

THE 2003 PEER ANNUAL MEETING

With the PEER research program well established and future research planning now underway, the **2003 PEER Annual Meeting** provided a timely opportunity to identify research needs and priorities that are critical to PEER fulfilling its mission.

In a change from the past few years, PEER ventured away from the San Francisco Bay Area for the Annual Meeting. A conscious effort was made to try to promote more interaction between the Annual Meeting participants both during and after the meeting sessions. As a result, Palm Springs was selected as a desirable locale because it offered the combination of being neither too close nor too far from the nine core PEER institutions. This allowed for reasonable travel for almost everyone and also the opportunity for all of the attendees to stay in the same hotel and interact with one another for the meeting's duration.

The Annual Meeting was structured into two plenary sessions and several two-hour breakout discussions on important topics relative to PEER. The intent was to engage PEER researchers and partners in discussions on selected issues and elicit ideas on strategies to address outstanding needs. To focus the breakout discussions, the PEER Research Committee prepared theme statements for the discussion and a number of questions that the speakers addressed in their remarks.

As with past years' meetings, the PEER Student Day activities were held on the afternoon of the first day. Following a presentation by guest speaker **Joe Maffei** (Rutherford & Chekene), a poster session was held where PEER students presented their research posters to the other meeting attendees.

Among the 170 people in attendance at the meeting, there were 29 representatives from Industry, 58 faculty members, 56 students and approximately 30 representatives of Federal, state and local agencies. These various groupings included a broad spectrum of disciplines that feed into the performance-based earthquake engineering approach.

The breakout session theme statements and speaker slides from the 2003 Annual Meeting are available at <http://peer.berkeley.edu>



1. Student Leadership Council Chair Patxi Uriz (UC Berkeley) introduces Student Day speaker Joe Maffei (Rutherford and Chekene);
2. PEER students present their research posters to meeting attendees;
3. Scientific Advisory Committee member Tom Jordan (SCEC) addresses the audience during the plenary session on Day 2;
4. The meeting venue, the Palm Springs Riviera Resort



ICASP9 NEWS

This summer, PEER will host the **Ninth International Conference on Applications of Statistics and Probability in Civil Engineering (ICASP9)** on July 6–9, 2003.



Lobby of the Sir Francis Drake Hotel in San Francisco

ICASP9 will be held in San Francisco's Union Square at the beautiful Sir Francis Drake Hotel, a member of the Historical Hotels of America and the National Trust for Historic Preservation.

The focus of ICASP9 is on advances in theory and practice for assessment of risk and for risk reduction. Broad areas of application are considered, including structural, geotechnical, materials, transportation, environmental, earthquake and wind engineering.

ICASP9 brings together a truly international group of specialists in risk and reliability. The participants include delegates from Algeria, Australia, Austria, Belgium, Canada, China, Colombia, Czech Republic, Denmark, Finland, France, Germany, India, Iran, Ireland, Israel, Italy, Ivory Coast, Japan, Korea, Lebanon, Lithuania, Mexico, Morocco, the Netherlands, New Zealand, Norway, Poland, Russia, Singapore, Spain, Switzerland, Sweden, Taiwan, Turkey, the UK and the USA.

The conference will feature presentations on over 200 technical manuscripts that were each independently reviewed by at least two referees prior to being accepted to the conference. ICASP9 attendees will each receive a 2-volume hardcover set, as well as a CD-ROM of *Proceedings*.

Previous ICASP conferences were held in Hong Kong (1971), Aachen (1975), Sydney (1979), Florence (1983), Vancouver (1987), Mexico (1991), Paris (1995) and Sydney (1999).

The registration form and other information about ICASP9 may be found at: <http://icasp9.berkeley.edu>



LIFELINES PROGRAM NEXT GENERATION ATTENUATION (NGA) PROJECT

The **Next Generation Attenuation (NGA) Program** is a unique opportunity for the community of strong-motion seismologists and geotechnical engineers to make a significant step forward in the prediction of strong-ground motions for WUS earthquakes (shallow crustal earthquakes in active tectonic regions).

The NGA Program is a series of closely coordinated research projects that are a subset of the PEER-Lifelines (PEER-LL) program. The NGA Program aims to merge views of experienced attenuation modelers with current research results by PEER-LL, USGS, SCEC and other organizations to develop a suite of new design attenuation models. The final products will include:

- Updated empirical models (NGA-E)
- New hybrid models (NGA-H)
- New "fling step" models (F).
- New site amplification models (S)

Similar to most attenuation models, the NGA-E models will be driven mainly by

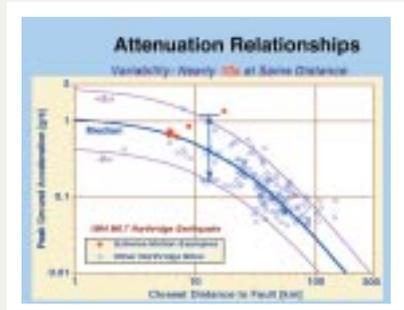
empirical data and guided by findings from current research and synthetic motions generated from validated simulation procedures. The NGA-H models will move one step further by combining synthetic data with empirical data as a means to further constrain near-field features of the attenuation model. The fling step and site amplification models will be developed to be compatible with either the NGA-E or NGA-H models and may be used in combination with these models at the discretion of the designer.

The initial focus of the NGA program will be on development of the NGA-E empirical models.

Simply stated, attenuation relationships are the backbone of modern earthquake hazard assessment. These relationships are used in all earthquake hazard assessment ranging from the U.S. national and California seismic hazards maps, (the latter produced jointly by the USGS and CGS), to site-specific assessments, both deterministic and probabilistic, used for specific facilities ranging from bridges to dams to power plants. Hazard assessment results are used to establish design strategies and details of the built envi-

ronment and to predict their performance.

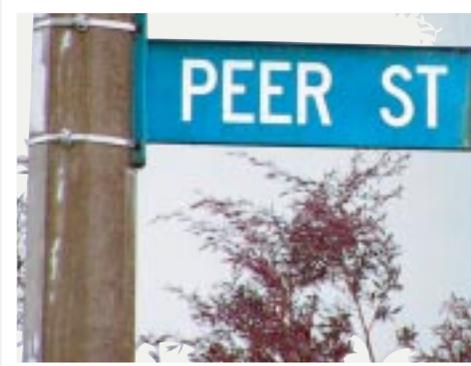
The NGA program provides a unique forum to combine the knowledge and experience of leading attenuation model developers with the best available empirical data as well as new ideas, developments, and results coming from the research community. This joint effort holds significant promise for development of improved models having less variability, thus providing more reliable estimates of ground motions for engineering design. The process of collaboration and mutual review is structured to allow the NGA products to be implemented immediately in design practice.



A slide from Clifford Roblee's (Caltrans) presentation at the NGA Kickoff Meeting on February 19-20, 2003

NEW ZEALAND LECTURES ON PBEE PEER GOES ON THE ROAD

Researchers from the Pacific Earthquake Engineering Research Center participated in a



PEER Street in Christchurch, New Zealand

series of lectures on performance-based earthquake engineering in New Zealand during February 2003. In a special theme session at the **Pacific Conference on Earthquake Engineering** held at the University of Canterbury, Christchurch, PEER's Director **Jack Moehle** and Deputy Director **Gregory Deierlein** were joined by PEER researchers **Peter May**, **Mary Comerio** and **Eduardo Miranda** in a discussion of PEER's framework and ongoing research in support of performance based earthquake engineering. In Wellington, before an invitation-only session involving senior management and boards of central

government agencies, local government, academic institutions and representatives from the insurance and construction industries, Professors Comerio, May, and Moehle described barriers to implementation and new approaches to organizing multi-disciplinary research in support of performance-based earthquake engineering. Finally, in Auckland before local structural engineers, PEER researchers Comerio, Deierlein, May, and Moehle presented a technical lecture on performance-based earthquake engineering. The sessions provided an excellent opportunity to spread word about important, internationally applicable developments within the PEER program. ●●●

PEER TEAMS WITH ATC ON TWO PROJECTS

Evaluation and Improvement of Inelastic Seismic Analysis Procedures (ATC 55)

The Applied Technology Council (ATC), with funding provided by FEMA and PEER, is conducting a project to evaluate and improve the application of simplified inelastic analysis procedures for use with performance-based engineering methods for seismic design, evaluation, and rehabilitation of buildings. PEER researchers **Wilfred Iwan** (Caltech) and **Eduardo Miranda** (Stanford), with funding from FEMA, are developing improvements to nonlinear analysis methods are contained in performance-based guidelines such as ATC 40 and FEMA 356. **Jon Stewart** (UCLA), funded by PEER, is developing simplified procedures to incorporate effects of soil-structure-foundation interaction, especially as they relate to short-period buildings. The project is scheduled for completion during summer 2003.

Performance-Based Seismic Design Guidelines (ATC 58)

The Applied Technology Council ATC 58 project has embarked on a multi-year program to create and implement comprehensive Performance-Based Seismic Design Guidelines for both new building construction and existing building rehabilitation. Several PEER participants are active contributors to the project. Research Committee Member **Peter May** and Director **Jack Moehle** serve on the Project Management Committee, which oversees the overall research effort, and Deputy Director **Gregory Deierlein** serves as a member of the Structural Performance Products team. The project held the *Workshop on Performance-Based Design* on 24-25 February 2003 in San Francisco, providing an opportunity for the research community to comment on recent research developments in performance-based engi-

neering, including the latest developments in PEER. **Ron Hamburger**, the ATC 58 Project Technical Director and Chair of PEER's Scientific Advisory Committee, provided an overview of the project during the plenary session at PEER's Annual Meeting, and outlined the role that PEER can play in this important project. The presentation slides can be viewed at <http://peer.berkeley.edu>. ●●●



Ronald Hamburger (SGH, Inc.) gives an overview of the ATC 58 project at the 2003 PEER Annual Meeting

UPDATE ON OUTREACH OFFICE NEW FUNCTIONS, FACES

Growth often necessitates change, and the PEER **Office of Public Relations and Outreach** is no exception. Two recent changes have enhanced the scope of services provided by the office as well as the human resources available to perform those services.

The first change was moving the *PEER Report Series* under the jurisdiction of Outreach in a recent administrative re-organization within PEER. **Janine Hannel** is continuing as the Editor of PEER Reports and distribution is still

managed by the National Information Service for Earthquake Engineering (NISEE).

The second recent change is the hiring of a new PEER Web Specialist. **Ingrid Berg** has been hired to maintain the PEER website and also to support other Outreach functions.

Other functions of the Outreach office—coordinating PEER events, communications, and interaction with the public and researchers—remain unchanged. ●●●

AWARDS AND HONORS

Professor **James Brune** (University of Nevada) received the Nevada Regent Researcher Award for 2002. Awarded annually to one scientist in the State of Nevada, this is the highest research award within the University of Nevada system.

PEER researchers **Carl Stepp** (Earthquake Hazards Solutions) and **Ivan Wong** (URS Corporation) were awarded EERI's Most Outstanding Paper in Volume 17 of *Earthquake Spectra* at the 2003 EERI Annual Meeting in Portland, Oregon. ●●●

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WEB SPOTLIGHT:

As a new regular feature, in each issue of The PEER Review we will highlight noteworthy additions to the PEER website.

This month's **Web Spotlight** highlights the PEER Testbeds website.

For the most up-to-date information on the PEER Testbeds Program, visit the testbed program website at: <http://www.peertestbeds.net>

The website was established and is maintained regularly by PEER's Testbeds Coordinator, **Keith Porter** (Caltech). The site serves as a depot for documents, reports, and collaboration between the individuals involved in the testbed effort.



NEWS DIGEST

- The **PEER Year 6 Annual Progress Report** was submitted to the National Science Foundation in April. The public edition of the annual report will be posted to the PEER website following the completion of NSF's review of the PEER program.
- The National Science Foundation will be performing its annual **Site Review** of PEER on May 19–20, 2003 at PEER Headquarters in Richmond, California. The 10-person Site Review Team is comprised of independent researchers/reviewers not directly involved with PEER.
- The **State of California's Seismic Safety Commission (CSSC)** is in the process of completing their annual review of the PEER program on behalf of the State of California. A preliminary meeting with CSSC Commissioners and Staff was held on March 3.
- The **Alliance of National Centers for Earthquake Engineering Research (ANCER)** Annual Meeting, previously scheduled for August 2003 has been postponed

until further notice. Replacement dates are being investigated by the organizers.

- PEER is a co-sponsor for the August 10-13, 2003 **TCLEE2003 Conference** in Long Beach, California. For more information, please visit the conference website at: <http://www.asce.org/conferences/tclee2003>
- The **International Conference on Seismic Bridge Design and Retrofit for Earthquake Resistance**, hosted by the *American Concrete Institute*, will be held December 8–9, 2003 in La Jolla, California. For more information on this PEER-sponsored event, please visit <http://www.concrete.org/EVENTS/conferences>
- PEER is a sponsor of the **11th International Conference on Soil Dynamics and Earthquake Engineering (11th ICSDEE)**, scheduled for January 4, 2004 at the University of California at Berkeley. More information is available at: <http://www.sdee-ege.org>

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