Earthquake and Post-Earthquake Fire Testing of a Full-scale 5-story Building outfitted with Nonstructural Components on the World’s Largest Outdoor Shake Table

Presented by

Dr. Tara C. Hutchinson
University of California, San Diego

Where: Holiday Inn San Diego, North Miramar
9335 Kearney Mesa Road, San Diego, 92126
(858) 695-2300

When: 4:00 – 5:30 – Optional tour of Shake Table at Englekirk Structural Engineering Center, 10201 Pomerado Rd, San Diego
5:30 pm – Social Hour
6:30 pm – Dinner
7:30 pm – Program


Cost: $40 per person, $10 discount for members, STUDENTS: $15. Add $5 if you did not make a reservation.

Reservations: Make your reservation online at www.sandiegogeologists.org no later than noon, Friday, November 9th.

If you would like to visit the Shake Table prior to the meeting, please send an email to the SDAG secretary by clicking here to reserve your spot

For more information on the Shake Table, please click here
Earthquakes and post-earthquake fires have demonstrated extensive losses, both monetary and humanitarian, in past earthquakes. Much of this has been due to the reduced integrity of nonstructural components and systems (NCSs) housed in buildings. Yet, remarkably until recently, very little research has been conducted to investigate the performance of NCSs during earthquakes and particularly considering fire following earthquake scenarios. In this presentation, the recent testing of a full-scale five-story building furnished with a broad array of nonstructural components and systems will be described. The test building incorporates, among other things, a functioning passenger elevator, stairs, a complete exterior facade, interior partition walls, piping, HVAC, ceiling, sprinklers, building contents, as well as passive and active fire systems. The building-NCS system is first supported on high rubber damping isolators, and following a suite of earthquake motions it is lifted and subsequently fixed to the shake table platen, in an effort to demonstrate the effectiveness of isolation technology in protecting the NCSs and preserving the buildings functionality. Finally, live fire tests are performed in select compartments with reduced integrity due to the prior seismic motions. Data obtained from this program will be used to evaluate and refine current code assumptions and computer models which are used to predict the behavior of nonstructural components and systems, and to find ways to minimize undesirable damage to NCSs during an earthquake.
SPEAKER BIO

Tara Hutchinson is a Professor in the Department of Structural Engineering at the University of California, San Diego with research interests in the area of earthquake engineering, with particular activity in the area of large scale seismic testing. She obtained her MS from the University of Michigan, Ann Arbor and PhD from the University of California, Davis. She is an active member of ASCE, EERI and CUREE and also on the editorial board for EERIs professional journal Earthquake Spectra. Hutchinson is the principal investigator of this unique $5M+ multi-University, academic-industry-government collaborative effort.

SDAG MEETING SCHEDULE – Mark Your Calendars!

Meetings are usually on the 3rd Wednesday of the month but may change to accommodate speaker and meeting place schedules. Check here for updates!

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<td>December 19, 2012</td>
<td>Dr. Tom Deméré, Curator of Paleontology, San Diego Natural History Museum</td>
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<td>January 16, 2013</td>
<td>Joint meeting with EERI, speaker TBA</td>
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PRESIDENT’S CORNER

I like the idea of being an author/editor, especially when I get to show off the “Picacho” book. So last month I jumped at the invitation by the Imperial Valley Gem and Mineral Society to attend their meeting as a speaker, to present a talk on the book. PowerPoint slide show in hand, I drove out to El Centro to meet some of the IVGMS officers at a Farmer Boys restaurant for dinner. Afterwards, we headed to the Imperial Valley Expo grounds, just north of El Centro. The IVGMS has their own building there, chock-full of lapidary equipment and impressive mineral specimens. Each March, the IVGMS takes part in the California Mid-Winter Fair & Fiesta held at the Expo, where the group presents gems and minerals for sale, games and prizes, demonstrations in lapidary, gold panning, geode cutting, fossil cleaning, cabochon making, gem faceting, wire wrapping and more. The money the organization takes in at the fair goes back into the club and community scholarships provided by it.

This was THE audience for this talk, as the group has active mining claims all over the Cargo Muchacho Mountains. Indeed, many of the members are expert gold miners and know the area quite well, including a weathered old prospector who showed me some specimens of actual gold from Picacho, saying he bought them from the Mendivil family years ago. First order of business: the Pledge of Allegiance. Then, announcements, followed by me. This audience knew their stuff, and posed great questions. For example, this one from Frank, another “old” miner: “Have you ever panned for gold?” Me: “uh, ahem… no. But I would like to!” So who’s the expert now?!

I was so impressed with the IVGMS, I became their newest member. They have a strong membership; members bring their kids to the meetings. I had a great time and I think the audience did too.

Last, but certainly not least, thanks to Chuck Houser for a terrific presentation last month, everyone enjoyed it!

Todd Wirths
President
ANNOUNCEMENTS

NEW SDAG RESEARCH TOOL NOW AVAILABLE! A comprehensive listing of all papers published by SDAG, whether as annual field trip guidebooks or special publications, is now available on our website. Entries are sorted by primary author, or chronologically by date of publication, from our first guidebook in 1972 (40 years ago!) to all things Picacho in 2011. These can be accessed or downloaded as .pdf files. They are fully searchable in Adobe Reader or Acrobat, so if you are researching a topic, "tsunami" for example, you can search for that keyword. This listing will be updated as new books are published. Thanks to Greg Peterson and Hargis + Associates, Inc., for making this possible. See the links below:

http://www.sandiegogeologists.org/SDAG_Pubs_authors.pdf

http://www.sandiegogeologists.org/SDAG_Pubs_chronological.pdf

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Qualifications Summary and Objective: I have 14 years experience directing surface water quality monitoring programs with a proven record of excelling in monitoring plan implementation, quality control, public notification and continuous improvement in operational effectiveness and efficiency. I have built and maintained relationships with key staff in academia, industry, and all levels of government in San Diego and California. I have a widely applicable skill set which includes: analytical thinking, communication and writing skills, data analysis and management, inter and intra-agency project coordination, and staff supervision and training. My objective is to obtain a career position with an industry leader where I can contribute my skills to build the success of my employer as well grow professionally. Detailed work experience, education and more at www.linkedin.com/in/cbclifton2010. Email cbc2006@cox.net or 619-964-1776.
Contact: Clay Clifton

ENGINEERING GEOLOGIST - California PG, MS Geology, over 13 years of applied geotechnical experience, proficient in geotechnical investigations, hazard evaluations, geophysical surveys, construction management and quality control, engineering analyses, special interest in earthquake-hazard and seismic design related applications, strong problem-solving and organizational skills. Detailed resume upon request: Anna, 201-407-7461, Afyodorova103@gmail.com

ENTRY-LEVEL ENVIRONMENTAL SCIENTIST - I am a recent UCSB graduate with a double major in Environmental Studies (BS) and Geology (BS, Earth Systems emphasis) who is looking to begin a career in environmental consulting. I have prior lab experience in both professional and academic settings. I am looking to establish myself with a passionate and hard working environmental firm in the San Diego region. For further information about my credentials and work experience please contact Georgi Chertkov at georgichertkov@gmail.com or call me at 505-412-3107.
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