

# AGENDA

## SUNDAY, JULY 27, 2008

7:00 am – 8:00 am	Pre-Conference Workshop Check-in	Mezzanine Level
8:00 am – 5:00 pm	<b>Pre-Conference Workshop: “Best Practices for Seismic Design &amp; Retrofit of Bridges”</b> (Pre-Registration Required) Moderator: Reggie Holt, Federal Highway Administration (Breakfast will be provided. Lunch is on your own)	Carolina Ballroom Mezzanine Level
1:00 pm – 8:00 pm	6NSC Conference Registration	Mezzanine Level
3:00 pm – 6:00 pm	<b>Student Bridge Competition Assembly of Bridges</b> (All welcome) Moderator: Juan Caicedo, University of South Carolina	Calhoun Room Mezzanine Level
3:00 pm – 6:00 pm	Poster Set-up (Posters will remain on display until the Poster Session on Tuesday) Coordinator: Tina Hembree, South Carolina Department of Transportation	Colonial Room Lobby Level
5:00 pm – 9:00 pm	Exhibitor Set-up Coordinator: Tina Hembree, South Carolina Department of Transportation	Gold Ballroom Second Floor
6:00 pm – 8:00 pm	<b>Ice Breaker Reception</b>	Colonial Room, Lobby Level

## MONDAY, JULY 28, 2008

7:00 am – 5:00 pm	Conference Registration	Mezzanine Level
7:00 am – 8:00 am	Breakfast	Gold Ballroom, Second Floor
8:00 am – 9:30 am	<b>PLENARY SESSION I</b> Moderator: Jerome O’Connor, MCEER, University at Buffalo	Carolina Ballroom Mezzanine Level
8:00 am – 8:15 am	<b>Welcome</b> W. Phillip Yen, Federal Highway Administration	Carolina Ballroom Mezzanine Level
8:15 am – 8:30 am	<b>Welcome</b> H. B. Limehouse, Jr., South Carolina Secretary of Transportation	Carolina Ballroom Mezzanine Level
8:30 am – 9:00 am	<b>U.S. Highway Infrastructure in the 21st Century</b> King Gee, Federal Highway Administration	Carolina Ballroom Mezzanine Level
9:00 am – 9:30 am	<b>A Summary of FHWA Sponsored Research</b> W. Phillip Yen, Federal Highway Administration	Carolina Ballroom Mezzanine Level
9:30 am – 10:00 am	Break	Gold Ballroom, Second Floor

### 10:00 am – 11:45 am **CONCURRENT TECHNICAL SESSIONS: 1A1 AND 1B1**

<b>Track A</b> – Carolina A, Mezzanine Level	<b>Track B</b> – Carolina B, Mezzanine Level
<p><b>SESSION 1A1: SEISMIC ACCELERATED BRIDGE CONSTRUCTION (ABC)</b> Moderator: Dan Tobias, Illinois Department of Transportation</p> <ol style="list-style-type: none"> <li><b>Strategic Implementation Plan for Accelerated Bridge Construction in California</b> Kevin Thompson, Michael Kever, and Raymond Wolfe</li> <li><b>Pre-Fabricated Bridge Superstructures</b> Amjad J. Aref, Gordon P. Warn, Petros Sideris, and Andre Filiatrault</li> <li><b>Use of Precast Bridge Members in Areas of High or Moderate Seismicity</b> Jugesh Kapur and Bijan Khaleghi</li> <li><b>Emergency Repair of Damaged Bridge Columns Using Fiber Reinforced Polymer (FRP) Materials</b> Ashkan Vosooghi, M. Saiid Saiidi, Jim Gutierrez, and Scott F. Arnold</li> <li><b>Seismic Continuity Performance of Precast Girders Connected to a Cast-in-Place Bent Cap</b> Kevin Almer and David Sanders</li> </ol>	<p><b>SESSION 1B1: NEW GEO-SEISMIC PRACTICE AND GUIDELINES</b> Moderator: Paul Liles, Georgia Department of Transportation</p> <ol style="list-style-type: none"> <li><b>Analysis of Pile Group Under Lateral Loads Using the LRFD Guidelines</b> Mohamed Ashour and Gary Norris</li> <li><b>Passive Force-Deflection Curves for Abutments with MSE Confined Approach Fills</b> Luke Heiner, Kyle M. Rollins, and Travis M. Gerber</li> <li><b>SCDOT’s New Geo-Seismic Practice</b> Nicholas E. Harman, and Eduardo A. Tavera</li> <li><b>Proposed AASHTO Specifications for the Seismic Design of Retaining Walls, Slopes and Embankments, and Buried Structures</b> Donald G. Anderson, Geoffrey R. Martin, I.P. Lam, and J.N. Wang</li> <li><b>Effects of Structural Characterizations on Fragility Functions of Bridges Subjected to Seismic Shaking and Lateral Spreading</b> Jian Zhang, Yili Huo, Pirooz Kashighandi, and Scott J. Brandenberg</li> </ol>

(Continued)

# AGENDA

## MONDAY, JULY 28, 2008 (Continued)

11:45 am – 1:00 pm	Lunch ( <i>provided</i> ): <b>The Charleston Earthquake, Then and Now</b> Pradeep Talwani, University of South Carolina	Colonial Room Lobby Level
1:00 pm – 2:45 pm	<b>CONCURRENT TECHNICAL SESSIONS: 1A2 AND 1B2</b>	
<b>Track A – Carolina A, Mezzanine Level</b>		<b>Track B – Carolina B, Mezzanine Level</b>
<b>SESSION 1A2: EMERGING SEISMIC DESIGN AND RETROFIT TECHNOLOGIES</b> Moderator: Stephen Maher, Transportation Research Board		<b>SESSION 1B2: LIQUEFACTION AND MITIGATION</b> Moderator: Vijay Chandra, Parsons Brinckerhoff
<ol style="list-style-type: none"> <li><b>The Development of the FHWA Pushover Analysis Computer Program</b> J. Jerry Shen, Linda Kuo-Lin, Jeffrey Ger, and W. Phillip Yen</li> <li><b>Calibration of a Model to Estimate the Residual Post-Earthquake Capacity of Circular Bridge Columns</b> Vesna Terzic, Kevin Mackie, Bozidar Stojadinovic</li> <li><b>Ductility Analysis of Type II Pile Shaft</b> Larry Wu and Ray Wolfe</li> <li><b>Evaluation of Joint Shear Response for Existing California Bridges</b> Fadel Alameddine and Michael Keever</li> <li><b>New Seismic 1000 Year Return Period – Impact to Bridge Design Methodologies</b> Derrell Manceaux</li> </ol>		<ol style="list-style-type: none"> <li><b>Static and Dynamic Lateral Load Tests in Liquefied Sand for the Cooper River Bridge, Charleston, South Carolina</b> Kyle Rollins, Seth Bowles, Luke Hales and Scott Ashford</li> <li><b>Liquefaction Mitigation on South Carolina Highway Bridge Projects</b> William M. Camp, III, Aaron Goldberg, Jeffery Sizemore, Nicholas Harman</li> <li><b>Retrofitting Bridge SR167/112W for Liquefaction-Induced Settlements</b> Yang Jiang and Gerald Dorn</li> <li><b>Seismic Vulnerability of Bridges Susceptible to Spatially Distributed Soil Liquefaction Hazards</b> Bayram Aygun, Leonardo Duenas-Osorio, Jamie Ellen Padgett and Reginald Des Roches</li> <li><b>Pile-Supported Embankment and Driven Pile Slope Stabilization Value Engineering for Liquefaction Mitigation</b> Aaron Goldberg and Mike Miller</li> </ol>
2:45 pm – 3:15 pm	Break	Gold Ballroom, Second Floor
3:15 pm – 5:00 pm	<b>CONCURRENT TECHNICAL SESSIONS: 1A3 AND 1B3</b>	
<b>Track A – Carolina A, Mezzanine Level</b>		<b>Track B – Carolina B, Mezzanine Level</b>
<b>SESSION 1A3: EVOLVING BRIDGE SEISMIC SPECIFICATIONS AND ITS IMPACT IN DESIGN – A STATE'S PERSPECTIVE</b> Moderator: Ed Wasserman, Tennessee Department of Transportation		<b>SESSION 1B3: LESSONS LEARNED FROM RECENT EARTHQUAKES AND OTHER EXTREME EVENTS</b> Moderator: Richard Pratt, Alaska Department of Transportation
<ol style="list-style-type: none"> <li><b>AASHTO LRFD Guide Specifications for Seismic Design of Highway Bridges</b> Roy Imbsen</li> <li><b>Comparison of Bridge Designs using AASHTO Guide Specifications and Seismic Provisions in LRFD Specifications for Montana</b> Stephanie Brandenberger</li> <li><b>Implementation of 2008 AASHTO Seismic Bridge Design Provisions for Illinois</b> Daniel H. Tobias, Ralph E. Anderson, Chad E. Hodel, William M. Kramer, Riyad M. Wahab and Richard J. Chaput</li> <li><b>Updated South Carolina Department of Transportation Seismic Design Specifications for Highway Bridges</b> Lucero E. Mesa, Zhugang Amos Liu and Saiying Zhou</li> <li><b>Effects of New LRFD Seismic Bridge Design Specifications to a 'Normal' Typical Bridge in New York State</b> Rajesh Taneja, Mengisteab Debessay and Arthur Yannotti</li> </ol>		<ol style="list-style-type: none"> <li><b>An Assessment of Damage to Peru's Highway System after the M8.0 Pisco Earthquake</b> Jerome S. O'Connor, Lucero E. Mesa, Monique Nykamp</li> <li><b>Hurricanes Katrina and Rita - Louisiana's Response and Recovery</b> Ray Mumphrey and Hossein Ghara</li> <li><b>Replacement of Caminada Bay Bridge in Louisiana Coastal Engineering Study and Support for Design</b> Zhengzheng "Jenny" Fu, Arthur D'Andrea and Hossein Ghara</li> <li><b>Assessment of Blast Resistance of Seismically Designed Bridges</b> Jason Fang, Paul Chung, Ray W. Wolfe, and Michael Keever</li> <li><b>Blast Resistance of Seismically Designed Highway Bridge Piers</b> Shuichi Fujikura and Michel Bruneau</li> </ol>
5:00 pm – 6:00 pm	<b>Reception and Student Bridge Design Competition (Judging)</b> Moderator: John Walsh, South Carolina Department of Transportation	Colonial Room Lobby Level
6:00 pm – 7:30 pm	<b>CONCURRENT SPECIAL SESSIONS: T3 AND T5</b>	
<b>Track A – Carolina A, Mezzanine Level</b>		<b>Track B – Carolina B, Mezzanine Level</b>
<b>T3: SPECIAL SESSION ON AASHTO T3 (SEISMIC) 2008 BALLOT ITEM: LIQUEFACTION AND OTHER GUIDE-SPECIFICATION CHANGES</b> Moderator: Kevin Thompson, California Department of Transportation		<b>T5: SPECIAL SESSION ON AASHTO T5 (LOADS) 2008 BALLOT ITEM: COASTAL ENGINEERING</b> Moderator: Hossein Ghara, Louisiana Department of Transportation

# AGENDA

## TUESDAY, JULY 29, 2008

7:00 am – 5:00 pm	Conference Registration	Mezzanine Level
7:00 am – 8:00 am	Breakfast	Gold Ballroom, Second Floor
8:00 am – 9:45 am	<b>PLENARY SESSION II</b> Moderator: George C. Lee, University at Buffalo	Carolina Ballroom Mezzanine Level
8:00 am – 9:45 am	Highway Infrastructure Damage Resulting from Sichuan, China Earthquake of May 12, 2008 Guest Speaker	Carolina Ballroom Mezzanine Level
9:45 am – 10:15 am	Break	Gold Ballroom, Second Floor
10:15 am – Noon	<b>CONCURRENT TECHNICAL SESSIONS: 2A1 AND 2B1</b>	
<b>Track A – Carolina A, Mezzanine Level</b>		<b>Track B – Carolina B, Mezzanine Level</b>
<b>SESSION 2A1: EMERGING SEISMIC DESIGN AND RETROFIT TECHNOLOGIES</b> Moderator: Jugesh Kapur, Washington State Department of Transportation <ol style="list-style-type: none"> <li><b>New Tools Available to Practicing Engineers for the Seismic Design of Bridges</b> W. Phillip Yen, George C. Lee and Jerome S. O'Connor</li> <li><b>The Plastic Hinge Demystified</b> David W. Taylor, Andy E. Cook and J. Preston Felkel</li> <li><b>Damping-Enhanced Strengthening: A Unique Way to Normalize the Seismic Performance of RC Bridges for Multiple Objectives</b> Genda Chen and Kazi R. Karim</li> <li><b>Seismic Retrofit of Highway Bridges in the United States</b> Glenn Smith</li> <li><b>Evaluating the Seismic Stability and Performance of Freestanding Geofoam Embankment</b> Steven F. Bartlett and Evert C. Lawton</li> </ol>		<b>SESSION 2B1: SOIL-STRUCTURE INTERACTION AND FOUNDATIONS</b> Moderator: Bryan Hartnagel, Missouri Department of Transportation <ol style="list-style-type: none"> <li><b>Soil-Foundation-Structure Interaction of Long-Span Bridge Structures</b> Anoosh Shamsabadi, Hubert Law and Amir Zand</li> <li><b>The Golden Ears Bridge Design-Build Project: Foundation Design for Segment 4 Approach Structures</b> King Sampaco, Ha Pham, and Donald Anderson</li> <li><b>Effect of Nonlinear Pile Stiffness on Bridge Seismic Response</b> Jin-Xing Zha</li> <li><b>Effect of Shallow Foundation Rocking on Dynamic Response of Bridges</b> Andres Espinoza and Stephen Mahin</li> <li><b>Developing Spectra For Type F Soils For Two Bridge Sites Near Salt Lake City</b> Zia Zafir and James Higbee</li> </ol>
Noon – 1:00 pm	Lunch (provided): Presentation of Awards for Student Competition, Best Papers By John Walsh, South Carolina Department of Transportation	Colonial Room Lobby Level

(Continued)

*A Special Thank You to our Platinum Sponsors:*

**Center for Transportation  
Infrastructure and Safety**



<http://utc.mst.edu/>

**Parsons Brinckerhoff**



<http://www.pbworld.com/>

# AGENDA

**TUESDAY, JULY 29, 2008** (Continued)

1:00 pm – 2:45 pm **CONCURRENT TECHNICAL SESSIONS: 2A2 AND 2B2**

**Track A** – Carolina A, Mezzanine Level

**SESSION 2A2: DESIGN AND ANALYSIS OF MAJOR BRIDGES IN AREAS OF HIGH OR MODERATE SEISMICITY**

Moderator: Stephanie Brandenberger, Montana Department of Transportation

1. **Seismic Detailing on the Stono River Bridge in South Carolina**  
Robert Fish and Ernie Dozzi
2. **Seismic Evaluation of the I-155 Bridge Over the Mississippi River**  
Mark R. Capron
3. **Seismic Analyses and Evaluation for Retrofit of the Suspended Spans of the Bronx-Whitestone Bridge**  
Ruben B. Gajer, David Rubin, Adam Hapij, Fangyin Zhang, Christopher Mauch and Mohammed Ettouney
4. **Lake Natoma Crossing: Combining High Performance Requirements for Seismic, River Flow, and Scour with a High Aesthetics Demand**  
Robert Fish
5. **Development of Seismic Design Criteria for the Dumbarton and Antioch Toll Bridges, California**  
Hubert K. Law, Ignatius Po Lam, Brian Maroney, and Saba Mohan

**Track B** – Carolina B, Mezzanine Level

**SESSION 2B2: SEISMIC INSTRUMENTATION AND MONITORING SYSTEMS**

Moderator: Rajesh Taneja, New York State Department of Transportation

1. **Evaluation of Damage Identification Algorithms applied to a 4-span Concrete Bridge Subjected to Near Source Ground Motions Using Nonlinear Finite Element Method**  
Amirhossein Iranmanesh, Seyed A. Bassam and Farhad Ansari
2. **Changes in Modal Frequencies of a Highway Bridge**  
Marvin W. Halling, Shutao Xing, Paul J. Barr, Zachary C. Hansen
3. **Rion-Antirion Monitoring System**  
Aris Vlamis-Stathopoulos, Gilles Hovhanessian and Benoit Kroely
4. **Energy Based Approach for Post Seismic Structural Health Monitoring of a Four Span Bridge**  
Seyed A. Bassam, Amirhossein Iranmanesh and Farhad Ansari
5. **Development of Rocking Column Systems**  
Matthew J. Tobolski and José I. Restrepo

2:45 pm – 3:15 pm **Break**

Gold Ballroom, Second Floor

3:15 pm – 5:00 pm **CONCURRENT TECHNICAL SESSIONS 2A3 AND 2B3**

**Track A** – Carolina A, Mezzanine Level

**SESSION 2A3: EARTHQUAKE STRATEGIES FOR PROTECTION AGAINST OTHER HAZARDS**

Moderator: Hossein Ghara, Louisiana Department of Transportation

1. **Developing a Methodology for Comparison of Extreme Hazards for Highway Bridge Design**  
George C. Lee, Sangyul Cho, Mai Tong and W. Phillip Yen
2. **Multiple Hazard Research Needs and AASHTO Code Development Activities**  
Harry A. Capers, George C. Lee, and Jerome S. O'Connor
3. **Seismic Hazard Considerations within a Multihazard Environment**  
Mohammed Ettouney and Sreenivas Alampalli
4. **Beneficial Aspects of a Multi-Hazard Approach to Design of Highway Bridges**  
M. Ala Saadeghvaziri and Bakhtiar Feizi
5. **Large-Scale Wave Flume Experiments on Highway Bridge Superstructures Exposed to Hurricane Wave Forces**  
Thomas Schumacher, Christopher Higgins, Christopher Bradner, Daniel Cox, and Solomon Yim

**Track B** – Carolina B, Mezzanine Level

**SESSION 2B3: SEISMIC RISK ASSESSMENT OF HIGHWAY NETWORKS**

Moderator: Ken Johnson, Federal Highway Administration

1. **Experiences in Creating a Seismic Risk Model of the Oregon Highway Bridge Network Using REDARS2**  
Peter Dusicka, Michael Glickman, Helen Oppenheimer and Holly Winston
2. **Seismic Risk Assessment of the Transportation Network of Charleston, South Carolina**  
Reginald DesRoches, Jamie Padgett, and Emily Nilsson
3. **Effects of Retrofits on Seismic Fragility of Multi-Span Continuous Steel Highway Bridges in New York State**  
Anil K. Agrawal, Ying Pan and Sreenivas Alampalli
4. **Seismic Risk Assessment of Priority Bridges along I-24 in Western Kentucky**  
Wael Zatar, Issam Harik, Wei-Xin Ren, and Tong Zhao
5. **Probabilistic Damage Control Approach (PDCA) and Performance-Based Design of Bridges**  
Abbas M. Tourzani, Amir M. Malek, Sam Ataya, and Mark Mahan

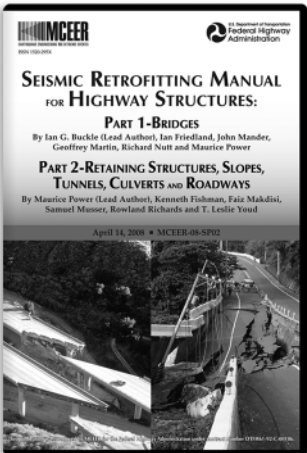
5:00 pm – 6:00 pm **Reception and Poster Session (with an award for Best Poster)**  
Moderator: Reginald DesRoches, Georgia Institute of Technology

Colonial Room  
Lobby Level

# AGENDA

## WEDNESDAY, JULY 30, 2008

7:00 am – Noon	Conference Registration	Mezzanine Level
7:00 am – 8:00 am	Breakfast	Gold Ballroom, Second Floor
8:00 am – 9:45 am	<b>PLENARY SESSION III</b> Moderator: Myint Lwin, Federal Highway Administration	Carolina Ballroom Mezzanine Level
8:00 am – 8:45 am	<b>Displacement Based Seismic Design of Bridges</b> Gian Michele Calvi, University of Pavia, Italy	Carolina Ballroom Mezzanine Level
8:45 am – 9:30 am	<b>Reconstruction of Ica, Pisco, Chincha and Cañete, Peru, Based on Updated Hazard Maps</b> Julio Kuroiwa, National University of Engineering, Lima, Peru	Carolina Ballroom Mezzanine Level
9:30 am – 9:45 am	<b>Closing Remarks</b> W. Phillip Yen, Federal Highway Administration	Carolina Ballroom Mezzanine Level
9:45 am – 10:15 am	Break	Gold Ballroom, Second Floor
10:15 am – Noon	<b>CONCURRENT TECHNICAL SESSIONS: 3A1 AND 3B1</b>	
<b>Track A – Carolina A, Mezzanine Level</b>		<b>Track B – Carolina B, Mezzanine Level</b>
<b>SESSION 3A1: INTERNATIONAL TECHNOLOGIES AND PRACTICES</b> Moderator: Juan Caicedo, University of South Carolina 1. <b>Extreme Wind Loads</b> Dorian Janjic 2. <b>Advanced Seismic Design Considerations for Highway and High Speed Railway Bridges in Spain</b> Jose-Luis Sanchez Jimenez 3. <b>Expected Behavior of the Infiernillo II Bridge in Mexico</b> José M. Jara, Manuel Jara and Hugo Hernández 4. <b>Experimental Investigations of Precast Segmental Bridge Columns Seismically Isolated with Lead-Rubber Bearings</b> Yu-Chen Ou, Mu-Sen Tsai, Ping-Hsiung Wang, Kuo-Chun Chang, and George C. Lee 5. <b>Seismic Performance of Skewed Bridges with Sliding Rubber Bearings</b> Kevin Lui and Kuo-Chun Chang		<b>SESSION 3B1: EFFECTS OF NEAR-FIELD EARTHQUAKES ON BRIDGES</b> Moderator: Derrell Manceaux, Federal Highway Administration 1. <b>Simplified Analysis of Bridges Crossing Fault-Rupture Zones</b> Rakesh K. Goel and Anil K. Chopra 2. <b>Study of Pulse Effects of NFGM on the Dynamic Response of Bridge Structures</b> Ajit C. Khanse and Eric M. Lui 3. <b>Effects of Near-field Earthquakes on Bridges with Tall Bearings</b> Monique C. Hite, Siddharth Srivastava, Reginald DesRoches, and Roberto T. Leon 4. <b>Development of a Biaxial Hysteretic Model for Reinforced Concrete Structures</b> Shu-Hsien Chao and Chin-Hsiung Loh 5. <b>The Influence of Vertical Earthquake Motion and Pre-Earthquake Stress State on the Seismic Response of Precast Segmental Bridge Superstructures</b> Mark Veletzos and José I. Restrepo
Noon – 4:30 pm	<b>Technical Boat Tour</b> (Pre-registration required. Box lunch provided) Presenter: Daniel Burton, South Carolina Department of Transportation	Meet bus at hotel door



**Seismic Retrofitting Manual for Highway Structures**  
*Part 1-Bridges and Part 2-Retaining Structures, Slopes, Tunnels, Culverts and Roadways*

**Now Available on CD-ROM**

The CD includes over 1,000 pages on the latest procedures for screening, evaluating and retrofitting bridges and other important highway system structures along with the USGS Open File Report 01-436, "Seismic Hazard Curves and Uniform Hazard Response Spectra for the United States," all for \$95.

The manual is also available in hard copy by individual volumes or as a set.

**To Order, Visit:**  
[http://mceer.buffalo.edu/publications/Bridge\\_and\\_Highway\\_Reports/Bridge\\_Manuals.asp](http://mceer.buffalo.edu/publications/Bridge_and_Highway_Reports/Bridge_Manuals.asp)

# PROGRAM AT A GLANCE

Sunday 7/27/2008	Monday 7/28/2008	Tuesday 7/29/2008	Wednesday 7/30/2008
Registration: 1:00 pm - 8:00 pm	7:00 am - 5:00 pm	7:00 am - 5:00 pm	7:00 am - Noon
Pre-Conference Workshop:  "Best Practices for Seismic Design & Retrofit of Bridges"  8:00 am - 5:00 pm <i>Carolina</i>  (Lunch is on your own)	Plenary Session  2 Concurrent Sessions  <i>Lunch (Included)</i>  2 Concurrent Sessions  2 Concurrent Sessions  Reception & Judging of Student Competition 5:00 pm - 6:00 pm ■ <i>Colonial Room</i>  Concurrent Sessions on 2008 AASHTO T3 & T5 Ballot Items 6:00 pm - 7:30 pm ■ <i>Carolina</i>	Plenary Session  2 Concurrent Sessions  <i>Lunch (Included)</i>  2 Concurrent Sessions  2 Concurrent Sessions  Reception & Poster Session 5:00 pm - 6:00 pm ■ <i>Colonial Room</i>	Plenary Session  2 Concurrent Sessions  <b>Boat Tour (optional)</b> Bus departs hotel at Noon. Return by 4:30 pm. (Box lunch is included)
Ice Breaker 6:00 pm - 8:00 pm <i>Colonial Room</i>			<p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>■ The conference registration desk is on the Mezzanine Level, at the top of the stairs, one floor up from the Lobby.</li> <li>■ All technical sessions are in the Carolina Room on the Mezzanine Level.</li> <li>■ Exhibitors, breakfast, and all breaks are in the Gold Ballroom.</li> <li>■ Exhibitor set up is Sunday 5:00 - 9:00 pm in the Gold Ballroom. Take-down is Wednesday 10:15 - Noon.</li> <li>■ All are invited to watch the assembly of bridges for the student competition Sunday 3:00 - 6:00 pm in the Calhoun Room.</li> <li>■ Student Bridge Competition to be judged during the reception Monday 5:00 - 6:00 pm in the Colonial Room.</li> </ul>

## Leaders in Seismic Design

T.Y. Lin International is a leader in the field of seismic analysis and the retrofit design of bridges. We have developed state-of-the-art seismic technology and offer our clients complete inspection services, structural investigations, rehabilitation design and repair, and seismic evaluation/retrofit design of existing structures.

For the Cooper River Bridge, in a joint venture with HDR, we provided design review, construction engineering, and field inspection services for what is now the longest cable-stayed span in North America. For more information on this project and many others, visit [www.tylin.com](http://www.tylin.com).

**TYLIN INTERNATIONAL**



San Francisco-Oakland Bay Bridge East Span  
San Francisco, California



Million Dollar Bridge  
Cordova, Alaska



Verrazano-Narrows Bridge  
New York City, New York



Cooper River Bridge  
Charleston, South Carolina