



EARTHQUAKE ENGINEERING RESEARCH INSTITUTE NEWSLETTER

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News of the Institute

Unique Ixtapa Venue for 2005 Annual Meeting

The peaceful, picturesque fishing village of Zihuatanejo is a short cab ride from Ixtapa. Along the cobble streets in the town center are restaurants to suit every budget serving national and international cuisine, picturesque shops, and traditional markets carrying everything from handicrafts to the latest international fashions. For those in search of nightlife, Zihuatanejo offers nightclubs and small, intimate bars with live music. The archaeological museum has information about the history of the region.

You should soon be receiving or have already received the program brochure for the 2005 Annual Meeting, being held February 2-6 at Las Brisas Hotel in Ixtapa, celebrating advances in the "Twenty Years After Mexico City." Before the technical program begins Thursday morning, February 3, there will be an optional all-day Earthquake Reconnaissance Data Collection Training



Every room at the Las Brisas Hotel has a hammock.

Program on Wednesday, February 2. It will focus on a demonstration of EERI's new data collection system and hands-on activities demonstrating how iPACs or laptops can be used to collect data electronically in the field during post-earthquake reconnaissance investigations, uploaded to a central server, and then exported in database format for further analysis and GIS display.

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Jack Moehle Named EERI's Distinguished Lecturer for 2005

Jack P. Moehle, professor of civil and environmental engineering at the University of California Berkeley and director of the Pacific Earthquake Engineering Research (PEER) Center, has been chosen to give EERI's 2005 Distinguished Lecture. His topic will be "Performance-Based Design: Developments and Applications."



Jack P. Moehle

An EERI member since 1981, Moehle was nominated by the Honors Committee in recognition of his many years of outstanding leadership in the field of research on the seismic evaluation and rehabilitation of structures.

As PEER director, Moehle's research interests and responsibilities include performance-based earthquake engineering. Current research aims to quantify earthquake risk and to express it in ways that are useful to decision makers who must determine courses of action for addressing seismic risk. In this program, research interests include characterization of seismic hazard, especially considering fault rupture and ground shaking; geotechnical earthquake engineering, including site response and ground failure; response of soil-foundation-structure-nonstructural systems; identification of engineering damage parameters; and translation of damage param-

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News of the Institute

EERI Sends Team to Japan

An EERI reconnaissance team joined Japanese colleagues in investigating the damaging earthquake sequence outside Niigata, Japan, on October 23, 2004.

The team was led by Charles Scawthorn, professor of lifeline engineering at Kyoto University, and included Scott Ashford, University of California San Diego; Jean-Pierre Bardet, Geotechnical Engineering Earthquake Reconnaissance (GEER) Working Group and the University of Southern California; Charles Huyck, ImageCat Inc.; Robert Kayen, GEER Working Group and the U.S. Geological Survey; Scott Kieffer, Colorado School of Mines; Yohsuke Kawamata, University of California San Diego; and Rob Olshansky, University of Illinois Urbana/Champaign and visiting professor, Kyoto University. Paul Somerville (URS Corporation) and Jim Mori (Kyoto University) covered the seismological aspects but were not part of the field investigation. The team was assisted by numerous Japanese colleagues, including senior advisor to the team Prof. H. Iemura of Kyoto University, and Profs. M. Hamada, Waseda University; K. Ishihara, Tokyo University; I. Susumu, Kyoto University; and H. Yamakawa, Nagaoka Technical University. The team represented the



The October 23 earthquake caused a Shinkansen bullet train to derail for the first time in the train's history (photo: Scawthorn).

areas of seismology, geotechnical engineering, engineering geology, structural engineering, lifelines engineering, GIS and remote sensing, and emergency response and relief. This is the first major reconnaissance effort in Japan since the new collaborative agreement between EERI and the Japan Association for Earthquake Engineering (JAE) was signed in 2003. EERI greatly appreciates the assistance provided by JAE.

Team members traveled with high-tech tools, including satellite imagery and LiDAR (Light Detection and Ranging), a scanning-laser that can create high-resolution, three-dimensional, digital terrain models of earthquake-related ground, structural, and lifeline deformations. The team spent a week in the field, collecting data and documenting observations.

Japanese residents in the area surrounding Niigata endured five large earthquakes (the largest Mw 6.6), which occurred within a 24-hour period on Saturday, October 23. According to the Japanese Meteorological Agency, this is the first time on record in Japan that four earthquakes measuring 6 on the Japanese seismic intensity scale occurred in one day. There were hundreds of aftershocks. At least 38 people were killed, 2,900 injured, 2,800 homes destroyed or

damaged, and 395 other buildings destroyed and 3,473 damaged in Niigata Prefecture. Widespread ground failure caused significant damage to lifelines and residences. The sudden vertical and horizontal shocks caused houses to collapse, roads to cave in, and a Shinkansen bullet train to derail for the first time in its history. About 60,000 households lost power. Several bridges and rail lines were damaged; hundreds of landslides and eight fires occurred; and several gas, water, and power lines were damaged in the prefecture.

The seismic source (determined from the distribution of aftershocks) was approximately 30 km long and 15 km wide with 1.2 m vertical displacement. No surface expression has been found, but seismologic evidence indicates the unmapped fault plane to have a strike of about 40 degrees and a dip of 55 degrees. Strong motion recorded 1 g or greater in several locations. Most of the damage and dramatic landslides were in relatively rural hilly or mountainous areas.

The major landslides in the upland epicentral area caused several natural dams to form, blocking streams and creating new lakes. These dams are very unstable, and there is great concern that they will fail at any time, causing greater destruction downstream. The Japanese authorities have mounted a major effort to drain the lakes, and are



White rock slide on the Shinano River (photo: Bardet).

Japan Earthquake

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slowly succeeding as of this writing. There was widespread destruction of an upland aquaculture community of several thousand residents, almost exclusively due to ground failures. Surprisingly, given that liquefaction was "discovered" in this region in the 1964 M7.5 Niigata earthquake, there was only sporadic liquefaction in this current event, related ground settlements, and cracking in rice paddies in the region. There were failures of reinforced concrete bridge piers of two major bridges crossing the Shinano River, but no collapse or large permanent displacements. Damage to several tunnels occurred at and near portals; one was blocked by a rockslide. Levees in general sustained minor damage for several kilometers along the Shinano River, and none appeared to have failed.

Relief workers and troops in cars and helicopters were slowed in their efforts to get emergency supplies to isolated hamlets and overcrowded evacuation centers because roads were either destroyed or jammed with traffic. At the peak, 100,000 persons were being housed in shelters throughout the prefecture, and 60,000 remain in shelters as of this writing. The government immediately set up a task force and sent an 11-member advance team to Niigata Prefecture to precede a visit by disaster management minister Yoshitaka Murata. The Emperor and Empress visited the region on November 6, and the Japan Society of Civil Engineers has formed a 50+ member investigating team.

After the EERI team returns, their findings will be published in a future *Newsletter*. For more than thirty years, with funding from the National Science Foundation, EERI has managed the Learning from Earthquakes Program, and has sent researchers to investigate damaging earthquakes around the world.

Obituary

Robert Park (1933-2004)



Robert Park

Bob Park passed away on November 3, 2004, at the age of 71 in Christchurch, New Zealand, ending a long, active career in the civil engineering and earthquake engineering fields that made him well known around the world.

Park did his undergraduate work at the University of Canterbury and returned in 1965 to join the faculty of the Department of Civil Engineering, following his Ph.D. from the University of Bristol. He left a lasting impression on a large number of undergraduate and graduate students. In particular, his Ph.D. students, including Nigel Priestley and David Hopkins, continue to carry forward his influence, with the total exceeding twenty by the time of his retirement in 1999.

In the field of reinforced concrete structural design, Park is well known for his voluminous research output (over 150 technical papers) and his classic 1975 textbook, co-authored with his colleague and friend Tom Paulay, *Reinforced Concrete Structures*. He also co-authored with William Gamble another often-used text, *Reinforced Concrete Slabs*.

He played a key role in the development capacity design, an important

innovation with regard to reinforced concrete structures and more broadly a notable development in the overall history of earthquake engineering. At the time of his death, Park was active as leader of a committee of the FIB (Fédération Internationale du Béton) at work on the task of increasing the unification of the world's reinforced concrete code procedures.

He was often chosen as the leader of New Zealand engineering committees to study pressing structural design issues. These committees in effect wrote the national building code provisions for earthquake engineering and for reinforced, precast, and prestressed concrete.

Park's influence extended internationally via his building code development work and his teaching in Latin America, Europe, Japan, the United States, and Asia. He was a member of the Royal Academy of Engineering in the United Kingdom, and was made an Officer of the Civil Division of the Most Excellent Order of the British Empire (OBE).

Honorary memberships or medals were conferred on him by the International Association of Earthquake Engineering, the American Concrete Institute, Fédération Internationale de la Précontrainte, and the international reinforced concrete society, the FIB.

EERI is in the process of preparing an oral history volume on Bob Park and Tom Paulay that will be jointly published with the New Zealand Society for Earthquake Engineering in 2005.

Dr. Park is survived by his wife Pauline and six children: Robert, Brendon, Tony, Moira, Jackie, and Jeff.



News of the Institute

Remember EERI Before This Tax Year Ends

As always, December brings with it the last chance for members to reduce next year's taxes by making a donation to the EERI Endowment Fund. Gifts of cash or appreciated securities from individuals or corporations are usually the most convenient ways to make charitable donations.

These contributions provide essential funding for projects like these examples from previous years: the White Paper series of publications on *Public Policy and Building Safety*; *Construction Quality, Education and Seismic Safety*; *Ethical Issues and Earthquake Risk Reduction*; and *Financial Management of Earthquake Risk*; seismic legislation on the web; the Workshop on Construction Quality; "Reducing Earthquake Damage through Quality Construction" slides and CD-ROM; a moderated discussion of ethical dilemmas on the web; "Resisting the Forces of Earthquakes," a video for carpenters and inspectors; and the World Housing Encyclopedia web site. Most recently, the Seattle Fault Scenario guidelines project initiated by the Endowment Fund has been adopted by the State of Washington Department of Emergency Management, which found that it helped to advance their mission. The department will finance printing and distribution to a wide audience and plans to make an announcement on February 28, 2005, the fourth anniversary of the Nisqually, Washington, earthquake.

These projects represent creative multidisciplinary strategies targeted at improving the sustainability of the built environment. Two projects funded by the Endowment Fund currently underway are (1) the Small Grants Program for Developing Countries that will promote earthquake risk mitigation at the local level by helping to build leadership capacity in communities (see page 10 for more information), and (2) activities of Quake '06, the four-year campaign by EERI's Northern California Chapter in cooperation with cities, agencies, and other groups to reduce earthquake risk in Northern California, culminating on the 100th anniversary of the 1906 San Francisco earthquake, April 18, 2006. For more information, visit www.quake06.org.

The work done by EERI members to mitigate losses from earthquakes is more relevant than ever. As individual members reflect on the achievements of our association of earthquake professionals, they can be assured that each gift to EERI benefits many generations to follow.

Announcement

Call for Field Trip Proposals for 2006

Organizers of the 100th Anniversary Earthquake Conference to be held April 18-23, 2006, in San Francisco, California, are seeking proposals for field trips. Convened by EERI, the Seismological Society of America, and the California Governor's Office of Emergency Services, this meeting will bring together scientists, structural engineers, and emergency planners to commemorate the centennial of the 1906 San Francisco earthquake. Field trips to areas of interest in the San Francisco Bay Area and northern California that integrate geology, seismology, engineering and disaster mitigation are especially encouraged. Trips can be half day, full day or two days in length. Proposals should be brief (two pages maximum). Deadline for submission of proposals is March 1, 2005. Please contact Carol Prentice (cprentice@usgs.gov) for additional information.

Annual Meeting

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This session will be followed by an informal, get-acquainted opening reception Wednesday evening on the beach. For the first time in EERI's 56-year history, each afternoon will have free time built into the schedule for the enjoyment of the unusually beautiful oceanfront venue surrounded on three sides by mountains. Ixtapa means "Place of White Sands" in Náhuatl. The Ixtapa-Zihuatanejo area has virtually unspoiled beaches, year-round sun, a calm, clean sea, exuberant vegetation, and exotic birds. There are facilities for water sports, excursions, walks, and a golf course.

The complete technical program for the meeting is posted on the EERI web site at www.eeri.org. A 1.5-hour reconnaissance briefing on the Niigata ken Chuetsu, Japan, earthquake has been added to the program before the Saturday evening U.S.-Mexico reception. See page 2 for preliminary information about this earthquake.

To support and encourage participation in the Annual Meeting by EERI's younger members, student and young professional members are being offered half-price registration (\$225) for the full Annual Meeting.

Keep in mind that for EERI to fill its room block and for you to obtain the best room rate, you must make your hotel reservation by January 7, 2005. Las Brisas Hotel requires seven days' advance notice for cancellations. Be sure to make your airline reservations early, because fares may rise as winter approaches.

Nonmembers who become members when registering will get a \$25 discount on their 2005 membership, and will qualify for the member registration fee of \$425 instead of the non-member rate of \$525. Online registration is available on EERI's web site.

News of the Institute

Endowment Fund Donors

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

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News of the Profession

Turkish Builder Jailed for Negligence

In October, the Anatolia News Agency reported that the criminal court in the central city of Konya, Turkey, sentenced Veli Gocer, one of Turkey's most notorious building contractors, to 25 years in prison for negligent manslaughter after blocks of flats he built in Yalova crumbled in the devastating August 17, 1999 earthquake. Gocer was accused of using shoddy building practices such as mixing sea sand and pebbles with concrete. He was convicted of causing the deaths of 195 people. The quake killed about 18,000 people.

The court also sentenced Gocer's son, Can Gocer, and his partner,

Zafer Coskun, to 25 years in prison on the same charges. The disaster exposed high levels of corruption in Turkey's building sector. The country imposed stricter building codes after thousands of poorly constructed apartment blocks collapsed.

According to the Turkish Daily News on November 30, 1999, Gocer's defense was that he was only responsible for the marketing of the premises. After his real estate business developed into a lucrative enterprise, other companies were founded by other people, all under the name of Veli Gocer Land Office, with his consent. He indicated that he was only involved in the sale of the apartments and therefore shared no responsibility for the construction phase, nor for the technical specifications. "Whoever signed the construction agreements and the

construction permits are the ones who should be held responsible... I am a good salesman. We were not conscious of the earthquake hazard and consequently had no reason to investigate if the building can withstand an earthquake." Many of the victims who initiated the court proceeding insisted that they had purchased their homes from Gocer and therefore he should be held responsible for the consequences.

Published in 2000 as a supplement to volume 16 of *Earthquake Spectra*, EERI's comprehensive report about this earthquake is available for purchase online at www.eeri.org for \$45. Chapter 15, entitled "Building Code Enforcement Prospects: The Failure of Public Policy," by Polat Gülkan, deals with the lax enforcement policies at the local government level in Turkey.

Distinguished Lecturer

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eters to decision variables that are quantified for use in decision making by various stakeholders. Moehle's personal research emphasizes response of soil-foundation-structure systems, but he is responsible for the full range of research conducted at PEER. Current topical areas include reinforced concrete buildings, reinforced concrete bridges, and transportation and utility lifelines systems. One of Moehle's research goals is to understand the collapse of building frames under combined gravity and seismic loading and thereby to improve evaluation methods. Extensive static and shaking table dynamic tests are under way at PEER to improve understanding of this phenomenon.

In the mid-1990s, Moehle served a stint as the editor of *Earthquake Spectra*. He has served as a consultant or participant on a range of professional engineering and code

and guidelines development projects. He currently is chair of the Seismic Subcommittee of the American Concrete Institute Building Code and a member the Provisions Update Committee for the NEHRP Recommended Provisions. With the Applied Technology Council, he has participated in guideline development projects, including those leading to publication of ATC-32 (*Improved Seismic Design Criteria for California Bridges: Provisional Recommendations*), FEMA-273 (*Guidelines and Commentary for the Seismic Rehabilitation of Buildings*), FEMA-306 (*Evaluation and Repair of Earthquake-Damaged Concrete and Masonry Wall Buildings*), FEMA-356 (*Prestandard and Commentary on the Seismic Rehabilitation of Buildings*), and FEMA-440 (*Evaluation and Improvement of Inelastic Seismic Analysis Procedures*). He currently is a member of the ATC-58 team on the development of next-generation performance-based seismic design

procedures for new and existing buildings. He currently is chair of the Peer Review Panel for the seismic assessment and upgrading of the Bay Area Rapid Transit system, and consultant or peer reviewer for several high-rise building projects.

Moehle has been a member of the UC Berkeley faculty since 1980. He received his B.S., M.S., and Ph.D. degrees in civil engineering from the University of Illinois Urbana-Champaign in 1977, 1977, and 1980, respectively. From 1991 to 2001 he was director of the Earthquake Engineering Research Center. In 1997, he was named director of PEER. He has received many awards in recognition of his contributions to engineering teaching and research.

In February 2005, Moehle will present his lecture for the first time at EERI's 57th Annual Meeting in Ixtapa, Mexico. Groups interested in having him present the lecture subsequently should contact the EERI office.

News of the Profession

Workshop on Use of Remote Sensing

The Second International Workshop on the Use of Remote Sensing for Post-Disaster Response was held October 7-8 in Newport Beach, California. Sponsored by EERI, the University of California at Irvine (UCI), the Multidisciplinary Center for Earthquake Engineering Research (MCEER), and ImageCat, Inc. (www.imagecatinc.com), this workshop marked the formal establishment of the EERI Subcommittee on Remote Sensing, a subcommittee of the Information Technology Committee. It will be chaired by Ron Eguchi of ImageCat, Inc.

The workshop was opened by Masanobu Shinozuka, professor and chair of the Department of Civil and Environmental Engineer-

ing at UCI, and Marjorie Greene, EERI Learning from Earthquakes Program Manager. During the keynote address, Shinozuka shared a wealth of experience in the use of advanced technology for emergency management, discussing "The Emerging Role of Remote Sensing in Post-Disaster Response." In the sessions that followed, chaired by Beverley Adams, Remote Sensing Group Leader at ImageCat, researchers from the United States, Japan, and Europe presented papers addressing the use of satellite

and airborne imagery for post-earthquake and multihazard damage assessment and building inventory development. Lively discussion sessions rounded off each day, exploring the development of a standardized remote sensing-based earthquake damage scale, and the integration of remote sensing data within multihazard loss estimation.

A CD of the workshop presentations and accompanying papers will be published in early 2005 by MCEER (www.mceer.buffalo.edu/publications).



Delegates from the United States, Japan, and Europe attended the workshop.

News of the Membership

Cardona and Hays Winners of 2004 U.N. Sasakawa Awards

EERI member **Omar Dario Cardona** is the 2004 winner of the United Nations Sasakawa Award for Disaster Reduction. A Colombian earthquake engineer, he is recognized internationally for his comprehensive approaches to vulnerability and risk management. Because Colombia is vulnerable to disasters of all types, Cardona committed himself to the integrated study of the socioeconomic and institutional foundations of disaster risk management. He acknowledges that in many parts of the world, there is greater consciousness of the importance of risk reduction, but believes that the problems of vulnerability are growing considerably faster than the solutions.

Cardona established the Centre for Disaster and Risk Studies at the University of Los Andes in Colombia, which has sponsored many prevention projects. Its multidisciplinary approach integrates risk reduction with other development activities.

Cardona helped to establish the first seismic code of practices to build disaster-resistant houses with simple techniques of construction that nonprofessionals can use. These contributions were gradually promoted in many building codes in Latin America and the world, but he observes that much wider coverage is necessary. "Far greater commitment is needed than that existing at present in most countries...the problem is not only the lack of political will but of political 'feasibility'... Vulnerability reduction must be an explicit objective of development planning." Cardona's view is that most risk evaluation techniques are inadequate because they are not based on a holistic approach that "invites" intervention. If the need

for risk reduction is not obvious to stakeholders, "it will not be feasible to move forward decidedly in the reduction of disasters."

Cardona believes that Latin America has been an exceptional laboratory for research on the relationship between risk management and economic and social development, but many remarkable examples of prevention are little known because the research has been published for the most part in Spanish.

EERI Honorary Member **Walter W. Hays** was awarded the 2004 Certificate of Distinction of the Sasakawa Award for his longstanding commitment to implementing disaster prevention programs in the United States and internationally through his leadership in UN organizations, scientific and professional organizations, the insurance industry, academia, NGOs, and governmental agencies at all levels. An engineering seismologist, Hays currently has a joint appointment as senior fellow in the Global Institute for Energy and Environmental Systems at the University of North Carolina at Charlotte and as executive director of the Global Alliance for Disaster Reduction (GADR). For 26 years, he was deputy chief for Research Applications in the U.S. Geological Survey's Office of Earthquakes, Volcanoes, and Engineering.

The GADR is an NGO comprising more than 1,000 members who are building the scientific, technical, and political capacity to meet disaster reduction societal needs in more than 70 countries. GADR has developed, and is continuing to develop, Global and Regional Blueprints for Change to facilitate the ongoing process of helping communities to become resilient to all natural disasters.

Hays thinks that a culture of disaster reduction is slowly growing in both the scientific and political sectors of communities throughout the world. "Education is not a silver bullet for

disaster reduction now, but it could become one as a result of advances during the UNESCO-led Decade on Education for Sustainable Development (2005-2015, and beyond)." Despite the many barriers to disaster reduction, Hays is optimistic because knowledge management and education are improving linkages between professionals of the developing and developed world. "We can empower millions who have no role at present to have a significant role in disaster reduction for the first time. As this process unfolds, we will see many more people and their communities becoming scientifically literate, self-sufficient, and resilient to disasters, even within the relatively short time frame of the next decade, 2005-2015."

Announcement

Bridge Engineering Paper Competition

The Civil Engineering (CE) Program at the University of Nevada Reno (UNR) will recognize outstanding graduate student contributions to bridge engineering through a research paper competition. The author of the winning paper will receive \$1,000 cash, a medal, and an award certificate. The funding for the competition and award is provided through an endowment established by Simon Wong Engineering, San Diego, California. Simon Wong is an alumnus of the CE Department at UNR. Original papers are sought that describe research conducted by doctoral or master's students in civil engineering, addressing innovative approaches or concepts applied to bridge engineering. The announcement section of the Bridge Research and Information Center web site at bric.ce.unr.edu contains the guidelines for paper preparation and submission. The deadline for receiving the entries is January 24, 2005. For additional information, contact M. Said Saïdi at saiidi@unr.edu.

Publication

Risk Preparedness for Cultural Heritage

After the International Centre for the Study of the Preservation and Restoration of Cultural Property was established in Rome in 1959, its long title led to its being referred to in the early years as "The Rome Centre" or "The International Centre for Conservation." In 1978, the abbreviation ICCROM was invented and has been used ever since.

An article in a recent *ICCROM Newsletter* discusses how cultural heritage is at risk not only from a variety of disasters but also from actions taken after disasters. Many post-earthquake reconstruction measures have served to destroy significant components of cultural heritage rather than to protect them: the widespread belief that modern materials such as concrete are preferable to traditional materials exacerbates this situation. These risks are progressive and develop gradually as a consequence of local factors. Lack of appropriate standards for repair and rehabilitation of heritage properties increases the risk to cultural heritage. The inherent structural capacity of historic structures is often weakened by earlier cosmetic repairs and haphazard modifications to buildings. Scarcity and the cost of traditional building materials adds to the problem, while environmental degradation, rapid population explosion, and endemic poverty force people to look for alternative materials such as concrete and iron sheeting.

ICCROM has been organizing training activities and workshops to meet these challenges for some years, but to increase the impact of the lessons learned it has recently developed a training kit called *Risk Preparedness for Cultural Heritage*. The kit includes a series of training modules on particular topics and

visual teaching aids such as charts and transparencies. It has been conceived as a tool for capacity-building at the regional level, designed to sensitize those in each region to the tools, techniques, and strategies for risk preparedness available in local working contexts. The kit assists experienced teachers to address the needs of the secondary users; namely, those responsible at the community level for improving risk preparedness for cultural heritage. It also aims to articulate the experiences of victims and to address their main concerns within a heritage perspective.

The training kit is based on an integrated risk management framework that puts the cultural resource in the center and takes into consideration all the risks confronting that resource or property. It employs a case study approach, collecting experiences worldwide and encouraging users to apply what may be relevant to their own working contexts. ICCROM demonstrated the kit at a recent workshop in the Dominican Republic, and it was then used in India on a training course entitled "Risk Preparedness for Cultural Heritage." In the course, each participant prepared a case study according to a predesigned format based on his or her own experience in the field. Discussions were mainly centered on the practical lessons to be learned from these cases. The course was organized by ICCROM with the cooperation of the Archaeological Survey of India (ASI). Rohit Jigyasu, an architectural conservation consultant, developed the risk preparedness training kit for ICCROM. The project was funded by ICCROM and the UNESCO World Heritage Committee.

ICCROM (www.iccrom.org/) plans further activities to test the relevance and effectiveness of the kit and will then make the final product available to qualified users as a training aid.

Academic Job Opportunities

Harvard University

The Department of Earth and Planetary Sciences (www.eps.harvard.edu) at Harvard University (Cambridge, Massachusetts) seeks to fill two faculty positions at the assistant or associate professor levels (untenured) in the broadly defined areas of solid earth geophysics and surface processes. These new positions are part of broad initiatives for growth in the department and in the Division of Engineering and Applied Sciences. Applicants should e-mail a statement of research and teaching interests, curriculum vitae, and the names and contact information, including e-mail addresses, of three references to Solid Earth Search Committee, c/o Reyna Truscott, truscott@eps.harvard.edu. Applications will be reviewed beginning December 15, 2004.

University of Illinois

The Department of Civil and Environmental Engineering at the University of Illinois at Urbana-Champaign (UIUC) invites applications for one or more full-time faculty positions in the area of structural engineering. Qualified applicants at all levels will be considered. Successful candidates are expected to develop an internationally recognized research program and to contribute fully as a scholar through teaching of undergraduate and graduate courses and through service to the profession. Candidates should complement or strengthen existing research in the department in design and behavior of structural systems, seismic response analysis and mitigation, or risk analysis and assessment. To ensure full consideration, applications must be received by February 15, 2005. For more information, visit www.cee.uiuc.edu/PortalEvents/AvailablePositions.htm.

News of the Profession

A Brief History of IAEE

The following was provided by Polat Gülkan, M.EERI, and IAEE Executive Vice President for 2004-2008.

The International Association for Earthquake Engineering (IAEE) is an organization that pursues objectives similar to those of EERI, but with an international emphasis: the promotion of international cooperation among scientists, engineers, and other professionals in the broad field of earthquake engineering through the interchange of knowledge, ideas, results of research, and practical experience. This is achieved by holding world conferences and promoting and facilitating the extension of technical cooperation.

A little-remembered fact is that it was EERI that paved the way for the creation of IAEE. The (First) World Conference on Earthquake Engineering, held in 1956 in Berkeley, California, was planned by EERI for the purpose of "observing by an appropriate technical meeting the fiftieth anniversary year of the destructive San Francisco earthquake of 1906." The president of EERI at that time, Professor George Housner, hoped that this would bring together scientists and engineers from major

seismic areas of the world in order for their knowledge of earthquakes and developments in the science and art of earthquake-resistant design and construction to be pooled for the benefit of all mankind.

The Berkeley conference was followed in 1960 by another in Tokyo, where the idea was supported of establishing an international organization that would ensure the continuity of the first two conferences and serve as a global union of similarly composed national societies for mitigating earthquake losses through research, innovation, and technical cooperation. A Preparatory Committee for Establishing the International Organization for Earthquake Engineering was formed in Tokyo. It produced the draft statutes of IAEE in February 1962.

A year later, the IAEE was created, with its central office located in Tokyo (the term "organization" had been replaced by "association"). Since its inception, the government of Japan has met all expenses of the IAEE central office. There have been a total of 13 world conferences on earthquake engineering to date. The most recent was hosted by the Canadian Association for Earthquake Engineering in Vancouver, British Columbia, August 1-6, 2004.

The authority of IAEE is exercised

through the General Assembly of Delegates, the Executive Committee, the officers, and the secretary general. The General Assembly is composed of the national delegates of member countries who assemble quadrennially during the world conferences to elect the Executive Committee and officers. The officers currently are President Luis Esteva (Mexico), President-Elect Tsuneo Katayama (Japan), Vice President Polat Gulkan (Turkey), and Secretary General Hirokazu Iemura (Japan). The second vice president will be designated by China, which will host the 14WCEE.

EERI is the national organization representing the United States in IAEE. Many EERI members have served or are currently serving as national delegates or officers of IAEE. Current directors are EERI members M. G. Ashtiany, Iran; E. Faccioli, Italy; P. Fajfar, Slovenia; L. Garcia, Colombia; S. Jain, India; C.-H. Loh, Chinese Taiwan; T.-C. Pan, Singapore; and L. Wyllie, USA. The other three directors are M. Belazoughi, Algeria; D. Hopkins, New Zealand; and V. Smirnov, Russia.

The International Journal of Earthquake Engineering and Structural Dynamics is the official journal of IAEE.

News of the Membership

Results of Chapter Elections

Following are the officers and Board of Directors for EERI's **Northern California Chapter**:

President: Keith Knudsen
 President-Elect: Ivan Wong (newly elected)
 Vice President: Stephen Hom (newly elected)
 Secretary/Treasurer: Fred Turner
 Board member: Stu Nishenko (newly elected)
 Board member: Alan Kropp (newly elected)
 Board member: Laurie Johnson
 Board member: Richard Eisner
 Board member: Daniel Shapiro

Retiring board members are David Bonowitz, William "Woody" Savage, and Past President Peter Yanev. For more information on Northern California Chapter activities, visit www.quake06.org.

Following are the officers and Board of Directors for EERI's **New Madrid Chapter**:

President: Jim Taylor (newly elected)
 Past President: Nathan C. Gould
 Vice President: Greg Hempen
 Secretary/Treasurer: Frank Callanan
 Board member: John Finke
 Board member: Thomas F. Heausler
 Board member: Sanjeev Kumar

Announcement

Promoting Mitigation in Developing Countries

EERI's Special Projects and Initiatives (SPI) Committee supports innovative projects that advance the fields of earthquake engineering. One or two unique projects are selected each year to receive awards from EERI's Endowment Fund.

This year, SPI awarded \$15,000 to a new program to promote earthquake mitigation, called the Small Grants Program for Developing Countries. The program is managed by a steering committee that consists of experts familiar with the issues of earthquake engineering in other countries. Sudhir K. Jain of India chairs the group, which includes Svetlana Brzev, Canada; Farzad Naeim, USA; Mario Rodriguez, Mexico; and Marjorie Greene, EERI.

Because of socioeconomic and technical challenges, mitigating earthquake risk in developing countries is particularly difficult. For example, many developing countries lack the basic infrastructure for the proper practice of structural engineering: seismic codes cannot be effective because there are no mechanisms for code implementation.

Different countries need different approaches to mitigating seismic risk. The best intervention is through support of local efforts and by building leadership capacity in communities. A small grant in the range of \$1,000 to \$3,000, awarded to a local leader of an innovative project, can make a big difference in earthquake safety in developing countries.

The Small Grants Selection Committee recently awarded grants to innovative projects in India and Peru. In India, \$1,000 will fund a two-day workshop that will train unskilled construction workers in earth-

quake-resistant construction methodologies for masonry structures. The grant will fund the development of new resource material and laboratory demonstrations, as well as travel and boarding for workshop participants. Training materials and documentation of the workshop will be distributed by EERI to help initiate similar efforts in other countries.

In Peru, a grant of \$3,000 will support the completion, printing, and distribution of a manual that explains safe construction techniques for masonry buildings, using simple diagrams and language aimed at semi-skilled workers. The manual will be published in Spanish for Peruvian audiences and will be translated into English for distribution through EERI to reach builders in other countries.

The selection committee reviews new international projects on an ongoing basis and invites interested parties to submit proposals for innovative mitigation efforts. To find out more about the Small Grants Program for Developing Countries, visit www.eeri.org/small_grants_annnc.pdf.

Academic Job Opportunity

Purdue University

The Department of Earth and Atmospheric Sciences at Purdue University (West Lafayette, Indiana) seeks, for a tenure-track appointment beginning in August 2005, a quantitative geoscientist who conducts innovative research on geodynamic or active tectonic processes. Of particular interest are applicants who use modern observational techniques in earthquake seismology, earthquake geology, InSAR, seismic tomography, mineral physics, or low temperature thermochronology, and apply them to mechanics of the lithosphere, deep earth processes and structure, mantle-lithosphere interactions, the physics of earthquakes or volcanic eruptions, or crustal tectonics. The appointee will teach at the undergraduate and graduate levels and is expected to develop an externally funded research program that strengthens the activities of the Geodynamics and Active Tectonics group. Screening of applications will begin on January 15, 2005. Visit www.purdue.edu/eas/news/employment.html#gat for a complete job announcement.

Call for Abstracts

Mexican National Conference: XV CNIS

The 15th Mexican National Conference on Earthquake Engineering (XV Congreso Nacional de Ingeniería Sísmica) will be held September 16-19, 2005, in Mexico City to commemorate the 20th anniversary of the 1985 earthquake. Papers in Spanish and English will be accepted for the proceedings and oral presentations. The theme of the conference is "20 Years After the September 19, 1985, Earthquake: What Have We Accomplished?" Topics will include seismology and seismicity; seismic risk, hazard, and vulnerability; seismic zonation; soil-structure interaction; geotechnical and foundation seismic engineering; performance-based design; seismic codes issues; experimental research on the seismic behavior of structural systems and components; analysis, design, and behavior of reinforced concrete, steel, masonry, and wood structures; base isolation, passive energy dissipation, and active/hybrid control; bridges and lifelines; seismic evaluation and retrofit of structural systems; and seismic behavior of irregular structures. One-page abstracts are due February 11, 2005. Accepted papers are due June 30, 2005. For more information, visit www.smis.org.mx or contact Dr. Amador Terán-Gilmore at tga@correo.azc.uam.mx.

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**.

DECEMBER

8-20. 4th Int'l Conf. on Dam Engr., Nanjing, China. Info: www.dam04.com (1/04)

2005

JANUARY

6-12. 2nd Consequence-Based Eng. (CBE) Institute, College Station, TX. Info: cbe.civil.tamu.edu/ (10/04)

9-13. TRB Annual Meeting, Washington, DC. Info: www.trb.org (8/04)

13-16. Int'l Symp. on EQ Eng., Japan. (2/04)

18-20. 1st Int'l Conf. on Urban Disaster Reduction, Kobe, Japan. Info: www.eeri.org/news/meetings.html (7/04)

31-Feb 3. IMAC XXIII, Orlando, FL. Info: www.sem.org (6/04)

FEBRUARY

2-6. EERI Annual Meeting, Ixtapa, Mexico. Info: www.eeri.org. See page 1. (4/04, 7/04, 9/04, 10/04, 11/04, 12/04)

19-22. Int'l Assoc. for Bridge Struct. Eng. Conf., New Delhi, India. Info: www.iabse.org (11/03)

APRIL

6-9. North American Steel Construction Conference, Montreal, Canada. Info: www.aisc.org/nascc (8/04)

MAY

1-4. UCLA Conf. on Public Health & Disasters, Woodland Hills, CA. Info: www.cphd.ucla.edu/ (11/04)

15-18. Disaster Resistant CA Conf., Sacramento, CA. Info: www.sjsu.edu/cdm/drc05 (11/04)

30-June 1. ERES 2005, Skiathos, Greece. Info: www.wessex.ac.uk/conferences/2005/eres05 (7/04)

JUNE

7-9. SEM Annual Conf. on Experimental & Applied Mechanics & Concurrent Symposia, Portland, OR. Info: www.sem.org (10/04)

20-22. 12th Int'l Conf. on Comp. Methods & Experimental Measurements (CMEM 2005), Malta. Info: www.wessex.ac.uk/conferences/2005/cmem05/ (10/04)

JULY

10-13. 15th World Conf. on Disaster Management, Toronto, Canada. Info: www.wcdm.org (11/04)

AUGUST

21-24. Pipelines 2005, Houston, TX. Info: www.asce.org/conferences/pipelines2005/ (8/04)

22-24. ConMat'05, Vancouver, BC, Canada. Info: www.civil.ubc.ca/conmat05/ (7/04)

SEPTEMBER

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

16-19. XV Mexican Nat. Conf. on Eq. Eng., Mexico City, Mexico. See page 10. (12/04)

20-23. 3rd Int'l Structural Eng. & Const. Conf., Shunan, Japan. Info: www.tokuyama.ac.jp/tcss1/ISEC_03/ (4/04)

OCTOBER

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

2006

APRIL

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

AUGUST

14-17. 5th Int'l Conf. on Behavior of Steel Structures in Seismic Areas (STESSA), Tokyo, Japan. E-mail: wada@serc.titech.ac.jp (9/04)

News of the Institute

Remember to Vote!

All EERI members eligible to vote (regular and honorary members) should have received the ballot for this year's election. The terms of Directors Don Ballantyne and Mary Comerio will expire in February 2005.

Nominated to fill the two slots are Richard K. Eisner (California Governor's Office of Emergency Services) and Frederick Krimgold (Center for Disaster Risk Management) for Director A, and Polat Güllkan (Middle East Technical University, Turkey) and Sudhir K. Jain (Indian Institute of Technology) for Director B.

The election materials include biographies of and vision statements by each of these candidates.

Members will also vote on amending five articles in the Institute's bylaws. In an effort to encourage the full participation of Young Professional members in all EERI activities, the EERI Board of Directors, on October 22, 2004, recommended that voting privileges be extended to Young Professional members.

All five articles on the ballot are related to this recommendation. Young Professional membership in EERI is appropriate for up to five years after a member has begun working in the earthquake risk reduction field.

Be sure to mail your ballot so that it is received by January 1, 2005. Contact the EERI office if you have not received it.



News of the Institute

EERI/FEMA Professional Fellowship Awarded to Reitherman



Robert Reitherman

Robert Reitherman, executive director of the Consortium of Universities for Research in Earthquake Engineering (CUREE) in Richmond, California, has been selected as the 2005 NEHRP Professional Fellow in Earthquake Hazard Reduction, awarded by EERI under a cooperative 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 the review committee, consisting of Thomas O'Rourke, professor of engineering at Cornell University, Ithaca, New York; Craig Comartin of C. D. Comartin, Inc., Stockton, California; Mary Comerio, professor of architecture, University of California (UC) at Berkeley; and Ronald Mayes, structural engineer at Simpson Gumpertz & Heger, San Francisco, California.

Reitherman will conduct research and author a report on the "History of Earthquake Engineering from an International Perspective." He brings knowledge and perspective to this endeavor from his active involvement in producing the *EERI Oral History* series. The report will point out historical events, patterns, and accomplishments in earthquake engineering as they have occurred in other countries, and examine the various origins and pathways that have characterized them.

Reitherman believes that this study will benefit individuals in earthquake-related fields who are seeking to implement earthquake hazard

reduction efforts. He will focus on such topics as engineering design and analysis methods, code development strategies, programs to deal retroactively with vulnerabilities in existing buildings, and the manner in which this information is disseminated to the public. This research will be carried out under the direction of Vitelmo Bertero, professor emeritus, UC Berkeley.

Reitherman has served as the executive director of CUREE since 1995. He has worked as an architectural and emergency planning consultant to corporations and governmental entities. He has authored books and articles on earthquake hazard reduction and mitigation measures. Reitherman graduated cum laude from Harvard University with a bachelor's degree in government and earned a master of architecture degree from UC Berkeley.

The Professional Fellowship is awarded annually and provides a stipend of \$30,000, commencing in January 2005, for tuition, fees, and living expenses for a 12-month period.



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