



CONCRETE DISASTERS

4 AIA CES/HSW LUs

Presented by East Bay / Oakland Chapter CSI / Co-Sponsored by AIA East Bay
Friday, November 17th, 2017 – 8:00 am to 1:00 pm
AIA East Bay, 1405 Clay Street, Oakland, CA 94612



AIA East Bay

Cruz Carlos, Jr. Ph.D., P.E. & Dr. Shakhzod Takhirov

Concrete Structures – Disasters and Failures

Why do some concrete structures not make it past construction or last fifty years while others survive thousands of years? This presentation will look at several concrete structures that had major failures. We'll discuss the many factors that can lead to early concrete failures and how we can mitigate them.

Cruz Carlos, Jr. PhD., PE. is currently a Research & Development Engineer working for the University of California, Berkeley for the past four years. Previously a consultant for Simpson Gumpertz & Heger Inc, he specializes in concrete materials science, including concrete durability, high-performance concrete, and cement chemistry. He has studied corrosion resistance in steel/concrete materials and has tested materials for concrete compression, tension, modulus of rupture, and modulus of elasticity.

Dr. Shakhzod Takhirov . Manages the Structures Laboratory at UC Berkeley's Civil and Environmental Engineering Department. He received his Ph.D. in mechanical engineering from Moscow State University, Russia and his M.S. (ME) from Tashkent State University, Uzbekistan. He has been involved in seismic projects worldwide. He has investigated the aftermath of several earthquakes utilizing laser scanners. One of his research topics is novel laser scanning measuring techniques for experiential earthquake engineering, structural assessment and structural health monitoring. He has authored and co-authored more than 100 technical reports and research papers in the field of earthquake engineering.

Christine Diosdado, P.E.

Floor Failures: Measuring and Mitigating Moisture in Concrete Slabs

This presentation will help architects, contractors, and building owners understand the causes of flooring failures. Changes in building code requirements, volatile organic compound (VOC) regulations, and the construction industry have introduced new challenges to the flooring industry. Floor coverings and coatings installed over concrete slabs have experienced failures for numerous reasons, including excess uncontrolled moisture, material incompatibilities, concrete mix designs, and concrete preparation. Through case studies, we will review techniques for establishing an investigative testing protocol, floor failure repair strategies, and preventative measures for limiting moisture levels in concrete floors, and selecting flooring materials and moisture mitigating systems.

Christine Diosdado, P.E., Associate Principal – Building Technology , has more than twenty years of experience as a lead investigator, project manager, and expert witness on complex, construction defect cases. Her investigation experience encompasses a wide variety of building types, including high-rise and low-rise residential, institutional, commercial, medical buildings. Her notable recent projects include flooring and building envelope investigations at two medical facilities, an examination of material and soil properties at nine artificial turf athletic fields, a structural evaluation of solar array panel supports, and an evaluation of exterior cladding and roofing systems at two iconic buildings. Christine assists owners, contractors, design professionals, and attorneys.

Jose E. Mendoza, P.E.

Do's & Don'ts in Concrete Reinforcing Steel

CRSI routinely receives inquiries concerning various aspects of reinforcing bars, and reinforced concrete design and construction from design professionals and field personnel (inspectors, code enforcers, and contractors). The following topics will be presented: Failures in reinforced concrete construction, rebar corrosion and rust tolerance, welding and field cutting of rebar, rebar congestion issues, field bending and adjustment of rebar, seismic requirements for rebar, rebar accessories, detailing issues in rebar, best practices.

Jose E. Mendoza, P.E. Jose E. Mendoza is a Professional Engineer in California, Arizona & Nevada. He has a B.S. in Civil Engineering, Master of Engineering and Public Administration. He is the Pacific Southwest Manager of the Concrete Reinforcing Steel Institute. He is a subject matter expert with the California Board of Professional Engineers. He has had diverse experience over the last 30 years, including jobs as a construction worker, Project Engineer/Estimator, Design Engineer, Professor of Civil Engineering, Sales Engineer, Technical Marketing and Project Management.

Fari Barzegar, Ph.D., P.E.

Cracking of Terrazzo Shower Pans: Investigation of Installation, Testing & Computer Simulations

Several custom-manufactured concrete shower pans with marble aggregates (Terrazzo) had cracked and "leaked" in service. The dispute over the cause and remedies initiated a series of investigations and analyses, an "Investigator's Dream", where the client was supportive of a series of material and full-scale laboratory tests, including three-dimensional computer simulations of the shower-pan behavior in service using the finite-element analysis method.

Fari Barzegar, Ph.D., P.E. principal of Habitat Engineering & Forensics, Inc., holds a B.S., M.S., and Ph.D. in civil/structural engineering from the University of Illinois at Urbana-Champaign, has over 30-years of experience in engineering, forensic consulting, structural design, project management, university teaching and research. His special expertise is concrete/shotcrete/masonry structures/foundations, seismic and advanced analysis methods. Providing a broad range of consulting and expert-witness services for buildings, bridges, tunnels, and unintended damage during construction and demolition.

PROGRAM OVERVIEW

CONCRETE DISASTERS

Four presentations on concrete disasters and failures. What went wrong and how to prevent failures on your projects.

Please join us **Friday, November 17th, 2017** at the **AIA East Bay**, 1405 Clay Street, Oakland, CA 94612

ENROLLMENT INFORMATION

1. Full enrollment must accompany application.
2. Please complete a separate registration form for each applicant.
3. Registration **deadline** is **November 10th, 2017**. Acceptance of registrations received after this date are subject to availability.
4. East Bay Oakland CSI reserves the right to cancel courses and return fees.
5. Questions Call **AIA East Bay: (510) 464-3600**

REGISTRATION FORM

(or register ONLINE at www.aiaeb.org or call (510) 464-3600)

Registration Fee **\$95**,
incl. continental breakfast

Name: _____

Company: _____

Address: _____

City: _____ Zip Code: _____

Telephone: _____

Email: _____

CSI Member Number: _____

AIA Member Number: _____

Check enclosed payable to EBO / CSI

MasterCard Visa American Express

Card Number: _____

Expiration (MMYY): _____

Security Code: _____

Name on Card: _____

Signature: _____

Mail registration form with check to: AIA East Bay, 1405 Clay Street, Oakland, CA 94612.

To withdraw registration and receive full refund call or email AIA by November 14th, 2017 at (510) 464-3600 or info@aiaeb.org

Table Top Opportunities (\$250); contact Jerry Veiluva at (510) 428-2491 or jerry@hayashida-architects.com

SCHEDULE OF EVENTS 8:00 AM TO 1:00 PM

8:00 AM – 10 AM: Registration / Continental Breakfast / Table Top Presentations / Early Morning Presentations

• Concrete Structures – Disasters and Failures

1 AIA CES/HSW LU, Cruz Carlos, Jr. Ph.D., P.E. & Dr. Shakhzod Takhirov

• Floor Failures: Measuring and Mitigating Moisture in Concrete Slabs

1 AIA CES/HSW LU, Christine Diosdado, P.E.

10 AM – 1:00 PM: Mid Morning Break / Table Top Presentations / Late Morning Presentations / Closing Remarks

• Do's & Don'ts in Concrete Reinforcing Steel

1 AIA CES/HSW LU, Jose E. Mendoza, P.E.

• Cracking of Terrazzo Shower Pans: Investigation of Installation, Testing & Computer Simulations

1 AIA CES/HSW LU, Fari Barzegar, Ph.D., P.E.

AIA EAST BAY

1405 Clay Street
Oakland, CA 94612
www.aiaeb.org;
info@aiaeb.org;
(510) 464-3600



We're in downtown Oakland at the NW Corner of 14th and Clay Streets.

Taking BART? Exit at the 12th Street/City Center Station. Parking garages are nearby on 16th Street between Clay and San Pablo, as well as on 14th Street between Clay and Broadway.

CSI AND THE EAST BAY / OAKLAND CHAPTER

The Construction Specifications Institute is a national organization of architects, engineers, specifiers and owner's representatives dedicated to the advancement of building information management and education of project teams.

CSI's East Bay / Oakland Chapter was established in 1967 and holds its meetings on the third Tuesday of each month at Scott's Seafood Grill & Bar, Jack London Square, Oakland. We urge you to consider joining us for the interesting programs, education activities and good fellowship of your colleagues.

For more information call Joel Agnello, President, at (510) 893-5501 or email jagnello@ravelar.com or visit the East Bay / Oakland website at <http://eastbay.csinet.org/>