



EARTHQUAKE ENGINEERING RESEARCH INSTITUTE NEWSLETTER

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EARTHQUAKE ENGINEERING RESEARCH INSTITUTE

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News of the Institute

9USN/10CCEE News: Sessions and Banquet

Program Online

A schedule-at-a-glance and online registration are available from <http://2010eqconf.org> for the 9th US National/10th Canadian Conference on Earthquake Engineering, to be held July 25-29 in Toronto, Ontario, Canada. A link to "Things to do in Toronto" is also provided. The schedule-at-a-glance page includes links to session titles and times for each day.

If you have not already done so, be sure to register without delay! Early registration will save you money, as after June 15, fees will increase by \$100.

An online itinerary planner is also accessible from <http://2010eqconf.org> to help attendees plan their schedules. If you do not need to create an itinerary, you can just click the "browse" button on the login page. In order to create a printable itinerary, you need to log in as a "new user" (even if you are an author). This feature enables you to select, by checking boxes in the far left column, which presentations you wish to attend. The site will save your selections, so you can log back on later as a "returning user" and makes changes if necessary.

To see the schedule for each day, click on the "Session Day" drop-down menu, and then click on "search." You will get a table of all the presentations for that day in chronological order that displays full titles, all authors and affiliations, type of presentation, session ID, date, and time. The site is also searchable by title keyword, author name, topic, session time, and session title.

Authors will receive an e-mailed message of instructions regarding preparation of oral and poster presentations by mid-June.

Plenary Sessions

Each of the conference's plenary sessions is intended to present a balanced view, considering earthquake science, engineering, and socio-economic aspects, with perspectives provided by speakers from the United States and Canada. For more information on each session, visit <http://2010eqconf.org/>.

- The Sunday evening opening plenary session on July 25 from 5 – 7 p.m. will feature two provocative kick-off talks of general interest to conference participants. Chris Poland of Degenkolb Engineers in San Francisco, California, will speak on "The 21st Century Goal for Seismic Safety: Resilient Cities." The talk by Ron DeVall of Read Jones Christoffersen in Vancouver, British Columbia, will cover "The Role of Structural Consultants and Design Practitioners in the Development of Canadian Earthquake Codes."

Because of the critical importance of the U.S. federal programs, the opening plenary session will also include brief presentations by each of the agencies that are sponsoring the conference, including the Nuclear Regulatory Commission, the Department of Energy, and the four agencies that comprise the National Earthquake Hazards Reduction Program: the National Institute of Standards and Technology, the Federal Emergency Management Agency, the National Science Foundation, and the U.S. Geological Survey.

- The Monday morning plenary session on July 26, 8-9:30 a.m., features four speakers who will provide viewpoints on the hot topics and future directions for the fields of geotechnical and structural engineering, seismology and ground motions, and the social sciences.

continued on page 4

News of the Institute

Summary of the Minutes of the Board of Directors Meeting of February 3, 2010

Preliminaries: President Farzad Naeim called the meeting to order at 8:37 a.m. Also present were Directors William Anderson, Marshall Lew, Jack Moehle, and Thomas Tobin; Executive Director Jay Berger; and Publications Manager Eloise Gilland. Director Reginald DesRoches arrived at 11:30 a.m. Directors Joseph Maffei, Masayoshi Nakashima, and Ellen Rathje were unable to attend.

Publications sales and membership reports: The 2009 Publication Sales Report indicates total sales of \$47,970, compared to \$40,021 for 2008, a 20% improvement. The current Membership Report compiled by Juliane Lane shows a decrease in regular members of 2.5% from the same time last year (1379 to 1345). On an optimistic note, the number of e-student members has doubled.

LFE highlights: The Board viewed the text of a report on 2009 reconnaissance activities that was sent in December to program officers in the NEHRP agencies in Washington, D.C., covering the earthquakes in L'Aquila, Italy; Padang, Indonesia; and American Samoa and Samoa. The report indicates that while the nature of reconnaissance research is not "transformative," it affects practice, contributes to the development of U.S. building codes and revisions to them, helps in the design of tsunami programs, promotes opportunities for participants, and enhances research networks. Results are also broadly disseminated via the clearinghouse website and the *Newsletter*.

Election of officers: The Board approved motions for Jack Moehle and Marshall Lew to continue serving as Vice President and Secretary/Treasurer, respectively.

Board member expectations:

Naeim emphasized that election to EERI's Board is not only an honor but also a responsibility that must be given a high priority.

Overview of issues and new opportunities affecting EERI in the coming year: The Board discussed the prospect of substantially increasing the number of international members through e-affiliate membership and the development of the Housner bequest proposal. Moehle observed that EERI's expertise is especially relevant to how Haiti recovers from the January earthquake. EERI has an opportunity to affect many of the longer-term issues that will have an impact on NEHRP. There is a great deal of support among EERI members for Haiti involvement.

Assign regional and student chapter Board contacts:

Tobin said a new effort is needed with regional chapters, as they are the future of EERI. Berger remarked that the New Madrid chapter will be active in working on their scenario and assisting with the National Earthquake Conference in 2012. The new Student Activities Committee chair Scott Olson will be asked to have his committee develop a student chapter activity tool kit and assign a committee contact for each student chapter.

Secretary/Treasurer's Report:

Overview of Revenue and Expense reports: Although revenues for 2009 were much higher than the budget projection (a gain of \$468,437 rather than a loss of \$43,618), Lew pointed out that \$250,000 of the gain was from the Housner bequest, whose funds are designated. Most of the rest of the gain is from an increase in the value of investments, representing a partial recovery of previous paper losses.

Review of 2010 budget: The Institute faces uncertainties in 2010, such as the 9th US National/10th Canadian Conference on Earthquake Engineering, and expenses related to EERI's response to the Haiti earthquake. The latter depends on whether the

Board decides to spend the Institute's own funds or seek supplemental grants. Agency sponsorships of the 9USN/10CCEE have been good so far, with commitments from the NRC and FEMA, but fundraising from the private sector is not doing as well, which may be due to the economy or lack of effort.

Investment report and overview: The balance sheet as of December 31, 2009, showed that the opening fund balance for Association programs of \$174,613 increased by \$82,593 in revenue over expenses. EERI's total liabilities of \$779,712 combined with the total fund balance of \$257,206 equaled \$1,036,919. The Endowment Program's total liabilities in the amount of \$364,038 combined with the total fund balance of \$1,064,044 equaled \$1,428,082. The balance of the combined association, endowment, and technical programs equaled \$2,465,000.

Transition: Berger said that it had been a good transition period. He appreciates the organizational support that made possible the two-month overlap with Susan Tubbesing. He was able to sit in on staff reviews and be introduced to agencies on Capitol Hill. Tubbesing had been generous and considerate in every way. The staff is competent and experienced in their roles. While he might have suggestions for making the operation more efficient, there are already efficiencies in the tradition of how things are done.

Washington DC trip: Berger discussed his and Tubbesing's visit to Washington, D.C., January 12-14. They were joined by Anderson and Judith Mitrani-Reiser, as well as Martin Hight of ASCE. Berger recommends continuing their team approach. They met with staff members of the House Science and Technology Committee, the Senate Committee on Commerce, Science, and Transportation, Speaker Pelosi's office, senators Feinstein's and Boxer's offices, NSF, FEMA, the USGS, and NIST.

Anderson said that the congressional staffs are dealing with so many issues that EERI has to be persistent and scale up its role. EERI must make sure multidisciplinary interests are represented. Tobin noted that often congressional staffs agree with EERI's position but need justification from people they trust in the earthquake community. Berger will work with the Public Policy Committee to develop an advocacy web presence.

The agencies were interested in EERI's plans for Haiti. Tobin said Haiti is an indicator of the vulnerability of megacities in developing countries, where catastrophic losses of as many as 1 million lives per event are possible. NSF must ensure that the United States has a leadership role in science and technology and wants transformative research, whereas the nature of progress made by the Learning from Earthquakes Program is incremental. Moehle said that EERI needs to convey the value of reconnaissance activity in motivating the entire careers of people who have worked on teams.

FEMA Cooperative Agreement:

Berger reviewed the elements of FEMA's Cooperative Agreement with EERI, which now includes support for the Annual Undergraduate Seismic Design Competition. FEMA has been generous considering their budget. Berger said there is a need to keep in mind possibilities for the statement of work for the next renewal period.

2012 National Earthquake Conference (NEC): Berger is on the executive committee for the 2012 National Earthquake Conference to be held in Memphis. Organized by the Central U.S. Earthquake Consortium on behalf of FEMA, it will be held in conjunction with the EERI 2012 Annual Meeting. Naeim and Berger will write a letter to the New Madrid Earthquake Scenario (NMES) Committee expressing the Board's support, recognizing the importance of the NMES to the NEC, emphasizing that the time is now to get the project rolling.

NSF Vision 2020 Workshop: Berger reported on NSF's two-day Vision 2020 Workshop held in January, attended by 80 people, including a few other EERI members. The organizing committee will take the identified eight themes and issue a report, which will be a building block to make recommendations on future directions for earthquake engineering research.

ICC membership promotion:

Berger reported that EERI and ICC have both created online welcoming pages for the purpose of enabling each organization to promote discounted membership to the other organization's members. It is an experimental effort in which EERI hopes to attract more building official members.

FEMA Professional Fellowship re-assessment: The Board discussed options for redefining the FEMA Professional Fellowship Program, as it needs to be re-evaluated. Berger and Naeim will talk to the FEMA project officer Larry Hultengren about making significant changes to the program.

Housner bequest — Next steps:

Tobin summarized the ad hoc committee's proposal to implement a Fellows Program. The proposal recommended forming a committee to determine the feasibility of the program in terms of cost and to create an action plan and a budget that would have no adverse impact on EERI's other committees and programs. Housner bequest funds would provide the seed money for the proposed Fellows Program, which would teach skills that firms want their people to have. EERI members tend to be trained in technical fields and need skills to diffuse their ideas into the culture. Part of the task of the committee would be to explain such a program to the membership. The Board approved the formation of a committee, chaired by Bill Iwan, with Tobin as Board contact, to explore the feasibility of the plan proposed by the Housner Fellows proposal writers.

ImageCat/World Bank Aerial Assessment Project: Between 200 and 400 EERI members responded to an e-mail from EERI on January 22 calling for help, within two days, in analyzing high-resolution aerial imagery of Haiti in an effort to estimate and classify building damage, particularly collapse. The EERI volunteers signed up to analyze one or more grids. The images, which are better quality than satellite imagery, were acquired by EERI Subscribing Member ImageCat. The World Bank was happy to receive solid estimates of damage. The results are available through the Virtual Disaster Viewer site linked from EERI's web site.

Haiti — Learning from Earthquakes:

DesRoches said that 60 volunteers for EERI's reconnaissance team had to be narrowed down to 18 people. Holmes said that EERI has already provided a great networking service that has helped connect people to teams. Berger will determine the LFE budget available for briefings and publishing on Haiti LFE findings.

EERI's role in Haiti beyond reconnaissance is not clear. Berger will schedule an ExCom meeting to discuss creating a multidisciplinary EERI Haiti Committee of 5-6 people to monitor the situation as it evolves, keep the Board informed, help determine priorities, and guide action.

Baja California Earthquake Report

A draft preliminary report on the April 4, 2010, El Mayor-Cucapah earthquake is now available at the Baja California Clearinghouse website, <http://www.eqclearinghouse.org/20100404-baja/>. The report contains observations from many field investigators. The authors encourage comments; they can be sent to Jorge Meneses at jmeneses@kleinfelder.com. An insert on this event will be published in the July *EERI Newsletter*.

9USN/10CCEE (continued from page 1)

- The Wednesday morning plenary session on July 28, 8-9:30 a.m., moderated by Reginald DesRoches of the Georgia Institute of Technology, will concern the Haiti and Chile earthquakes of 2010. Providing insights that go well beyond the initial reconnaissance reports, presentations will cover geotechnical issues, social science aspects, the performance of reinforced concrete buildings, and the correlation of ground motion with damage. As these two major seismic events were too recent for speakers to have submitted papers to the conference, they will provide abstracts, and their PowerPoint presentations will be posted on the conference website after the conference.
- In the Thursday closing plenary session on July 29, 10:10 a.m.-12:30 p.m., five speakers will provide summaries, critiques, and assessments of the overall conference. They will discuss future needs from their disciplinary perspectives, followed by open discussion.

Wednesday Evening Banquet

The conference banquet on Wednesday evening, July 28, will take place at Toronto's downtown lakefront entertainment venue, the majestic Liberty Grand. Originally constructed in 1926, this 100,000 square foot complex blends a Beaux Arts monumental exterior with classical interior finishes. The crystal chandeliers, 27-foot ceilings, iron-laced balconies, arched windows, imported period furnishings, and magnificent domes and columns evoke an elegant historic atmosphere.



Entrance to the Liberty Grand, location of conference banquet.

The banquet speakers will be Colin and Julie Angus, recipients of National Geographic's 2007 Adventurer of the Year Award, who explore the world together using human-powered modes of transportation. Through exploration and adventure, they strive to motivate others to lead active and environmentally sustainable lifestyles.

News of the Membership

O'Rourke Named Associate Editor of *JEE*

The *Journal of Earthquake Engineering* recently announced that EERI Past President Thomas D. O'Rourke, professor of engineering at Cornell University, will become one of its associate editors on September 1, 2010. A world-renowned researcher in geotechnical earthquake engineering, O'Rourke has influenced both academe and the profession with his seminal work on lifelines. He has authored or co-authored more than 340 publications and is a member of the National Academy of Engineering. The two other associate editors of *JEE* are EERI members Kazuhiko Kawashima (Tokyo Institute of Technology) and Gian Michele Calvi (University of Pavia).

Published eight times per year by the Taylor and Francis Group, the *Journal of Earthquake Engineering* was founded in 1997 by co-editors A. S. Elnashai and N. N. Ambraseys, both EERI members, and is managed in the Civil and Environmental Engineering Department at the University of Illinois at Urbana-Champaign.

News of the Membership

Award for Parra-Montesinos



Gustavo Parra-Montesinos

EERI member Gustavo Parra-Montesinos, assistant professor in the Department of Civil and Environmental Engineering at the University of Michigan, has been selected by the American Society of Civil Engineers to receive one of the 2010 Walter L. Huber Civil Engineering Research Prizes. The award recognizes "his research on frame and wall structural systems that opened new doors of perception and enabled use of strain-hardening fiber-reinforced concrete, a highly effective composite, to improve the safety and behavior of connections and members subjected to intensive shear force." The selection committee particularly acknowledged Parra-Montesinos's landmark work on the shear behavior of frame and slab systems and exploration of the use of strut-and-tie models for application to design codes and procedures.

Parra-Montesinos received the award, consisting of a certificate and a cash prize of \$1,000, in May, during the joint North American Steel Construction Conference and Structures Congress in Orlando, Florida. He was the 2004 recipient of EERI's Shah Family Innovation Prize. For more information, visit <http://www.eeri.org/site/2004shah>.

Subscribing Member News

200+ Haitians Attend MCEER Seminar

As a result of their memorandum of understanding, the University at Buffalo's MCEER and Université Quisqueya, (UniQ) held their first jointly sponsored Earthquake Engineering Educational Seminar May 20-22 in Port-au-Prince. MCEER is an EERI Subscribing Member.

More than 200 Haitian engineers, architects and other professionals gathered in tents in temperatures hovering near 100 degrees F.

"The attitude of the engineers was extremely positive," said Andre Filiatrault, MCEER director and UB professor of civil, structural and environmental engineering, who ran the seminar. "They realize that they need to become proficient in this type of engineering and there is a thirst to learn."

Because this first seminar proved so popular, the sponsors divided the group into two, with Filiatrault teaching one half and Pierre Fouché, a Haitian native and UB doctoral candidate in earthquake engineering, teaching the other half. The seminar was conducted completely in French and focused on principles of earthquake-resistant design and on the ATC-20 (Applied Technical

Council) Rapid Building Assessment Methodology. During the seminar, all attendees participated in field assessments of earthquake-damaged buildings. They learned how to conduct damage assessments on uninspected structures throughout Port-au-Prince.

"We gave participants ...some really practical information on how to build better buildings even without making detailed calculations," Filiatrault said. In his presentation, Filiatrault used Chile's 1960 earthquake as a parallel example, because it served as a turning point where things started to change. "In the same way, I told them, the disaster that occurred on January 12, 2010, can also bring a change in paradigm for Haiti."

Subsequent seminars will focus on the specific calculations that are required to construct safe buildings, a segment that is largely missing from current engineering curricula in Haiti.

The next seminar will last for five days and will take place in early September. Additional faculty from other U.S. engineering schools will be involved.

Each seminar will provide credit toward a master's of earthquake engineering degree that UniQ is developing with MCEER's support.

The MCEER and UniQ partnership will extend for at least three years, and is designed to help Haiti establish its own community of earthquake engineers to mitigate earthquake-induced damage to its buildings.

For more information, visit <http://www.buffalo.edu/news/11394>.



Haiti seminar participants.

Obituary

Gregg Haskell, 1952-2010

On May 18, 2010, Gregg Haskell, age 57, hit a tree while riding his motorcycle to his office in Knights Ferry, California, and was killed instantly.

An EERI member since 2001 and a resident of California and Oregon, Gregg was a consulting structural engineer in both states as well as Washington.

He was issued a patent in 1998 for an apparatus that braces a structure and applies damping forces during

seismic disturbances. It includes a damper member for restricting the movement of a slider member relative to the structure, and a track to guide sliding movement along a predetermined path.

Gregg was an avid bow hunter and a member of the National Field Archery Association. He received his bachelors degree from Northern Arizona University and his masters of engineering degree from UC Berkeley. He is survived by his wife,

Anna, of Salem and sons Owen, a senior in the College of Engineering at Oregon State University, and James, a sophomore at Chemeketa Community College in Oregon, as well as his father and three sisters. Owen was studying to join his father's consulting business.

The family appreciates the calls and support, especially the remembrances of Gregg. A memorial service will be at 1 p.m. on Saturday, June 12, at the Knights Ferry Community Church, followed by a celebration of life at River's Edge Restaurant.

NEES News

Test of Quickly Built Bridge

During the month of May, a series of increasingly powerful tests were conducted by MCEER researchers at the University at Buffalo's Structural Engineering and Earthquake Simulation Laboratory (SEESL) that will help engineers evaluate if a fast, new construction method results in bridges strong enough to withstand seismic activity. It was the largest earthquake (simulated or otherwise) to hit a bridge constructed using the rapid, cost-effective method called accelerated bridge construction (ABC). The project is funded by the Federal Highway Administration.

The tests were conducted on a half-scale bridge that had been erected across UB's twin shake tables. The results could usher in a new era in bridge construction for seismic areas such as California. Data from the tests will be used by FHWA to begin developing standards for getting the best performance from ABC in seismically active areas. Such technological innovations are increasingly critical in addressing the nation's aging infrastructure, especially advances that can save time and money. Hundreds of bridges have been built around the nation using this speedy new construction method, in which the components are prefabricated in a shop, then transported to the site, where they are assembled. It can take just days rather than months to build a bridge, saving states and municipalities precious public dollars. It gives communities that have lost use of their bridges after an extreme event a new tool in rebuilding quickly and economically.

Investigators noted that the bridge piers and deck consist of segments connected by tendons or joints, and that if they were to break apart, there would be nothing to hold the bridge components intact. However,



Half-scale bridge undergoing testing at SEESL.

these same tendons may account for the excellent performance the MCEER researchers have been seeing in the lab. The elements deform under seismic loading, and then recenter themselves after the

earthquake is over.

To view a video of the most powerful test, done on May 18, visit http://www.youtube.com/watch?v=QoPM8G_OrEU.

Publications

CD Compilations of FEMA EQ Publications

The Department of Homeland Security and the Federal Emergency Management Agency (FEMA) recently issued the CD compilations of FEMA earthquake publications listed below, now available at no cost from the Publications Warehouse. Most of the publications included on the CDs are listed in the *Catalog of FEMA Earthquake Resources*, FEMA P-736.

Earthquake Publications for Teachers and Kids, FEMA P-710CD contains educational resources, including teacher packages, a storybook for children, hands-on activities, guidance, an *Earthquake Safety Checklist* (FEMA 526), the "Earthquake Home Hazard Hunt" poster (FEMA 528), and other posters.

Earthquake Publications for Individuals and Homeowners, FEMA P-711CD contains guides and safety checklists to help individuals, families, and homeowners prepare for an earthquake and prevent earthquake damage to their homes. It includes *Are You Ready? An In-Depth Guide to Citizen Preparedness*, the "Drop, Cover, and Hold" poster (FEMA 529), and *The Adventures of Terry the Turtle and Gracie the Wonder Dog* for grades 3 through 6 (FEMA 531).

Earthquake Publications for Community Planners and Public Policy Makers, FEMA P-712CD contains resources for local planners, policy makers, and seismic hazard risk reduction advocates, as well as *Seismic Retrofit Incentive Programs: A Handbook for Local Governments* (FEMA 254) and a series of mitigation planning "how-to" guides (FEMA 386-1 through 386-8) applicable to earthquakes and other hazards.

To order these CDs, call (800) 480-2520 or fax your request to (240) 699-0525. To view or download them, visit <http://www.fema.gov/library/index.jsp>. To view or download other National Earthquake Hazards Reduction Program (NEHRP) publications and products or to sign up for updates on earthquake risk mitigation publications, news, and events, visit Earthquake Publications and Tools at <http://www.fema.gov/plan/prevent/earthquake/publications.shtm>.

Call for Papers

Eurodyn 2011

The 8th International Conference on Structural Dynamics (Eurodyn 2011) will be held at the Catholic University of Leuven, Belgium, July 4-6, 2011. It is sponsored by the European Association for Structural Dynamics and the Technological Institute of the Royal Flemish Society of Engineers.

The conference website (www.eurodyn2011.org) is open for abstract submission until June 30, 2010. The conference will be devoted to theoretical, numerical and experimental developments in structural dynamics and their application to all types of structures and dynamical systems.

News of the Membership

Der Kiureghian Book on Artist Sumbat

EERI member Armen Der Kiureghian, professor in the Department of Civil & Environmental Engineering at the University of California, Berkeley, recently published a book about his father, Sumbat Der Kiureghian, a renowned Iranian-Armenian watercolorist. *The Life and Art of Sumbat* includes 120 pages of color reproductions of Sumbat's paintings, drawings, and sketches, as well as his biography. Sumbat (1913-1999) was particularly admired for his watercolor and gouache renditions of Iranian and Armenian village scenes and landscapes. Through his art, he played the role of a mediator between East and West, bringing a European artistic style (vibrant watercolor straddling the line between figurative and abstract painting) to Iran; introducing the diversity of Iranian society, folk traditions, and landscapes to Western audiences; and preserving a way of life that has since been lost to modernization.

For more information and to order the book for \$70, visit www.Sumbat.com.

CALENDAR

The issue containing the first appearance is indicated at the entry's end. Items listed for the first time are shown in bold.

2010

JUNE

2-4. Conf. on Structures in Fire (SiF'10), East Lansing, MI. Info: www.egr.msu.edu/sif10 (1/10)

20-23. 20th World Conf. on Disaster Mngmt (WCDM), Toronto, Canada. Info: <http://www.wcdm.org/> (11/09)

28-29. NEES Education Outlook & Training Summer Workshop, West Lafayette, IN. Info: https://www.nees.org/events/event_detail/EOT_Summer_Workshop/ (5/10)

JULY

11-15. 5th Int'l Conf. on Bridge Maintenance, Safety & Mngmt (IABMAS), Philadelphia, PA. Info: <http://www.iabmas2010.org> (11/08)

25-29. 9th U.S. Nat'l & 10th Canadian Conf. on EQ Eng., Westin Harbour Castle Hotel, Toronto, Canada. Info: <http://2010eqconf.org/>. See page 1. (2/08, 7/08, 1/09, 3/09, 6/09, 8/09, 10/09, 1/10, 4/10, 5/10, 6/10)

AUGUST

8-11. 2010 Eng. Mechanics Conf., USC, Los Angeles, CA. Info: <http://viterbi.usc.edu/emi2010/> (11/09)

11-13. Int'l Workshop on Conservation of Heritage Structures Using FRM and SHM, Ottawa-Gatineau. Info: <http://www.ishmii.org/CSHM3/CSHM3home.html> (9/09)

30-Sept. 3. 14th Eur. Conf. on EQ Eng. (14ECEE), Skopje-Ohrid, Macedonia. Info: www.eaee.boun.edu.tr/eaee.htm (12/08, 10/09)

SEPTEMBER

5-9. 32nd Gen'l Assembly of Eur. Seis. Com. (ESC 2010), Montpellier, France. www.esc2010.eu (5/09)

16-18. Int'l Conf. on Urban Habitat Construction under Catastrophic Events, Naples, Italy. Info: www.civ.uth.gr/cost-c26/ (02/10)

22-25. SEAOC Convention, Indian Wells, CA. Contact Matthew Skokan

at mskokan@sbise.com. (2/10)

OCTOBER

6-8. Workshop on SSI for Nuclear Power Plants, Ottawa, Canada. Info: <http://www.nea.fr/nsd/workshops/SSI> (5/10)

7-9. NEES/PEER Joint Annual Meeting, San Francisco, CA. Info: www.nees.org (5/10)

12-15. Deep Foundations Inst. 35th Annual Conf., Hollywood, CA. Info: www.deepfoundations2010.org (1/10)

NOVEMBER

4. Young Engineers Conference, London, United Kingdom. Info: www.cege.uci.ac.uk/events/yec (5/10)

DECEMBER

18-20. 11th Int'l Symp. on Structural Eng. (ISSE-11), Guangzhou, China. Info: <http://www.isse-11.org> (2/10)

2011

JANUARY

10-13. 5th Int'l Geotech. EQ Eng. Conf. (5-ICEGE), Santiago, Chile. Info: www.5icege.cl (11/09)

26-28. 12th East Asia-Pacific Conference on Structural Engineering and Construction (EASEC-12), Hong Kong. Info: http://bccw.cityu.edu.hk/easec12/wp_special_session.asp (5/10)

FEBRUARY

9-12. EERI Annual Meeting, San Diego, CA. Info: www.eeri.org/site/2011-annual-meeting (4/10)

JUNE

27-July 8. 25th IUGG Assembly, Melbourne, Australia. Info: <http://www.iugg2011.com/> (6/09)

JULY

4-6. 8th European Conf. on Structural Dynamics (EURODYN 2011), Leuven, Belgium. See this page. (6/10)

2012

FEBRUARY

15-18. 4th International Conference on Grouting and Deep Mixing, New Orleans, LA. Info: www.dfi.org/conferencedetail.asp?id=163 (5/10)



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News of the Institute

Draft *Design Guide for Confined Masonry*

An international volunteer committee consisting of masonry experts from 13 countries, co-chaired by Roberto Meli of Mexico and Svetlana Brzev of Canada, has recently finished developing a global *Seismic Design Guide for Confined Masonry Building*. CM construction consists of masonry walls and horizontal and vertical reinforced concrete (RC) confining members built on all four sides of a masonry wall panel. This construction technology has evolved through an informal process based on its satisfactory performance in past earthquakes, and it is widely used in Latin America and other parts of the world. CM offers a safe alternative to both unreinforced masonry, and to RC frame construction with masonry infill walls for low- to medium-rise construction. It has an excellent track record of performance in past earthquakes, including the 2010 Chile earthquake (M 8.8).

The *Guide* addresses non-engineered CM construction (up to two stories high). The development of provisions for engineered buildings is underway. The objectives of the design guidelines are to: i) explain the mechanism of seismic response of confined masonry buildings for in-plane and out-of-plane seismic effects and other relevant seismic response issues; ii) recommend prescriptive design provisions related

to low-rise nonengineered buildings, such as wall layout and density, requirements for masonry walls and reinforced concrete confining elements; iii) recommend rational procedures for seismic design of medium-rise buildings up to 4-5 stories high; and iv) provide a summary of the seismic design provisions for CM buildings from relevant international codes. The recommendations are based on design and construction experience and research studies from countries and regions where CM construction has been practiced for many decades, including Mexico, Peru, Chile, Argentina, Iran, Indonesia, China, Algeria, and Slovenia. References to relevant provisions of international standards and codes have been made in the document.

This *Guide* will be a useful resource for design engineers, academics, code development organizations, and non-governmental organizations in countries in which design codes and standards do not contain seismic design provisions for CM construction. The document may also be a useful reference for design

engineers and other professionals in countries with codes that address CM construction.

The draft document is available for download and review at www.confinedmasonry.org.

The Confined Masonry Network is a project that has grown out of the World Housing Encyclopedia. A loosely organized network of organizations and individuals, its aim is to promote seismically safe and economical housing worldwide by bringing quality CM into the design and construction mainstream. The network has three active projects in development: global design guidelines, global construction guidelines, and a research agenda.



Good behavior of confined masonry building during the 2010 Chile earthquake (photo: Ofelia Moroni).