



EARTHQUAKE ENGINEERING RESEARCH INSTITUTE NEWSLETTER

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EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

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News of the Institute

EERI Seismic Risk Analysis Seminars

EERI will host a new one-day technical seminar on Seismic Risk Analysis for Engineers and Decision Makers on July 18 in San Francisco and July 19 in Los Angeles, from 12:30 p.m. to 6:30 p.m. The downtown San Francisco location is the Sir Francis Drake Hotel Empire Room at 450 Powell Street. The Los Angeles location is near LAX at the Sheraton Gateway Hotel Gateway Ballroom, 6101 West Century Boulevard. CEU credits will be offered.

A light lunch will be served at 11:30 a.m. at both seminars. The cost for members is \$175; for nonmembers, \$250. Nonmembers who join EERI can pay a total of \$300, for a total savings of \$150 (a \$75 reduction on the seminar fee and a \$75 reduction on membership dues). A 50% discounted registration fee of \$90 is available to Student, Young Professional, and Retired EERI members. Online registration is available on EERI's web site, www.eeri.org/news/meetings/05_tech_seminar_registration.php. A more complete agenda will be announced soon and posted online.

Speakers will include Charlie Kircher, who will give an overview of the subject; Ron Hamburger on the vulnerability of buildings; Michael O'Rourke on the vulnerability of lifelines; Thalia Anagnos on economic and societal losses; and Mary Comerio on the stakeholder's perspective on seismic risk and loss assessment.

100th Anniversary Conference

Call for 1906 Collections

David Leeds, an EERI Honorary Member and *EERI Newsletter* editor for many years, has a collection of approximately 200 San Francisco earthquake postcards dating back to 1906. He has promised to send his collection to EERI in time to have them scanned, enlarged, and displayed in San Francisco next year during the 100th Anniversary Conference, April 18-22. The organizing committee encourages anyone with memorabilia relating to the 1906 earthquake to consider having it scanned, photographed, or otherwise put on display during the conference for the benefit of attendees. Please e-mail EERI Executive Director Susan Tubbesing, skt@eeri.org, if you have something to contribute to such an exhibit.



A collector's item: EERI Northern California Chapter members Alan Kropp, Ivan Wong, Laurie Johnson, Fred Turner, and Keith Knudsen at 5:45 a.m. on April 18, 2005, at Lotta's Fountain in San Francisco, following the ceremony commemorating the 99th anniversary of the 1906 earthquake.

News of the Profession

Funding for Seismic Safety Commission at Risk

The following letter was sent by EERI President Craig Comartin in support of California Assembly Bill 1374, which would maintain the current 0.07¢ per insurance policy to support the California Seismic Safety Commission. Other members of the EERI Board of Directors have written similar letters. The Board encourages all California EERI members to contact their legislators regarding this important bill. To follow the progress of the bill, visit www.aroundthecapitol.com/Bills/AB_1374.

The Honorable Judy Chu, Chairwoman
Assembly Appropriations Committee
Attention: Geoff Long

Dear Assemblywoman Chu:

We are writing to register our strong support for Assembly Bill 1374, which would eliminate the sunset requirement for the insurance fund that currently supports the California State Seismic Safety Commission.

The Earthquake Engineering Research Institute (EERI) is a national association of professionals, with over 1000 members in California, who are actively engaged in earthquake hazard mitigation. Our organization is composed of the nation's earthquake leaders in the earth sciences, engineering, emergency management, and public policy. It is our goal to reduce earthquake risk by advancing the science and practice of earthquake engineering, improving understanding of the impact of earthquakes, and promoting measures to reduce the harmful effects of earthquakes.

California's earthquake risk and potential for earthquake losses are greater than those faced by any other state in the country. Over the years, many excellent policies and programs have been developed and enacted that are making California a safer place in which to live and work. Since 1975, most of those policies and programs have been developed as a result of the guidance and technical advice of the SSC.

The current program that annually assesses the insurance industry 0.07¢ per policy has provided a modest budget for the commission, allowing it to continue its excellent work. As a result of this assessment, the commission does not rely on any financial support from the state's general fund. AB 1374 would allow this process to continue beyond its current 2007 sunset deadline. We urge you to support the passage of AB 1374 and ensure the continued role of the California Seismic Safety Commission in promoting the safety and welfare of the citizens of our state.

Sincerely,
Craig D. Comartin
EERI President



Publication

Disaster Reduction

A recently published book, *Disaster Reduction: Living in Harmony with Nature*, by Julio Kuroiwa, professor emeritus at the National University of Engineering in Lima, Peru, is a product of the International Decade of Natural Disaster Reduction (1990-99). Kuroiwa's purpose in writing it was to transform his understanding of why disasters occur "into clear, simple lessons that will reach poor people, who are always the ones to suffer the most," through readers who will disseminate its contents. In its foreword, EERI founder George Housner states, "I am sure this book will be extremely useful to a large audience that has never before been able to find such a comprehensive presentation about disaster reduction in the pages of a single volume, and it should have a very beneficial effect in disaster-prone countries."

Professionals dealing with building construction as well as academics, students, and society in general will find this book a compelling tool for natural disaster preparedness, as it emphasizes engineering aspects, social repercussions, and economic projections. Beautifully illustrated with a multitude of color photos and figures, its ten chapters have the following titles: *Living in Harmony with Nature to Reduce Disasters*; *Sustainable Cities: Agenda for the 21st Century*; *Phenomena of Geological Origin I: Earthquakes*; *Phenomena of Geological Origin II: Volcanoes and Tsunamis*; *Climatic Disasters*; *Geological-Climatic Phenomena*; *Technological Disasters and the Environment*; *The Economic and Social Impact of Disasters*; *Reduction of Social Vulnerability*; and *A New Lifestyle for the 21st Century*.

This book is being distributed in the United States by the International Code Council. It costs \$79 plus shipping and can be ordered from www.iccsafe.org/e/category.html.

News of the Membership

Umbright and Spanos Honored



Brian Umbright

EERI member **Brian Umbright**, vice president of the full-service Chicago-based engineering firm Bowman, Barrett & Associates Inc. (BB&A), received the 2005 Civil and Environmental Engineering Alumni Association's Young Civil Engineer Achievement Award from the University of Illinois at Urbana-Champaign, where he earned both his BSCE and MSCE degrees. The award recognizes a graduate who has attained an unusual amount of success by the age of 35.

With more than 80 professionals on its team, BB&A has provided professional services to the transportation industry, architects, and builders since 1989. Umbright specializes in the design of highway bridges. His responsibilities include supervising staff engineers and technicians; ensuring compliance with codes and standards; and reviewing plans and specifications for clarity, conciseness, and completeness. His other industry affiliations include the American Concrete Institute, the American Society of Civil Engineers, and the IDOT Bridge Subcommittee of the Consulting Engineering Council of Illinois.

Umbright began working for BB&A upon obtaining his MSCE degree.

He commented that his success has been the result of both sacrifice and good fortune, and added that young practitioners should be ready to continue learning throughout their professional lives — the more they learn, the more valuable they will be to their colleagues, their employers, their clients, and themselves.



Pol D. Spanos

Pol D. Spanos, an EERI member since 1985, has been elected to the National Academy of Engineering (NAE) for developing fundamental methods of predicting the dynamic behavior and reliability of structural systems in diverse loading environments. Election to the NAE is among the highest professional distinctions accorded an engineer.

Spanos has held the L. B. Ryon Endowed Chair in Engineering at Rice University since 1988 and has received numerous other awards. He is currently directing a large group of graduate students and working on two NSF-sponsored projects: one on wavelets-based stochastic models of accelerograms, and the other on response of nonlinear structural models to seismic excitations represented by wavelets. He is a co-editor of the *Journal of Probabilistic Engineering Mechanics* and the editor-in-chief of the *International Journal of Nonlinear Mechanics*, in which research findings of studies on stochastic and nonlinear aspects of earthquake engineering and aseismic design are often reported.

Publication

New USGS Map of 1906 San Francisco Earthquake

The U.S. Geological Survey (USGS) has employed one of its most sophisticated modern tools to show visually in detail for the first time the intensity of shaking in San Francisco, and the extraordinarily high intensity of shaking in communities like Santa Rosa during the 1906 San Francisco earthquake.

The 1906 damage patterns are displayed graphically as a ShakeMap posted on the Web at pubs.usgs.gov/of/2005/1135/ and accompanied by a report analyzing the basis for the recent findings. Also included are lessons for future great California earthquakes that can be inferred from the new data.

Since there were few seismic monitoring instruments in the region in 1906, USGS scientists used a variety of both old and innovative techniques to create a more detailed ShakeMap. The Rossi-Forel Intensity Map, made by A. C. Lawson in the 1908 report of the California Earthquake Investigation Committee, and the MMI (Modified Mercalli Intensity) Maps, made in 1982 and 1993 from historical accounts, were updated by locating many new sites where the shaking was described in Lawson and by conducting new investigations at many other sites. A novel analysis involved investigating damage in rural cemeteries that had been in use prior to 1906.

The map shows that the most severe ground shaking (MMI 9-10) occurred in an oblong area running from Tomales and Bodega Bay through Sebastopol to Santa Rosa. A set of cities at different distances from the San Andreas fault, namely, San Francisco, San Jose, Redwood City, Healdsburg, and Fort Bragg, suffered similar levels of very strong shaking — MMI 8-9.

PLEASE POST IMMEDIATELY



Earthquake Hazards Reduction Fellowship Announced

Under a cooperative agreement established with FEMA, the Earthquake Engineering Research Institute is pleased to offer the **2006 Professional Fellowship** to provide an opportunity for a practicing professional to gain greater skills and broader expertise in earthquake hazards reduction, either by enhancing knowledge in the applicant's own field or by broadening the applicant's knowledge in a related but unfamiliar discipline.

Who Should Apply?

This unique fellowship is designed to bring together an experienced career professional with other professionals conducting significant research, thereby providing opportunities to both enrich the applicant's knowledge and skills and broaden the research base with challenges faced in practice. The Professional Fellowship is *not* intended to fund work towards a degree.

The Award

The fellowship provides a stipend of \$30,000, commencing in January 2006, to cover tuition, fees, and relocation and living expenses. The fellowship will be awarded on the basis of a specific project, with the proposed work or course of study to be carried out over a period of up to one year. The recipient will have the flexibility to work less than full time with the host institution and academic sponsor, with the understanding that the effort will result in a report by the end of twelve months.

Criteria

Applicants must provide a detailed work plan for a research project that would be carried out in the twelve-month period. The fellow will be expected to produce a written report upon completion of the project. All applications must be accompanied by a professional resume and letter of nomination from the faculty host at the cooperating educational institution. Faculty members should also indicate the institution's ability to provide research facilities, including library, work space, telephone, and computer access. Applicants must hold U.S. citizenship or permanent resident status.

To Apply

Candidates may obtain an application form from the Earthquake Engineering Research Institute, 499 14th Street, Suite 320, Oakland, California 94612-1934, tel: (510) 451-0905, fax: (510) 451-5411, e-mail: eeri@eeri.org, or from EERI's web site at http://www.eeri.org/home/Profell_application.pdf.

**Deadline for receipt of all application materials at EERI is September 6, 2005.
Announcement of the award will be made October 17, 2005.**

News of the Profession

Probable Sequences for WTC Collapses Finalized by NIST

Last month the National Institute of Standards and Technology (NIST) presented its analysis of how the World Trade Center (WTC) towers collapsed after two aircraft were flown into the buildings by terrorists on September 11, 2001. The study is the most detailed examination of a building failure ever conducted.

Specific factors in the collapse sequences relevant to both towers are:

- Each aircraft severed perimeter columns, damaged interior core columns, and knocked off fireproofing from steel as the planes penetrated the buildings. The weight carried by the severed columns was distributed to other columns.
- Subsequently, fires began that were initiated by the aircraft's jet fuel but were fed for the most part by the building contents and the air supply resulting from breached walls and fire-induced window breakage.
- These fires, in combination with the dislodged fireproofing, were responsible for a chain of events in which the building core weakened and began losing its ability

to carry loads.

- The floors weakened and sagged from the fires, pulling inward on the perimeter columns.
- Floor sagging and exposure to high temperatures caused the perimeter columns to bow inward and buckle — a process that spread across the faces of the buildings.
- Collapse then ensued.

These probable collapse sequences finalize and update hypotheses released by NIST in October 2004.

The sequences are supported by extensive computer modeling and the evidence held by NIST, including photographs and videos, recovered steel, eyewitness accounts, and emergency communication records. Additionally, this information was used to document a variety of factors affecting the performance of the buildings, the efforts of emergency responders, and the ability of occupants to escape prior to the collapses. In turn, NIST has identified a number of future practices and technologies that potentially could have enhanced building performance and life safety capabilities.

NIST also released drafts of 15 reports from three projects of the investigation: analysis of building and fire codes and practices; occupant behavior, egress, and emergency communications; and fire service technologies and guidelines.

Recommendations for improvements to building and fire codes, standards, and practices will be released for public comment in June. For further information, see www.nist.gov/public_affairs/releases/wtc_briefing_april0505.htm.

The International Code Council (ICC) will use its code development process to address issues raised by the NIST findings. As a result of the WTC attacks and proposed code changes, ICC formed an Ad Hoc Committee on Terrorism-Resistant Buildings. The committee is composed of code officials, engineers, architects, and other building professionals who will study the NIST report and its forthcoming recommendations as well as other research. ICC updates its codes every three years through a governmental consensus process.

News of the Profession

FEMA Job Vacancy

A vacancy announcement for an architect (GS-0808-13) or a civil engineer (GS-808/810-13) in the Risk Assessment Branch's Building Science and Technology Section of FEMA, Washington, D.C., has been posted at www.fema.gov/career/index.jsp. The announcement closes on June 17, 2005. Although only one will be hired, there are separate announcements for the architect (#RB-05-030-SG) and engineer (#RB-05-033-SG) because the qualification requirements are different.

The successful candidate must have knowledge of building codes, methods, and techniques to reduce damage to the built environment located in the nation's floodplains and high wind-prone areas. The candidate will work with other staff to identify research and development needs in the areas of flood and wind-resistant design and construction practices, and will respond to building science needs of emergency response and support teams.

New FEMA Staff

The Federal Emergency Management Agency has announced two

recent appointments in the Risk Assessment Branch. In the Building Science and Technology Section, John Ingargiola will be the lead in the post-disaster forensic engineering program known as the Mitigation Assessment Team Program. His position includes support for post-disaster mitigation operations and model building codes.

In the Multihazard Engineering Services Section, Eric Berman will be responsible for overseeing the continuing development of HAZUS. He has extensive experience in regional operations and knowledge of GIS and project management.

News of the Institute

Summary Minutes of the February 2, 2005, Board of Directors Meeting

President Craig Comartin called the meeting to order at 9:10 a.m. Also present were Past President Thomas O'Rourke, Secretary/Treasurer Ron Mayes, Directors John Aho, Bruce Clark, Farzad Naeim, and Sarah Nathe, Executive Director Susan Tubbesing, and Administrative Assistant Valarie Austin. Polat Gulkan arrived at 11:45 a.m. Richard Eisner was not present.

Election of secretary/treasurer: Comartin presented Mayes to the Board and Mayes was unanimously elected to continue serving as secretary/treasurer.

Election of vice president: Comartin presented Nathe to the Board, and she was unanimously elected to serve as vice president.

President's Report: Comartin stated that he is honored to serve as president of EERI and asked the other Board members for their assistance in making his term successful in advancing the goals of the Institute. He would like to focus on three areas: education, advocacy, and cooperative activities.

Because EERI is uniquely qualified to assist the engineering community to understand the changes being brought about by the mandate for performance-based design, Comartin believes that top priority should be given to re-establishing a regular schedule of technical seminars. Because the Institute is well respected, it is able to advocate for seismic safety and risk reduction measures in public discourse. It is vital for EERI to continue influencing public policy and advocating successfully for NEHRP.

Comartin also stressed the need

to build cooperative alliances with national and international organizations to increase the sphere of the Institute's influence. He noted that establishing the World Housing Encyclopedia, which has achieved recognition, has helped EERI progress towards this goal.

Board members recognized the importance of strong ties and clear communication between the Board and committees in order for the latter to function effectively. The Executive Committee will review all committees, and they will be discussed at the next Board meeting.

Kobe activities: JAEE and ISSS greatly appreciate EERI's help in sending participants to their successful 10th Anniversary symposia in Kobe in January. Comartin hopes to build on this good will to encourage support from both Japanese associations for the upcoming 100th Anniversary Conference commemorating the 1906 San Francisco earthquake.

Comartin briefed the Board on the response to the December 2004 Sumatra earthquake and tsunami. Incoming data are being posted on EERI's Virtual Clearinghouse web site by international contacts assembled by Haresh Shah. Professor Wilfred Iwan of Caltech will contribute his contacts, leadership skills, and reputation in directing the overall tsunami and earthquake reconnaissance effort.

The Board asked staff to create a PowerPoint presentation about earthquakes and tsunamis, geared to the general public, for use by our members and others in classrooms and community presentations. (Editor's note: See the announcement on page 8 of the Special Earthquake Report inserted into the May *EERI Newsletter*.)

State and national advocacy: O'Rourke reported that Ugo Morelli and Ricardo Dobry represented EERI at the recent NEHRP Coalition

meeting in Washington, D.C. The coalition's main focus is to obtain appropriations for NIST as the lead agency for NEHRP. O'Rourke will work with the coalition to determine the best strategy for visiting congressional offices. The Board recognized that involving local congressional representatives and their staff members was an important avenue to increase lawmakers' support for seismic safety measures. The Board directed that local district congressional members or their staff should be invited to future Annual Meetings.

Secretary/Treasurer's Report — Overview of financial statements: Mayes reported that the budget was balanced at the end of the year. Regarding the *Spectra* budget, Naeim noted that he had received proposals for theme issues on remote sensing, socioeconomic recovery, and historic structures. While budgetary constraints require that theme issues be one of the annual four-issue cycle, the number of articles in the queue waiting to be published will consume almost all the issues for the next year.

The Board examined other solutions for funding extra issues using money from Special Projects and Initiatives or Learning from Earthquakes. The Board considered setting aside the funds in the budget to publish a theme issue every one or two years. Comartin and Naeim will discuss with interested individuals the possibility of obtaining support to publish a supplemental issue of *Spectra* on remote sensing, LiDAR, and other new technologies and report back to the Board at the next meeting.

Revenue and Expense Report: Mayes reviewed the Report of Revenue and Expenses as of December 31, 2004.

The combined balance sheet showed an opening association programs fund balance of \$126,654, which was augmented by \$379 in excess revenues over expenses. EERI's total liabilities of \$529,854

combined with the total fund balance of \$127,033 equaled \$656,887.

The Endowment Program's opening balance of \$680,723 was increased by \$35,288 in excess revenues over expenses, for a total fund balance of \$716,011. Total liabilities in the amount of \$363,624 combined with the total fund balance of \$716,011 equaled \$1,079,635.

The balance of the combined association, endowment, and technical programs equaled \$1,736,522.

The Investment Funds Report showed a balance of \$196,270 in the General Administrative Short-Term Investment Fund and \$39,798 in the Long-Term Investment Fund. The Special Projects and Initiatives Fund balance totaled \$726,611; the Friedman Family Investment Fund totaled \$168,405; and the Shah Family Innovation Prize totaled \$184,618. The balance in the interest-bearing checking account was \$209,371. The combined funds in both the General Administrative checking and investment accounts totaled \$445,438.

Investment services recommendation: The Board unanimously approved a motion to switch from the current investment management service to RBC Dain Rauscher Investment Service, as unanimously recommended by the Finance Committee. This decision is projected to save \$15,000 in fees annually.

Executive Director's Report — Tsunami response update: EERI dispatched teams of tsunami and earthquake engineering experts to work with other international teams throughout the affected region. Investigation leader Bill Iwan plans to integrate the data by discipline, selecting a leader in each discipline to manage and oversee data collection according to a "matrix management" model. NEES has the capacity to provide a repository for tsunami data. Tubbesing and the IT Committee will set up a meeting with the Super-

computer Center to look into a collaborative project to enter the data into the NEES database.

2006 planning: Tubbesing reported that the 2006 Committee had a productive planning meeting in January. The staff mailed the second announcement and call for 8NCEE abstracts to EERI members and sister associations, including JAEE, SMIS, the AEES, and others, for distribution to their members. The conference will be actively promoted to organizations in the United States and abroad.

Publications Policy Committee Report: Nathe reported that the 100th Anniversary Proceedings Committee selected Mira to coordinate the publication of the 2006 conference proceedings over a competing bid from AIP. Mira was more economical and the conference committee felt that the proceedings do not need the cross-referencing AIP offers.

Oral histories status: Tubbesing indicated that NSF had given a one-year, no-cost extension to finish several oral histories. In a report to O'Rourke, Bob Reitherman noted that the Pauley/Park oral history was almost ready to be published, and the Nicoletti and Pinkham histories were ready to be edited. Reitherman also intends to write a history of the origins of NEHRP as part of his NEHRP Professional Fellowship.

Monographs: Nathe reported that Ross Boulanger is making good progress on the long-awaited revision of the Seed/Idriss monograph.

Seattle Scenario: Tubbesing related that the scenario has generated much interest in Seattle. The Board approved the document. It is hoped that the scenario will spur Seattle-area members to form a regional EERI chapter.

Special Projects and Initiatives Report: The Board approved an additional \$15,000 from the Endowment Fund to support the Small

Grants Program. This grassroots program has the potential to attract matching funds from other sources. The Board also approved a motion by Bruce Clark for a one-time special solicitation to members for contributions to the tsunami response effort that could be part of EERI's Small Grants Program. These contributions will go directly into the Small Grants budget, instead of the Endowment, where only their earned interest would have been available. All final SPI reports will be placed on the EERI web site.

Membership Report: Approximately 75% of members had renewed by the beginning of February 2005, and final notices were mailed during the last week of January. The number of institutional and individual subscribers to *Spectra* increased during 2004.

Small Grants Report: The Selection Committee is reviewing 14 proposals from several countries. The interest level has risen and numerous inquiries were received during the latter part of 2004.

Membership development plans: Comartin will appoint one additional member to the Membership Development Committee. The committee will develop an action plan to be discussed at the next Board meeting. The Board feels that more interaction between the Board and chapters will help reverse the declining membership trend.

Assignment of students: Comartin assigned each Board member at least one travel grant recipient to meet and mentor during the Annual Meeting. The meeting was adjourned at 4:55 p.m.



News of the Profession

Shock Table Demonstrations in India Build Confidence in EQ-Resistant Technology

The following article was submitted by EERI member Rajendra Desai, Honorary Director of the National Centre for Peoples' Action in Disaster Preparedness, Ahmedabad, India.

A simple 3m x 6.5m shock table with 20-ton capacity has been installed on the outskirts of the city of Ahmedabad that had witnessed the collapse of more than 100 mid-rise reinforced concrete frame structures in the earthquake of January 2001. The installation is part of a program of the National Centre for Peoples' Action in Disaster Preparedness (NCPDP) to promote continuous learning and confidence-building in vernacular masonry structures. NCPDP is mandated to bring information on the reduction of seismic vulnerability to inhabitants of earthquake-prone areas of the country.

Over the past 13 years, India has witnessed five moderate to high-intensity earthquakes. The bulk of damage and destruction has been observed in non-engineered or semi-engineered masonry structures. The most common reason for damage has been the absence of earthquake-resisting features in construction due to ignorance among engineers, building artisans, and the public.

During the past decade, the many efforts made to promote earthquake-resistant construction have met only

limited success. The main reason is the people's lack of confidence in these technologies. NCPDP has observed that shock table demonstrations in public are effective in helping people understand the relationship of their safety to earthquake-resistant technologies.

In the aftermath of the 1993 Latur and the 2001 Bhuj, Gujarat, earthquakes, the author conducted several shock tests to build peoples' confidence in affordable and viable earthquake-resistant technologies. Each test was organized as a major public event in which several hundred people witnessed the tests. These included masons, villagers, engineers, and nonprofit organizations working in earthquake rehabilitation. It was found that the tests tremendously boosted the people's confidence in the technologies as well as their willingness to use them.

Although a shock table like this may appear rather primitive to the western engineering community, for a highly diverse, developing country like India, it is an effective low-cost tool for studying vulnerability reduction measures for vernacular building systems and for confidence-building in the public. With a set-up cost of around US\$12,000, it would be possible to install such a facility in an engineering college in every earthquake-prone region of the country.



A shock table demonstration near the city of Ahmedabad, India.

Announcement

XV Mexican National Conference

The XV Mexican National Conference on Earthquake Engineering will take place September 7–11, 2005, in Mexico City, followed by a symposium to honor Professor Luis Esteva on September 12. The conference will focus on progress that has been made since the 1985 Mexico City earthquake and will include topics related to geology, seismology, seismic design and rehabilitation. The conference also includes a special session on Mexico-U.S. collaboration 20 years after the 1985 earthquake. For more information about registration and the conference program visit www.smis.org.mx/.

News of the Profession

Tragic Helicopter Crash

While undertaking a landslide survey for the Philippine Red Cross in the Province of Luzon, Raymundo Punongbayan, former director of the Philippine Institute of Volcanology and Seismology (PHIVOLCS), died in a helicopter accident on April 28, 2005. Punongbayan was part of a team assessing natural hazards and identifying safe sites for the resettlement of communities affected by the 2004 typhoons. Also killed were Dr. N. Tungol, J. Daligdig, D. Javier, and O. Abengoza, all from PHIVOLCS, pilots Lt. R. Gerodias and Lt. J. Salazar, and crewmen S/Sgt. E. Ramoleta and Sgt. W. Tacata.

From 1983 to 2002, while Punongbayan was director, PHIVOLCS became a key agency for generating data that could be used to predict volcanic eruptions and earthquakes. PHIVOLCS successfully forecasted the eruption of Pinatubo Volcano in 1991, saving several thousand lives.

News of the Profession

Job Opportunities

Stanford University's Department of Geophysics in Stanford, California, seeks a postdoctoral research scholar/crustal seismologist. The position is full-time for 12 months and renewable on an annual basis. Candidates should have significant experience with analysis of wide-angle seismic data, an understanding of tomographic methods, and an interest in integrating active-source and passive-source imaging techniques for lithospheric structure. For more information, visit pangea.stanford.edu/~sklemp/postdoc.html. Review of applications begins June 1.

The **U.S. Geological Survey** in Menlo Park, California, seeks a geophysicist/geodesist for its Earthquake Hazards Team. This is a permanent, full-time research position in earthquake science with an emphasis on the application of GPS methods to earthquake and volcano deformation. Candidates should be knowledgeable in the fields of space geodesy and earthquake and volcano science and their application to understanding earth deformation processes. The successful applicant will lead a project that plans and conducts original multidisciplinary research using GPS geodesy aimed at understanding earthquake and volcano source processes. Ph.D. preferred. For more information, visit www.usajobs.opm.gov/ and search for job code WR-2005-0325. Applications are due June 30.

Central Washington University, Ellensburg, Washington. Two nine-month instructor positions are open in the Department of Geological Sciences. Responsibilities include teaching a selection of introductory geology courses, an upper division course in one's area of expertise, and either historical geology or stratigraphy and environmental studies. A master's degree in geological sciences or a closely allied field is required. For more information, visit www.geology.cwu.edu. Review of applications began May 25.

Announcement

Risk Reduction Research Project in Central Europe

The countries of central Europe are periodically subjected to strong earthquakes originating from the region where the Carpathian arc bends, known as the Vrancea zone. A joint research project into the hazard of Vrancea earthquakes has been announced, uniting specialists from Romania, the Republic of Moldova, and Bulgaria. The core of the project will be the seismic hazard assessment of the Vrancea zone, taking into account directivity effects, local soil conditions, and the vulnerability of the existing building stock. The project will result in the design of a harmonized seismic hazard map and risk application for the code writers of these three countries, in the Eurocode 8 format.

According to its seismotectonic nature, this focal region represents a subduction zone of active faults, situated between two lithospheric plates moving in opposite directions. The seismic events originating in this zone have affected a large area, from the Russian cities of Moscow and St. Petersburg in the north, to Greece in the south, to the Crimean peninsula in the east, and Austria and Hungary in the west.

For additional information, visit igg.asm.md/sfp/index.html.

Publications

NEC Proceedings

While supplies last, CDs of the National Earthquake Conference Proceedings are available for the price of shipping and handling only: \$6.95. With the theme of "Strengthening America: Preparing for Earthquakes and More," the conference took place September 26-30, 2004, in St. Louis, Missouri. Funded and supported by DHS/FEMA and the USGS, it was organized by the four earthquake consortia (the Western States Seismic Policy Council [WSSPC], the Northeast States Emergency Consortium, the Central United States Earthquake Consortium, and the Cascadia Region Earthquake Workgroup) to address the urgent problem of earthquake preparedness.

The CD contains the conference agenda, roster, PowerPoint presentations or papers, and summaries of the facilitated discussions. The agenda included five plenary sessions, each with four speakers, with the following titles: Social and Economic Impacts (with keynote talks in the topics of geoscience, engineering, lifelines, business, and social science); Real-Time Seismology Tools for Emergency Management; Urban Hazards Mapping: Projects, Applications, and Outcomes; Risk Management Success Stories in the Private and Public Sectors; and Initiating and Leading Change in Loss Reduction.

Also included on the CD are proceedings of 12 concurrent workshops, most of which had four speakers. Topics included Development and Implementation of the National Seismic Hazard Maps and Performance-Based Design: What It Is and What It Means for Facility Owners, Occupants, and the Community.

To place an order, contact the WSSPC office: phone 650/330-1101, e-mail wsspc1@wsspc.org.

Call for Papers

Tsunami Conference in India

Sponsored by the Madras Development Society in coordination with the Ministry of Environment and Forests of the government of India, the International Conference on Tsunami Disaster Management and Coastal Development will be held July 30-August 1, 2005, in Chennai, India.

The purpose of the conference is to minimize loss of life and property damage by reducing the impact of events such as the great Sumatra earthquake and Indian Ocean tsunami of December 24, 2004. The conference aims to develop long-term solutions for disaster management, coastal protection, and coastal development by applying to Asian countries the latest information and research on disaster management from all over the world. Participants will come from governmental and nongovernmental organizations, U.N. agencies, international institutions, research institutions, academic institutions, and training centers.

Conference topic areas include damage caused by the recent tsunami; relief and rehabilitation measures provided by individuals, NGOs and governmental agencies; managing calamities and disasters effectively and efficiently; organizing emergency response volunteers; preventive measures and warning systems; training NGOs to train volunteers; the role of governmental agencies, NGOs, and international organizations in implementing disaster management measures; and funding resources. For more information on topics and abstract submission, visit www.tsunamicongference.in.

Paper synopses should be e-mailed to mds_1981@yahoo.com before June 30, 2005. Also invited are synopses of projects on tsunami disas-

ter management, rehabilitation, and relief work.

Structural Dynamics Conference

The Society for Experimental Mechanics (SEM) will host IMAC-XXIV: A Conference and Exposition on Structural Dynamics, January 30-February 2, 2006, at the Adam's Mark Hotel in St. Louis, Missouri. The conference theme is "Looking Forward: Technologies for IMAC." SEM is accepting abstracts for technical papers for presentation through June 14, 2005. Topic areas to be covered include smart structures, bridges, large civil structures, damping, model validation, nonlinear systems, structural health monitoring, shock and vibration, and sensors and instrumentation.

For more information, visit www.sem.org. This site also has details about submitting abstracts and the submission form. Only electronic submissions will be accepted. Abstracts should not exceed 200 words and should not contain figures or equations. For accepted abstracts, the deadline for finished papers will be October 11, 2005.

Structural Analysis of Historical Construction Conference

The 5th Conference on Structural Analysis of Historical Construction will be held in New Delhi, India, November 6-8, 2006. The event is partly sponsored by the EU-India Economic Cross-Cultural Program of the European Commission. In a context where tourism and leisure are major industries, the need to preserve historical construction is not only a cultural requirement but also an economic and developmental demand.

The main purpose of the conference is to promote the exchange of knowledge, information, and views

among researchers and experts in the field of preservation, protection, and restoration of historical structures. A second aim is to discuss case studies at the international level, emphasizing their diversity and cultural context. Modern requirements for intervention include reversibility, unobtrusiveness, minimum repair, and respect for the original construction, as well as obvious functional and structural requirements.

The conference will cover the following topics: methodology; survey; inspection; nondestructive testing, inspection, and monitoring; structural analysis; experimental results and laboratory testing; analytical and numerical approaches; innovative and traditional materials; seismic behavior and retrofitting; diagnosis; intervention techniques, restoration, and strengthening techniques; and case studies.

Authors interested in presenting a paper should submit an extended abstract at www.civil.uminho.pt/sahc2006 by September 30, 2005.

Announcement

SAMCO Summer Academy 2005

The European Network on Structural Assessment Monitoring and Control (SAMCO) is holding a five-day summer workshop on current practice. The workshop will be held September 5-9, 2005, in Salzburg, Austria, and will include presentations by experts from around the world. In addition, there will be demonstrations of equipment and devices.

The objectives of the academy are to share information about the state of the art, to give training on applications, and to provide access to international collaboration. For more information about registration and the program, visit www.samco.org.

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**.

JUNE

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

8-12. 10th Canadian Masonry Symposium, Banff, Alberta, Canada. Info: www.ucalgary.ca/~tenthcms/ (5/05)

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)

18-19. EERI Seismic Risk Seminars, San Francisco and Los Angeles. Info: www.eeri.org. See page 1. (6/05)

24-30 INCEED 2005, Charlotte, NC. Info: www.iseg.giees.uncc.edu (2/05)

30-Aug. 1. Int'l Conf. on Tsunami Disaster Management & Coastal Development, Chennai, India. See page 10. (6/05)

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)

26-27. 4th European Wkshp on Seis. Behavior of Irregular & Complex Structs., Thessaloniki, Greece. Info: taz.civil.auth.gr/4ewics/ (2/05)

27-Sept. 1. Int'l Conf. on EQ Eng. in 21st Century (EE-21C), Macedonia. Info: www.iziis.edu.mk/EE-21C

(4/05)

SEPTEMBER

5-9. SAMCO Summer Academy, Salzburg, Austria. See page 10. (6/05)

7-11. XV Mexican Nat. Conf. on EQ Eng., Mexico City, Mexico. Info: www.smis.org.mx. See page 8. (12/04, 3/05, 6/05)

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

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

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

25-29. Dam Safety 2005, New Orleans, LA. Info: info@damsafety.org (3/05)

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

28-Oct. 1. SEAOC Annual Convention. San Diego, CA. Info: www.seaoc2005.com (4/05)

OCTOBER

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

11-12. 1st Greek-Japan Workshop on the Seismic Design, Observation, and Retrofit of Foundations, Athens, Greece. See this page. (6/05)

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

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

NOVEMBER

1-4. 250th Anniversary of Lisbon EQ, Lisbon, Portugal. Info: www.mundiconvenius.pt/2005/

lisbon1755/ (4/05)

6-8. 5th Conf. Structural Analysis of Hist. Constr., New Delhi, India. See page 10. (6/05)

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

2006

JANUARY

31-Feb. 2. IMAC-XXIV: Conf. on Struc. Dynamics, St. Louis, MO. See page 10. (6/05)

APRIL

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

AUGUST

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

SEPTEMBER

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

Announcement

Foundation Workshop

The Hellenic Society for Earthquake Engineering and the Earthquake Engineering Committee of the Japanese Society of Civil Engineers are co-organizing the 1st Greece-Japan Workshop on the Seismic Design, Observation, and Retrofit of Foundations. The workshop, to be held October 11-12, 2005, at the National Technical University of Athens, will feature 40 invited lectures by experts from Japan and Greece, as well as the United States, France, Germany, the United Kingdom, Italy, and China. Abstracts were due June 1, 2005. For more information, visit www.ntua.gr/gj-workshop.

Learning from Earthquakes Tsunami Briefing in San Francisco

A special technical briefing by members of the reconnaissance teams and other contributors on the great M9.0 Sumatra earthquake and Indian Ocean tsunami of December 26, 2004, will take place 4:00 p.m. to 6:30 p.m. on Monday, June 6, in San Francisco. The speakers will be Costas Synolakis (invited), University of Southern California, on tsunami science and effects; Murat Saatcioglu, University of Ottawa, on the response of buildings to shaking and tsunami; Mark Yashinsky, California Department of Transportation, on lifeline performance; Martin Eskijian, California State Lands Commission, on performance of ports and harbors; and Lori Dengler, Humboldt State University, on reconnaissance lessons and implications for the United States.

The briefing will be held in San Francisco's Civic Center at 455 Golden Gate Avenue (between Larkin and Polk Streets), in the auditorium of the Milton Marks Conference Center in the lower level of

the Hiram W. Johnson State Office Building. For directions, public transportation, and parking info, visit www.courtinfo.ca.gov/qna/qa19.htm. Co-sponsored by the Structural Engineers Association of Northern California, the briefing is an activity of EERI's Learning from Earthquakes Program, which is funded by the National Science Foundation.

News of the Institute

Check EERI Roster Information

Production of the EERI's annual *Membership Roster* has begun. If your contact information has changed since the 2004 *Roster*, please visit the members-only section of the web site at www.eeri.org/membership/members.html prior to June 10, 2005, if you have not already done so. If the information is incorrect or needs updating, a change form can be filled out and submitted online. If you have any questions, contact Membership Coordinator Juliane Lane at juliane@eeri.org.

Honors Committee Seeks Member Input

The EERI Honors Committee will meet in the third quarter this year and would like to encourage more 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 2004. These awards will be presented at the EERI Annual Meeting in April 2006, which will occur in conjunction with the 100th Anniversary Earthquake Conference and 8th U.S. National Conference on Earthquake Engineering. 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 www.eeri.org/home/honors.html.



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