



## EARTHQUAKE ENGINEERING RESEARCH INSTITUTE NEWSLETTER

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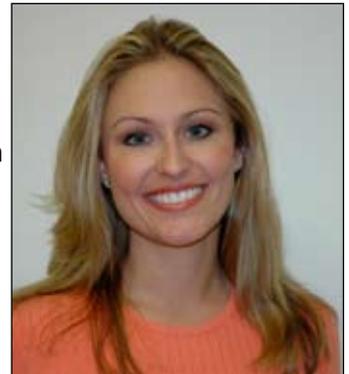
## EERI/FEMA Graduate Fellowship Awarded

Jamie Padgett, a Ph.D. candidate in civil and environmental engineering at the Georgia Institute of Technology, has been selected as the 2006-2007 NEHRP Graduate Fellow in Earthquake Hazard Reduction. EERI awards this fellowship each year in a cooperative program with the Federal Emergency Management Agency's National Earthquake Hazards Reduction Program. The award is given to foster the participation of capable individuals in furthering the goals and practice of earthquake hazard mitigation. The fellowship provides \$12,000 for a nine-month stipend and \$8,000 for tuition, fees, and research expenses.

Padgett was chosen from a group of applicants representing the fields of structural and geotechnical engineering, and hazards mitigation, from universities in California, Georgia, Michigan, and North Carolina. The applications were reviewed by Ellen Rathje, associate professor at the University of Texas at Austin; Scott Olson, assistant professor at the University of Illinois at Urbana-Champaign; Bozidar Stojadinovic, associate professor at the University of California, Berkeley; and Tricia Wachtendorf, assistant professor at the University of Delaware's Disaster Research Center.

Padgett's research focuses on assessing the seismic vulnerability of retrofitted bridges and mitigating the seismic risk of transportation networks. The objective of her multidisciplinary research is to establish a methodology to

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*Jamie Padgett*

### Editorial

## It's Time to Unite Earthquake Science, Engineering, and Emergency Management

*by Chris D. Poland, EERI Past President, Honorary Member, and Chair of the recent 100th Anniversary Earthquake Conference. A longer version will appear as an opinion article in an upcoming issue of Seismological Research Letters.*

This year's 100<sup>th</sup> anniversary of the 1906 San Francisco earthquake is giving us the opportunity to reflect on what we have accomplished over the past century, show our passion for seismic safety, and talk fervently about what needs to be done. The highly visual, three-dimensional ground-motion simulations produced by the seismological community clearly illustrate the advancements in understanding that 100 years of seismological research has produced. The national consensus that has produced the first national seismic design codes for structures clearly points to the achievements of the engineering professions. One hundred and fifty years of observations and collaboration has produced clear instructions about how to design earthquake-ready structures. Emergency response plans that focus on safe evacuation, shelter and interim housing, vulnerable populations, long-term recovery, and exercises at the federal, state, and local levels give emergency planners reason to be cautiously optimistic that they are ready to handle the next "big one." Good job, all!

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## News of the Membership

# Western States Seismic Policy Council Honors Lloyd Cluff and Chris Rojahn with Awards

EERI members Lloyd S. Cluff of the Pacific Gas & Electric Company, San Francisco, California, and Christopher Rojahn of the Applied Technology Council, Redwood City, California, received 2006 Lifetime Achievement Awards in Earthquake Risk Reduction from the Western States Seismic Policy Council (WSSPC). The awards were presented at the Disaster Resistant California Luncheon, Wednesday, April 19, at the Moscone Center in San Francisco during the 100th Anniversary Earthquake Conference.



Lloyd S. Cluff



Chris Rojahn

WSSPC created the award to recognize outstanding leaders in earthquake risk reduction who have demonstrated throughout their careers extraordinary commitment, service, and contributions to the application of earthquake risk reduction to public policy.

EERI Past President and honorary member Lloyd Cluff was recognized for achievements during his 45-year career as a world-renowned expert in earthquake geology, well-published research scientist, public policy champion of earthquake safety, inspiring educator, sought-after consultant, president and board member of many professional organizations, and successful business leader. As a geologist in the private sector, Lloyd has used the lessons learned from his investigations of significant earthquakes to improve engineering design practices, seismic safety, and earthquake preparedness.

Under Christopher Rojahn's leadership as executive director of the Applied Technology Council, ATC has expanded from an emerging organization in earthquake engineering to a major contributor to earthquake risk reduction. ATC projects undertaken and completed during Chris's tenure have established the basis for earthquake engineering practice in the United States and have greatly influenced public policy in earthquake risk reduction.

For more background on each of these awardees, visit <http://wsspc.org/Awards/index.html>.

## News of the Profession

# K-12 Outreach Program Database

Europe and Asia now graduate three to five times as many engineers as the United States. To increase the number of freshmen enrolled in American undergraduate engineering programs, educators have created K-12 engineering outreach programs that draw more youngsters into the engineering pipeline. The American Society for Engineering Education has compiled hundreds of these programs and placed them in a free, searchable database located on its EngineeringK12 Center web site, [www.engineeringk12.org](http://www.engineeringk12.org). Parents, teachers, and students can search nationwide for a wide variety of programs that match their needs, offered by universities, industry, and government.

## Graduate Fellow

*continued from page 1*

develop reliable analytical fragility curves, which can provide decision-makers with needed tools to maximize investment in mitigating the seismic risk of retrofitted bridges. Her work will result in the first set of fragility curves for retrofitted bridges, especially those found in the central and eastern United States, and will provide accurate predictions of performance during an earthquake. This will enable regional seismic risk assessment and loss estimation for mitigation of damage to the transportation network.

According to Reginald DesRoches, associate professor and associate chair of the Department of Civil and Environmental Engineering at Georgia Tech, Jamie's doctoral research could have "a major impact on the practice of bridge seismic design."

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## Honors Committee Seeks Member Input

The EERI Honors Committee will meet in the third quarter and encourages participation by EERI members in the process of identifying worthy members whose contributions should be recognized. The committee would like to hear from the general membership in identifying candidates for the George W. Housner Medal, the Distinguished Lecturer Award, and Honorary Membership, as well as authors who deserve the award for the *Earthquake Spectra* Outstanding Paper for 2005. These awards will be presented at the EERI Annual Meeting in February 2007. Send your nominations to the Honors Committee at the EERI office. Past Distinguished Lecturers, Honorary Members, and Housner Medal recipients are listed on page ii of the *EERI Roster*. A complete description of each award can be found at <http://www.eeri.org/home/honors.html>.

## News of the Profession

### Caltech, USGS Dedicate Earthquake Media Center

The California Institute of Technology hosted an "Earthquakes 101" workshop on June 29 for media representatives from across the United States, as part of the dedication of Caltech's new Earthquake Media Center. Housed in Caltech's Geosciences Computational Facility, the center uses the latest technology to translate complex earthquake data into 2-D graphics — an advance that will help the media report earthquake news in a timely, easy-to-understand manner.

Simulations and data produced by the facility's 1,024-node supercomputing cluster are fed into two precision workstations and then projected onto a custom nine-panel 10-by-6-foot visualization wall in the media center. The video wall can display simultaneous images, including video, web sites, PowerPoint presentations, and graphics. In place of the old seismographic drums, after an earthquake the screens will display such images as ShakeMovies, ShakeMaps, "Did You Feel It?" maps, and seismic waveforms in real time. The technology behind the screens was donated by Dell, and a portion of the workshop was devoted to thanking Dell for its generosity.

"Seismological technology has vastly improved to the point that in less than an hour, we can now create a 2-D animation of seismic waves radiating out from the epicenter on a topographical map," said Dr. Jeroen Tromp, director of the Caltech Seismological Laboratory and McMillan Professor of Geophysics.

Workshop speakers included EERI members Lucy Jones of the USGS and Swaminathan Krishnan of Caltech. They discussed earthquake basics, what will happen to L.A.'s tall

## Obituary

### James E. Roberts 1930–2006



*James E. Roberts*

James E. "Jim" Roberts died after a long illness on July 6, 2006. He will be remembered for bringing the California Department of Transportation (Caltrans) through the Loma Prieta and Northridge earthquakes.

Jim's insight and resolve as the state bridge engineer were critical in addressing the immediate and long-term challenges of these devastating earthquakes. As a result of his hard work, California has more seismically resistant bridges, Caltrans has state-of-the-art seismic design criteria, and our understanding and practice of earthquake engineering has been greatly improved.

Jim was born the son of a farmer in Jameson, Missouri in 1930. His family joined the flood of immigrants who moved from the "dust bowl" to California during the Depression. He was proud of his education at UC Berkeley in the early 1950s, followed by service in Korea as a platoon leader of a combat engineering battalion. Jim returned to Caltrans in 1955, where he took advantage of rotational opportunities to acquire a broad depth of experience that became critical as he advanced through management.

Jim served as a structural engineer at Caltrans for more than half a century, including 15 years as California's state bridge engineer. He spearheaded the department's \$4.5 billion seismic retrofit program and oversaw nearly \$50 million in seismic research projects. He was also named to the National Academy of Engineering in 1996, the only state-employed engineer to be so honored. He retired in 2001 as the department's chief deputy director.

Jim was well known for his gruff voice, military demeanor, and blunt manner. He would effectively defend Caltrans from criticism while making sure the public's interest was being served. He was a leader with "true grit."

## Announcement

### Building Science Forum

The Network for Advancement of Building Science, a committee of the Building Enclosure Technology and Environment Council (BETEC), is presenting the Building Science Forum 2006 at Syracuse University, Syracuse, New York, September 5-6, 2006. BETEC is part of the National Institute of Building Sciences (NIBS). The first day will feature a seminar on Research in Building Physics; on day two, there will be a seminar on Building Science Application. For complete program information and to register, visit [www.nibs.org](http://www.nibs.org).

buildings in a major quake, and real-time earth science. For additional information, visit Caltech's Earth-

quake Web Site for Media, <http://pr.caltech.edu/events/eq101/>.

## It's Time to Unite

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The 100<sup>th</sup> Anniversary Earthquake Conference commemorating the 1906 earthquake, held in San Francisco April 18-21, was a capstone event for earthquake professionals worldwide. For the first time, earth scientists, earthquake engineers, and emergency managers from California, the nation, and around the world came together to explore recent advances in their respective fields, share best practices, teach fundamentals, and advance an expert opinion on the changes that are needed in public policies related to earthquakes and their effects on communities. The meeting also clearly demonstrated the value of bringing all the disciplines of earthquake professionals together and orchestrating a common-voice public policy message that is broad-based, understandable, and fully supported by each community represented. We were heard because we spoke with one voice and the media carried our message worldwide.

The message was summarized, as follows, in the conference publication "Managing Risks in Earthquake Country," which is available on the conference web site.

*The earthquake professionals of the 100<sup>th</sup> Anniversary Earthquake Conference have developed an action agenda for the region's residents, businesses, earthquake professionals, and governments to increase safety, reduce losses, and ensure a speedier recovery when the next major earthquake strikes. In summary, the agenda looks specifically at what is needed to develop a culture of preparedness, and calls on all residents, businesses, and governments to know their risks and take responsibility for risk management and preparedness. It challenges governments, public agencies, building owners, and the engineering community to target the most*

*dangerous buildings, essential facilities, and community-serving infrastructure for strategic investments in mitigation. It calls on governments, insurers and the region's major industries to collaborate to ensure that adequate resources are available for recovery. With these actions and a renewed emphasis on safety, Northern California can safeguard its extraordinary cultural and economic vitality and rebound quickly following the next major earthquake.*

The message was well received. Our communities want seismic safety and will pay for it. San Francisco Mayor Gavin Newsom told us that he takes pride in the state of readiness the city has achieved and soberly reported the need for much more. Senator Feinstein challenged us to report dangerous conditions to local governments and insist that they develop and regularly exercise regional response plans. Seventy per cent of the residents believe a major earthquake will occur, 60% claim to be prepared, and over 60% are willing to spend more on preparedness. As earthquake professionals, we must make sure that we continue to speak with a common voice so that local governments understand the hazards and risks and how best to address them.

Through the message-crafting process, it became clear to me that we all needed to embrace a permanent change in how we view each other's work. Emergency managers need to take into consideration the best thinking available about the seismic hazard their communities actually face and the progress that has been made in the built environment through thoughtful earthquake engineering. Earthquake engineers need to take full advantage of the site-specific seismic hazard information available from the earth science community and tailor their work to the specific hazards that have been defined. And the earth science community needs to develop ground-

motion characteristics that better match the needs of other earthquake professionals and leave the loss estimates to the engineers.

The positive ground gained at the 100th Anniversary Earthquake Conference suggests it is time to unite earth science, earthquake engineering, and emergency management into a permanent community of earthquake professionals. While we need to maintain our individual organizations and initiatives, we need to meet occasionally (more than once a century!) to maintain our focus on how to advance each discipline in a consistent manner that supports our common objective of improving seismic safety. This unity needs to be stimulated by the professional organizations, supported by the individual earthquake professionals, and illustrated by our actions as citizens of our communities.

As citizens, we need to set a good example and serve as a resource to our own communities. We should each understand how our homes, offices, and schools will perform and take steps to mitigate any unacceptable conditions. We need to be ready to respond and survive on our own for 72 hours before outside help arrives, and have a written response plan that includes the vulnerable people we are responsible for and live near. We need to be financially prepared and insured, and to have a clear plan for how we will recover in the aftermath of a major earthquake.

As earthquake professionals, we need to take a close look at our perceptions and attitudes about our fellow earthquake professionals, develop a broad perspective, and become knowledgeable in all related areas, while we proactively teach within our own expertise. We need to seek out and understand the new developments in science, engineering, and management as they are developed and validated, and embrace the changes they demand. We need to be advocates for

preparedness in our hometowns, with a willingness to speak up in a clear and understandable manner. We need to watch out for excessive conservatism in our areas of expertise and avoid unnecessary concerns about liability. We need to be politically active; such activism allows us to be a resource for expert information in our area of expertise, and provides an openness to the public about how our issues affect local communities.

As the leaders of professional organizations, we need to advance proactively the state of the art and the state of the practice in a manner consistent with the other disciplines of the earthquake profession. We each need to reach out to the others and participate in their discussions, share our advancements, and seek refinements to the common-voice messages. We need to teach the basics at our annual state-of-the-art conferences to educate those who are just joining in. We need to advocate public policy in our fields of expertise with a constant eye toward advocating for the other earthquake professions and being consistent with the common-voice messages.

We can all be proud of what has been accomplished in the past 100 years. We all know that there is much to be done and that the competition for resources in this highly complex and ever-“flattening” world is fierce. As earthquake professionals, choosing to work together, we can accelerate the achievement of seismic safety worldwide.

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## News of the Profession

### Rapid Visual Screening Program in Oregon

In 2005, Oregon Senate Bill 2 directed Oregon's Department of Geology and Mineral Industries (DOGAMI) to develop an assessment of the vulnerability of state facilities to

seismic hazards. To accomplish this, four surveying teams are conducting rapid visual screening (RVS) of public schools and emergency facilities in Oregon. The teams will collect field data of K-12 public school buildings and community college buildings that have a capacity of 250 or more persons, hospital buildings with acute inpatient care facilities, fire stations, police stations, sheriffs' offices, and other law enforcement agency buildings.

Since August 2005, DOGAMI has been determining the location of each facility, developing a spatial and tabular database to manage information including RVS results, and preparing for this summer's field effort. The team leaders are Bill Burns of DOGAMI, Carol Hasenberg of Portland State University, Tom Miller of Oregon State University, and Christine Theodoropoulos of the University of Oregon.

Each surveyor will be using the latest technology, including computer tablets with mounted digital cameras and GPS units. They are provided site location maps and air photographs of each facility to assist with their RVS work. Their RVS data will be uploaded to a master database located at the DOGAMI headquarters, where data will be viewed and analyzed.

The final database of the statewide needs assessment will consist of the RVS, photographs, information on the quality of building additions, and the ranking of the RVS results into risk categories. The results will be posted on a publicly accessible web site.

Senate Bill 2 provided the first step in a pre-disaster mitigation strategy that is further defined in Senate Bills 3, 4, and 5. Senate Bill 3 directs the Oregon Emergency Management office to create a grant program for local communities. Senate Bills 4 and 5 direct the state treasurer to issue voter-approved bonds. Altogether, \$1.2 billion will be appropriated to improve seismic safety statewide.

For more information, click on [www.oregongeology.com/sub/projects/rvs.htm](http://www.oregongeology.com/sub/projects/rvs.htm).

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## Publications

### NIST Hurricane Report

The National Institute of Standards and Technology (NIST) recently issued a report on its broad-based reconnaissance on the performance of a variety of physical structures during Hurricanes Katrina and Rita that hit the Gulf states last year. The report makes 23 recommendations for specific improvements in the way that buildings, physical infrastructure (such as flood protection systems, bridges, utilities, and industrial facilities), and residential structures are designed, constructed, maintained, and operated in hurricane-prone regions across the United States—not just in the states affected by the two hurricanes.

The NIST report, *Performance of Physical Structures in Hurricane Katrina and Hurricane Rita: A Reconnaissance Report* (NIST Technical Note 1476), is available online at <http://www.bfrl.nist.gov>. The web site also contains links to a press release, FAQs, the executive summary of the report, and a comprehensive set of briefing slides.

NIST has established a web site to provide information on all its building and fire safety investigations. The web site (<http://www.bfrl.nist.gov/investigations>) provides links to information on the World Trade Center investigation, NIST investigations conducted under the National Construction Safety Team Act, and investigations conducted under other NIST authorities.



## Calls for Papers

### 13SEE-06 in India

The 13th Symposium on Earthquake Engineering (13SEE-06) will be held at the Indian Institute of Technology Roorkee, India, December 18-20, 2006. Papers are invited on the full range of multidisciplinary earthquake topics. Two special technical sessions will be fully devoted to the following themes: experiences related to recent earthquakes, earthquakes and tsunami, and earthquake vulnerability reduction.

The deadline to submit abstracts not exceeding 250 words is August 1, 2006; papers are due October 15, 2006. For more information on topics and submission instructions, visit <http://www.iitr.ernet.in/common/symposia/pages/about.htm>.

### World Conference on Disaster Reduction

The 2nd World Conference on Disaster Reduction (WCDR) will take place November 9-11, 2006, in Mumbai, India, with the theme of Mumbai Declaration and Beyond: Public-Private Partnership.

WCDR 2006 will continue the exploration of corporate involvement in disaster management by assessing progress and considering future directions.

This conference will provide practical insights to the business community for the incorporation into their planning of risk assessment, management, and monitoring mechanisms. Attendees will include representatives of industry, UN organizations, governments at all levels, trade bodies and associations, and researchers.

Papers are invited for the following thematic areas and will be published at the end of the conference: business continuity planning, risk assessment and monitoring mecha-

nisms, risk reduction through public-private partnership, corporate social responsibility, environmental impact assessment, and incorporating technological advances and best practices for disaster reduction.

Abstracts not to exceed 350 words are due by August 15, 2006, to the online submission site at <http://www.wcdr.gfdrr.org>. Full papers are due by September 30, 2006.

### Compdyn 2007

The Compdyn 2007 Conference on Computational Methods in Structural Dynamics and Earthquake Engineering will be held June 13-15, 2007, in Rethymno, on the island of Crete in Greece. The conference will enable the communities of structural dynamics and earthquake engineering to become better acquainted with advanced computational methods and software tools that can assist in tackling complex problems in dynamic/seismic analysis and design.

Conference topics include numerical simulation methods for dynamic problems, nonlinear dynamics, optimum design in structural dynamics and earthquake engineering, soil dynamics, geotechnical earthquake engineering, soil-structure interaction, seismic risk and reliability analysis, constitutive modeling under earthquake loading, seismic isolation, repair and retrofit of structures, and wave propagation.

Compdyn 2007 is being organized by the International Association for Computational Mechanics, the International Association for Earthquake Engineering, the European Association for Structural Dynamics, and the European Association for Earthquake Engineering. The deadline for submitting one-page abstracts is October 15, 2006; upon acceptance by November 30, full papers will be due February 28, 2007. For more information, visit <http://www.eng.ucy.ac.cy/compdyn2007>.

## GIS Conference

The 3rd Annual Geographic Information System Conference will be held in Kuwait, February 19-21, 2007. The conference will provide valuable information about real-world applications of GIS technology.

Conference topics include emergency response, natural resources management, planning and community, urbanization effects on the working landscape, water resources, educational applications and other technologies, energy supply (demand, cost and shortages), remote sensing and data acquisition, cartography, law and GIS, image analysis, and e-government GIS programs.

The deadline for single-page abstracts is September 30, 2006. For more information, visit [www.gulfgis.com](http://www.gulfgis.com).

### Seismic Engineering Design Conference

Department of Engineering at the College of Judea and Samaria in Ariel, Israel, will host a conference on "Modern Trends in Structural Engineering for Seismic Design," October 8-11, 2007.

Topics include codes and standards, computational methods, construction management, educational aspects, evaluation of seismic resistance for existing buildings, experimental methods, high-strength concrete and structural ductility, maintenance and retrofitting of structures, optimization in structural design, risk engineering, seismic design of structures, smart materials, structural control, and structural dynamics. The official language of the conference will be English.

The deadline for the submission of abstracts is February 1, 2007. Upon acceptance by March 15, full papers will be due May 30, 2007. For more information, e-mail Dr. Yuri Ribakov, [ribakov@yosh.ac.il](mailto:ribakov@yosh.ac.il).



**- PLEASE POST -**

## **EERI ANNUAL STUDENT PAPER COMPETITION**

The Earthquake Engineering Research Institute is pleased to announce its Annual Student Paper Competition. The purpose of the competition is to promote active involvement of students in earthquake engineering and the earthquake hazards research community.

The general rules of the contest are as follows:

### **Graduate Category**

1. The paper must be an original contribution in a discipline directly related to earthquake engineering or earthquake hazard reduction.
2. The paper is not to exceed 12 pages in length inclusive of all tables and figures.
3. The paper must represent the original work of the student and be authored by the student alone. A faculty member or other advisor may not co-author the paper.

### **Undergraduate Category**

1. The paper must be directly related to earthquake engineering or earthquake hazard reduction.
2. The paper is not to exceed 12 pages in length inclusive of all tables and figures.
3. The paper must be authored by the student alone. In addition, a faculty member or other advisor is required to oversee the preparation of the manuscript. The advisor can provide feedback before submission of the paper but may not co-author the paper. The advisor's name should be included in the "Acknowledgments" section of the paper.

Guidelines for preparing the manuscript can be obtained from the EERI web site ([www.eeri.org](http://www.eeri.org)) or from EERI, 499 14th Street, Suite 320, Oakland, CA 94612, phone 510/451-0905, fax 510/451-5411. All papers must be received by November 1, 2006, at the EERI office.

**Up to four student authors will be invited to EERI's Annual Meeting, February 7-10, 2006, in Universal City, California, and will receive travel support for this purpose.** Their papers will also be considered for publication in Earthquake Spectra. The top paper in the graduate category may be presented at the Annual Meeting.

**\*\* DEADLINE: November 1, 2006 \*\***

## Job Announcements

### NEES Opportunity

The George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) has a job opening for a data curator-data librarian in its Davis, California, office. This position manages the NEES permanent public archive of experimental and simulation data stored in a digital library.

The data curator works with the sub-awardees at the 15 NEES experimental sites, the researchers using these resources, and the IT staff at the NEES Cyberinfrastructure Center (NEESit). The curator will join the team working to develop a new earthquake engineering simulation data library for the NEES network of earthquake researchers. The curator will provide a community database from which researchers can archive a wide class of earthquake engineering models, simulations, experiments, model components, and model output data and results.

The data curator has expertise in informatics and information technologies and has general knowledge of experimental measurement technologies and earthquake engineering principles sufficient to archive and manage data sets.

For the full announcement and application instructions, visit [http://www.nees.org/About\\_NEES/job-Listings/](http://www.nees.org/About_NEES/job-Listings/).

### OSU-NEES Opportunity

The Department of Civil, Construction, and Environmental Engineering at Oregon State University in Corvallis is seeking applications for the new full-time position of site operations manager at the Network for Earthquake Engineering Simulation (NEES) Tsunami Research Facility (TRF). The person in this position

will ensure effective functioning of the research, administrative, and logistical functions of the facility.

Duties include assisting researchers in developing proposals, occasionally operating the wave basin equipment and data archival and retrieval systems, and organizing research workshops and demonstrations. Applications will be accepted until the position is filled.

For the full position description, required qualifications, and additional information about the TRF, visit <http://nees.oregonstate.edu/>.

### NIST Opening in BFRL

The National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland, is inviting applications for the position of chief of the Materials and Construction Research Division (MCRD) within its Building and Fire Research Laboratory (BFRL), one of the nation's primary federal laboratories serving the construction and building industries.

BFRL has statutory responsibilities for fire prevention and control, earthquake hazards reduction, windstorm impact reduction, and building and fire safety investigations.

The American Competitiveness Initiative, announced by the President in February 2006, calls for doubling the budget for NIST's core laboratory and facilities programs over the next decade.

The vacancy is posted on [www.usajobs.opm.gov](http://www.usajobs.opm.gov) and can be accessed by entering "BFRL" in "Keyword Search" under the "Search Jobs" tab. Applicants must apply online via the Quick Hire System, which is accessed after clicking "Apply for this job."

The deadline for applications is August 4, 2006.

## Director, Disaster Research Center

The College of Arts and Sciences at the University of Delaware invites applications for the position of director of the Disaster Research Center (<http://www.udel.edu/DRC/>) at the rank of full professor. DRC seeks an energetic and charismatic individual to guide the center in its transformation into a university-wide interdisciplinary research center and to develop a university-wide interdisciplinary graduate program in the area of disasters. A Ph.D. in a social science discipline is preferred. The successful applicant will have a strong social science background with a distinguished record of scholarly accomplishments in the social aspects of disasters, administrative and grants management experience, a strong record of teaching and service, and an active research agenda that demonstrates familiarity with external government and private sources of funding.

The appointment includes opportunities for teaching undergraduate and graduate courses related to disasters. Review of applications will begin on October 1, 2006. For application information, visit <http://www.udel.edu/udjobs/current/f-2491.html>.

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## Announcements

### Workshop on Management of Earthquake Risks

The Swiss Federal Institute of Technology will host an Interdisciplinary Workshop on Management of Earthquake Risks, August 28-29, 2006, in Zurich, Switzerland. The workshop will focus on earthquake engineering applications for risk management. It aims to establish a long-term platform for achieving and maintaining

a common basis for modeling the characteristics of mechanisms that trigger earthquakes at different locations. This common basis is a prerequisite for the exchange of research ideas, results, data, and tools that would strengthen communication between the involved research groups and significantly improve future developments in the area.

About 25-30 papers will be presented in nonparallel sessions on topics such as probabilistic modeling in earthquake engineering; ground-motion simulation and prediction; geotechnical earthquake engineering, including nonlinear soil behavior and liquefaction; modeling seismic behavior of structures for purposes of damage assessment; consequence assessment; photogrammetry and remote sensing for disaster monitoring, mitigation, and assessment; geospatial solutions for emergency preparedness and response; and wireless GIS solutions for disaster management. For more information, visit <http://www.merici.ethz.ch/Workshop/Workshop.htm>.

## IAEM Conference

The Annual Conference of the International Association of Emergency Managers (IAEM), scheduled for November 12-15, 2006, in Orlando, Florida, will provide a forum for current trends, topics, and the latest tools and technology in emergency management and homeland security. Its theme is "Going All the Way, Putting Plans into Action."

Stakeholders at all levels of government, the private sector, public health, and related professions will exchange ideas on collaborating to protect lives and property from disaster. The conference will feature sessions on developing legal trends in emergency management, the political realities of disasters, the U.S. National Incident Management System, multi-agency coordination systems, resource management, and

public information systems.

For more information, visit <http://www.iaem.com/events/annual/intro.htm#conference2006>.

## Hazards Management Conference

The 7th Natural Hazards Management Conference will take place August 23-24, 2006, in Christchurch, New Zealand. Sponsored by the Institute of Geological and Nuclear Sciences, the theme is Interpreting and Applying Natural Hazard Information. The conference is intended for emergency managers, planners, risk assessors, asset and utility managers, natural hazards researchers, and scientists. It will provide a forum to discuss the integration of hazard information into effective risk management, including applying hazard information to best practice planning, exploring new technologies and advances in science applications, natural hazard mitigation for industry, and creating resilient communities through integrating science into practice. For more information, visit <http://www.gns.cri.nz/news/conferences/>.

## Safety of Asian Megacities Symposium

The 5th International Symposium on New Technologies for Urban Safety of Megacities in Asia (USMCA 2006) will take place November 16-17, 2006, in Phuket, Thailand, sponsored by the Asian Institute of Technology in Thailand and the Institute of Industrial Science at the University of Tokyo.

The symposium will address the imbalance between the fast population growth in Asian megacities (having populations of more than 10 million) and the slower development of a supportive safety management system.

This symposium seeks to bring to-

gether experts in a wide range of fields. It will provide a forum for decision makers, practicing professionals, and researchers to share their new technologies, techniques, and innovation in diverse areas such as safety assessment and existing infrastructure, planning for development and maintenance of urban infrastructure, environmental impact assessment of urbanization, advanced technologies for monitoring and assessment of urban safety, disaster engineering and management, application of remote sensing to enhance the safety of society, and rehabilitation and retrofitting of urban structures against disasters. For more information, visit <http://www.sce.ait.ac.th/rnus/usmca2006/>.

## Publications

### Improving Decision Making in Asia

The theme of the February 2006 issue of the free online newsletter "Southasiadisasters.net" is "Making Decisions Better and Safer: A Resource for Leaders in South Asia." A publication of the All India Disaster Mitigation Institute (AIDMI), this document was inspired by the International Council of Voluntary Agencies conference on "The Principles and Politics of Humanitarian Action" held February 1, 2006. The issue provides resource links so that efforts by key decision makers in the region (including government officials, community leaders, managers of non-governmental organizations, and policymakers) to assist the current tsunami/earthquake recovery may be more effective, and so that they can be better prepared for the next hazard.

The articles cover the complex process of making decisions that reduce human vulnerability. They discuss the role leaders play in human protection; how recovery becomes polit-

*continued on page 10*

## Decision Making in Asia

*continued from page 9*

icized when powerful groups use response funds to further personal or political agendas; how decision makers assist in disaster prevention by understanding vulnerability and knowing that preparedness investments pay; how leaders promote risk reduction through community resources and budget priorities; and the Hyogo Framework for Action, a tool used to guide risk reduction globally. The issue can be downloaded from <http://www.southasiadisasters.net/contact-snet-download.htm>. AIDMI's Honorary Director Mihir R. Bhatt welcomes constructive comments.

## Books from WIT Press

WIT Press recently announced two new publications of interest to the earthquake engineering community.

**Geo-Environment and Landscape Evolution II** contains the proceedings of the Second International Conference on Evolution, Monitoring, Simulation, Management and Remediation of the Geological Environment and Landscape, held in Greece in June 2006. The papers are organized into the following sections: environmental planning and management; environmental modeling and monitoring; environmental pollution and remediation; climatological processes; the geo-environment in urban settings; geo-ecology; hydrological studies; landscape analysis; natural hazards and risks; remote sensing; soil and rock properties; and vulnerability studies. The book's price is \$290. For complete details, visit <http://www.witpressusa.com/acatalog/184564168X.html>.

**Risk Analysis V** contains the proceedings of the Fifth International Conference on Simulation in Risk Analysis and Hazard Mitigation, held in Malta in June 2006. The papers

are organized into the following sections: estimation of risk; hazard prevention, management and control; risk management; soil, water and air contamination; flood risk; methods and systems of safe ship operation; security risk; and network systems. For full contents details, visit <http://www.witpressusa.com/acatalog/1845641728.html>.

Abstracts (free) and the full text (\$30 per paper) of individual papers (all peer-reviewed) in both books are available through the electronic editions at <http://library.witpress.com/>.

## Bulletin of EQ Engineering Special Issue

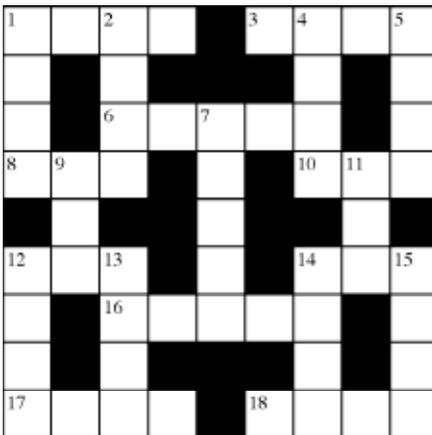
The May 2006 issue of the *Bulletin of Earthquake Engineering* is a special issue, based on a series of sessions at the European Geosciences Union general assemblies in 2004 and 2005 on the impact of natural hazards on urban areas and infrastructure.

Included is a review of the EERI-IAEE *World Housing Encyclopedia Summary Publication 2004* by EERI member Maria Bostenaru, who also edited this issue. Other articles cover the December 2004 Sumatra earthquake, case studies of earthquake shaking in Greece and a loss scenario in Spain, rapid damage and loss assessment, the interaction of road networks and damaged buildings, and rescue operations and demolition works.

To access the issue's abstracts, visit [www.springerlink.com/link.asp?id=111183](http://www.springerlink.com/link.asp?id=111183) and select the link to the May 2006 issue. Articles may be downloaded for \$30 after free registration with SpringerLink.



## E E R I C R O S S W O R D



### ACROSS

- 1 Loose deposit of decomposed plant material
- 3 Volcano in Italy
- 6 Force that tears rather than pushes or pulls
- 8 International Building Code
- 10 Rich Eisner works at this office
- 12 Moment-resisting frame

- 14 Pond formed when rupture displaces river
- 16 Manager of Taisei Corp. of Japan
- 17 Former *EERI Newsletter* editor
- 18 Measure of seismic energy

### DOWN

- 1 Hawaiian cliffs
- 2 American Institute of Steel Construction
- 4 Vice president of RISK Engineering Inc.
- 5 Added damping and stiffness
- 7 Director of city of Watsonville
- 9 Equal to atmospheric pressure at sea level
- 11 Effective peak acceleration
- 12 Current *EERI Newsletter* editor
- 13 Geotechnical engineer professor at UBC
- 14 Program leader at LLNL
- 15 EERI's web site/IT wizard

## 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**.

### AUGUST

8-12. 2nd Latin-American Congress of Seismology, Bogotá, Colombia. Info: <http://www.geoslac.org/congreso/english/index.html> (4/06)

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)

**23-24. 7th Natural Hazards Management Conference, New Zealand. See page 9. (8/06)**

27-Sept. 1. Int'l Disaster Reduction Conference (IDRC), Davos, Switzerland. [www.davos2006.ch](http://www.davos2006.ch) (2/06)

**28-29. Management of EQ Risks, Switzerland. See page 8. (8/06)**

29-Sep. 1. Effects of Surface Geology on Seismic Motion, Grenoble, France. Info: [//esg2006.obs.ujf-grenoble.fr/](http://esg2006.obs.ujf-grenoble.fr/) (7/06)

### SEPTEMBER

3-8. 1st European Conf. on EQ Eng. & Seismology, Geneva, Switzerland. Info: [www.ecees.org](http://www.ecees.org) (1/05, 1/06)

**5-6. BETEC Building Science Forum 2006, Syracuse, New York. See page 3. (8/06)**

8-9. Int'l Conf. on Earthquake Engineering, Lahore, Pakistan. Info: [www.uet.edu.pk/icee/](http://www.uet.edu.pk/icee/) (4/06)

10-14. 23rd Ann'l Conf. of the Association of State Dam Safety Officials (ASDSO), Boston, MA. Info: [www.damsafety.org](http://www.damsafety.org) (2/06)

10-15. Int'l Conf. on Infrastructure Development and the Environment (ICIDEN), Abuja, Nigeria. Info: [www.iseg.giees.uncc.edu/abuja2006/callabstracts.cfm](http://www.iseg.giees.uncc.edu/abuja2006/callabstracts.cfm) (2/06)

18-19. UB-NEES Training Work-

shop, University at Buffalo, NY. Info: [www.nees.org/4am/](http://www.nees.org/4am/) (5/06)

18-20. 5th Nat'l Seismic Conf. on Bridges and Highways, San Francisco, CA. Info: [mceer.buffalo.edu/meetings/5nsc/](http://mceer.buffalo.edu/meetings/5nsc/) (1/06, 6/06)

25-Oct. 7. 8th Wkshp. on 3-D Modeling of Seismic Wave Generation, Propagation, and Inversion, Miramare, Italy. Info: [agenda.ictp.it/smr.php?1775](http://agenda.ictp.it/smr.php?1775) (1/06)

28. CSMIP06 Seminar on Utilization of Strong Motion Data, Oakland, CA. Info: [www.consrv.ca.gov/CGS/s mip/seminar.htm](http://www.consrv.ca.gov/CGS/s mip/seminar.htm) (7/06)

### OCTOBER

4-6. Deep Fdn. Inst. Annual Conf., Washington, D.C. Info: [www.deepfoundations06.org](http://www.deepfoundations06.org) (12/05)

6-7. Student Disaster Recovery Research Symp., College Station, TX. <http://archone.tamu.edu/conted> (7/06)

11-13. 7th Int'l Cong. on Advances Civil Eng., Istanbul, Turkey. Info: [www.ace2006.yildiz.edu.tr/](http://www.ace2006.yildiz.edu.tr/) (12/05)

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

### NOVEMBER

5-8. INFORMS Urban Transportation Modeling Session, Pittsburgh, PA. Info: [www2.informs.org/Conf/Pittsburgh06/](http://www2.informs.org/Conf/Pittsburgh06/) (6/06)

7-10. ASC Symposium on EQ and Tsunami Preparedness & Mitigation, Bangkok, Thailand. Info: <http://www.asc1996.org> (7/06)

**9-11. 2nd World Conf. on Disaster Reduction, Mumbai, India. See page 6. (8/06)**

**12-15. IAEM Annual Conference, Orlando, FL. See page 9. (08/06)**

**16-17. 5th Int'l USMCA Symp., Phuket, Thailand. See page 9. (8/06)**

**17. COSMOS Annual Meeting & Technical Session. Info: http://www.cosmos-eq.org/ (8/06)**

### DECEMBER

**18-20. 13SEE-06, Roorkee, India. See page 6. (8/06)**

### 2007

#### FEBRUARY

7-10. EERI Annual Meeting, Los Angeles, CA (3/06)

**19-21. 3rd An'l Geo. Info. System Conf., Kuwait. See page 6. (8/06)**

#### MARCH

25-28. Ports 2007, San Diego, CA. [www.portsconference.org](http://www.portsconference.org) (6/06)

#### MAY

13-20. Coastal Sediments 07, New Orleans, LA. [www.asce.org/conferences/cs07/abstract.cfm](http://www.asce.org/conferences/cs07/abstract.cfm) (5/06)

14-16. SEE5 on EQ Risk Reduction in Devel. Countries, Tehran, Iran. Abstract deadline 9/20/06. Info: [www.iiees.ac.ir/SEE5](http://www.iiees.ac.ir/SEE5) (7/06)

#### JUNE

1-3. 10th North American Masonry Conference, University of Missouri at Rolla. <http://www.masonrysociety.org/NAMC/index.html> (3/06)

**13-15. Compdyn 2007 Conf., Crete, Greece. See page 6. (8/06)**

25-28. 4th Int'l Conf. on EQ Geotech. Eng. (4ICEGE), Thessaloniki, Greece. Info: [www.secreteriat@4icege.org](http://www.secreteriat@4icege.org) (2/06)

26-29. 9th Canadian Conf. on EQ Eng. (9CCEE), Ottawa, Canada. Info: [www.9ccee.ca](http://www.9ccee.ca) (2/06)

#### OCTOBER

**8-11. Modern Trends in Structural Engineering for Seismic Design, Ariel, Israel. See page 6. (8/06)**

### 2008

#### AUGUST

6-9. 6th Int'l Conf. on Case Histories in Geotech. Eng. (6ICCHGE), Washington DC. <http://campus.umd.edu/6icchge/index.html> (4/06)

#### OCTOBER

12-17. 14th World Conf. on EQ Eng., Beijing, China. Info: [www.14wcee.org](http://www.14wcee.org) (12/05)

## Subscribing Member News

### Computers & Structures: New Products

EERI Subscribing Member Computers and Structures, Inc. (CSI) recently reached an agreement with EERI member Graham H. Powell, professor emeritus in the Department of Civil and Environmental Engineering at the University of California, Berkeley, to acquire all rights to his nonlinear structural analysis software products, Perform-3D and Perform-Collapse. Powell will also be joining the CSI development staff to help enhance and integrate this technology into CSI's structural analysis and design packages, SAP2000® and ETABS®. Perform-3D provides users with a sophisti-

cated earthquake engineering tool for static pushover analyses and nonlinear dynamic response history analysis, while Perform-Collapse aids engineers to model and analyze conditions of "progressive collapse" or "disproportionate collapse" in buildings. The software addresses areas of nonlinear analysis that are undergoing significant growth in the building, bridge and infrastructure markets around the world. Initially, Perform-3D and Perform-Collapse will be interfaced with SAP2000 and ETABS as external add-ons, but in time this technology will be integrated into the CSI analytical en-

gine, SAPFIRE™, which powers all of Computers and Structures' products. CSI President Ashraf Habibullah said, "We are very excited to have Professor Powell join the CSI team. With this acquisition, we will define the future of practical performance-based design and accelerate the adaptation of powerful nonlinear methods into the mainstream of structural engineering practice."

A statement released by Powell said, "I am delighted to be associated with CSI, and excited by the opportunities. CSI is a leader in structural analysis technology. I look forward to working with them to set the standard for nonlinear analysis, and to bring it into the mainstream of structural engineering."

### Kinematics in Algeria

Algeria's Center for Research in Astronomy, Astrophysics and Geophysics will upgrade its seismic monitoring capabilities by implementing EERI Subscribing Member Kinematics' state-of-the-art Aspen Environmental Monitoring System. The Aspen delivers a comprehensive set of data, processed information, and command and control capabilities to broadband wireless measurement nodes from single or

multiple data centers. It will increase the capability to detect, locate, and determine the magnitude of earthquakes occurring in the region and beyond in order to mitigate the effects of disasters. High-quality seismic data could be available to academic communities and other scientific organizations for the support of both basic and applied research. To ensure network quality, Kinematics will provide online support from its office in Pasadena, California. Aspen uses open-system architecture to

allow users to grow and adapt their systems as requirements change and new technologies emerge. Aspen uses the latest developments in sensors, digitizers, and communication and computer networking technologies as well as recent findings in earth sciences research. It is ideal for monitoring seismic events from local, regional, national, and global networks and arrays.

For more information, visit [http://www.kinematics.com/product\\_Content.asp?newsid=118](http://www.kinematics.com/product_Content.asp?newsid=118).



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