

SEMINARS

IBC Seminars are intensive, four-hour single-topic focused sessions. Each seminar requires an additional fee of \$175 (\$150 Pre-registration). Please see the special section on the Conference Registration Form. Seating for each Seminar is limited, so please register early. Professional Development Hours (PDHs) are provided upon request and verification.

Start to Finish: Design and Construction Management of the Mike O'Callaghan – Pat Tillman Memorial Bridge (Hoover Dam Bypass)

TUESDAY JUNE 7, 8:00 A.M.–12:00 NOON

Goals: To provide (1) a forum for the Owner's, Designer's and Contractor's Management Teams to share the lessons learned in successfully completing the Hoover Dam Bypass Bridge and (2) an opportunity for attendees to discuss the success factors that are essential for managing highly challenging bridge design and construction projects successfully.

Moderator: M. Myint Lwin, P.E., S.E., FHWA, Washington, DC. Topics include:

- Planning and Managing for Success: Dave Zanetell, Project Manager, FHWA, Denver, CO
- Design of Permanent Works (criteria and constructability): David Goodyear, Design Engineer of Record, TY Lin, Olympia, WA
- Construction Execution (engineered construction): Ken Hirschmugl, Project Manager, Obayashi/PSM JV, West River, MD
- Erection Engineering (3D modeling to facilitate construction), Mark Ketchum, OPAC Engineers, (subcontract to the JV), Berkeley, CA
- Integration and Proactive Risk Management, Dave Zanetell, Project Manager, FHWA, Denver, CO

At the end of the seminar, the participants will:

- Gain a good knowledge on successful project management principles and practices in bridge design and construction.
- Understand the success factors that are essential for managing highly technical bridge projects.
- Understand the many degrees of technical, commercial, and industry integration needed to assure project success.
- Take away the lessons learned from the design and construction of this major and complex project to immediately apply to present and future projects.

Target Audience:

- Federal, State and local highway agency engineers, consultants, contractors and academia in design, construction, and inspection of bridges.

Roadway Tunnels

TUESDAY JUNE 7, 1–5:00 P.M.

Most highway facility components in the United States are governed by design, construction, maintenance, inspection, and operations codes and regulations of the American Association of State Highway and Transportation Officials (AASHTO) and the U.S. Federal Highway Administration (FHWA). However, to date highway tunnels in the U.S. do not have comparable national codes and regulations. This seminar covers the latest developments and emerging technologies in the field of roadway tunnel design, construction, maintenance, and inspection.

Key topics, which include the AASHTO Subcommittee on Bridges and Structures Technical Committee on tunnels (T-20) overview, include:

- AASHTO Technical Committee on Tunnels (T-20) Overview
- Update on FHWA Rule Making for National Tunnel Inspection Standards
- Tunnel, Operations, Maintenance, Inspection, and Evaluation (TOMIE) Manual
- Research - LRFD Tunnel Design and Construction Specifications
- 2009 Tunnel Domestic Scan, Final Report and Overview
- Project Overview: North Shore Connector Tunnel in Pittsburgh

Much progress has been made this past year in the field of tunnel engineering, which includes a new AASHTO Publication of a manual for Roadway Tunnels. An opportunity to interact with the presenters will be provided at the end each topic presented.

Geothermal Energy Pile Systems

Presented By The Sustainability Committee Of The Deep Foundations Institute
WEDNESDAY JUNE 8, 8:00 A.M.–12:00 NOON

Geothermal energy piles are an innovative renewable energy technology designed to exploit the relatively constant temperature of the ground for efficient heating and cooling of structures. In this seminar, notable practitioners and researchers will discuss the design issues and operational considerations of geothermal energy piles and provide an overview of their basic processes, mechanisms and key research initiatives. Results from thermal conductivity tests performed on individual piles and pile groups will be presented along with U.S. and international case histories. The technology as applied to large commercial and government installations will be highlighted, including considerations of installation geometry and varying construction techniques. Research involving long-term monitoring of an instrumented building will be presented including a comparison of a conventional heating and cooling system with a heat pump system comprising energy foundations and borehole ground-source heat exchangers. Design challenges that must be overcome to promote wider usage of this technology will be discussed.

Presentations include:

- Design Considerations of Energy Piles, Professor Guney Olgun, Virginia Tech
- Thermal Conductivity Evaluation of a Pile Group Using Geothermal Energy Piles, Tracy Brettman, Berkel & Company Contractors
- Thomas Lapham, Geothermal International (North America) and Tony Amis, Geothermal International (U.K.)
- Energy Foundation Research in Colorado, Professor John McCartney, Ph.D., P.E., University of Colorado at Boulder and Professor Karen Henry, Ph.D., P.E., United States Air Force Academy

Moving from Bridge Inspection to Bridge Management

WEDNESDAY JUNE 8, 1–5:00 P.M.

This seminar will provide a better understanding of bridge management systems that use transition probabilities to predict future bridge needs. Its target audience is bridge owners and consultant inspection program managers who need this type of information to set agency budgets and performance goals to manage their bridges in a rational manner. Topics include:

- Introduction to transition probabilities, bridge modeling (Maintenance Repair and Rehabilitation vs. Improvement projects)
- Changes to AASHTO's bridge element-level condition data
- New directions for bridge management.

The AASHTOWare Pontis BMS will be the center of Topic One, while the other topics will be discussed from a more general perspective.

Speakers include:

- Hal Rogers, Michael Baker Jr., Inc., Harrisburg, PA
- Jose Aldayuz, Michael Baker Jr., Inc., Alexandria, VA
- Paul D. Thompson, P.E.
- Wade Casey, FHWA, Washington, DC (Tentative)