



## EARTHQUAKE ENGINEERING RESEARCH INSTITUTE NEWSLETTER

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### EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

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### News of the Institute

## 100th Anniversary Conference Promises Exciting Technical Tours

As of July 2005, approximately 25 technical tours are in development for the 100th Anniversary Earthquake Conference. The tours will provide opportunities to visit newly designed earthquake-resistant buildings and bridges as well as seismically rehabilitated civic structures in San Francisco and at major universities in neighboring communities. There will be walking tours of three to four hours to view buildings and bridges of historic and seismic interest in downtown San Francisco as well as emergency management facilities there, and short bus trips to the East Bay or Peninsula to see faults, earth dams, other points of geological interest, and major seismic rehabilitation programs at nearby universities.

In addition, longer bus trips will leave San Francisco at the conclusion of the conference and make several scheduled viewing stops, visiting plate boundaries and more distant faults in the region, open fault trenches, and offsets. These longer trips will run through the weekend. Of the approximately 25 tours, four will be repeat trips. It is anticipated that roughly 25–30% of the conference attendees will take part in one or more technical tours.



*A 100th Anniversary Earthquake Conference field trip destination: The seismically retrofitted San Francisco Ferry Building (photo: Thomas Hawk).*

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## Board Nominees Announced

The 2006 EERI Nominating Committee has submitted a slate of candidates for president-elect and the two director positions that will become open when Bruce Clark and Sarah Nathe complete their terms early next year. The nominees are:

#### For President-Elect:

- Thalia Anagnos, professor, Department of Civil and Environmental Engineering, San Jose State University, San Jose, California

#### For Director A:

- Arrietta Chakos, assistant city manager, City of Berkeley, California
- Laurie A. Johnson, vice president, Risk Management Solutions, Newark, California

#### For Director B:

- Jonathan D. Bray, professor, Department of Civil Engineering, University of California, Berkeley
- Thomas L. Holzer, geologist, U.S. Geological Survey, Menlo Park, California

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## News of the Profession

### Oregon Passes Historic Legislation

On August 23, Oregon Governor Ted Kulongoski signed Senate Bill 2 (SB 2), which directs the Oregon Department of Geology and Mineral Industries (DOGAMI) to assess the earthquake safety of schools, colleges, police and fire stations, and hospitals statewide. The Oregon state legislature passed three other bills for improving the survivability of key public buildings. SB 3 will establish a state grant program for strengthening vulnerable buildings. SB 4 and SB 5 authorize issuance of bonds for seismic rehabilitation of public education buildings (public schools and colleges) and emergency services buildings (such as fire and police) identified as high risk by the seismic needs assessment. It is anticipated that the governor will sign SB 3, SB 4, and SB 5. All four bills were sponsored by State Senator and Senate President Peter Courtney.

In addition, both house of the Oregon State Legislature have passed Senate Bill 557, which directs various state agencies to establish a uniform tsunami warning signal and to adopt tsunami warning information and evacuation plans for distribution to tourist facilities in tsunami inundation zones. Governor Kulongoski has indicated that he plans to sign the bill.

SB 557 directs the Office of Emergency Management (OEM) to work with DOGAMI to "establish by rule a uniform tsunami warning signal, including rules specifying the type, duration, and volume of the warning signal and the location of warning signal delivery devices, for use on the Oregon coast." SB 557 also directs the OEM, in cooperation with DOGAMI, to "develop and adopt... tsunami warning information and evacuation plans for distribution to transient lodging facilities located in

a tsunami inundation zone, and to facilitate and encourage broad distribution of the tsunami warning information and evacuation plans to transient lodging facilities and other locations within tsunami inundation zones..." The bill was sponsored by Senators Morrisette, Kruse, Ringo, Shields, Starr, and Verger, as well as Representatives Boone, Kreiger, and Roblan.

One concern that has been raised is that SB 557 does not allocate funds for the efforts. Instead, it authorizes the OEM and DOGAMI to seek and accept "gifts, grants, and donations" to carry out the bill's purposes, and forgives the agencies from performing the bill's required tasks if such funds are not enough to do so.

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## Announcement

### NIST World Trade Center Investigation Recommendations

At a public briefing on June 23, 2005, in New York City, investigators from the National Institute of Standards and Technology (NIST) called on building and fire safety code development organizations to make specific changes to improve the safety of tall buildings. The recommendations result from the agency's investigation of the fires and collapses of New York City's World Trade Center (WTC) towers following the terrorist attacks of Sept. 11, 2001. NIST released 30 recommendations for a six-week public comment period.

The 30 recommendations (see the NIST WTC web site at [wtc.nist.gov](http://wtc.nist.gov) for the complete list) are divided into eight groups: increased structural integrity, enhanced fire resistance of structures, new methods for fire-resistant design of structures, active fire protection, improved building evacuation, improved emergency response, improved procedures and

practices, and education and training. Six of the recommendations reference the standards ASCE-7 and/or ASCE-29.

NIST strongly urges building owners and public officials to take steps necessary to mitigate any unwarranted risks without waiting for changes to occur in codes, standards, and practices. NIST plans to work vigorously with the building and fire safety communities to ensure that there is a complete understanding of the recommendations and their technical basis and to provide needed technical assistance for their implementation.

NIST urges all professional organizations to modify and expand continuing education offerings to address the recommendations. NIST will hold a conference Sept. 13-15, 2005, at its headquarters in Gaithersburg, Maryland, to encourage their implementation. Details on this conference and registration information are available at [wtc.nist.gov](http://wtc.nist.gov).

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## Announcement

### ASCE/CERF Conference

The Fall Executive Conference of the Civil Engineering Research Foundation (CERF), affiliated with the American Society of Civil Engineers (ASCE), will feature the theme "Challenges of Change: Increasing Productivity Through Innovation, Risk Management, and Sustainability." It will take place November 3-4, 2005, in Tysons Corner, Virginia.

One of the keynote speakers will be Shyam Sunder, NIST Program Manager for the World Trade Center Building Failure Report, addressing changes in design and construction practice that ASCE will be debating and adopting. The program will also include panels on sustainability and risk management. For registration information, visit [www.cerf.org/](http://www.cerf.org/).

## Announcement

### FEMA Updates Photo Library

FEMA has updated its online photo library, a collection of more than 9,200 images of natural disasters and terrorist events, including response and recovery activities, taken by FEMA's disaster photographers. The majority of these photos reside in the public domain and may be downloaded, reproduced, and distributed for educational and informational purposes without further permission from FEMA. Copyright photographs are indicated as such and require permission for use. The library can be found at [www.photolibrary.fema.gov/](http://www.photolibrary.fema.gov/).

## Announcement

### NSF International Research Fellowship Program

Proposals for the NSF International Research Fellowship Program (IRFP) are due October 11, 2005. The objective of the IRFP is to introduce scientists and engineers in the early stages of their careers to research opportunities abroad, thereby furthering NSF's goal of creating a diverse, competitive, and globally engaged U.S. workforce of scientists, engineers, technologists, and well-prepared citizens. Eligible applicants, in addition to being citizens or permanent residents of the United States, must have earned a doctoral degree during the three years before the deadline, or expect to receive the doctoral degree by the start of the project.

These awards are available in any field of science and engineering research and education supported by NSF. For more information, visit [www.nsf.gov/publications/pub\\_summ.jsp?ods\\_key=nsf05599](http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf05599).

## News of the Institute

### EERI Protests LFE Funding Cut

In a letter to the National Science Foundation dated August 11, 2005, EERI Executive Director Susan Tubbesing protested a reduction of more than 30%—from \$620,897 to \$400,000—in NSF's originally approved amount for the fifth and final year of the current Learning from Earthquakes grant to EERI. Tubbesing wrote, "This is an extremely large cut for an ongoing program to absorb and it will, inevitably, have a significant impact on the Learning From Earthquakes program and on EERI. We are already in production on four reconnaissance reports for earthquakes in Bam, Iran; Niigata, Japan; Colima, Mexico; and Sumatra, Indonesia. In light of NSF's budget cuts, EERI will only have sufficient funds to print and distribute two of them. While we will put all of the reconnaissance reports on our web site, we will be forced to print the others on-demand only, and be forced to charge for this service.

"Other reports that are in the works, including one Beyond Reconnaissance Grant report and one long-term 'Lessons Learned Over Time' report, will similarly be made available only electronically and printed on demand, with cost recovery. I sincerely regret having to take these measures because our primary goal is to disseminate the lessons from all these events as broadly as possible.

"We have extremely limited funds available in the coming year for actual reconnaissance travel...We may have to come back to you later this year, should there be events that justify field reconnaissance that are beyond the budget. The reduced budget will likely also slow the development of our capabilities to display field data on a GIS platform on our web site, a major project that we had hoped to complete during the coming year."

The letter went on to point out that the original budget of \$620,897 did not have excess funds built into it. So, unless the year is extremely quiet, EERI simply will not be able to do all that was proposed.

## Board Nominees

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Additional nominations may be made by the membership in accordance with Article VII of the EERI Bylaws (Sections 4 and 5), upon submission of a petition with signatures of 25 members. Petitions must be received prior to November 1.

Biographies of the candidates and short vision statements will be published in a future issue of the *Newsletter* and posted on the EERI web site, [www.eeri.org](http://www.eeri.org). EERI wishes to thank the Nominating Committee: S. K. Ghosh (chair), Mary Comerio, Robert Hanson, Tom O'Rourke, and Paul Somerville.

## Technical Tours

*continued from page 1*

A multidisciplinary group of guides and facilitators will be organized to lead each tour. Volunteers involved with each of the tour sites are preparing ten-page descriptions for their tours. Field trip participants will receive a copy of the information for each of the tours they attend.

All of the tour descriptions will be compiled and published as a comprehensive field guide by the Geological Society of America and made available for sale following the conference. Negotiations are underway to provide copies of this publication to all conference attendees.

## News of the Institute

# EERI Student Chapter Activities

### *Georgia Institute of Technology*

The Georgia Tech student chapter has developed an extensive offsite community outreach program targeting students from elementary school through high school, designed to stimulate interest in engineering, math, and science, and to share lessons on preparedness, structural response, and earthquake hazards in the central and southeastern United States. For example, the chapter aided Mays High School's American Society of Black Engineers in their Engineering Week design competitions. The competition included a popsicle-stick bridge design competition and an egg-drop contest. Chapter members and the faculty advisor, Professor Reginald DesRoches, served as judges for the competition of approximately 50 students, who engaged in discussions with the judges on the success and failures of different designs.

The chapter organized a half-day field trip for 80 students from two high schools to visit the Georgia Tech structures lab. Other outreach activities included hosting middle school students on Civil Engineering Day of the Engineering Academy and participation in the Georgia Tech Engineering Week for middle

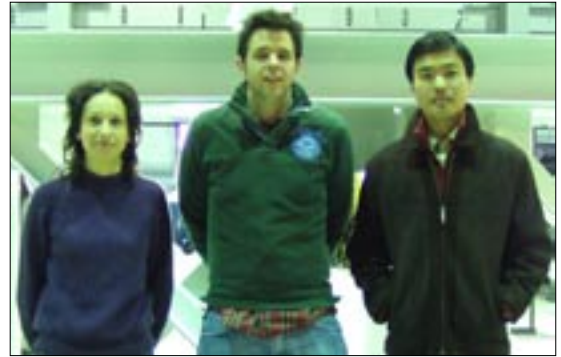


At Redan High School near Atlanta, Matthew Speicher helps students build their K-NEX structures.

school students, as well as mentoring of undergraduate students.

The chapter periodically holds welcome and information sessions on EERI. Georgia Tech EERI shirts were ordered for student members and faculty. Georgia Tech students who traveled to Japan on a recent earthquake engineering field mission presented the EERI shirts as gifts to the hosts at Kyoto University. Student chapter president Jamie Padgett attended the Annual Meeting in Ixtapa, Mexico, by means of a travel scholarship and presented posters on her research and on the student chapter. The chapter web site is [cyberbuzz.gatech.edu/eeri](http://cyberbuzz.gatech.edu/eeri).

In March, **David Friedman** of Forell/Elsesser Engineers, Inc., in San Francisco, California, visited the Civil Engineering Department through the Friedman Family Visiting Professionals Program. He made a presentation to an undergraduate concrete class on the topic of "The Structural Engineer and Concrete Design: Codes, Seismic Design, Sustainability, Practice Stories, and Project Examples." A seminar was hosted by the EERI and ASCE chapters where Friedman presented to a group of nearly 100 faculty and students a lecture entitled "The Practice of Structural and Earthquake Engineering Today: The Structural Engineer as Master Builder." Friedman also had the opportunity to interact with others in a more personal setting throughout the day. The meetings were a good way for current practice and state-of-the-art research to come together. The Georgia Tech student chapter is grateful for EERI's Friedman Family Visiting Professional Program. It provides a unique opportunity for students to see what their future may hold.



University at Buffalo student chapter officers Macarena Schachter (treasurer), Daniel Fenz (president), and Xin Xu (vice president).

### *University at Buffalo*

The UB student chapter continued its Earthquake Engineering Seminar Series with three stimulating speakers during the first semester. **Pierre Léger**, a professor in the Department of Civil Engineering at L'École Polytechnique in Montreal, gave an overview of historical seismic damage to concrete dams and discussed structural analysis methodologies to assess the seismic cracking and sliding responses of concrete gravity dams. He covered the effectiveness of post-tension anchors on the seismic stability of concrete dams, and described a progressive approach to seismic safety that should be used to evaluate them.

At the second seminar, **Luca Gusella**, a Ph.D. candidate in geodetic and topographic sciences at the University of Bologna in Italy, discussed the use of very high resolution (VHR) satellite imagery (Quick Bird and Ikonos) as an important source of spatial information after an earthquake, its use in post-event emergency response, and for understanding the effects of shaking on buildings and other key infrastructure. The presentation discussed research on images taken after the Bam, Iran, earthquake of December 26, 2003, some of which was conducted at the University of Bologna and some while visiting the United States. The third seminar featured **Eduardo Miranda**, assistant profes-

son in the Department of Civil and Environmental Engineering at Stanford University. He summarized recent research to improve the estimation of acceleration demands in buildings, with emphasis on understanding the main variables controlling the amplitude and characteristic of seismic demands on building nonstructural components through simplified methods. He also discussed current code provisions and possible improvements.

Two members of the UB student chapter attended the Annual Meeting in Ixtapa, Mexico. Michael Polino and Michael Astrella both presented posters on their research. They found it was a great opportunity to see the work being done by the leading professionals in the field and to network with colleagues. The chapter web site is [wings.buffalo.edu/gsa/eeri](http://wings.buffalo.edu/gsa/eeri).

#### **University of Notre Dame**

The UND student chapter, which has named itself EERI@UND, has continued with the Shakes & Quakes outreach program, visiting local area classrooms and demonstrating building responses to earthquakes. Students design and build LEGO "masonry" buildings and K'NEX "steel" buildings that are tested on a portable shaking table. During the past year, the chapter



*University of Notre Dame chapter president Brad Weldon with amazed students at Shakes and Quakes Visit Day.*

visited two elementary schools and a middle school. Shakes & Quakes has been used as a supplement to the textbook during an earth science unit on earthquakes. After each event's "shake-off," the surviving building is deemed the most earthquake-proof, earning that team honorary degrees in structural engineering. The team responsible for the most beautiful building similarly warrants an honorary architecture degree, and the design that maximized the available rental space is presented with an owner's achievement award. Additional information, including photos, documentation, and rules for the program, is available on the chapter web site [www.nd.edu/~eeriund](http://www.nd.edu/~eeriund).

In conjunction with the American Society of Civil Engineers (ASCE) student chapter, EERI@UND continued the fourth annual two-hour high school bridge activity, which explores the use of basic calculus and algebra in engineering calculations and overviews the different levels of modeling available to engineers in the design process. The students were able to see an analysis from

start to finish and experience some basic structural engineering first hand. The students caught a glimpse of the big picture: the application of mathematical principles for practical problem solving.

For the first time, the EERI@UND student chapter participated in the 13th Annual Science Alive at a local public library. Their display demonstrated how a steel building responds in an earth-



*Notre Dame students Mike Kochly and Rachel Bashor oversee the high school bridge activity.*

quake. There was also a geotechnical engineering demonstration with a bucket, cornstarch, and water that helped illustrate what is done in retaining walls and tunnels to keep soil in place.

This year EERI@UND was also involved in the national Expanding Your Horizons (EYH) in Mathematics and Science Program. EYH aims to encourage middle school girls to become familiar with career options available to them in the math and science fields. The students performed a hands-on activity using straws and dental floss to make three different types of single-span bridges: simple, cable-stay, and suspension. When the bridges had all been loaded to failure, the girls examined the different failure modes and calculated which bridge had the highest capacity. EERI@UND looks forward to continued involvement with this program in the future.

EERI member **Leslie E. Robertson's** visit to Notre Dame was made possible by EERI's Friedman Family Visiting Professionals Program, which the chapter greatly appreciates. Robertson gave a lecture entitled "The Design of a 500-Meter Building Located in a High Seismic Zone," highlighting several projects and focusing on the Shanghai World

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## Student Chapter Activities

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Financial Center. He presented a second lecture to the Notre Dame and professional communities entitled "The Merging of Structural Engineering and Architecture: A Short History of the Designs of Leslie Robertson."

### **University of Puerto Rico at Mayagüez**

The EERI UPRM student chapter again organized a thought-provoking lecture and seminar series during the 2004-05 academic year. Among the speakers were **Wilkins Aquino**, professor in the Department of Civil Engineering at Cornell University, speaking on "Self-Learning Numerical Methods for Inverse Estimation of Material Properties," and **Jay Pulliam**, professor at the University of Texas at Austin (UTA), discussing "Seismic Waveform Modeling via Global Optimizations."

The chapter had the extraordinary pleasure of hosting two EERI Distinguished Lecturers within ten days in April, with 2004's lecturer **Kenneth Stokoe II**, professor in the Depart-

ment of Civil Engineering at UTA, on "The Increasing Role of Stress Wave Measurements in Geotechnical Earthquake Engineering," and 2005's Lecturer Professor **Jack Moehle** of the University of California at Berkeley speaking on "Performance-Based Design: Developments and Applications."

As part of the Friedman Family Visiting Professionals program, UPRM hosted a visit by **Dr. Faiz I. Makdisi**, vice-president and principal engineer of Geomatrix Consultants, Inc., in Oakland, California. He presented a lecture entitled "Seismic Stability and Deformation of Embankment Dams." His visit contributed to improved understanding and communication between and among earthquake practitioners and academics. The UPRM Student Chapter sincerely appreciates the EERI Visiting Professionals Program and looks forward to participating in this activity in the future. The chapter web site is [civil.uprm.edu/chapters/eeri/](http://civil.uprm.edu/chapters/eeri/).

### **Oregon State University**

The OSU EERI student chapter continued its outreach program begun in 2002-03 by making three geotechnical and structural earthquake engineering presentations. They are geared toward high school or general audiences and include information on the basic causes of earthquakes, general roles of geotechnical and structural earthquake engineers, and demonstrations using liquefaction and tsunami simulation models and a portable structural frame shake table. Providing exciting science lessons and opportunities for asking open-ended questions are primary goals of this program.

Five OSU students competed this year in the Pacific



*Ken Stokoe, EERI 2004 Distinguished Lecturer, receives an appreciation plaque after delivering his lecture "The Increasing Role of Stress Wave Measurements in Geotechnical Earthquake Engineering" at UPRM.*

Earthquake Engineering Research Center's shake table competition, designing, testing, and predicting performance for a model balsa wood building subjected to three different ground motions. The OSU team placed first in presentation, third in economy, and second in the other categories.

This year, the EERI student group, in conjunction with the ASCE student chapter, brought to OSU the first annual "Order of the Engineer" induction ceremony. The Order of the Engineer is a multidisciplinary engineering society dedicated to upholding professionalism.

The chapters goals are to increase the number of EERI local student chapter and national chapter members, to maintain student involvement by presenting informative seminars and lectures throughout the academic year, to encourage the involvement of practicing engineers with the student chapter, and to develop strong relationships with primary, middle, and secondary education programs in Corvallis and surrounding communities.



*EERI 2005 Distinguished Lecturer Jack Moehle with the University of Puerto Rico student chapter president Amelia Miseses, faculty advisor Luis Suárez, and vice-president Orlando Cundumi.*

## Announcement

### ASCE Seismic Seminars

The American Society of Civil Engineers is offering a variety of seminars on topics of interest to EERI members, including:

- Fundamentals of Earthquake Engineering, Seattle, (September 22-23, 2005), San Francisco (January 12-13, 2006), and Pittsburgh (March 16-17, 2006). Fee: \$995 ASCE members, \$1,195 nonmembers.
- Seismic Design and Performance of Building Structures, Dallas (February 2-3, 2006) and Washington, D.C. (March 16-17, 2006). Fee: \$995 ASCE members, \$1,195 nonmembers.
- Seismic Design of Highway Bridges, Baltimore, September 15-16, 2005. Fee: \$955 ASCE members, \$1,155 nonmembers.

For more information and registration, visit [www.asce.org/conted/](http://www.asce.org/conted/).

## Call for Papers

### AGU EQ Loss Modeling Session

EERI members Hareh Shah, Eser Durukal, and Mustafa Erdik are convening Session S07 on "Earthquake Loss Modeling: From Earth Sciences to Insurance Applications" during the American Geophysical Union (AGU) Fall Meeting, December 5-9, 2005, in San Francisco, California. This will be the first session on loss modeling organized by AGU. The conveners hope to attract studies representing the breadth of the topic of loss estimation, with an emphasis on insurance.

The continued rise in earthquake losses has forced the insurance and reinsurance sector, as well as governments and international institu-

tions, to have a scientific basis for loss estimations. This session intends to bring together seismologists, geophysicists, earthquake engineers, and risk engineers to create a unified platform for a discussion of the following topics: ground motion models for insurance loss estimations; damage and economic models for insurance loss estimations; uncertainty in loss estimation studies: sources and consequences; holistic approaches in earthquake loss estimation; and earthquake loss models for critical and complex facilities. The deadline for electronic abstract submissions is September 8. The conveners plan for the papers to be submitted to a special issue of a relevant journal. For submission information, visit [www.agu.org/meetings/fm05](http://www.agu.org/meetings/fm05).

## Publication

### Proceedings of ERES 2005 Conference

*Earthquake Resistant Engineering Structures V*, edited by C. A. Brebbia and published by WIT Press, contains more than 70 papers presented at the Fifth International Conference on Earthquake Resistant Engineering Structures (ERES 2005), held May 30-June 1, 2005, in Skiathos, Greece. The contributions cover site effects and geotechnical aspects, earthquake resistant design, seismic behavior and vulnerability, structural dynamics, monitoring and testing, bridges, heritage buildings and masonry construction, retrofitting, passive protection devices and seismic isolation, lifelines, and design codes and response spectra.

A post-conference report for the ERES 2005 Conference is available at [www.wessex.ac.uk/conferences/2005/eres05/index.html](http://www.wessex.ac.uk/conferences/2005/eres05/index.html). For content details and ordering information, visit [www.witpressusa.com/acatalog/0187.html](http://www.witpressusa.com/acatalog/0187.html).

## Job Opportunities

### USGS Postdoctoral Fellowship

A total of 39 USGS Mendenhall Postdoctoral Fellowship opportunities have been announced for Fiscal Year 2007, with assignments to begin October 2006 and March 2007. The Mendenhall Program provides an opportunity for postdoctoral fellows to conduct concentrated research in association with selected members of the USGS professional staff, often as a final element to their formal career preparation. Fellows are appointed to the USGS for two years and receive full salary and benefits at the GS-12 level. A list of the available research topics and advisors can be found at [geology.usgs.gov/postdoc/2007/research.html](http://geology.usgs.gov/postdoc/2007/research.html).

Eligible applicants must have completed their doctoral degree requirements no earlier than December 1, 2000. The application deadline is December 1, 2005. For information about the program and application procedures, visit [geology.usgs.gov/postdoc](http://geology.usgs.gov/postdoc).

### Geophysicist Position

The Berkeley Seismological Laboratory at the University of California seeks applicants for a full-time assistant or associate research geophysicist position, available now. The successful candidate will conduct research on earthquakes and regional seismology, will supervise the UCB component of the California Integrated Seismic Network, and will supervise the acquisition of real-time seismic data. A Ph.D. in geophysics and three to five years' experience with broadband seismic data analysis and interpretation are required. This position is for one year with the possibility of extension. Application deadline: September 15, 2005. For application information, visit [seismo.berkeley.edu/seismo.positions.html](http://seismo.berkeley.edu/seismo.positions.html).

## Announcements

### Wharf Seismic Code Workshop

The Port of Los Angeles (POLA) and ASCE's Coasts, Oceans, Ports, and Rivers Institute are cosponsoring a Container Wharf Seismic Code Workshop September 13-14, 2005, in San Pedro, California. Developed to keep pace with current seismic design principles, the POLA Code emphasizes performance-based design and soil-structure interaction to meet the challenges posed by the presence of active seismic faults in southern California. The workshop provides an excellent opportunity for constructive dialogue between the designers and builders of marine structures and POLA. For additional information, visit [www.polaseismic.org](http://www.polaseismic.org).

### Dam Safety Events

The Association of State Dam Safety Officials (ASDSO) 22nd **Annual Conference** will be held September 25-29, 2005, in New Orleans, Louisiana. It will feature more than 65 presentations by experts in dam safety topics such as dam failures and incidents, emergency preparedness, dam inspections, removal of dams, dam construction and rehabilitation, security at dams, seismic issues, and hydraulics and hydrology. Registration fees are \$500 for ASDSO members and \$575 for nonmembers.

The ASDSO is also sponsoring a technical seminar on **Dam Failure Analysis** October 25-28, 2005, in Salt Lake City, Utah. Attendees will become familiar with the practical and theoretical aspects of dam breach simulation and will gain an understanding of most of the current key dam breach models. Registration fees are \$500 for ASDSO members and \$600 for nonmembers.

Online registration for both events is available at [www.damsafety.org](http://www.damsafety.org).

## Announcement

### Public Health and Disasters Conference

The 5th UCLA Conference on Public Health and Disasters sponsored by the UCLA Center for Public Health and Disasters will be held at the Hilton Long Beach, Long Beach, California, May 21-26, 2006.

The goal of the conference is to provide a forum that promotes a dialogue and exchange of ideas between local health departments and others involved in improving public health preparedness, mitigation, response, and recovery.

This unique multidisciplinary conference brings together academicians, researchers, practitioners, and policy makers from public health, mental health, community disaster preparedness and response, social science, government, media, and nongovernmental organizations to discuss the wide range of emergency public health issues resulting from natural and human-generated disasters.

Registration fees are \$325 until April 21 and \$425 after April 21, 2006.

For more information, visit [www.cphd.ucla.edu/](http://www.cphd.ucla.edu/).

## Call for Abstracts

### ECI Geohazards Conference

Engineering Conferences International (ECI) invites abstracts for the conference entitled "Geohazards: Technical, Economical and Social Risk Evaluation," to be held in Lillehammer, Norway, June 18-21, 2006.

The conference is designed to be a round table for engineers, geoscientists, social scientists, public authorities, and insurance industry representatives to discuss the human, environmental, and economic consequences of geohazards. Participants are invited to address topics such as the following:

- economic aspects
- social and human dimensions
- risk assessment and management
- new concepts, research, and case studies
- impacts of climate change (sensitivity of hazards, risk of future climate changes)
- new techniques in geohazard assessment and mitigation

Abstracts for oral presentations are due on November 30, 2005, and for poster sessions on March 1, 2006.

For more information, visit [www.engconfintl.org/6ag.html](http://www.engconfintl.org/6ag.html).

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## Subscribing Member Posting

### Refraction Technology Sales Engineer

The Dallas, Texas, office of EERI Subscribing Member Refraction Technology, Inc., a leading seismic data acquisition product manufacturer, has an immediate opening for a sales engineer to join a dynamic sales team. The successful candidate will be responsible for sales and project developments in South America. Required: a geophysical or engineering degree, a background in instrumentation, bilingual English-Spanish ability, willingness to relocate and travel, earth science knowledge, a desire to work with customers in all aspects of needs assessment and product supply for simple and complex projects, good writing skills in both languages, a strong work ethic, an outgoing personality, and a team orientation. Send resume by e-mail to [jobs@reftek.com](mailto:jobs@reftek.com). For more information, visit [www.reftek.com](http://www.reftek.com).

For information on becoming a Subscribing Member, visit [www.eeri.org](http://www.eeri.org).



## Publication

### ***Role of Structural Engineers Towards Reduction of Poverty***

The International Association for Bridge and Structural Engineering (IABSE) recently announced the availability of a February 2005 conference report entitled *Role of Structural Engineers Towards Reduction of Poverty*. It contains nine keynote lectures and 66 contributions in English as a book and CD.

The conference addressed the multidisciplinary aspects of structural engineering and was oriented towards sustainable infrastructure development with pre-disaster preparation and post-disaster mitigation. The following topics were covered: reduction of poverty from a holistic approach, rebuilding hope—rebuilding infrastructure, sharing of experience in developing nations, habitat and building, transportation structures, mitigation of disasters, water supply and public sanitation, irrigation and flood control, and energy structures.

Following are titles of the keynote lectures: We Can Change the World's Indigenous Infrastructure: A Key to Poverty Alleviation; Structural Engineers and a Holistic Approach to Poverty Reduction; The Successful Experience of Chinese Civil Engineers in Reduction of Poverty; Indigenous Bridges; Sustainable Habitats and Structures; Integration of Existing Sewers and Drainage in New Urban Structures; Transport and Poverty Alleviation; South-North Economic Cooperation in Korean Structural Engineers' Sustainable Bridge; and Current and Future Bridge Projects in China.

The price of this 582-page publication is CHF80 (US\$62) for IABSE members and CHF140 (US\$108) for nonmembers. To place an order, visit [www.iabse.org/publications/orderform/index.php](http://www.iabse.org/publications/orderform/index.php).

## Publications

### ***Educating the Engineer of 2020***

The National Academies' National Academy of Engineering recently released *Educating the Engineer of 2020: Adapting Engineering Education to the New Century*, which states that today's engineering students may not be adequately educated to meet the demands that will be made of their profession in 2020. The report proposes that undergraduate engineering experience be reshaped to attract students to the profession and prepare them to compete in the global marketplace.

The report recommends that interdisciplinary learning—typically reserved for graduate programs—be introduced into the undergraduate engineering curriculum because of the larger role interdisciplinary teams now play in industry, government laboratories, and academic institutions. Other recommendations include creating new engineering education tracks that produce graduates who are well-grounded in technology and engineering approaches, but that also apply these skills in professions such as medicine, business, finance, and law; engaging undergraduate students more effectively with learning strategies, course materials, and assessment tools developed through engineering education research; and engaging in efforts to increase public understanding of the engineering field and to improve K-12 preparation of students in science, engineering, and mathematics.

The study was sponsored by the National Science Foundation, Hewlett Packard Corp., General Electric Foundation, and the National Academy of Engineering Fund. The report may be reviewed or purchased from [www.nap.edu/catalog/11338.html](http://www.nap.edu/catalog/11338.html).

## News of the Institute

### **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. We are pleased to note that Polat Gülkan donated his share of the World Housing Encyclopedia Farzad Naeim Prize to the fund (see page 1 of the July 2005 *EERI Newsletter*).

#### **\$2,000**

G & E Engineering

#### **\$1,000**

John M. Coil

#### **\$500-\$999**

Robert Chittenden  
C. Terry Dooley

#### **\$200-\$499**

Greg N. Felten  
Polat Gülkan  
Robert P. Kennedy  
M. Saiid Saiidi  
William (Woody) Savage  
Daniel Shapiro  
Pane Stojanovski

#### **\$100-\$199**

Maria Ambert-Sanchez  
Linda Bourque  
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Gary Christenson  
Kevin J. Coppersmith  
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LeVal Lund  
Ramesh B. Patel  
Shamsher Prakash  
Robert C. Richardson  
James E. Roberts  
Leslie E. Robertson  
Edward Silver  
Yoshitaka Yamazaki

#### **Other Amounts**

Thomas Hyun-Koo Kang  
Henry J. Lagorio  
Jeffrey Lyon  
Gustavo Parra-Montesinos  
John O. Robb  
Alvin M. Rodriguez Bonilla



## Announcements

### COSMOS Ground Motion Time Histories Session

The Consortium of Organization for Strong Motion Observation Systems (COSMOS) will hold its Annual Meeting and Technical Session at the Westin Hotel in Millbrae, California, on November 18. The full-day technical session will focus on "Recommendations for the Selection and Scaling of Ground Motion Time Histories for Building Code Applications."

A panel of ground motion experts will present examples from recent projects in which ground motion time histories were selected and scaled to comply with current building codes or seismic guidelines (e.g., 1997 UBC, 2003 IBC [ASCE 7-02], 2003 NEHRP, and FEMA 356). They will highlight useful and effective procedures to satisfy code and guideline requirements. Panelists and participants will also have the opportunity to discuss concerns about the current requirements and to provide suggestions for their improvements in future codes and guidelines.

For complete program and registration details, visit [www.cosmos-eq.org](http://www.cosmos-eq.org).

### NEES@UIUC Training Day

The second training course at the NEES facility at the Civil and Environmental Engineering Department at the University of Illinois at Urbana-Champaign will be held on September 15, 2005. The Multi-Axial Full Scale Sub-Structured Testing and Simulation (MUST-SIM) facility is a state-of-the-art system for combining physical testing and analytical simulation to investigate the seismic response of complex systems that

include the structure, its foundation, and the underlying soil. The key components of the MUST-SIM facility include (1) an RC strong wall of 15.2 × 9.1 × 8.5 × 1.5 m; (2) three load and boundary condition boxes (LBCBs) capable of imposing any combination of six actions and six deformations; (3) three advanced noncontact measurement systems; (4) simulation coordinators that integrate numerical and physical models; (5) full NEESgrid capability; (6) a visitor center and user studio; (7) and a fully operational scale-model testing facility that provides a realistic pre-test environment and training center.

The training program will include hands-on control of LBCBs and presentations on noncontact instrumentation and data-acquisition systems through several tests on small-scale test structures that represent multi-site physical-analytical experiments. Full documentation on the facility, its use, and reference applications will be provided to participants. Limited funding is available to support attendance of participants. To apply and obtain more information, visit [nees.uiuc.edu/TrainingDay2005.asp](http://nees.uiuc.edu/TrainingDay2005.asp).

### Emergency Managers Conference

The International Association of Emergency Managers (IAEM) 53<sup>rd</sup> Annual Conference & EMEX Exhibit will take place November 12-16, 2005, at the Phoenix, Arizona, Civic Center. With the theme of "Emergency Management: Local, Regional and Global Successes," the conference will provide a forum for current trends, topics, and the latest tools and technology in emergency management and homeland security.

The program will feature the National Incident Management System and National Response Plan, outcome-based emergency management, the power of interregional relationships,

business continuity, case studies, and lessons learned from disasters. Sessions encourage stakeholders at all levels of government, the private sector, and public health and related professions to collaborate to protect lives and property from disaster. The registration fee is \$445 (\$395 for IAEM members). For more information, visit [www.iaem.com](http://www.iaem.com).

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## News of the Profession

### Acquittal in '99 Athens EQ Deaths

The August 5, 2005, issue of *Kathimerini*, Greece's international English-language newspaper, reported that eight people were cleared of responsibility in the collapse of an apartment block in northern Athens that killed seven people on September 7, 1999, during one of the most destructive earthquakes to hit the prefecture of Attica. Those on trial included the owner of the Nea Philadelphia building's basement, representatives of the Dia supermarket chain, and civil engineers. They were accused of modifying the block so the ground floor and basement could be used as a supermarket, which, it was claimed, resulted in weakening the building's structure. However, after an eight-month trial, an Athens court cleared all eight of all charges. Seven residents died and one was seriously injured when part of the building collapsed during the Ms 5.9 quake, which killed a total of 143 people. An eight-page special report on this event was included in the November 1999 *EERI Newsletter*.

In March, an Athens court ordered the prefecture of eastern Attica to pay a total of 1.5 million euros in compensation to the families of four of the 39 people killed in the Ricomex household goods factory that collapsed in the northern suburb of Metamorphosis during the same quake.

## CALENDAR

Items that have appeared previously are severely abbreviated. The issue containing the first appearance, or the most informative, is indicated at the entry's end. Items listed for the first time are shown in **bold**.

### SEPTEMBER

5-9. SAMCO Summer Academy, Salzburg, Austria. Info: [www.samco.org](http://www.samco.org) (6/05)

7-11. XV Mexican Nat. Conf. on EQ Eng., Mexico City, Mexico. Info: [www.smis.org.mx](http://www.smis.org.mx) (12/04, 3/05, 6/05)

11-14. WSSPC Annual Conf., Boise, ID. Info: [www.wsspc.org/Events/ac2005/index.htm](http://www.wsspc.org/Events/ac2005/index.htm) (7/05)

**13-14. Container Wharf Seismic Code Workshop**, San Pedro, CA. See page 8. (9/05)

**13-15. NIST Conf. on World Trade Center Disaster**, Gaithersburg, MD. See page 2. (9/05)

**15. NEES@UIUC Training Day**, Urbana-Champaign, IL. See page 10. (9/05).

14-16. IABSE Structures & Extreme Events, Lisbon, Portugal. Info: [www.iabse.org/lisbon](http://www.iabse.org/lisbon) (7/04)

17-25. Association of Engineering Geologists 48th Annual Meeting, Las Vegas, NV. Info: [www.aegweb.org](http://www.aegweb.org) (5/05)

20-23. 3rd Int'l Struct. Eng. & Const. Conf., Shunan, Japan. Info: [www.tokuyama.ac.jp/tcss1/ISEC\\_03/](http://www.tokuyama.ac.jp/tcss1/ISEC_03/) (4/04)

22-24. 30th Annual Deep Fdtn. Conf., Chicago, IL. Info: [www.deepfoundations05.org](http://www.deepfoundations05.org) (8/05)

**25-29. Dam Safety 2005**, New Orleans, LA. Info: [info@damsafety.org](mailto:info@damsafety.org). See page 8. (9/05)

26-28. Kuwait 1st Remote Sensing Conf., Kuwait. Info: [www.kuwaitremotesensing.com](http://www.kuwaitremotesensing.com) (5/05)

28-Oct. 1. SEAOC Annual Convention, San Diego, CA. Info: [www.seaoc.org](http://www.seaoc.org)

[seaoc2005.com](http://seaoc2005.com) (4/05)

### OCTOBER

3-15. 8th Workshop Nonlinear Dynamics & EQ Prediction, Trieste, Italy. Info: [agenda.ictp.trieste.it/smr.php?1676](http://agenda.ictp.trieste.it/smr.php?1676) (5/05)

11-12. 1st Greek-Japan Workshop Seismic Design, Observation, & Retrofit of Foundations, Athens, Greece. Info: [www.ntua.gr/gj-workshop](http://www.ntua.gr/gj-workshop) (6/05)

16-19. Council on Tall Bldgs. & Urban Habitat, New York, NY. Info: [www.ctbuh.org](http://www.ctbuh.org) (9/04)

**18. Disasters Roundtable Workshop**, Washington, D.C. See page 12. (9/05)

18-21. Involving the Community in Disaster Risk Reduction Programs, Punto Fijo, Venezuela. Info: Juan Murria, [murrias@cantv.net](mailto:murrias@cantv.net) (4/05)

25. Asia Earthquake & Tsunami Symposium, Los Angeles, CA. Info: [www.coprinstitute.org/events/tsunamiquake.cfm](http://www.coprinstitute.org/events/tsunamiquake.cfm) (7/05)

**25-28. Dam Failure Analysis**, Salt Lake City UT. See page 8. (9/05)

31-Nov. 1. Caltrans Bridge Research Conf., Sacramento, CA. Info: [www.dot.ca.gov/hq/esc/earthquake\\_engineering/workshop/](http://www.dot.ca.gov/hq/esc/earthquake_engineering/workshop/) (7/05)

### NOVEMBER

1-4. 250th Anniversary of Lisbon EQ, Lisbon, Portugal. Info: [www.mundiconvenius.pt/2005/lisbon1755/](http://www.mundiconvenius.pt/2005/lisbon1755/) (4/05)

**3-4. ASCE/CERF Conference**, Tysons Corner, VA. See page 2. (9/05)

6-8. 5th Conf. Structural Analysis of Hist. Constr., New Delhi, India. Info: [www.civil.uminho.pt/sahc2006](http://www.civil.uminho.pt/sahc2006) (6/05).

**12-16. Int'l Assoc. of Emergency Managers Annual Conf. & Exhibit**, Phoenix, AZ. See page 10. (9/05)

16-18. World Conf. on Disaster

Reduction, Mumbai, India. Info: [www.wcdr.gfdr.org](http://www.wcdr.gfdr.org) (7/05)

**18. COSMOS Annual Meeting Technical Session**, Millbrae, CA. See page 10. (9/05)

16-19. IX Chilean Seismology & EQ Eng. Meeting, Concepción, Chile. Info: [www.achisina2005.udec.cl](http://www.achisina2005.udec.cl) (5/05)

25-27. AEES (Australian Earthquake Engineering Society) 2005 Conference, Albury, NSW, Australia. Info: [www.aees.org.au/](http://www.aees.org.au/) (7/05)

### DECEMBER

**5-9. AGU Fall Meeting**, San Francisco, CA. See page 7. (9/05)

### 2006

#### JANUARY

31-Feb. 2. IMAC-XXIV: Conf. on Struc. Dynamics, St. Louis, MO. Info: [www.sem.org](http://www.sem.org) (6/05)

#### APRIL

18-21. 8th U.S. Nat'l Conf. on EQ Eng. (8NCEE), EERI Annual Meeting, SSA Annual Meeting, Disaster Resistant California, San Francisco, CA. Info: [www.1906eqconf.org/](http://www.1906eqconf.org/). See page 1. (5/04, 7/05, 8/05, 9/05)

#### MAY

**21-24. 5th UCLA Conference on Public Health and Disasters**, Long Beach, CA. Info: [www.cphd.ucla.edu/](http://www.cphd.ucla.edu/). See page 8. (9/05)

#### JUNE

**18-21. ECI Geohazards Conf.**, Lillehammer, Norway. See page 8. (9/06)

#### AUGUST

14-17. 5th Int'l Conf. on Behavior of Steel Structs. in Seismic Areas (STESSA), Tokyo, Japan. Info: [www.serc.titech.ac.jp/stessa2006](http://www.serc.titech.ac.jp/stessa2006) (2/05)

#### SEPTEMBER

3-6. 1st European Conf. on EQ Eng. & Seismology, Geneva, Switzerland. Info: [www.symporg.com/2006.html](http://www.symporg.com/2006.html) (1/05)

## Publication

### Seattle Fault Scenario Now Available

The Emergency Management Division (EMD) of the state of Washington Military Department recently announced the availability of *Scenario for a Magnitude 6.7 Earthquake on the Seattle Fault*, a publication that makes high-level recommendations to decision makers on improving earthquake safety (see page 1 of the April 2005 *EERI Newsletter*). The project was funded in part by a grant from the EERI Endowment Fund as well as by funds from FEMA through EERI's Cooperative Agreement. The publication can be obtained from the Washington State Department of Printing Fulfillment Center web site [fortress.wa.gov/prt/printwa/wsprt/default.asp](http://fortress.wa.gov/prt/printwa/wsprt/default.asp) for the cost of shipping and handling. Cost per copy varies with the number ordered.

The study projected the following impacts of a magnitude 6.7 earthquake in the central Puget Sound region:

- \$33 billion in damage, second only to the 1994 Northridge earthquake in southern California
- 1,660 dead and 24,200 injured

- 9,700 buildings destroyed and 29,000 severely damaged
- 154,500 buildings moderately damaged, with use restricted
- 130 fires
- Partial closures, lasting months, of all the region's six major highways due to damage and collapsed bridges
- Utilities cut in areas with poor soils
- Port facilities badly damaged
- Operations of businesses relying on "just-in-time" deliveries disrupted by collapsed supply warehouses, transportation closures, and communication outages

The 12 project team members represent EERI, the EMD, the emergency management offices of the cities of Seattle and Bellevue, the U.S. Geological Survey, the Structural Engineers Association of Washington, the Seattle Area Geotechnical Workgroup of the American Society of Civil Engineers, the Cascadia Region Earthquake Workgroup, and the University of Washington.

The EMD of the state of Washington funded the printing of the report.

## Announcement

### Disasters Roundtable Workshop

The 15th Disasters Roundtable Workshop on "Law, Science, and Disaster" will be held Tuesday, October 18, 2005, in room 100 of the National Academies Keck Center at 500 Fifth Street NW, Washington, D.C. The full-day workshop will reflect on the relationship of disaster law to issues of public safety, and will cover recent developments and trends in hazard and disaster law and its implementation. An underlying issue to be considered is the role of scientific understanding in providing a basis for designing and implementing laws and regulations that promote public safety in an era of increasing risk. For additional information and a preliminary agenda, visit [dels.nas.edu/dr](http://dels.nas.edu/dr). Attendance is free and open to the public. Registration is available online and is required by October 9, 2005. The Disasters Roundtable seeks to facilitate and enhance communication and the exchange of ideas among scientists, practitioners, and policy makers. Roundtable meetings are held three times a year in Washington, D.C.



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