

**2005 NEW YORK CITY BRIDGE CONFERENCE  
NEW YORK MARRIOTT EAST SIDE, SEPTEMBER 12-13**

**MONDAY, SEPTEMBER 12, 2005**

**BRIDGE ENGINEERING ASSOCIATION CHAIRMAN'S WELCOME:** 8:00 - 8:10AM  
**Dr. Khaled Mahmoud, President**  
**Bridge Technology Consulting & Engineering**

**KEYNOTE SESSION (I)** 8:10 TO 9:45M  
**Specifications and Guidelines for the Design of Curved Steel Girder Bridges** John Kulicki, President & CEO, Modjeski and Masters

**An Architect's Perspective on Bridge Design** Poul Ove Jensen, Architect, Dissing & Weitling, Denmark

**Success and Failure in Bridge Desing** Henry Petroski, A. S. Vesic Professor of Civil Engineering, Duke University

**COFFEE BREAK** 9:45 - 10:15AM

**SESSION 1A: LONG SPAN BRIDGES** 10:20AM TO 12:05PM

**Seismic Study and Marathon Analysis of the Verrazano-Narrows Bridge**  
M. J. Abrahams et al., Parsons Brinckerhoff Quade & Douglas, Inc.

**Panama Canal Second Crossing Paraiso, Panama**  
R. Manzanarez, A. Sanjines, R. Donikian, J. Duxbury, J. Lopez-Jara, Dr. Man-Chung Tang, T.Y. Lin International

**Design and Construction of a Long-Span, Curved Steel Box Girder Bridge**  
B. N. Robson, Palmer Engineering, S. Waddle, Kentucky Transportation Cabinet, and J. Burchett, Jr., Bush & Burchett, Inc.

**Suspender Testing and Replacement Study for George Washington Bridge**  
S. Sloan, H. Patel, Port Authority of NY&NJ and D. Khazem, Parsons

**SESSION 1B: SEISMIC ANALYSIS & DESIGN (I)** 10:20AM TO 12:05PM

**Geographic Information Systems for Ground Motion Evaluation in Seismic Bridge Analysis**  
S. Nikolaou, Mueser Rutledge Consulting Engineers and M. P. Gaus, Gaus Association

**Effectiveness of Commercial Oil Pressure Seismic Devices for Bridges**  
M. Merli, S. Bergonzoni, T. Trombetti, and G. Gasparini, University of Bologna, Italy

**Seismic Response and Retrofit Design Recommendations for Braced Steel Bridge Piers**  
J. W. Berman and M. Bruneau, State University of New York at Buffalo

**Seismic Retrofitting Manual for Highway Structures: Retaining Structures, Slopes, Tunnels, Culverts and Roadways**  
G. Smith, Federal Highway Administration

**SESSION 1C: BRIDGE SCOUR** 10:20AM TO 12:05PM

**Impact of the Federal Highway Administration's Scour Evaluation Program on Highway Bridges in the United States**  
J. Pagan-Ortiz, Federal Highway Administration

**Bridge Health Scour Monitoring** B. E. Hunt, Hardesty & Hanover, LLP

**Treating Channel Instability at Bridges** P. Johnson, Penn State University

**Case Study: Tidal Hydraulic and Scour Analysis for Two NYC Bridges** S. Mahmutoglu, and R. Edison Earth Tech Inc.

**AWARD CEREMONY** 12:15 TO 12:55PM  
**LUNCH** 12:55 TO 1:50PM  
**SESSION 2A: BRIDGE AESTHETICS** 2:00 TO 3:45PM

**Bridge Aesthetics Cuckoo's Eggs- A Treatise on Context** K. Brownlie, Wilkinson Eyre Architects, England

**The True Goals of Bridge Aesthetics** F. Gottemoeller, R.Arch., Bridgescape, LLC

**Bridge Design as Structural Architecture** J. J. Arenas, Arenas & Asociados, Spain

**The Sauvie Island Bridge: Achieving Public Consensus on Design Issues** J. Fox, RA, T. Piotrowski, AIA, SARP, H2L2 Architects / Planners, LLP

**SESSION 2B: BRIDGE SEISMIC RETROFIT** 2:00 TO 3:45PM

**Seismic Retrofit of a Historic Arch Rib Bridge** S. Morcos, Ph.D., P.E., B. Reznikov, P.E., HDR Engineering, Inc., Roubik Mardirosian, P.E.

**FHWA'S 2005 Seismic Retrofitting Manual, Part 1-Bridges**  
P. Yen, J. O'Fallon, Federal Highway Administration, J. O'Connor, MCEER, University at Buffalo

**Detailed Seismic Evaluation and Retrofit Studies of Goethals Bridge Main Spans**  
B. Sivakumar, A. Wolek, A. Yazdani, Lichtenstein Consulting Engineers, Inc., and S. Sloan, The Port Authority of NY & NJ

**Seismic Vulnerability Evaluation and Retrofit of Kosciuszko Bridge** C. Fan, F. Lin, A. C. Shroff, Edwards & Kelcey, and R. Adams, New York City DOT

**SESSION 2C: MOVABLE BRIDGES** 2:00 TO 3:45PM

**A Case Study of the Resolution of Design/Construction Issues for the Stutson Street Bridge** P. J. Davis, Bergmann Associates

**Advancements in the Field of Wire Rope Design and Manufacturing** T. W. Klein, Wire Rope Corporation of America

**Proper Maintenance of Movable Bridges** J. W. Newman, and D. M. Barrett, Modjeski & Masters

**Knapp Street Towerless Vertical Lift Bridge** W. E. Nickoley, HNTB Corporation

**COFFEE BREAK** 3:45 TO 4:10PM

**SESSION 3A: BRIDGE SECURITY** 4:15 TO 6:30PM

**The Challenge of Economically Balancing Security and Mobility Needs of New Jersey's Bridge Infrastructure** H. Capers, New Jersey DOT

**Theory of Multihazards for Bridge Structures** M. Ettouney, Weidlinger Associates, and S. Alampalli, New York State DOT

**Behavior of Bridges: A Security Outlook** A. Agrawal, City College of NY

**Techniques for Quantifying Security Risk for Bridges** S. King, Weidlinger Associates

**SESSION 3B: BRIDGE ANALYSIS & DESIGN (I)** 4:15 TO 6:30PM

**Efficiency of Closed Stiffener Orthotropic Deck Panels for Railway Bridges** W. De Corte, P. Van Bogaert, Hans De Backer, Ghent University, Belgium

**Tension Field Action Behavior in the Hybrid Steel Girders For Ohio Approach Spans of Blennerhassett Island Bridge**  
F. Ahmad, and N. Zoubi, E.L. Robinson Engineering Co.

**Lateral Earth Pressure Behind an Integral Abutment Bridge** S. Hassiotis, and Y. A. Khodair, Stevens Institute of Technology

**Twin Arch Bridge or Not, New County Road Over Main & Bergen Lines, New Jersey Transit** T. Roberson Edwards, NJ Transit, C. J. Bhoraniya, Medina Consultants

**Finite Element Analysis of Bridge Approach Slabs Considering Soil-Structure Interaction** Y. A. Khodair and H. Nassif, Rutgers University

**SESSION 3C: SEGMENTAL & POST-TENTIONED BRIDGES** 4:15 TO 6:30PM

**Advancing Segmental Construction** R. A. Lawrie, and C. Redfield, Lawrie & Associates, LLC

**Structural Form of the Route 52 Causeway Segmental Concrete Bridge**  
W. Gottshall, Michael Baker Jr. Inc., D. Lambert, and N. Kasbekar, New Jersey DOT

**Sensitivity Studies of Grout Defects in Post-tensioned Bridges Using Impact Echo Scanning Technique**  
Y. Tinkey, L. Olson, and A. Gibson, Olson Engineering, Inc.

**Mitigation of Alkali-Silica Reaction Damage Using Post-Tensioning**  
W. Wassef, M. Smith, Modjeski and Masters, Inc., C. Bognacki, and S. Sloan, Port Authority of NY & NJ

**GENERAL SESSION: PANEL DISCUSSION ON BRIDGE SECURITY 6:45 TO 7:45PM**

**2005 NEW YORK CITY BRIDGE CONFERENCE****TUESDAY, SEPTEMBER 13, 2005**KEYNOTE SESSION (II) **8:00 - 9:30AM****Load Rating by Load and Resistance Factor Evaluation Method** Dennis Mertz, Professor, University of Delaware**City Island Cable-Stayed Bridge in New York City** Henry Perahia, Deputy Commissioner & Chief Bridge Officer, New York City DOT**State-of-the-art in Cable Vibrations of Cable-Stayed Bridges** Michel Virlogeux, Consulting Engineer, France

COFFEE BREAK

SESSION 4A: BRIDGE ANALYSIS &amp; DESIGN (II)

**9:30 - 9:55AM****10:00-12:35PM****Design Development: Bridge Across Ohio River and Blennerhassett Island**

G. Wollmann, K. Meyer, J. Francisco, Michael Baker Jr., Inc., T. Zoli, HNTB Corporation, J. Shook, West Virginia DOT, Division of Highways

**Experimental Influence Lines for Bridge Evaluation** M. Chajes, University of Delaware**Redundancy Issues of Steel Bridges** S. Kumarasena, and R. McCabe HNTB Corp.**Evaluation of Live-Load Distribution Factors for a three-span Continuous Girder Bridge** N. Suksawangl and H. Nassif, Rutgers University**Analysis Techniques for Curved and Skewed Steel Girder Bridges** D. Coletti, and J. Yadosky, HDR Engineering**A General Method for Nonlinear Analysis of Bridge Structures** M. Arici, Universita di Palermo, Dipartimento di Ingegneria Strutturale e Geotecnica, Italy

SESSION 4B: BRIDGE INSTRUMENTATION, MONITORING AND MAINTANANCE

**10:00-12:35AM****Maintaining Safety and Serviceability of Concrete Bridges in Croatia**

J. Radic, University of Zagreb, J. Bleiziffer, Croatian Institute for Bridge and Structural Engineering, and D. Tkalcic, Civil Engineering Institute of Croatia, Croatia

**Structural Health Monitoring for Bridge Maintenance** S. Alampalli, NYSDOT, M. Ettouney, Weidlinger Associate, Inc. and A. Agrawal, City College of NY**Life Cycle Cost of RC Slab Deteriorated by Anti-Freezing Agent** Y. Mimura, I. Yoshitake, K. Tsuji, and S. Hamada, Yamaguchi University, Japan**Evaluation and Validation of Ground Penetrating Radar for Bridge Deck Condition Assessment** D. A. Grivas, Institute for Infrastructure Asset Management, F. A. Romero, WaveTech-GEOVision Geophysical Services, and R. L. Roberts, Geophysical Survey Systems, Inc.**Damage detection in bending beams through Brillouin distributed optic-fiber sensor** R. Bernini, National Research Council, M. Fraldi, A. Minardo, V. Minutolo, F. Carannante, L. Nunziante, and L. Zeni, University of Napoli "Federico II", Italy**Instrumentation and Health Monitoring of Star City Bridge, WV** Samir S. Shoukry, M. Riad and G. William, West Virginia University

SESSION 4C: BRIDGE PERFORMANCE AND REHABILITATION

**10:00AM TO 12:35PM****Rehabilitation of the New Hope-Lambertville Toll Supported Truss Bridge**

W. Gottshall, Michael Baker Jr. Inc., A.P. Ranasinghe, McCormick Taylor, Inc., and C. Harney, Delaware River Joint Toll Bridge Commission

**Rehabilitation of Novoarbatsky Bridge in Moscow** Y. Ponomarev, Gidromost, Russia, and G. Brodski, AGA Group, USA**Use of Prefabricated Bridge Deck Panels on Rapid Reconstruction Projects** M. Kaczinski, The D.S. Brown Company R. Bettigole, Consultant**Lessons from the Kinzua** T. G. Leech, J. McHugh, Gannett Fleming, and G. Dicarlantonio, Pennsylvania Department of Conservation and Natural Resources**Replacement of Route 9W Viaduct over Washington Street** S. W. Smith, P. Bousader, and W. S. Najjar, Chas. H. Sells, Inc., Consulting Engineers**Performance Design of a Shear-Key System of High Speed Railroad Bridges**

E. H. Wang, M. Hsin University of Science and Technology, Taiwan, and Forrest H S Wu, Li-Joe Engineering Consultant

LUNCH

SESSION 5A: CABLE-SUPPORTED BRIDGES

**12:35 TO 1:45PM****2:00 TO 3:45PM****State-of-the-Art Main Cable Corrosion Protection by Dehumidification** M. L. Bloomstine, Ove Sørensen, COWI, Denmark**Puente Centenario Crossing the Panama Canal** K. Humpf, Leonhardt und Partner Gmbtt, Germany**Ironton Russell Single Tower Cable-Stayed Bridge Configuration - Optimization for Client Engineering Constraints**

R. W. Bondi, T. J. Tiberio, M. Baker Jr., Inc., A. Schemmann, Buckland &amp; Taylor Ltd, and J. E. Salvadori, Michael Baker Jr., Inc.

**Interactive Horizontal Load Model for Pedestrians Crossing Footbridges**

P. Archbold, P. Fanning, University College Dublin, Ireland, A. Pavic, University of Sheffield, United Kingdom

SESSION 5B: INNOVATIVE BRIDGE TECHNOLOGY

**2:00 TO 3:45PM****Lessons For Rapid Urban Bridge Construction From The International Scan of Prefabricated Bridge Elements and Systems in Japan and Europe** H. A. Capers, Jr., New Jersey DOT, M. L. Ralls, Ralls Newman, LL and B. Tang, PE, Federal Highway Administration**Numerical Analysis of Shear Debonding at FRP-Concrete Interface for Girders Strengthening Applications**

M. Ali-Ahmad, K. Subramaniam, and M. Ghosn, City College of New York

**Innovative Floor Beam Replacement Procedures for the Chicago Skyway Bridge**

M. Basar Civelek, Edwards and Kelcey, S. McNally, McNally Design &amp; Construction, LLC, and R. Schickel, Edwards &amp; Kelcey

**Stay Cable Technology Applied to Suspension Bridges** Andrew Micklus, Freyssinet LLC, USA, Benoît Lecinq, Sébastien Petit, Ivica Zivanovic

Freyssinet International, Vélizy, France

SESSION 5C: SEISMIC ANALYSIS &amp; DESIGN (II)

**2:00 TO 3:45PM****Seismic Hazard Analysis for New York City Bridges**

R. McGuire, G. Toro, Risk Engineering Inc, K. Kishore, J. Patel, A. Razzaq, S. Jain, New York City DOT, G. Fanjiang and R. Gajer, Weidlinger Associates Inc.

**Seismic Performance of Bridges of The San Francisco Bay Area Transportation Network Bridges** E.C. Stergiou and Anne Kiremidjian, Stanford University**Determination of Response Modification Factor for Seismic Design** A. Mechakhchekh and M. Ghosn, City College of New York**Near-Field Effects on Seismically Excited Highway Bridge Equipped with Nonlinear Viscous Dampers**

P. Tan, A. K. Agrawal and Y. Pan, City College of New York

COFFEE BREAK

SESSION 6A: BRIDGE ANALYSIS &amp; DESIGN (III)

**3:45 - 4:10PM****4:15 TO 6:30PM****Context Sensitive Design for the Fulton Road Bridge Replacement** J. C. Dietrick, and J. Broadwater, Michael Baker Jr. Inc.**Evaluation and Retrofit of Floorbeam Cracking on a Tied Arch Bridge** R. J. Connor, I. C. Hodgson, and J. W. Fisher, Lehigh University**Spatial Tubular Solution for Bridge Design** B. Briseghella, E. Siviero and T. Zordan, Bolina Ingegneria, Italy**Interactive Seismic Analysis and Design of the Roslyn Viaduct** R. Eslinger, B. Yin, Hardesty & Hanover, LLP, T. Sung, and M. Novak, New York DOT**Evaluation of Highway Bridge Strength Considering Parapets** B. Brenner, M. Sanayei, D. Lattanzi Tufts University and E.S. Bell, University of New Hampshire

SESSION 6B: BRIDGE INSPECTION &amp; MANAGEMENT

**4:15 TO 6:30PM****Specific Features of Standard Inspections of Engineering Structures in Major Cities**

Y. Yenyutin, V. Fedoseyev, Gormost, Russia, and E. Brodskaya, AGA Group, USA

**New Bridges in Croatia** J. Radic, Z. Savor, University of Zagreb, and J. Bleiziffer, Croatian Institute for Bridge and Structural Engineering, Croatia**City of Philadelphia: from Paper to Computers in Bridge Inspection and Management System** J. Shaffer, and M. Schellhase, Inspect Tech**Proposal of Concrete Bridges and Viaducts Management System**

J. Wippich Lencioni, M. Geimba de Lima, and F. Morelli, Instituto Tecnológico de Aeronáutica (ITA), Brazil

**Improving the Quality and Usability of Bridge Inspection Information** T. Le Diouren, Advitam Inc.

SESSION 6C: OPEN SESSION

**4:15 TO 6:30PM****Rolling the Northeast 8th Street Bridge** J. Lem, and L. Kyle HDR Engineering**Replacement of I-287 Curved Girder Bridge over Route 119** M. Buonocore, P. Bousader, and W. S. Najjar, Chas. H. Sells, Inc., Consulting Engineers**Replacement of the Belt Parkway Bridge over Ocean Parkway**

C. Sklavounakis, New York City DOT, P. Atkins, Granite Halmar Construction Co., C. Norrish, III, Gannett Fleming, and J. Liebowitz, HAKS Engineering

**Norway Bridges Utilizing Lightweight Concrete** K. S. Harmon, Carolina Stalite Co.**Alternative Waterproof System & Wearing Course for Bridge Decks that Resist Rutting/Shoving** D. Zuberer, Chase Specialty Coatings**CONFERENCE ADJOURNS 6:30PM**