

AMERICAN SOCIETY OF CIVIL ENGINEERS ILLINOIS SECTION - STRUCTURAL GROUP

PRESENTS THE 18TH BIENNIAL LECTURE SERIES
"STRUCTURAL ENGINEERING IN THE 21ST CENTURY"



Session 1 March 4, 2009	Design Innovations in Major Structures	
	<p>The Longest Cable-Stayed Bridge in Thailand Designed for Aesthetics, Constructability, Accessibility, and Low Maintenance <i>Ruchu Hsu Parsons Brinckerhoff, Inc.</i></p> <p>The Chao Phraya River Crossing of Bangkok, Thailand has a total length of 941m with a 500m main span. This bridge has two 189m A-shaped towers and carries three traffic lanes with full shoulders in each direction.</p>	<p>Lucas Oil Stadium: Midwest's Movable Marvel <i>Tarek Ayoubi Walter P. Moore and Associates, Inc.</i></p> <p>The Indianapolis Colts Lucas Oil Stadium retractable roof consists of two roof panels weighing a total of 5.8 million pounds that travel down five parallel sloping rails to create a roof opening of 176,000 square feet. To make it work, engineers adapted a proven strain-relief mechanism called a "four bar linkage" that keeps the wheels from binding on the multiple rails when temperature changes swell or shrink the roof steel.</p>
Session 2 March 18, 2009	Maintenance and Monitoring of Bridge Structures	
	<p>Maintenance of CDOT and IDOT Bridges <i>Dan Burke Chicago Department of Transportation</i> <i>Sarah Wilson Illinois Department of Transportation</i></p> <p>The Illinois Department of Transportation owns 8,000 bridges. Its interstate system structures carry some of the highest traffic volumes in the nation. The City of Chicago owns 286 bridges, including the highest number of movable bridges in the world. Operation, maintenance and rehabilitation strategies of such a diverse bridge system will be discussed.</p>	<p>Integrated Bridge Monitoring and Modeling <i>Ray Hartle Baker Engineering, Inc.</i></p> <p>With proper engineering support, Structural Health Monitoring (SHM) application can provide bridge owners with a powerful management tool that can deliver accurate in-service capacity, identify areas of structural concern, direct cost-effective rehabilitation efforts, and ultimately extend service life. This presentation will present relevant work using SHM integrated with 3D Finite Element modeling.</p>
Session 3 April 1, 2009	Expecting the Unexpected: Seismic and Disaster Resistant Structures	
	<p>Retrofit of California Bridges with Multi-Span Concrete Superstructures vs. Steel Superstructures <i>Dr. Fadel Alameddine California Dept. of Trans.</i></p> <p>The seismic performance advantages of steel versus concrete superstructures have always been debated in terms of weight supported by the substructure and the ductility of the material.</p>	<p>What a Structural Engineer Needs to Know About Internal Explosions <i>Dr. Anatol Longinow Illinois Institute of Technology</i></p> <p>The objective is to describe internal explosions in practical terms, illustrate possible events and their effects on structures by means of examples/case histories and provide effective guidelines for preventing such industrial accidents.</p>
Session 4 April 8, 2009	Deep Foundations	
	<p>Deep Foundation Testing & Design Verification <i>Bill Walton AECOM</i></p> <p>In recent years, advanced methods have been developed to determine the performance of deep foundations under actual loading. The data obtained from this testing has dramatically improved the ability of engineers to accurately predict the response of deep foundation systems to various loading and subsurface conditions. This has resulted in significantly improved designs and project cost savings.</p>	<p>Current Trends in Deep Foundations <i>Dr. Michael Wysocky Thatcher Engineering Corp.</i></p> <p>The presentation will describe and compare the various types of deep foundations: Driven Piles, Drilled Shafts, Auger cast Piles, Micropiles, and Jacked Piles. They will be compared based on geotechnical considerations, construction procedures, reliability concerns, and code constraints. Case histories in the Chicago area will be used for illustration.</p>

See the last page for registration information.

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Lecture Series Panelists	Session 1 <i>March 4, 2009</i>	Design Innovations in Major Structures Matthew Breidenthal, P.E. Arup Dan Burke, P.E., S.E. Chicago Department of Transportation Vijay Chandra, P.E. Parsons Brinckerhoff Inc. Carrie Warner, P.E., S.E. Halvorson and Partners
	Session 2 <i>March 18, 2009</i>	Maintenance and Monitoring of Bridge Structures Moussa Issa, Ph.D., P.E., S.E. HBM Engineering Group, LLC Barry Kravitz, P.E., S.E. HDR Engineering, Inc. Tom Weinmann CTL Group Frank Williams, P.E., S.E. Cook County Highway Department
	Session 3 <i>April 1, 2009</i>	Expecting the Unexpected: Seismic and Disaster Resistant Structures Hossam Abdou, Ph.D., P.E., S.E. Alfred Benesch and Company James Swanson, P.E., S.E. Halvorson and Partners Ed Swierz, P.E., S.E. Thornton Thomasetti Daniel H. Tobias, Ph.D., P.E., S.E. Illinois Department of Transportation
	Session 4 <i>April 8, 2009</i>	Deep Foundations Clyde N. Baker, Jr., P.E., S.E. AECOM Manohar Chawla, P.E. Chawla and Associates, Inc. Shane Farr, P.E., S.E. Hayward Baker Inc. Robert Lukas, P.E. Ground Engineering Consultants

Sponsors	Platinum	The ASCE Illinois Section - Structural Group Lecture Series Committee would like to thank our generous sponsors. AECOM HDR
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REGISTRATION: The registration fee is \$275 (\$150 for government employees) and must be received by **February 20, 2009**. If there are 5 or more people from the same company the fee is \$250 each. The fee for one session is \$75. For full time students the registration fee is \$25. Registrants will receive a copy of the symposium proceedings. For additional information or questions, please contact Emilie Becq-Giraudon at (312) 742-0326 or Tim Gall at (312) 616-7916.

LOCATION: Harold Washington Library Center, 400 S. State Street, Chicago, IL 60605.

TIME: The Lecture Series sessions are all on Wednesday nights and will begin promptly at 5:30 PM and end at approximately 8:00 PM with pre-registration at 5:00 PM.

CONTINUING EDUCATION: CEs/PDHs: 2.5 Continuing Education credits / Professional Development Hours will be awarded for each session of the lecture series (10 CEs/PDHs total)

Name: _____

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Registration fee per person check one box:

- \$275 (Individual)**
- \$250 (Five or more from one company, please list names individually)**
- \$150 (Government employees)**
- \$25 (Full time students)**
- \$75 (Single session; please indicate session number _____)**

Make checks payable to: ASCE Illinois Section – Structural Group

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