



## EARTHQUAKE ENGINEERING RESEARCH INSTITUTE NEWSLETTER

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### EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

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### News of the Institute

## Kathleen Tierney Named EERI's Distinguished Lecturer for 2006

Kathleen Tierney, professor of sociology and director of the Natural Hazards Research and Applications Information Center (NHRAIC) at the University of Colorado at Boulder, has been chosen to give EERI's 2006 Distinguished Lecture. An EERI member since 1987, Tierney was nominated by the Honors Committee because she is a nationally recognized expert on the human and social dimensions of hazards, disasters, and risk. The NHRAIC is the nation's leading repository of knowledge on human behavior in disasters.



*Kathleen Tierney*

Prior to her move to the University of Colorado in 2003, Tierney was professor of sociology and director of the Disaster Research Center at the University of Delaware. With more than 25 years of experience in the disaster field, she has been involved in research on the social aspects and impacts of major earthquakes in California and Japan, floods in the Midwest, hurricanes Hugo and Andrew, and other major disastrous natural and manmade events.

Since September 11, 2001, she has been directing a study on the organizational and community response in New York following the terrorist attack on the World Trade Center. Her other recent research projects include studies on public perceptions of the earthquake threat in the San Francisco Bay

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### News of the Institute

## New EERI Student Chapter at UNAM

A new EERI student chapter at the Universidad Nacional Autonoma de Mexico (UNAM) was established on August 1 with 12 students from graduate programs of structural engineering and geotechnics. The faculty advisor is Dr. Eduardo Reinoso.

EERI President Craig Comartin met with the student chapter on September 12 during the XV

Congreso Nacional de Ingeniería Sísmica in Mexico City. The chapter is currently working on establishing guidelines and setting up committees to plan future activities.



*EERI-UNAM Student Chapter members with EERI President Craig Comartin.*

## News of the Profession

# NEES Research Program Funds Grand Challenge on Ports

Earthquakes pose a significant threat to the nation's seaports, which are critical assets in this era of global trade. Researchers from the Georgia Institute of Technology and nine other universities as well as consultants are focusing their efforts on mitigating these seismic risks through a recent Grand Challenge award under the George E. Brown, Jr., Network for Earthquake Engineering Simulation (NEES) program of the National Science Foundation. The project integrates geotechnical and structural engineering, logistics, risk analysis, and decision sciences, and uses the overall performance of the port system as the basis for seismic risk mitigation decisions. EERI Members Glenn J. Rix and Reginald DesRoches will serve as director and deputy director, respectively, of the \$3.6 million project.

The project will integrate experimental and numerical simulation to advance understanding of the complex soil-foundation-structure systems that are typical of ports. It will develop geotechnical and structural mitigation alternatives targeted at all parts of the soil-foundation-structure system. The research program examines innovative soil improvement techniques to mitigate liquefaction hazards using the NEES@

UTexas mobile shaker and the NEES@UCDavis centrifuge. Pile configurations and pile-deck connections with improved strength and ductility will be developed using full-scale tests at NEES@UIUC. Tests will be performed at NEES@Buffalo to evaluate the behavior of large container cranes and to investigate innovative methods to mitigate damage from large ground displacements due to liquefaction. Information will be made available in advance of each test for those interested in payload projects.

The experimental studies on these soil-foundation-structure systems will be used to develop numerical models of the soil-foundation-structure system that fill the gap between simplified and computationally intensive numerical solutions. Numerical simulations will subsequently be used to develop fragility relationships for the soil-foundation-structure system, with and without retrofitting, that lead directly to the operational capacity of port facilities following an earthquake and aid the determination of repair requirements for damaged components.

Understanding system-level impacts of risk mitigation strategies on the operational capacity of a port is a

crucial component of risk mitigation decision making. Logistics researchers will develop analytical models for port operations to predict port performance metrics that can be incorporated directly into an optimization-based risk mitigation framework. Decision support tools will also be developed to optimize port operations following an earthquake or other natural or man-made hazard.

The nature of seismic risk for ports and their operations makes them fertile ground for social and decision sciences research. The project improves value-focused decision research by integrating it with research on how stakeholders and experts perceive and understand seismic hazards and risks.

An education, outreach, and training program promotes education at several levels and addresses the dearth of underrepresented students in STEM (science, technology, engineering, and mathematics) fields. For more information about the NEESR Grand Challenge project, contact Glenn J. Rix (404-894-2292, [glenn.rix@ce.gatech.edu](mailto:glenn.rix@ce.gatech.edu)) or Reginald DesRoches (404-385-0826, [reginald.desroches@ce.gatech.edu](mailto:reginald.desroches@ce.gatech.edu)) and visit the project web site: [www.neesgc.gatech.edu](http://www.neesgc.gatech.edu).

## Announcement

### Soil Structure Interaction Course

The European School for Advanced Studies in Reduction of Seismic Risk (ROSE School) located in Pavia, in northern Italy, is offering a short course on dynamic soil-structure interaction and the computer program SASSI2000 in April 2006 for practicing engineers. A limited number of interested graduate students in earthquake engineering will also be accepted. The course is coordinated by Dr. Farhang Ostadan. The course covers fundamentals of soil dynamics, structural dynamics and wave propagation. The computer program SASSI and its recently developed new features along with case studies will be presented. Attendance is limited. For further information, visit [www.roseschool.it/files/short\\_courses-week.htm](http://www.roseschool.it/files/short_courses-week.htm) and contact Ms. Sandra Castelli ([rose@unipv.it](mailto:rose@unipv.it)) to receive future announcements.

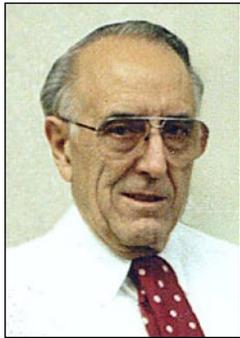
## Announcement

### NEES Annual Meeting

Save the date for the 2006 NEES Annual Meeting to be held the week of June 19, 2006, in the Washington, D.C., metropolitan area. The meeting will feature results of NEES research, advances in information technology and data management, successes in outreach and education, and interactive sessions on issues in collaborative research.

## Obituary

### Edwin G. Zacher, 1920-2005



Edwin G. Zacher

The following is based on an obituary published in the *San Francisco Chronicle* on September 16, 2005, by John King.

Former EERI member Edwin G. Zacher, president of the San Francisco structural engineering firm H.J. Brunnier, died of natural causes at his home in Berkeley, California, on September 6. He was 85.

Zacher's most lasting impact was his work to improve building codes. Under the auspices of the National Science Foundation, he helped develop seismic regulations that now are used nationwide. In 1996, the Structural Engineers Association of Northern California created an annual award in his name for engineers who are exemplary volunteers.

A native of Minnesota, Zacher enlisted in the U.S. Navy in 1940 and was a commanding officer of the *Isabel*, a destroyer escort that saw service in the South Pacific in World War II. He earned a bachelor's degree in civil engineering from UC Berkeley in 1948. In 1961, he joined H.J. Brunnier, which was founded in 1908. Zacher worked on such projects as the Bank of America headquarters in downtown San Francisco and a renovation of the Clift Hotel near Union Square. In 1997, he became president of the firm, a title he held until his death. He was a daily presence in the Brunnier office until last winter—not just overseeing employees, but also creating computer models of early firm projects so that when renovations were needed, structural details were available in the most contemporary formats.

In EERI's Oral History volume on Henry J. Brunnier and Charles De Maria, Zacher wrote a personal introduction for the De Maria section. Zacher is survived by two daughters, Kristine and Keri. His wife Rose died in 2002. Contributions in his memory may be sent to the Marin Humane Society, 171 Bel Marin Keys Blvd., Novato, CA 94949.

## Publication

### Contributions of LFE Program Report

Under the direction of the 2004 Learning from Earthquakes Advisory Committee, EERI staff has prepared a report summarizing the major contributions of its National Science Foundation-supported Learning from Earthquakes Program over the last 30 years. Contributions were solicited from various members of the research community who have participated in reconnaissance investigations, and the report documents both broad social impacts and contributions in individual disciplines. Included in the report is a table summarizing the history of investigations since 1972, including the type of report that was subsequently prepared. Plans are underway to make sure all the past newsletter reports and articles are available on EERI's web site. The table also indicates who participated in the reconnaissance effort; this table is incomplete and members who have knowledge of past reconnaissance teams are encouraged to contact EERI's Marjorie Greene at [mgreene@eeri.org](mailto:mgreene@eeri.org) with additional information. A PDF version of the report is available to download from a link on the EERI web site home page, [www.eeri.org](http://www.eeri.org). Copies can also be ordered from EERI free of charge.

## News of the Institute

### Earthquake Spectra Online ...Two Years Later

November 2005 marks the second anniversary of implementation of an online manuscript submission and peer review process for *Earthquake Spectra*. As EERI's quarterly professional journal continues to grow in popularity, the number of manuscripts submitted continues to increase as well. The good news is that the time it takes for the review process overall and for the first and

final decisions on papers has been markedly reduced. Data from 2004 and 2005 show that a typical paper took an average of only 69 days in 2005 and 109 days in 2004 from submittal to the first final decision. The same process took 222 days (more than seven months) before implementation of the online review process in 2003. This means an achievement of more than a three-

fold increase in peer review efficiency in a period of less than two years.

With many processes automated in the online system, usually reviewers and editors cannot go too long without getting a reminder that their comments are due. *Spectra* Editor Farzad Naeim also has added more editorial board members, making the current total 34, in order to have a broader range of specialists working on the submitted papers.

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## News of the Institute

# Summary Minutes of the April 20, 2005, Board of Directors Meeting

President Craig Comartin called the meeting to order at 8:30 a.m. Also present were Vice President Sarah Nathe; Secretary/Treasurer Ron Mayes; Directors John Aho, Bruce Clark, Richard Eisner, Polat Gülkan, and Farzad Naeim; Executive Director Susan Tubbesing; and Administrative Assistant Valarie Austin. Past President Thomas O'Rourke was not present. Chris Poland attended for a portion of the meeting.

**Review of committees, goals, and Board contact assignments:** Comartin reviewed the purpose and organizational structure of EERI's committees. The Board acceded to Eisner's desire to retire as co-chair of the U.S./Japan Committee on Urban Earthquake Hazard Reduction and agreed that it was tied to a series of U.S./Japan workshops and did not need to be a standing committee.

Mayes will chair the Technical Seminars Committee. Comartin appointed O'Rourke to serve on the Finance Committee. Nathe agreed to continue as chair of the Publications Policy Committee.

Svetlana Brzev has stated that she would like to step down as editor of the World Housing Encyclopedia. An announcement will be placed in the *EERI Newsletter* to identify a new chair.

Comartin made the following new Board contact assignments: Aho (Public Policy Advisory Committee) and Gülkan (Student Activities Committee). The Board agreed that with few exceptions, the policy would be to rotate committee chairs at the end of each three-year term, because

this helps attract new members. Current chairs will be contacted and asked if they can suggest a successor. Clark suggested that committee charges be sent to chairs every year.

### **MOUs with China and Canada:**

The Board reviewed draft outlines of cooperative agreements with the Canadian Association for Earthquake Engineering and the Chinese Association for Earthquake Engineering. Comartin pointed out that the Chinese are facing some of the same challenges as the United States in implementing performance-based design criteria, and cooperation should be mutually beneficial.

The Board voted to authorize agreements with China and Canada and expressed a desire for the 2006 Anniversary Conference to allow room in the program for countries with collaborative agreements to organize their own sessions. Comartin will ask Andrew Whittaker to coordinate the involvement of the collaborating countries in the conference.

**NAS-Iran seminars:** The National Academy of Sciences has a joint program with the Iranian Academy of Sciences and has requested that EERI recommend individuals from the United States to participate in technical seminars in Iran. Comartin will ask Yousef Bozorgnia to serve as chair of a small group to identify possible U.S. participants.

### **Secretary/Treasurer's Report:**

Mayes reviewed the Report of Revenue and Expenses as of February 28, 2005. The combined balance sheet showed an opening fund balance of \$127,033, which was augmented by \$378,369 in excess revenues over expenses. EERI's total liabilities of \$114,427 combined with the total fund balance of \$505,402 equaled \$619,829. The Endowment Program's opening balance of

\$716,011 was increased by \$7,438 in excess revenues over expenses, for a total fund balance of \$723,449. Total liabilities in the amount of \$363,535, combined with the total fund balance of \$723,449, equaled \$1,086,985. The balance of the combined association, endowment, and technical programs equaled \$1,706,814.

The Investment Funds Report showed a balance of \$334,192 in the General Administrative Short-Term Investment Fund and \$39,584 in the Long-Term Investment Fund. The Special Projects and Initiative Fund balance totaled \$723,449; the Friedman Family Investment Fund totaled \$192,484; and the Shah Family Innovation Prize totaled \$171,052. The balance in the interest-bearing checking account was \$38,872. The combined funds in both the General Administrative checking and investment accounts totaled \$413,799.

Upon recommendation of EERI's Finance Committee, the investment advisory service managing EERI's funds was changed from Clelland & Company to RBC Dain Rauscher in March of this year.

**California Seismic Safety Commission (CSSC) advocacy:** Tubbesing advised the Board that EERI sent a letter to the California Assembly Appropriations Committee in support of Assembly Bill 1374, which would eliminate the sunset provision in the CSSC's funding mechanism (see related article on page 8). Tubbesing will try to secure an appointment with the Governor's appointments secretary to communicate the importance of filling the vacancies on the CSSC.

**New FEMA task statement of work:** FEMA has asked EERI to help identify the primary challenges to the implementation of existing knowledge and design techniques throughout the nation. A series of

papers evaluating the use of FEMA's many materials and programs will be commissioned and a workshop held in late 2006.

#### **Publications Policy Committee**

**Report:** The Board voted unanimously that the special 2006 San Francisco earthquake centennial issue of *Spectra* be published as a supplement, rather than as one of the four regular issues in 2006, that co-editors Holmes and Reitherman be given full authority to decide on the quality and quantity of the papers and submission deadlines, and that the co-editors be relieved of the requirement to publish papers prepared by keynote speakers at the 100<sup>th</sup> Anniversary Conference.

**Publications Sales Report:** The report showed a significant increase in sales for this quarter compared with the first quarter of last year. New and older publications will continue to be promoted at meetings and to other professional organizations.

**Membership Report:** The membership numbers decreased somewhat from January because names of nonrenewing members were dropped at the end of the grace period on March 31. Three new regular members and 21 new student members were added as a result of the Annual Meeting promotional registration fee.

#### **100<sup>th</sup> Anniversary Conference:**

Past President and 100<sup>th</sup> Anniversary Conference Chair Chris Poland joined the meeting to review progress to date. Tutorials and field trips will be held before, during, and after the conference. Lessons from earthquakes around the world may be incorporated into the program. The third day will feature a scenario depicting a repeat of the 1906 earthquake today. The organizers plan to propose a positive, future-oriented vision in the closing session. A dignitary luncheon is planned for April 18,

the first day. Mayor Newsom, Senator Feinstein, and Congresswoman Pelosi have been invited to speak. The Society for Marketing Professional Services has agreed to assist with advertising and public relations. The planners want to broaden the appeal of the conference to include nontechnical professionals.

**Action plan for membership development:** Clark presented an analysis of the available data on membership trends. Individual memberships peaked during 1995 and the downward trend in all membership categories needs to be reversed.

The Board agreed to a number of actions, including the need to (1) prepare a list of accomplishments for Board members to use when making personal contacts with Subscribing Members. Feedback gained from these conversations will be given to the staff to compile into a report for the next Board meeting; (2) have staff prepare a summary of membership data at the end of every year for future use; and (3) identify greater opportunities for exchange between geotechs and structural engineers through a variety of EERI activities.

## **Announcement**

### **New Instrumented Building Analysis and Visualization Software**

The CSMIP-3DV Instrumented Building Evaluation and Three-Dimensional Visualization Software developed by Farzad Naeim and his team at John A. Martin & Associates, under a contract with the California Geologic Survey (CGS), is now available from CGS for the nominal fee of \$10. The software comes on a CD ready for installation on Windows XP computers. The CD also contains complete program documentation and an integrated database of 80 instrumented buildings. The program contains a self-updating module that allows users to download program updates and new data sets, with one click from the Internet. Those interested should contact Dr. Moh Huang at the California Strong Motion Instrumentation Program ([mhuang@consrv.ca.gov](mailto:mhuang@consrv.ca.gov)). The "CSMIP-3DV User Guide and Technical Manual" may also be downloaded from [www.johnmartin.com/publications/publications.asp](http://www.johnmartin.com/publications/publications.asp).

## **Spectra Online**

*continued from page 3*

In the past year, the top categories of manuscripts submitted were structural engineering, earthquake engineering practice, earthquake risk reduction, post-earthquake response, design criteria and methods, lessons learned from earthquakes, and engineering seismology. Other categories with fewer submissions were geotechnical engineering, lifeline systems, social and economic issues, nonstructural systems and components, hazard mapping, earthquake scenarios, instrumentation and strong-motion measurements, and architecture and urban design.

Although online processing is more efficient, the journal currently has a sizeable backlog of accepted papers. The size of each issue has been increased to more than 300 pages to accommodate additional papers and reduce the backlog. Page limits were imposed in September 2004 and, as a result, shorter papers are being submitted. Authors are being assessed page charges for papers exceeding 18 pages. Due to the smaller manuscript size, each issue of *Earthquake Spectra* is expected to have about 250 pages, beginning with the 2006 volume.

## Learning from Earthquakes

# Involving the Community in Indiana

Sponsored by the EERI Learning from Earthquakes program, an investigation of the felt effects of the June 18, 2002, M4.5 Evansville earthquake incorporated a unique element of community outreach for its success. The experiment solicited additional responses to felt-earthquake intensity surveys through an educational program in schools and community events using the USGS Community Internet Intensity maps, commonly known as “Did You Feel It?”

A teacher workshop in September 2004 involved Indiana teachers in the macroseismic response study and provided guidelines for using the accompanying hands-on earthquake science curriculum in classrooms. The occurrence of the June 2002 event provided a focal point for student learning in a region that does not frequently experience ground shaking.

The educational material was developed with the objective of transforming the Community Internet Intensity Map survey into a teaching tool. The lessons were based on the middle school science curriculum contained in the National Science Resources Center *Science and Technology Concepts for Middle Schools* module entitled “Catastrophic Events” (see [www.stcms.si.edu/stcms.htm](http://www.stcms.si.edu/stcms.htm)). As is typical with educational materials at the middle school level, the content of the module deals with earthquakes at tectonic plate boundaries, for the obvious reason that most earthquakes do occur there. A primary advantage of the educational material prepared for this specific program is that it discusses earthquakes in the context of the mid-continent United States, where plate boundaries are not the obvious cause of the events. Since answers are not readily available in textbooks, students are forced to think

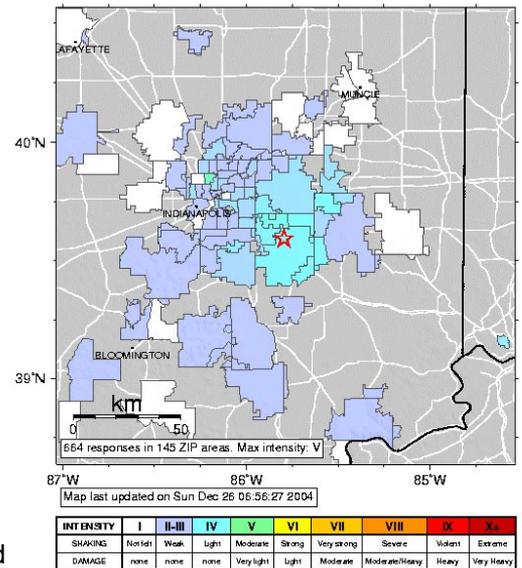
creatively about answers to a current research question “Why are there earthquakes in the mid-continent?” Thus earthquake science is presented as true discovery-based learning rather than learning rote facts. Another advantage of the new material is that it is easily generalized to another earthquake when it occurs, thus providing a pre-tested plan for taking advantage of those future “teachable moments.”

Twenty-five teachers participated in the program workshop, and 35 schools participated in the program. The number of survey responses for the earthquake went from 6,704 before the educational program started in February 2004 to 7,463 responses by the end of the program in November 2004, an increase of 11%. Fifty-one additional zip code regions were sampled in the expanded data set.

By coincidence, a magnitude 3.5 earthquake occurred in Shelbyville, Indiana, near Indianapolis, six days before the teacher workshop. The 664 responses are exceptional for an earthquake this size, especially in the Midwest. One of the most interesting features of the resulting map is the definitive mapping of the “not felt” region.

The cumulative number of responses as a function of time shows an interesting pattern, with several small jumps approximately 11 and 17 days after the earthquake, as the most eager of the teachers returned from the workshop and completed the curriculum one or two weeks after the workshop. There was a much more significant jump between 30 and 40 days after the earthquake, as teachers rushed to complete the unit before the October 22 deadline for completing the program (also demonstrating that

USGS Community Internet Intensity Map (5 miles N of Shelbyville, Indiana)  
ID:rhad\_04 06:05:19 MST SEP 12 2004 Mag=3.6 Latitude=N39.59 Longitude=W85.60



Community Internet Intensity Map from the magnitude 3.6 Shelbyville, Indiana, earthquake on September 12, 2004.

teachers are just like the rest of us!).

The outreach program continued during the second quarter of 2005, when the results were presented at an interactive earthquake education booth at the Purdue University Spring Fest. This is an annual event that welcomes thousands of Indiana families for a day on campus with educational activities in all sciences (including the much-celebrated cricket-spitting contest of the Entymology Department). The Earth and Atmospheric Sciences Department hosted a booth with a stomp-your-own-seismogram display, an earthquake chair to feel the effects of 0.3 g, and computers for visitors to fill out the online Community Internet Intensity maps for those who felt (and didn't feel!) the 2002 earthquake. Additional outreach workshops are planned for the Evansville region in the future.

The project was carried out by Jennifer Haase and Chi Hyun Park at Purdue University, with assistance from David Wald at the USGS and the help of the teachers and students at 35 Indiana schools.

## Learning from Earthquakes

# Devastating Earthquake Hits Pakistan and India

On October 8, 2005, a 7.6 (Mw) earthquake struck the Kashmiri region of Pakistan and India. The event caused widespread destruction in Pakistan-administered Kashmir, Pakistan's Northwest Frontier Province (NWFP), and western and southern parts of Kashmir on the Indian side. As of October 26, Pakistan reported more than 53,000 killed, and the number is expected to rise as search and recovery efforts continue in some of the more remote villages. India reported 1,308 dead, and the International Organization for Migration reported that more than 2.8 million people in Pakistan and 150,000 in India are homeless. Initial rescue and relief efforts were hampered by the mountainous

terrain, bad weather, and damaged or collapsed infrastructure. There is a race against the weather to get relief supplies to some of the more remote areas before winter sets in. Large numbers of the population are reluctant to leave their land, due in part to the need to care for their livestock through the winter. Pakistan is thus confronted with the need to provide minimal shelter for large numbers of people in remote locations over a large area of rugged terrain. The UN, the Red Cross, several nations, many NGOs, and individual Pakistani citizens have provided assistance and continue to do so.

Landslides have occurred in numerous locations, generally minor to moderate in scale, and far fewer

than might be expected given the steep terrain. However, there is one enormous landslide, located about 40 km SE of the epicenter, which appears to be a failure of an entire valley wall perhaps 5,000 feet high, that flowed down and across a valley, damming the valley with a crest length of approximately 2 km. The scale of this slide is analogous to the 1959 Hebgen Lake (Montana) slide.

Several EERI members have visited the region and sent back initial reports. Preliminary observations from the Indian side of Kashmir, prepared by the Indian Institute of Technology, Kanpur, are available at EERI's virtual clearinghouse

web site on <http://www.eeri.org/lfe/clearinghouse/kashmir/observ1.php>. EERI will soon be sending a small reconnaissance team from the United States, led by EERI member Saif Hussein and including Ahmed Nisar and Bijan Khazai. Support and collaboration is being provided by colleagues in Pakistan at the NWFP University of Engineering and Technology, Earthquake Engineering Center, Peshawar, and the Higher Education Commission of the Government of Pakistan. Colleagues from New Zealand will also be joining the team. More information from the field will be included in upcoming issues of this *Newsletter*.

Based on experience after the Indian Ocean tsunami, EERI has launched a section of the virtual clearinghouse that will focus specifically on providing information on rebuilding resources (technical assistance). Manuals, guidelines and reports are posted on the site on <http://www.eeri.org/lfe/clearinghouse/kashmir/resources.html>. Members are encouraged to contribute to this site.



*Typical terrain of affected area in Pakistan (photo: Charles Scawthorn).*



*Aerial view of town of Bagh, showing pancaked buildings (photo: Charles Scawthorn).*



*NASA image of large landslide that dammed a valley with a crest length of approximately 2 km (created by Jesse Allen, Earth Observatory, using data provided courtesy of Eric Fielding, NASA/JPL, the NASA/GSFC/METI/ERSDAC/JAROS, and U.S./Japan ASTER Science Team, [http://yubanet.com/artman/publish/article\\_26337.shtml](http://yubanet.com/artman/publish/article_26337.shtml)).*

## Academic Opportunities

### UC San Diego

The Department of Structural Engineering at the University of California at San Diego is seeking candidates for one or more faculty positions in the areas of (1) Mechanics of composites and light-weight materials/structures, (2) structural/geotechnical engineering, (3) marine/ocean engineering, and (4) applied/computational mechanics. Exceptional candidates in all other areas will be given serious consideration. Innovation, systems-oriented engineering, and potential for multi-disciplinary research are important. The department offers undergraduate and graduate degrees in structural engineering and emphasizes cross-disciplinary research in civil, aerospace, mechanical, and marine structures. The successful candidate must hold a doctorate or equivalent degree, with high-quality research and teaching potential. Review of applications will begin November 30, 2005, and will continue until positions are filled. For the full announcement, visit [structures.ucsd.edu/](http://structures.ucsd.edu/).

### CSU Northridge

The Department of Geological Sciences at California State University Northridge invites applications for appointments at the assistant professor level in (1) active tectonics and/or engineering geology, with expertise in one or more of the following areas: tectonic geomorphology, fault evolution and mechanics, seismic hazard assessment, and earthquake physics/engineering; and (2) geodynamics, with expertise in one or more of the following areas: crust-mantle-core evolution, subduction zone dynamics, marine geophysics, and geodesy. Requirements: a Ph.D., an established record of published research in one or more of the indicated areas, a demonstrated record of teaching ability,

and strong field skills. Preference will be given to applicants with experience in obtaining research funding, and who have research interests that complement and enhance existing departmental strengths. Teaching assignments will include undergraduate courses in geologic field mapping, a senior or graduate course, or both, in the hire's specialty, and, on a rotational basis, physical science for prospective K-5 teachers or appropriate general-education courses.

Review of applications will begin December 1, 2005, and will continue until the positions are filled. For additional information, visit [www.csun.edu/geology](http://www.csun.edu/geology).

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## Announcement

### 27th International Disaster Management Conference

Sponsored by the Emergency Medicine Learning and Resource Center, the 27th Annual International Disaster Management Conference 2006 will be held in Orlando, Florida, February 9–12, 2006, with the theme of *"Prepare Freedom's Lifelines..."*

The conference is designed for all persons and agencies involved with emergency preparedness, management and response such as firefighters, emergency managers, physicians, nurses, disaster medical assistance team personnel, disaster planning coordinators, law enforcement officials, search and rescue responders, and civil preparedness officials. The theme is evident throughout all of the educational programs and tracks. The events of the past year have produced an opportunity to learn from adversity and will serve as the basis for many of the educational sessions.

For more information, visit [www.emlrc.org/disaster2006.htm](http://www.emlrc.org/disaster2006.htm).

## News of the Profession

### AB 1374 Vetoed by California Governor

California Assembly Bill 1374 was vetoed by Governor Arnold Schwarzenegger on October 10, 2005. The bill, authored by assembly member Carol Liu of Assembly District 44 (Pasadena), would have extended the sunset date for funding the California Seismic Safety Commission (CSSC) to July 1, 2013. Currently, the funding source for the CSSC is scheduled to expire on July 1, 2007. The CSSC's operating budget is supported by a small assessment on commercial and homeowner property insurance policies (7 cents per policy).

In his veto message to the state legislature, the governor cited the importance of an integrated effort in protecting California against disasters. He referred to a plan to review all agencies, boards, and commissions that have any role in disaster preparedness and relief. He further indicated that the California Performance Review (CPR) found many of the functions of the CSSC to be duplicative of the California Building Standards Commission and the Division of State Architect, and the CPR recommended the elimination of the CSSC and the transfer of its functions to the Department of General Services, under which the Division of the State Architect currently resides.

Finally, he indicated that since funding from fees on insurance continues until 2007, the CSSC is not in immediate jeopardy. He has directed the state and the Consumer Services Agency to work with Liu, the CSSC, the Office of Emergency Services, the Division of the State Architect, the California Business Standards Commission, and other stakeholders to explore further opportunities for enhanced seismic safety and increased coordination among the various state agencies involved with seismic issues.

## News of the Membership

### Mileti Appointed to California SSC



*Dennis Mileti*

EERI member Dennis Mileti was recently appointed to the California Seismic Safety Commission by California Governor Arnold Schwarzenegger to represent social services. Mileti is professor emeritus at the University of Colorado at Boulder and formerly chaired the Department of Sociology. He is past director of the Natural Hazards Research and Applications Information Center (NHRAIC). The major theme of his research over the last several decades has been the communication of long- and short-term earthquake risk information to the public, firms, and government agencies to enhance pre-disaster actions to reduce damages and losses. Most of his more than 100 publications focus on the societal aspects of natural and technological hazards and disasters. His book, *Disasters by Design*, summarizes a national effort to assess knowledge and policy for hazards and disasters in the United States.

He has served on the EERI Board of Directors and a variety of other advisory boards for regional and national risk mitigation agencies and organizations. He has served on EERI's Learning from Earthquakes Committee, the Nominating Committee, the Committee on Technology Transfer, and the Committee on Social Sci-

ence Research. He was the founding associate editor for social science research for *Earthquake Spectra*. He was the founder and co-editor of the all-hazards, all-disciplines journal *Natural Hazards Review*. He is currently a senior scientist at the NHRAIC and a member of the Department of Homeland Security's National Social Science Research Center on Terrorism.

Mileti received his Ph.D. in sociology from the University of Colorado, his M.A. from California State University at Los Angeles; and his B.A. from the University of California at Los Angeles.

Other CSSC commissioners who are EERI members are Kandiah Arulmoli, Bruce R. Clark, Lucile Jones, Gary McGavin, and Daniel Shapiro.

### Wight and Mujumdar Honored

James K. Wight, a long-time member of EERI, has been appointed the Frank E. Richart, Jr. Collegiate Professor of Civil Engineering at the University of Michigan. This collegiate professorship was named in honor of Professor Richart, who was a former chair of the Civil Engineering Department. Professor Richart greatly influenced the practice of civil engineering and was considered a pioneer in the field of foundation vibrations and soil dynamics.

Professor Wight earned BSE and MSE degrees in civil engineering from Michigan State University and his Ph.D. in 1973 from the University of Illinois at Urbana-Champaign, the same year he joined the faculty at the University of Michigan. Professor Wight's research interests have centered on studies of inelastic behavior of reinforced concrete members and connections under large load reversals. His recent research has addressed the seismic design of composite structures and the use

of high-performance fiber reinforced cement composites in concrete structures. He spent a one-year sabbatical leave in Japan and was involved in the construction and simulated earthquake testing of a full-scale reinforced concrete building. He has been involved with post-earthquake damage studies in Mexico City, Chile, Armenia, Egypt, and Japan. He has authored several papers for technical journals and conferences, and is the co-author (with James MacGregor) of the book, *Reinforced Concrete Mechanics and Design*, 4<sup>th</sup> edition.



*Vilas Mujumdar*

The Board of Directors of the Precast/Prestressed Concrete Institute has elected Vilas Mujumdar a Fellow in recognition of his "outstanding contributions to the precast/prestressed concrete industry and to the Institute." The award was formally presented at the PCI annual convention in Palm Springs, California, in October 2005.

Currently, Dr. Mujumdar is director and cluster leader of the earthquake engineering research centers' program in the Engineering Directorate of the National Science Foundation. In addition, he coordinates public policy for other engineering research centers and promotes cross-disciplinary integrated research to minimize seismic hazard risk to society. He chairs the International Publications/Website Committee of the ACI Board. He also serves on the ASCE Board Committee on Women and Diversity in Civil Engineering.

## Announcement

### NEESinc Open House

The NEES Consortium, Inc., (NEESinc) will celebrate its first year of operation with an open house on November 17, 2005. The festivities will include educational sessions for local school children, tours of the NEES@UC Davis Centrifuge Facility, ribbon-cutting activities, and presentations by leading professionals and researchers.

The George E. Brown, Jr., Network for Earthquake Engineering (NEES) offers a unique opportunity to study how earthquakes and tsunamis affect such man-made infrastructure as buildings, roads, bridges, ports, and electrical power systems. NEESinc is a nonprofit organization funded by the National Science Foundation to manage, coordinate, and maintain the 15 NEES research laboratories at universities across the nation. NEES research will help engineers design structures to reduce future risk, provide education and outreach activities to the public regarding earthquake awareness and preparedness, and serve as a clearinghouse for public information.

For a schedule of activities and more information, visit the NEESinc web site at [www.nees.org](http://www.nees.org).

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### Call for Papers

### World Conference on Disaster Management

The Canadian Centre for Emergency Preparedness is calling for presentations for the 16th World Conference on Disaster Management (WCDM), to be held June 18-21, 2006, in Toronto, Canada. WCDM addresses issues common to all aspects of disaster and emergency management. The conference program provides opportunities for training and networking among those in emergency planning and

management, business continuity, emergency response, disaster management research, emergency communications, emergency health, risk management, security, information technology, human resources, the environment, and community planning, as well as for the organizations that supply and service these professions.

Presentations should fall into one or more of the following categories:

- lessons learned from real events
- emerging trends in disaster management
- the human element in disaster management
- technical issues and threats
- disaster management principles and practices
- research and development

Presentation abstracts must be submitted by December 3, 2005. For more information, visit [www.wcdm.org/](http://www.wcdm.org/).

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### Job Opportunities

### USGS Post-Doc

Applicants are invited to apply for a two-year post-doctoral opportunity at the USGS to conduct research related to improved tsunami hazards assessment through integration of tsunami inundation models and tsunami deposits. The post-doc will start between October 2006 and March 2007. Applications, including a research proposal, are due December 1, 2005 (see [geology.usgs.gov/postdoc/](http://geology.usgs.gov/postdoc/)). All applicants are strongly encouraged to coordinate their research proposal with the USGS advisors. A Ph.D. is required in oceanography, coastal engineering, geology, or geography. Applicants must meet one of the following qualifications: research oceanographer, research engineer, research geologist, or research geographer.

Research under this opportunity will require some combination of collab-

orative studies on tsunami hydrodynamics, sediment transport, coastal geology, and remote sensing.

For more information on this opportunity, visit [geology.usgs.gov/postdoc/2007/opps/opp28.html](http://geology.usgs.gov/postdoc/2007/opps/opp28.html).

### Red Cross Openings

The American Red Cross seeks two disaster planning and preparedness experts for its Tsunami Recovery Program (TRP), which directs the organization's response to the south Asia tsunami disaster. The TRP will focus on integrated collaborative community recovery and preparedness interventions in tsunami-affected countries. Complete job announcements are available at [www.globalrecruitment.net](http://www.globalrecruitment.net).

The Disaster Planning and Preparedness (DPP) Advisor, Washington, D.C., will guide the international disaster preparedness and planning portfolio for tsunami-affected countries. This position aims to increase the capacity of the vulnerable communities to protect themselves from and respond to future disasters. The advisor will provide technical support to field and headquarters' staff and partners in the design and implementation of strategies and programs in conjunction with the DPP senior advisor and field-based specialists.

The DPP Officer, Banda Aceh, Indonesia, will manage a portfolio of programs in Indonesia. This person will assist the Indonesia Red Cross to assess its preparedness capacity; to respond to disasters in an effective and efficient manner; and to reduce the impact of future disasters by promoting best practices in community-based planning, preparedness, and mitigation. The delegate will provide technical assistance and project oversight in designing, implementing, and evaluating various disaster management programs in Indonesia in collaboration with Red Cross and non-Red Cross partners.

## 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**.

### NOVEMBER

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

2. 4th Annual Business Continuity Planning Conf., San Jose, CA. Info: [www.sjsu.edu/cdm/bcpconference/index.html](http://www.sjsu.edu/cdm/bcpconference/index.html) (10/05)

3-4. ASCE/CERF Conference, Tysons Corner, VA. Info: [www.cerf.org/](http://www.cerf.org/) (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. Info: [www.iaem.com](http://www.iaem.com) (9/05)

16-18. World Conf. on Disaster Reduction, Mumbai, India. Info: [www.wcdr.gfdr.org](http://www.wcdr.gfdr.org) (7/05)

**17. NEESinc Open House**, Davis, CA. See page 10. (11/05)

18. COSMOS Annual Meeting Technical Session, Millbrae, CA. Info: [www.cosmos-eq.org](http://www.cosmos-eq.org) (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/) (10/05)

### DECEMBER

5-9. AGU Fall Meeting, San Francisco, CA. Info: [www.agu.org/meetings/fm05](http://www.agu.org/meetings/fm05) (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)

#### FEBRUARY

**9-12. 27th Int'l. Disaster Management Conf.**, Orlando, FL. See page 8. (11/05)

#### APRIL

18-21. 8th U.S. Nat'l Conf. on EQ Eng. (8NCEE), EERI Annual Meeting, SSA Annual Meeting, Disaster Resistant California Conf., San Francisco, CA. Info: [www.eeri.org](http://www.eeri.org) (5/04, 5/05, 6/05, 7/05, 8/05, 9/05, 10/05)

#### MAY

19-21. SECTAM XXIII, Mayagüez, Puerto Rico. Info: [civil.uprm.edu/sectam](http://civil.uprm.edu/sectam) (10/05)

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

#### JUNE

18-21. ECI Geohazards Conf. Lillehammer, Norway. Info: [www.engconfintl.org/6ag.html](http://www.engconfintl.org/6ag.html) (9/05)

**19-22. NEES Annual Meeting**, Washington DC. See page 2. (11/05)

**18-21. 16th World Conf. on Disaster Management**, Toronto, Canada. See page 10. (11/05)

#### 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)

#### OCTOBER

12-13. 4th Int'l Conf. on EQ Eng. (4ICEE), Taipei, Taiwan. Info: [icee2006.ncree.org.tw/](http://icee2006.ncree.org.tw/) (10/05)

## Tierney

*continued from page 1*

Area, sociobehavioral aspects of real-time warning systems for earthquakes, risk communication, and the business impacts of disasters.

Tierney is the author of dozens of articles, book chapters, and technical reports on the social aspects of hazards, disasters, and risk, including articles in *International Journal of Mass Emergencies and Disasters*, *Journal of Contingencies and Crisis Management*, *Sociological Spectrum*, *Sociological Forum*, *Research in Social Problems and Public Policy*, *Prehospital and Disaster Medicine*, and *Natural Hazards Review*.

Her publications also include *Disasters*, *Collective Behavior*, and *Social Organization* (1994), co-edited with Russell Dynes, and *Facing the Unexpected: Disaster Preparedness and Response in the United States* (2001), co-authored with Michael K. Lindell and Ronald W. Perry.

Her current book project, on which she is collaborating with William Waugh, is the development of the second edition of the International City and County Management Association's *Emergency Management: Principles and Practice for Local Government*.

Tierney is a member of the National Construction Safety Team Advisory Committee, which is overseeing the official federal investigation of the World Trade Center disaster. She also serves on the Leaders Working Group on Biodefense of the University of Pittsburgh Medical Center's Center on Biosecurity/Johns Hopkins Center for Civilian Biodefense Strategies.

She received her Ph.D. from Ohio State University and did postdoctoral research at the University of California, Los Angeles.

## News of the Institute

# EERI/FEMA Professional Fellowship Awarded to Matthew Francis



*Matthew Francis*

Mathew Francis, a senior geotechnical engineer at URS Corporation in Salt Lake City, has been selected as the 2006 NEHRP Professional Fellow in Earthquake Hazard Reduction, awarded by EERI under a co-operative program funded by the Federal Emergency Management Agency. This activity is undertaken by FEMA as part of the National Earthquake Hazards Reduction Program. The fellowship is designed to provide an opportunity for a practicing professional to gain greater skills and broader expertise in earthquake risk reduction. The Institute extends thanks to reviewers Daniel Alesch, professor emeritus at the University

of Wisconsin, and Bruce Kutter, professor of civil and environmental engineering at the University of California, Davis.

Francis will use survey data gathered at inundation areas in the December 2004 Andaman-Sumatra tsunami to study tsunami site effects, including wave force, overland velocity profiles, debris projectile forces, subsurface pore pressures, and sediment-transport impacts. He will evaluate the impact of these on structural foundation damage to roadways and bridges; identify categorical potential failure modes and mechanisms; and identify building code modifications. He will present the results of his research in a final report that he believes can lead to improvements in tsunami-resistant design. The research will be conducted under the direction of EERI member Harry Yeh, professor at Oregon State University.

Francis participated in the EERI-sponsored field investigation of the 2004

Indian Ocean tsunami. He has had experience in evaluating tsunami-resistant design in Hawaii and has overseen seismicity studies and strong motion studies in the United States, the South Pacific, Central America, and Asia. Francis received his B.S. and M.S. degrees from Brigham Young University in Provo, Utah.

The Professional Fellowship is awarded annually and provides a stipend of \$30,000, commencing in January 2006, for tuition, fees, and living expenses for a 12-month period.



*Francis investigating inundation during the EERI-sponsored tsunami survey in India.*



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