquake that struck off the coast of West Sumatra, Indonesia, near the city of Padang, causing thousands of casualties, extensive building damage, and ground failure. The government estimates 3,000 fatalities, including many missing in rural communities wiped out by landslides. In Padang, around 100,000 houses were severely damaged, while scores of public buildings collapsed. Much of the structural damage in this event occurred to engineered structures. More than 1.1 million residents live in the quake-hit districts, the United Nations estimates, and tens of thou-

sands of people are believed to have been displaced.

In addition to Deierlein, team members included Nick Alexander, Degenkolb Engineers; Veronica Cedillos, Geohazards International; Louise Comfort, University of Pittsburgh; Tim Hart, Forell/Elsesser Engineers; Elizabeth Hausler, Build Change; Scott Henderson, consulting engineer; Sindhu Rudianto, geotechnical engineer; Sugeng Wijanto, Pt. Gistama Intisemesta; and Kelly Wood, Stanford University. They are coordinating with several additional EERI members in the field, including Carlos Cabrera of RMS and Andrew Kizzee of Engineering Ministries International, and with teams from Degenkolb Engineers,



Team members Wood and Cedillos survey a collapsed (first-story) government building where two people were killed and 80 reportedly survived, some by rushing out of the first floor and others who remained in place on the upper floors.

the U.S. Geological Survey, and Bandung University.

Funding support for this reconnaissance is being provided by the U.S. National Science Foundation, with additional support from Degenkolb Engineers, Forell/Elsesser Engineers, the Blume Center of Stanford University, PEER, and the University of Pittsburgh. A more complete special report will be included in a future *Newsletter*.

News of the Membership

Tsunami Evacuation Options in Padang

Padang, West Sumatra, has one of the highest tsunami risks in the world due to its high offshore earthquake hazard, flat terrain, and large population. Recent research indicates a high probability of a wave 5-10 meters high striking Padang in the next several decades. If that tsunami were to occur today, approximately 50,000 inhabitants would be unable to reach high ground.

GeoHazards International (GHI) launched a partnership in January 2009 with Stanford University's chapter of Engineers for a Sustainable World (ESW) and several Indone-

sian organizations to evaluate activities that could save lives.

EERI member Veronica Cedillos of GHI and ESW volunteers (advised by EERI member Greg Deierlein) developed a Spring 2009 one-quarter course at Stanford to evaluate the feasibility of developing Padang's infrastructure that could be used for tsunami evacuation. EERI members Bill Holmes (Rutherford & Chekene) and Jon Heintz (ATC) were among the course's guest speakers.

Tsunami evacuation infrastructure can include earthquake-resistant bridges and structures that rise above the maximum tsunami water level and that can withstand the expected earthquake and tsunami forces.

The ESW-GHI course concluded that there is a need for a thorough, engineering-based evaluation of the suitability of existing buildings to serve as evacuation structures and existing bridges to serve as elements of evacuation routes. Also, additions to the evacuation infrastructure must take into account technical matters, social considerations, and political issues.

GHI hopes to collaborate with U.S. and Indonesian engineers to develop designs of new tsunami shelters and to provide training for Indonesian authorities to evaluate the potential of existing structures to serve as shelters. For more information, visit www.geohaz.org and <http://esw.stanford.edu>.

Learning from Earthquakes

EERI Team to Samoa

With funding from the U.S. National Science Foundation (NSF), EERI member and structural engineer Steven Baldrige, president of Baldrige and Associates in Honolulu, Hawaii, visited Pago Pago,

American Samoa, to investigate structural damage associated with the M8 earthquake and the resulting tsunami of September 29, 2009. He traveled in part with a tsunami survey team, funded separately from NSF, and headed by EERI member Hermann Fritz of Georgia Tech. EERI has also provided partial

support to a team that traveled later in October to investigate emergency and coastal management issues. Baldrige provided the photos on this page. For more information, visit <http://www.eqclearinghouse.org/20090929-samoa/>. A more complete special report will be included in a future *Newsletter*.



Figure 1: Within the inundation zone, most of the wood-framed residences were leveled down to the foundation.



Figure 2: Many of the low-lying villages have churches near and facing the ocean. The typical construction is a combination of concrete frames and concrete masonry unit (CMU) infill. In several cases, the tsunami entered churches through the front door and flowed out the windows along the sides of the church. While doors, windows, and interior furniture were damaged, the structures did not appear to have any distress from the hydrodynamic loading. This picture shows the pews having been ripped from the slab as the tsunami flow rushed through the church.



Figure 3: In addition to damage from the tsunami, floating debris such as vehicles and empty shipping containers caused localized damage to buildings.



Figure 4: While most CMU buildings withstood the tsunami, those that were poorly constructed did not fare well. The house in this picture was leveled to its foundation, while other nearby masonry buildings survived. Many of the block cells in the walls of this building were not grouted, including many that had reinforcing steel in them.



Figure 5: This CMU residence withstood most of the force of the tsunami except for an area at the back. It appears that some scouring of the foundation may have weakened the connection of the CMU walls at their base. The water passing through the house and trying to exit through small window openings would have created large forces on this wall.

Learning from Earthquakes

The M_w 6.4 Tucacas, Venezuela Quake of September 12, 2009

Francisco Garcés, President of the Venezuelan Foundation for Seismological Research (FUNVISIS), provided the following information. This report is published by EERI as part of the Learning from Earthquakes Program, with funding from the National Science Foundation under grant #CMMI-0758529.

An M_w 6.4 earthquake struck off the coast of northern Venezuela on September 12, 2009, at 3:40 pm local time (20:10 UTC). It had a focal depth of 5.8 km and a focal mechanism that expresses almost pure right lateral strike slip movement. Maximum estimated intensity was highest in Tucacas, with an 8 on the European Macroseismic Scale. There were no deaths and around 20 injuries.

The epicentral region 110 km west of Caracas is in a complex zone of transition of seismic forces from the southwest-northeast striking Boconó fault system to the west-east striking Oca-Ancón and San Sebastián fault systems. An increase in regional seismicity had been observed since early 2009, with an M_w 4.3 quake 80 km west on April 5 (San Sebastián

system), an M_w 4.2 on the Oca-Ancón fault system later the same day, and an M_w 4.4 quake near Tucacas on April 6. These events were followed by an M_w 5.4 on the La Victoria fault 30 km further south (Figure 1).

There was minor to moderate damage to buildings in Tucacas and Chichiriviche tourist villages. Damage distribution indicates a strong directivity, as no damage was observed directly south of the epicenter (30 km from the coastline), but further west for 50 km. Soil liquefaction was observed at a few places in Tucacas, Boca del Tocuyo, and Chichiriviche, generally concentrated at beach sediments, sand bars and abandoned meanders. Predominant mechanisms were deformation of granular

sediments and vertical flow of sand and water columns up to 2 m in height. We observed single cracks (Figure 2) and multiple cracks intersected by sand boils. Excavations in Boca del Tocuyo revealed liquefaction horizons at a depth of about 1.5 m, confined by cohesive clays of low permeability and varying thickness. Liquefaction was largely confined to sparsely populated areas, with the exception of Chichiriviche, where some buildings and lifelines (streets and electric lines) were damaged.

In the same region, an M_w 6.2 event in 1989, located close to the Falcón coastline, generated widespread soil liquefaction and lateral spread in Boca del Tocuyo. The difference between this and the 2009 event might have been the source time function with a complex rupture process for the 1989 event, and probably a simple short rupture on September 12, 2009.

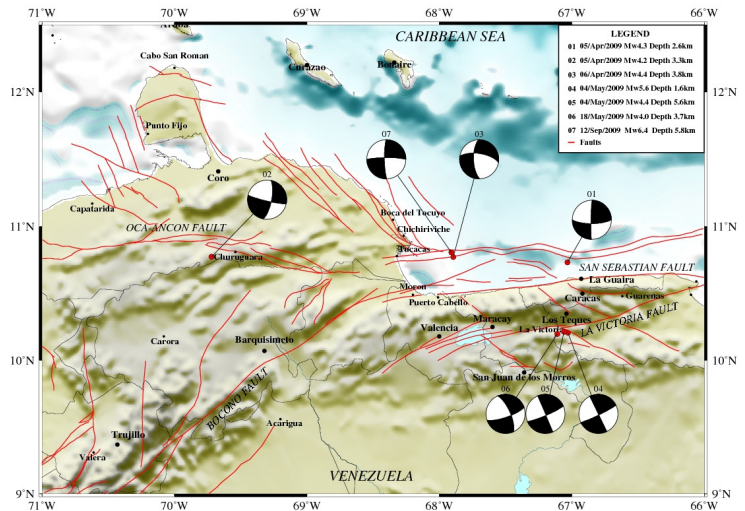


Figure 1. Focal mechanisms of quakes since April 2009 in central northern Venezuela. All events were near-surface (maximum 5.8 km depth) and showed right lateral strike slip mechanisms.



Figure 2. Typical liquefaction.



Figure 3. Loss of the concrete cover and bulging of rebars in base columns in building in Tucacas.

continued on next page

Venezuela Earthquake

continued from page 6

Structural damage can be attributed largely to inadequate building configurations (soft first story, short column, irregular mass distribution). Two buildings in Tucacas showed failure of the concrete core, loss of the concrete cover, and buckling of rebars in some basement columns (Figure 3). There were minor to moderate cracks observed in some brick walls.

The active fault zones in central Venezuela create a moderate seismic hazard for the main cities in the region, evidenced by major earthquakes in 1812, 1900, and 1967, which caused destruction in Caracas as well as in other cities. There is evidence that the 1812 quake was caused by activity in two fault systems (Boconó and San Sebastián), and the recent quakes indicate a similar interaction.

Publication

EQ Resistant Design and Risk Reduction

John Wiley & Sons recently announced publication of the 2nd edition of *Earthquake Resistant Design and Risk Reduction*, by EERI member David J. Dowrick of New Zealand. New topics in this edition include the building of low-damage structures and the spatial distribution of ground shaking near large fault ruptures. Sections on guidance for developing countries, response of buildings to differential settlement in liquefaction, performance-based and displacement-based design, and the architectural aspects of earthquake-resistant design are heavily revised. This book is a valuable reference and guiding tool to practitioners, architects, researchers, postgraduate students, and government officials. To place an order (US\$145), visit <http://www.wiley.com>.

News of the Institute

EERI-ICC Membership Agreement

EERI is pleased to announce the signing of a new agreement between EERI and the International Code Council (ICC) for the purpose of each organization promoting new membership in the other through offering discounts. Each organization agrees to offer its own members a discount of 30% off the purchase of an annual membership in the other organization. Each organization will offer this benefit domestically and internationally to all membership applicants. Both organizations will promote the discounted memberships as benefits of joining, with links provided from the members-only areas of both web sites.

ICC will identify publication materials that can be offered to EERI members who join ICC in lieu of one of the I-Codes that are typically offered as part of ICC's member benefits. Electronic materials will be included particularly to facilitate the offer to international members.

The 30% discount applies to the first year of membership only, not to renewals.

SEAONC Structural Steel Buildings Seminar

EERI is cosponsoring a two-part seminar on "Structural Steel Buildings from Inception to Completion" offered by the Structural Engineers Association of Northern California. EERI members will get the SEAONC member rate to attend the seminar, which is being held on two consecutive Thursday evenings: November 5 and November 12, in the PG & E Auditorium, 245 Market Street, San Francisco.

Evening 1, November 5th, 2009:

General Overview: *Tim Hart, S.E.*

Gravity Framing for Structural Steel Buildings: *Blake Dilsworth, S.E.*

Underlying Concepts in Seismic Steel Design Provisions for Moment

Frames: *Chia-Ming Uang, Ph.D., P.E.*

Evening 2, November 12th, 2009:

Steel Braced Frame Systems:

Walterio Lopez, S.E.

2010 Updates to AISC 341 — Seismic Provisions for Structural Steel Buildings: *James O'Malley, S.E.*

Constructability Issues in Steel Construction: *Gary Glenn*

To view a more detailed program and speaker bios, visit <http://www.seaonc.org/pdfs/09%20Fall%20Seminar.pdf>. Registration is no longer possible online. To register (\$210 for both dates), contact Ken Miles at kmiles@seaonc.org or call (415) 974-5147.

Publication

Building Control with Passive Dampers

EERI member Izuru Takewaki of Kyoto University's Department of Urban and Environmental Engineering, Japan, has recently completed the hardcover book *Building Control with Passive Dampers: Optimal Performance-Based Design for Earthquakes*, published by John Wiley & Sons (Asia).

Because structural engineers often lack the tools for the optimal selection and placement of passive structural control systems, Takewaki brings together in this book the most the reliable, state-of-the-art methods in practice around the world. The 320-page book can be ordered for \$160 online at <http://as.wiley.com/WileyCDA/WileyTitle/productCd-0470824913.html>.

News of the Institute

Summary of the Minutes of the Board of Directors Meeting of May 20, 2009

President Farzad Naeim called the meeting to order at 8:36 a.m. Also present were Directors Thalia Anagnos, William Anderson, Reginald DesRoches, S. K. Ghosh, Marshall Lew, Jack Moehle, Executive Director Susan Tubbesing, and Publications Manager Eloise Gilland. Directors Nakashima and Whittaker were unable to attend.

Publications sales report: The Publications Report reflecting sales as of April 30, 2009 showed a 268% increase over the same time in 2008, primarily because the very popular monograph, *Soil Liquefaction During Earthquakes*, was issued in September 2008. Sales have been extremely good and co-authors Idriss and Boulanger have offered to present more seminars to reach more members throughout the country. The monograph is also available as EERI's first E-book and has generated solid sales in this format, as well.

Membership report: The Membership Report as of May 18, 2009, showed a slight decline in most categories. Naeim suggested that there should be a permanent Membership Committee. Staff will update the membership trends report generated in 2005 and provide it to Board members. Retention of members is key. Naeim said the issue of membership development would be put on the agenda for the next Board meeting.

The Membership Report shows a distressing decline of 30% in student memberships over the past year. Naeim observed that some student chapters are not as active as they once were, and that the chapters should have a way to communicate with each other. Anagnos advocated having the Student Leadership Council create a program to mentor incom-

ing chapter leaders on best practices to keep their chapters active, so they don't lose momentum when leaders graduate. Moehle requested a report on the reasons for the declining number of student members and suggested that the Executive Committee address the issue.

DC Trip: Naeim reported on his visit to Washington, D.C., with Executive Director Tubbesing and members of EERI's Public Policy Committee — Arrietta Chakos, Director of the Acting-in-Time Disaster Recovery Project at Harvard's Kennedy School, and Judith Mitrani-Reiser, an EERI Young Professional member on the engineering faculty at Johns Hopkins University.

They met with congressional representatives, NSF, FEMA, NIST, and USGS, and visited the offices of Senator Feinstein, who sits on the Senate Appropriations Committee, Senator Boxer, and House Speaker Pelosi. They visited with the House Science and Technology Committee, which has jurisdiction over the NEHRP reauthorization, and with the House Homeland Security and Transportation and Infrastructure Committees, which have oversight over FEMA and the Stafford Act, respectively. They spoke on behalf of NEHRP reauthorization and the importance of increasing funding and not diluting it with a broader charge.

ICC partnership for international code adoption: Naeim reported that Mark Johnson, ICC vice president, has proposed a partnership between ICC and EERI. The Board approved a motion to continue discussions with ICC to learn more about the kind of agreement ICC has in mind.

Spectra Report: The Board reviewed a letter of April 10, 2009, from Thomson Reuters indicating that *Earthquake Spectra* has been selected for coverage in *Science Citation Index*. Naeim observed that this will further enhance *Spectra's* impact factor. It is an especially auspicious development in light of the upcoming 25th anniversary issue, which will

have an article by the former editors.

Secretary/Treasurer's Report
Overview of revenue and expense reports: Reviewing the Combined Balance Sheet of April 30, 2009, Lew remarked that cash flow has been good so far this year, with no reserve funds needing to be tapped. The Annual Meeting in Salt Lake City lost less money than expected — \$16,000 rather than \$18,800 as projected. Usually meetings outside California create a larger deficit, but holding it jointly with WSSPC increased attendance and reduced losses.

Publications revenue has been better than expected. The addition of the Soil Liquefaction seminar series brought technical seminar revenues up to \$67,000 over expenses, reaching 69% of budgeted revenue for the entire year. Revenue generated by the fall NGA seminar series is projected to bring revenues above budgeted goals. The 9NCEE Committee has been working hard on the joint national conference for next summer, and has received more abstracts than expected. That may translate into higher attendance than projected and generate additional revenue.

The combined balance sheet showed an opening fund balance of \$174,613 increased by \$444,394 in revenue over expenses. EERI's total liabilities of \$156,471 combined with the total fund balance of \$619,007 equaled \$775,478. The Endowment Program's total liabilities in the amount of \$331,062 combined with the total fund balance of \$691,842 equaled \$1,022,905. The balance of the combined association, endowment, and technical programs equaled \$1,798,382.

Investment report and overview: The investment report indicates that the value of the Endowment Fund is \$640,305, reflecting an increase of \$50,000 in April. At \$134,825, the Shah Prize Fund gained almost \$8,000 in April. The cash prize awarded this year was \$5,000, rather

than the usual \$10,000. At \$170,098, the Friedman Fund increased by \$11,000 in April. The Board approved the Treasurer's report unanimously.

OES Concrete Buildings Project: Volunteers are collecting data on the number of nonductile concrete buildings in cities throughout California. The data are being organized by EERI member David Bonowitz, who will help interpret various statewide databases. Marjorie Greene is coordinating information with PEER's NEES Grand Challenge Project which focuses on concrete buildings in Los Angeles.

ICC publication sales agreement: EERI has begun to sell ICC publications in the EERI online store. ICC in return is selling EERI publications via the ICC website. We will evaluate the impact of this arrangement on publications revenues over the next few months.

Geo-Institute Agreement: Ed Kavazanjian, EERI member and officer of the Geo-Institute of ASCE, drafted a partnership agreement that was accepted by the Board. EERI and the Geo-Institute agree to promote each other's conferences, publications, and seminars. EERI is hoping to reach more geotechnical engineers through this new partnership.

Future Annual Meetings: The 2010 Organizing Committee, chaired by David Friedman of Forell/ Elsesser, is making plans for the Annual Meeting at the Parc 55 Hotel in San Francisco February 3-6. The theme is "Back from the Future," based on an earthquake reconnaissance investigation in 2056, 150 years after the 1906 San Francisco earthquake. The committee is currently developing the sessions and identifying speakers.

Tubbesing has signed a contract with the Hyatt Regency La Jolla (San Diego) for the 2011 Annual Meeting. Having this in place will save the new Executive Director from having to select a venue immediately upon arrival. The hotel is close to UCSD and offers adequate space for the technical

sessions and the annual student design competition.

SSA Associate dues increase: SSA has approved increasing EERI Associate dues from \$50 to \$60. Anderson moved that the Board approve increasing SSA Associate dues from \$50 to \$60. The motion was seconded and passed unanimously.

Alquist Award recommendation: The Honors Committee has recommended to the Board that the name of the Alquist Medal be changed to the Alfred E. Alquist Special Recognition Medal, since it will replace EERI's previous special recognition award. EERI's name and logo will replace the name of the California Earthquake Safety Foundation on the medal. Tubbesing will oversee the design process to ensure the new medal is ready before February 2010.

Housner bequest project funding plan: Naeim reported that he had talked to many of Housner's colleagues and former students. All agreed that the gist of his legacy was the global effort to enhance life safety. He would not have been interested in the funds being preserved.

After lengthy discussion, the Board authorized a two-day workshop in conjunction with the September Board meeting. Attendees will be invited and asked to bring ideas on using the Housner gift to contribute to life safety in countries with a potential for great loss of life in future earthquakes.

Joint US/Canada National Conference: 1,400 abstracts have been received. Gilland is working with Mira Publishers and the technical program chairs Cathy French and Shamim Sheikh on the review process. To accommodate the large number of papers, they are planning on 10 concurrent sessions and 100 posters per day. Gilland worked on recruiting non-financial cosponsors before the abstract submission deadline. There are now close to two dozen who promoted the conference to their mem-

bers, which is one reason so many abstracts were received. Members of cosponsoring organizations will receive the EERI member registration rate.

Appointment of new chair to Younger Members' Committee:

The Board approved the appointment of Christine Goulet of URS Corporation as the new chair of the Younger Members' Committee. The previous chair, Arzhang Alimoradi, will be invited to continue to chair the Annual Graphics Competition.

L'Aquila earthquake reconnaissance and briefing:

Tubbesing reported that the briefing on the L'Aquila, Italy, earthquake will be videotaped. Lew mentioned that members of the reconnaissance team have agreed to speak at a regional chapter activity at USC in cooperation with SCEC.

The meeting was adjourned by President Naeim at 4:38 p.m.

Announcement

Registration Open for 5ICGEESD

Online registration is now available for the Fifth International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics and Symposium in Honor of Professor I.M. Idriss, to be held May 24-29, 2010, in San Diego, California. More than 460 papers from 52 countries have been received. For more information and to register, visit [http:// 5geoeq-conf2010.mst.edu](http://5geoeq-conf2010.mst.edu).



Earthquake toy

News of the Profession

Global Earthquake Model Survey

The Global Earthquake Model (GEM) is a unique private-public alliance with the mission of producing software and tools that help to reduce earthquake risk worldwide. In order to collect data to guide the design and development of software and its underlying basis, GEM is assessing user needs in a web-based survey requiring less than 10 minutes.

The survey can be found at www.globalquakemodel.org and is available in English, Spanish, Chinese, Hindi, and Japanese. GEM invites all to participate by clicking on the red banner in the upper right corner. Results of the survey will be available at the GEM website upon completion.

Launched earlier this year with backing from academia, governments, and industry, the GEM initiative brings together worldwide expertise on all aspects of earthquake risk. It has constructed the first version of a truly global, open-source model for seismic risk assessment on a national and regional scale that will be finished by 2013.

Aiming to be the uniform, independent standard to calculate and communicate earthquake risk worldwide with broad scientific participation, GEM will be the critical instrument in providing accurate and transparent risk information to support mitigating decisions and actions.

By providing the information in a manner that is understandable to all users, GEM aims to raise awareness, to encourage adoption and enforcement of building codes, to promote seismic mitigation, and to stimulate insurance use.



Call for Abstracts

Int'l Geotech EQ Engineering Conference

A call for abstracts has been issued for the 5th International Conference on Geotechnical Earthquake Engineering (5-ICEGE) to be held January 10-13, 2011, in Santiago, Chile. It is sponsored by the Technical Committee of Earthquake Geotechnical Engineering (TC4) of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) and the Chilean Geotechnical Society (SOCHIGE). The Ishihara Lecture will be given by EERI member Ricardo Dobry during the conference. The conference will feature three workshops on the following topics:

1. Seismic design and stability analysis of tailings disposal
2. Recent advances on liquefaction analysis and remedial methods
3. Performance-based design in earthquake geotechnical engineering: concepts, advantages and limitations (a roundtable discussion)

Abstracts (in English — 300 words maximum in PDF format) in the broad range of topics in earthquake geotechnical engineering and soil dynamics are due by January 15, 2010, and can be e-mailed to abstract@5icege.cl. For more information, visit www.5icege.cl.

2010 Engineering Mechanics Conference

The 2010 Engineering Mechanics Conference will be held August 8-11 at the University of Southern California in Los Angeles. It is sponsored by the newly created Engineering Mechanics Institute, which replaces the former ASCE Engineering Mechanics Division. Abstracts for sessions are due by October 31 and can be submitted to the conference web site, <http://viterbi.usc.edu/emi2010/>. Abstracts of papers will be due May 1, 2010.

Disaster Management Conference

The Canadian Centre for Emergency Preparedness (CCEP) is calling for presentations for the 20th World Conference on Disaster Management (WCDM), to be held in Toronto, Canada, June 20-23, 2010. Its theme will be "20 Years of Progress – Are We Prepared to Face Future Challenges? Emergency Management and Business Continuity Working Together." The program will include experts in emergency planning and management, business continuity, emergency response, risk management, IT disaster recovery, disaster management research, emergency communications, emergency health, and community planning.

Presentations should fall into one or more of the following areas: lessons learned, emerging trends, the human element, technical issues, principles and practices, and research and development. The deadline for abstract submission is December 6, 2009. For more information, visit <http://www.wcdm.org/>.

Publication

CA EQ Time Line Chart

Version 3 of the colorful chart "California Earthquake History Time Line (1906-2008)," completed in August, is now available. A product of the disaster research and consulting firm of Claire B. Rubin & Associates,

the chart measures 14" x 31½" and is a great briefing and teaching tool. It now includes data for the years 2007 and 2008 and information about federal actions during the past two decades. To browse the chart, to download it, or to purchase a hard copy for \$15, visit <http://www.disaster-timeline.com/>.

CALENDAR

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

NOVEMBER

6. COSMOS Annual Meeting & Technical Session, Clarion Hotel (SF Airport) Millbrae, CA. www.cosmos-eq.org (9/09, 10/09)

10-15. 5th Cong. on Forensic Eng., Washington, D.C. Info: <http://content.asce.org/conferences/forensics2009/index.html> (12/08)

11-14. 17th Nat'l Conf. on EQ Eng. (Sociedad Mexicana de Ingeniería Sísmica), Puebla, Mexico. <http://www.smis.org.mx/xvii/> (8/09)

19. CSMIP Seminar on Utilization of Strong Motion Data, San Francisco, CA. Info: <http://www.consrv.ca.gov/cgs/snip/Pages/seminar.aspx> (10/09)

23-25. 4th Annual Int'l Workshop & Expo on Sumatra Tsunami Disaster, Banda Aceh, Indonesia. <http://www.aiwest-dr.org/> (9/09)

25-26. 7th Int'l Probabilistic Workshop, Delft, The Netherlands. Info: www.elsevier.com/wps/find/newsdetail.cws_home/NWS_WN_nt00008088/essay (3/09)

DECEMBER

9-11. Improving the Seismic Performance of Existing Buildings and Other Structures, San Francisco, CA. Info: www.ATC-SEI.org (12/08, 7/09)

2010

JANUARY

27. EERI Distinguished Lecture "The State of the Practice of Seismic Hazard Analysis", London, UK. Info: <http://www.seced.org.uk> (10/09)

FEBRUARY

3-6. EERI Annual Meeting, San Francisco, CA. Info: www.eeri.org. See page 1. (3/09, 9/09, 10/09, 11/09)

22-26. Ocean Sciences Mtg. Portland, OR. Info: <http://www.agu.org/meetings/os10/program/index.php> (9/09)

26. Khan Lecture, Lehigh University. Info: <http://www.lehigh.edu/frk-series> (9/09)

MARCH

3-5. 7th Conf. on Urban EQ Eng. (7CUUEE), Tokyo. Info: http://www.cuee.titech.ac.jp/Conference_2010/index.htm (8/09)

19. Khan Lecture, Lehigh University. Info: <http://www.lehigh.edu/frk-series> (9/09)

APRIL

16. Khan Lecture, Lehigh University. Info: <http://www.lehigh.edu/frk-series> (9/09)

20-23. 2010 SSA Annual Meeting, Portland, Oregon. Info: <http://www.seismosoc.org/meetings/2009/specialsessions.html> (6/09)

MAY

22-27. 10th Chilean Conf. on Seis. & EQ Eng., Valdivia-Santiago, Chile. www.achisina2010.uchile.cl (5/09)

24-29. 5th Int'l Conf' on Recent Advances in Geotech. EQ Eng. & Soil Dynamics & Symp. in Honor of I.M. Idriss, San Diego, CA. Info: 5geo-eqconf2010.mst.edu. See page 9. (4/08, 1/09, 11/09)

JUNE

20-23. 20th World Conf. on Disaster Management (WCDM), Toronto, Canada. See page 10. (11/09)

JULY

11-15. 5th Int'l Conf. on Bridge Maintenance, Safety & Management (IABMAS), Philadelphia, PA. <http://www.iabmas2010.org> (11/08)

25-29. 9th U.S. Nat'l & 10th Canadian Conf. on EQ Eng.: Reaching Beyond Borders, Westin Harbour Castle Hotel, Toronto, Canada. Info: 2010eqconf.org (2/08, 7/08, 1/09, 3/09, 6/09, 8/09, 10/09)

AUGUST

8-11. 2010 Engineering Mechanics Conference, USC, Los Angeles, CA. See page 10. (11/09)

11-13. Int'l Workshop on Conservation of Heritage Structures Using FRM and SHM, Ottawa-Gatineau. Info: <http://www.ishmii.org/>

CSHM3/CSHM3home.html (9/09)

30-Sept. 3. 14th European Conf. on EQ Eng. (14ECEEE), Skopje-Ohrid, Macedonia. Info: www.eaee.boun.edu.tr/eaee.htm (12/08, 10/09)

SEPTEMBER

5-9. 32nd Gen. Assembly of Eur. Seis. Com. (ESC 2010), Montpellier, France. www.esc2010.eu (5/09)

2011

JANUARY

10-13. 5th Int'l Geotech EQ Eng. Conference (5-ICEGE), Santiago, Chile. See page 10. (11/09)

JUNE

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

Publication

Don't Tear It Down

Oinfroin Media recently published *Don't Tear It Down! Preserving the Earthquake-Resistant Vernacular Architecture of Kashmir*, by EERI member Randolph Langenbach, an international heritage preservation consultant. He makes the case for the preservation of the often ignored traditional domestic architecture that makes up the urban form in Kashmir.

Published initially by UNESCO's New Delhi office for distribution in India and Pakistan-administered Kashmir, the 154-page paperback offers a vision of how the heritage buildings of Kashmir can become an armature on which to help rebuild people's pride of place after years of civil unrest. By discussing two traditional forms of construction found in Kashmir, Langenbach documents a construction tradition with earthquake-resistant attributes that have been introduced by experts into the India and Pakistan building codes to improve the earthquake performance of modern structures of reinforced concrete. The book is available from **Amazon.com** for \$39.95. For more information, visit <http://www.traditional-is-modern.net/bookinfo.html>.



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News of the Profession

California ShakeOut

At 10:15 a.m. on October 15, 2009, 6.9 million Californians participated in the largest earthquake drill ever, the "Great California ShakeOut." Because of the success of the shakeout drill that occurred last year, it is now mandatory statewide. Online advertising, electronic billboards, and other promotions occurred all over the state. It centered on the recent forecast that California has a 99.7% chance of having a magnitude 6.7 or larger earthquake during the next 30 years.

A key aspect of the ShakeOut is the integration of comprehensive science-based earthquake research and the lessons learned from decades of social science research about why people get prepared. The result is a "teachable moment" on par with having an actual earth-

quake (often followed by increased interest in getting ready for earthquakes). The ShakeOut creates the sense of urgency that is needed for people, organizations, and communities to get prepared, to practice what to do to be safe, and to learn what plans need to be improved. Not just any drill will accomplish this; it needs to be big. It must inspire communities to come together. It must involve children at school and parents at work, prompting conversations at home. It must allow every organization to make it their own event.

Radio and TV stations played the "ShakeOut Drill Broadcast" at 10:15 a.m. with earthquake sound effects and instructions for what to do during earthquake shaking. The recording could also be downloaded. The actual drill took three minutes, the duration of strong ground motion from a major earthquake.

People were encouraged to imagine how their surroundings would shake during this earthquake and to plan accordingly. They could take photos, submit them online, and tell their drill story of what happened and what they learned. Visit www.shakeout.org/whyparticipate/ for more ideas on "What can I do?"

The ShakeOut will occur every year on the

third Thursday of October. It was organized by the Earthquake Country Alliance, a statewide collaboration of nonprofit, business, government and education partners and regional alliances.

Publication

Shaken Allegiances: a Novel

EERI's list of membership by profession might have to be expanded to include the category "novelist." *Shaken Allegiances*, by Michel Bruneau (better known to EERI members as former director of MCEER), uses the immediate aftermath of a major earthquake as a glacial mid-winter stage for an entertaining journey exposing the bigger disaster of human nature, where folly succeeds in making an already horrible situation worse. A referendum on Québec's independence is at stake, and no national tragedy will distract from the final goal. Politicians and professionals clash in a Kafkaesque world not unlike a canvas on which are playfully splashed some of the darkest colors of human nature. *Shaken Allegiances* offers a humorous take on the multifaceted existential messes rampant egos can create when cooler heads should prevail.

For more information, visit <http://www.michelbruneau.com/MB-Literature.htm>. The book can be ordered for \$15.99 plus shipping from **Amazon.com**.



Preschool practice drill at the YMCA in Santa Barbara, California (photo: Joan Price).