

MONDAY, AUGUST 26TH, 2013

7:00am REGISTRATION

7:55-9:35 am Chairman's Welcome and Keynote Session

**BRIDGE ENGINEERING ASSOCIATION
CHAIRMAN'S WELCOME:**

Dr. Khaled M. Mahmoud, PE, President
Bridge Technology Consulting, New York City, USA

KEYNOTE SESSION (I)

Residual Factor of Safety of Bridge Components using Acoustic Emission Michael C. Forde, Carillion Professor, School of Engineering, University of Edinburgh, Scotland, UK

Resilient Bridge Design M. Myint Lwin, P.E., S.E., Director, Office of Bridge Technology, Federal Highway Administration, USA

Third Bosphorous Bridge and the Question of Specifications for Long Span Suspension Bridges Michel Virlogeux, PhD, Consultant, France

9:40-10:15 am COFFEE BREAK

10:20-12:10 pm **SESSION 1A: CABLE-SUPPORTED BRIDGES (I)**

The Russky Island Cable-Stayed Bridge, "The Bridge of all Records" J-D. Lebon, Freyssinet International & Cie, France

Study on Vibration-Reduction Rules of Part Floating Cable-Stayed Bridge Based on Viscous Dampers J.Q. Lei & L.X. Song, Beijing Jiaotong University, China

Structural Cable Designs and Concepts T.W. Klein, WireCo WorldGroup, USA

Puente Mercosur – Third Bridge across the Orinoco Design, Analysis and Construction K. Humpf & M. Müller, Leonhardt, Andrä und Partner Beratende Ingenieure VBI AG, Germany; C. Silingardi, Odebrecht Venezuela

Design and Construction of the John James Audubon Bridge D. Bergman, Buckland & Taylor Ltd | COWI, Canada

10:20-12:10 pm **SESSION 1B: BRIDGE DECK EVALUATION & REHABILITATION (I)**

Precast Concrete Filled Steel Grid Panels for Deck Replacement at the Newburgh-Beacon Bridge - South Span S. Abdou, Ammann & Whitney, USA; W. Moreau, New York State Bridge Authority, USA

Condition Assessment of Concrete Bridge Decks using a Fully Autonomous Robotic NDE Platform N. Gucunski, A. Maher, Rutgers University, USA; H. Ghasemi, Federal Highway Administration, USA

Brooklyn Bridge Orthotropic Deck Installation R. Leo & P. Reynolds, Greenman-Pedersen Inc., USA

Development of Performance Based Waterproofing Overlays for Bridges in North America G.M. Rowe, Abatech, USA; M. Taylor, C.R. Seitter, Chase Construction, USA

Newark Bay-Hudson County Deck Reconstruction, Interchange 14C to the Holland Tunnel G. Johnson, Greenman-Pedersen, Inc., USA; H. Nassif, Rutgers University, USA; J.H. Laird, New Jersey Turnpike Authority, USA

10:20-12:10 pm

SESSION 1C: BRIDGE ANALYSIS & DESIGN (I)

Assessment of Redundancy Protocols for Short-Span Steel Truss Bridges K. Barth & G. Michaelson, West Virginia University, USA; D. Gonano, U.S. Bridge, USA

High Temperatures and Bridges: Transverse Stiffeners in Steel Girder Fire Performance J. D. Glassman & M.E.M. Garlock Princeton University, USA

Movable Engineering for Jacques Chaban-Delmas Lift Bridge, Bordeaux France P. Skelton, Hardesty & Hanover, USA

High-Speed Rail Prestressed Concrete Beam Bridge Temperature and Creep Effect Research J.Q. Lei, Beijing Jiaotong University, China; Y.G. Xue, Z.J. Xue, China Railway Siyuan Survey and Design Group Co. LTD, China

Performance of Piles in Integral Abutment Bridges under Thermomechanical Cyclic Loads J. Razmi, M.S. Aggour, University of Maryland, USA; L. Ladani, University of Alabama, USA

12:15-12:45 pm

AWARD CEREMONY

12:45-1:40 pm

LUNCH

2:05 - 3:55 pm

SESSION 2A: CABLE-SUPPORTED BRIDGES (II)

Anchorage Investigation at the Forth Road Bridge B. Colford, FETA, Scotland, UK

Latest Developments in Suspension Bridge Main Cable Dehumidification M.L. Bloomstine, COWI A/S, Denmark

On the Collapse of the Nienburg Cable-Stayed Road Bridge C. Birnstiel, Hardesty & Hanover, USA

BTC method - Update on Technology for Evaluation of Remaining Strength of Bridge Cables K. Mahmoud, Bridge Technology Consulting (BTC), USA

2:05 - 3:55 pm

SESSION 2B: SEISMIC ANALYSIS & DESIGN (I)

Gerald Desmond Bridge Replacement – Seismically Driven Design of the Main Span Bridge M. Carter, Arup, Hong Kong; P. Matusewitch, N. Carstairs, S. Yip, Arup, USA

An Innovative Hysteretic Damper with Adaptive Post-Elastic Stiffness for Seismic Protection of Bridges M. Dicleli & A.S. Milani, Middle East Technical University, Turkey

Case Studies on Several Isolated Bridge Configurations Adopting a Performance Based Approach D. Forcellini, Università della Repubblica di San Marino, San Marino; M. Banfi, Alga S.p.A., Italy

Seismic Verification and Retrofitting of Multi-Column Foundation of the Ohnaruto Bridge C. Kawatoh, K. Sakai, A. Moriyama, T. Hanai, Honshu-Shikoku Bridge Expressway, Japan

Assessment and Design of Seismically Isolated Bridges in Proximity of Major Faults and Located on Liquefiable Soils C. Özkaya, G. Cetin, F. Tulumtas, Yuksel Proje Uluslararası Co., Turkey

2:05 -3:55 pm

SESSION 2C: BRIDGE EVALUATION, RATING & RETROFIT

Innovative Retrofit Technique for Distortion-Induced Fatigue Cracks in Steel Girder Web Gaps

A. Hartman, C. Bennett, A. Matamoros, S. Rolfe, University of Kansas, USA

Metallurgical Evaluation of Flaw Indications in Tie Chord Transition Butt Welds from the I-64 Sherman Minton Bridge

J. Jendrzewski, J. Hills, Applied Technical Services, USA; T. Hopwood, University of Kentucky, USA

Rating and Upgrading of Steel Bridges using Finite Element Modeling

T. Cakebread, LUSAS, USA; S. Rhodes, LUSAS, UK

Application of Diagnostic Load Testing and 3D-FEA in Load Rating of RC Box Culverts

S. Das, WSP USA, USA

The Assessment and Innovative Rehabilitation of the Washington Avenue Bridge over the Mississippi River in Minneapolis, MN

J. Milius & J. Bellenoit, AECOM, USA

4:00 - 4:30 pm

COFFEE BREAK

4:35 - 6:35 pm

SESSION 3A: BRIDGE MONITORING

Using Progressive Diagnostics to Develop a Structural Health Monitoring Program for Bridges

M. Miceli & E. Roman, Miceli Infrastructure Consulting, USA

GPR Testing of Reinforced Concrete Viaduct Beams

D. Beben, W. Anigacz & A. Mordak, Opole University of Technology, Poland

Monitoring and the Scour Phenomenon on Frontera Bridge

S. Schorn Advitam Inc., USA; B. Basile, Advitam SA, France; C. Rivera, Freyssinet Mexico, Mexico

Monitoring of Soil-Steel Railway Bridge under Service Loads

D. Beben, W. Anigacz, Opole University of Technology, Poland

Investigation of Feasibility of Deterministic, Theoretical Predictive Models Underpinning Visual Condition Monitoring Outcomes

A. Sagar, S. de Silva, S. Setunge, RMIT University, Australia

Renovation of Cable-Supported Bridges – The Contribution of Automated Monitoring Systems in Planning Projects

T. Spuler, Mageba SA, Switzerland; G. Moor, Mageba USA, USA

4:30 - 6:30 pm

SESSION 3B: BRIDGE CONSTRUCTION & REPLACEMENT

Blatnik and Bong Bridges Wire Rope Replacement: Maintaining Minnesota's Unique Bridge Inventory

L. Amundson, R. Haight, Parsons Brinckerhoff, USA; E. Lutgen, Minnesota Department of Transportation, USA

Various Approaches to Design-Build Procurement of Bridges P. Matusewitch, M. Gross, D. Thompson, Arup, USA; S. Kite, Arup, Scotland, UK

Rapid Replacement of US 6 Bridge in Iowa

B. Sivakumar, HNTB, USA

Construction of the CONSOL Energy Wing Tip Bridge, The Summit Bechtel Reserve, West Virginia

A. Micklus, Freyssinet, Inc., USA

Cost Engineering for Mega-Projects, Design-Build, and the Tappan Zee Hudson River Crossing

A. Finkin, L. Scammell, & B. Maddex, Arup, USA

Design and Construction of Segmental Bridges for Lima's Light Rail

R. Malik, M. Valle, T.Y. Lin International, USA; W. Villagomez, Odebrecht, Brazil

4:30 - 6:30pm

SESSION 3C: BRIDGE INSPECTION, MANAGEMENT & REHABILITATION (I)

Implementing the Next Generation of Bridge Inspection and Management Systems

B. Witter, J. Shaffer, T. Gilmore, InspectTech, USA

Consistency of the Bridge Inspection Program of New York State

A. Agrawal, The City College of New York, USA; G. Washer, University of Missouri, USA; S. Alampalli, NYSDOT, USA

Bridge Coating with Fluoropolymers in Japan: No more "Hell Gate Red"

W. Darden, AGC Chemicals Americas, USA

Dorland J. Henderson Memorial Bridge/Manahawkin Bay Bridge Rehabilitation with MMA Polymer Materials

M.S. Stenko, Transpo Industries, USA

Galvanizing your Bridge: Case Studies in Bridge Preservation

K. Irving, AZZ Galvanizing Services, USA

Effects of Truck Impacts on Bridge Piers

A. Agrawal, G. Liu, Ph.D. and X.Xu, the City College of New York and S. Alampalli, NYSDOT, USA

7:00am REGISTRATION

7:55-9:50 am **KEYNOTE SESSION (II)**

Whatever Happened to Autostress Design?

Theodore Galambos, Emeritus Professor, University of Minnesota, USA

The Bayonne Bridge - Into the 22nd Century

Joseph LoBuono, P.E., Vice President, HDR Engineering, USA

Bridge Design and Construction for High Speed Rail in France

Jean-Marc Tanis, CEO, EGIS-JMI, France

The Proposed Australasian Composite Bridge Standard, AS/NZS: 5100 Part 6, Steel and Composite Construction

Brian Uy, Professor of Structural Engineering, The University of New South Wales, Sydney, Australia

9:55 -10:20 am COFFEE BREAK

SESSION 4A: ADVANCED DESIGN CONCEPTS

Development of a Shallow Press-Brake Formed Tub Girder for Short-Span Steel Bridges

K. Barth, J. Mash, G. Michaelson, West Virginia University, USA; M. Barker, University of Wyoming, USA; D. Snyder, Steel Market Development Institute, USA

Building Steel Bridges in New York, Virginia, Pennsylvania and Maryland: Progressive Application of LRFD to Steel Bridge Erection Engineering

R. Cisneros, High Steel Structures, Inc., USA; D. White, Georgia Institute of Technology, USA

Deflection of Ultra-High Performance Concrete Slabs and Hybrid FRP Composite Girders Considering Partial Shear Interaction

W. Zatar, Marshall University, USA; H. Nguyen, Nick J. Rahall II Appalachian Transportation Institute, USA; H. Mutsuyoshi, Saitama University, Japan

Computing the Response of Bridges Subject to Vessel Collision Loading Using Dynamic Analysis

M. Davidson, J. Chung, H. Bollmann, Bridge Software Institute, USA; G. Consolazio, University of Florida, USA

Stability Analysis of a Freestanding Network Tied Arch Bridge

R. Thomas, CH2M Hill, USA

10:25 -12:15 pm **SESSION 4B: CABLE-SUPPORTED BRIDGES (III)**

Corrosion Resistance of Steel Bridge Wires Coated with Aluminium-Zinc Alloy

S. Nakamura, K. Miyachi, T. Jarwali, Tokai University, Japan; K. Suzumura, Nippon Steel and Sumikin Engineering Co., Japan

TBTA Suspension Bridges, Maintaining and Improving for the Future

J. Lorentzson, A. Stathopoulos, MTA Bridge and Tunnels, USA

Fracture Analysis of Bridge Cable Wire

K. Mahmoud, Bridge Technology Consulting (BTC), USA

Wire Failure Conditions - An Analysis of Acoustic Monitoring Data J. Sharko & M. Higgins, Pure Technologies, Ltd., USA

10:25 - 12:15 pm

SESSION 4C: SEISMIC ANALYSIS & DESIGN (II)

Earthquake Hazard Mitigation Strategies and Recent Developments in Highway Bridges
P. Yen, Federal Highway Administration, USA

Low Cycle Fatigue Effects in Integral Bridge Steel H-Piles under Seismic Displacement Reversals
M. Dicleli, Middle East Technical University, Turkey; S. Erhan, University of Bahrain, Bahrain

Retrofit Procedures of Existing Bridge Networks Against Seismic Actions in Italy A. Pipinato, University of Padova, Italy

Seismic Retrofitting of Curved Highway Viaducts G. Moor & C. Mendez Mageba USA, USA; T. Spuler, Mageba SA, Switzerland

Seismic Design for Resilient and Sustainable Bridges V. Zayas, R. Imbsen, A. Mokha, S. Low, Earthquake Protection Systems, Inc., USA

12:20 - 1:20 pm

LUNCH

1:45 - 3:35 pm

SESSION 5A: BRIDGE HISTORY & AESTHETICS

Measures of Structural Art: A Case Study Using Streicker Bridge D. H. Sigurdardottir & B. Glisic, Princeton, University, USA

Lindenthal and Manhattan Bridge eyebar chain controversy K. Gandhi, Gandhi Engineering Inc., USA

Artists' Portraits of the Sydney Harbour Bridge
S. Rothwell, Stuart Rothwell & Associates Pty Ltd, Australia

Jacques Chaban-Delmas Lift Bridge in Bordeaux, Architect's Perspective T. Lavigne, Lavigne & Cheron Architects, France

Open Discussion on Bridge Aesthetics

1:45 - 3:35 pm

SESSION 5B: BRIDGE ANALYSIS & DESIGN (II)

Development of Economical Short-Span Steel Bridge Standards K. Barth & G. Michaelson, West Virginia University, USA; M. Barker, University of Wyoming, USA; D. Snyder, Steel Market Development Institute, USA

Calibration of Turkish LRFD Bridge Design Code for Slab on Steel Plate Girders A.F. Koç, A. Caner, M.S. Yüccemen, Middle East Technical University, Turkey

Uplift Bearings – Selection and Design Considerations G. Moor, Mageba USA, USA; T. Spuler, N. Meng & C. O'Suilleabhain, Mageba SA, Switzerland

Durability of Bridge Decks Containing Epoxy-Coated Reinforcing Steel – What We Have Learnt from 40 years of Practice D. McDonald, Epoxy Interest Group of CRSI, USA

Major Bridge Structure at the World Trade Center
M. Kendall, K. Doshi, STV Inc., USA

1:45 - 3:35 pm

SESSION 5C: BRIDGE DECK EVALUATION & REHABILITATION (II)

FHWA Manual for the Design, Construction, and Maintenance of Orthotropic Steel Deck Bridges

B. Kozy, Federal Highway Administration, USA

Cost-Effective Connection Details for Steel

Orthotropic Bridges S. Roy, J. Fisher, S. Mukherjee, X. Zhao, P. Keller, Lehigh University, USA

Jointless "Floating" Deck for the Walt Whitman Bridge

R. Prior & D. Griffith, AECOM, USA; Q. Ye, Weidlinger Associates, USA; V. Pandya, Delaware River Port Authority, USA

Fatigue Properties of Steel-Concrete Composite Slab using a Cementitious Adhesive

I. Yoshitake, Y. Fujimoto, Yamaguchi University, Japan; A. Ogawa, Ube Machinery, Japan; Y. J. Kim, University of Colorado, USA

Investigation of Alternative Technologies for Cast-in-place Concrete Bridge Decks

J.R. Yost, D. W. Dinehart & S. P. Gross, Villanova University, USA; M. Mignella, Gannett Fleming, USA; C. Rapone AECOM, USA

3:40 - 4:10 pm

COFFEE BREAK

4:15 - 6:05 pm

SESSION 6A: CABLE SUPPORTED BRIDGES (IV)

Access Solutions for Suspension Bridge Cable Maintenance

R. Burgess, J. Mawson; Spencer Group Ltd., UK

Fabrication and Construction of Self Anchored Suspension Bridge San Francisco Oakland Bay Bridge

M. Nader, G. Baker, J. Duxbury, T.Y.Lin International, USA; B. Maroney; California Department of Transportation, USA

Delaware River Turnpike Bridge-Suspender Replacement

R. Schaefer & T. Zoli, HNTB, USA; A.L. Tatoris, New Jersey Turnpike Authority, USA

Ultimate Strength and Collapse Process of Cable-Stayed Arch Bridges

K. Miyachi & S. Nakamura, Tokai University, Japan

Extradosed Bridges - The St. Croix Bridge

N. Alca, D. Bergman, Buckland & Taylor Ltd | COWI, Canada

4:15 - 6:05 pm

SESSION 6B: BRIDGE ANALYSIS & DESIGN (III)

Impact of Using Higher Strength Concrete on the Design of Prestressed Concrete Bridges

A. N. Gergess, University of Balamand, Lebanon; R. Sen, University of South Florida, USA

Design of Idemli Bridges in Landslide Areas

C. Özkaya, G. Cetin, F. Tulumtas, Yuksel Proje Uluslararası Co., Turkey

Aerodynamic Stabilization Mechanism of Twin Box Girder with Various Slot Widths

Y. Yan & Y. Ge, Tongji University, China; T. Wu, A. Kareem, University of Notre Dame, USA

Pedestrian Bridge Loads

S. Rothwell, Stuart Rothwell & Associates Pty Ltd, Australia

Resilient Bridge Design to Extreme Loads

S. Marjanishvili, F. Fayad, Hinman Consulting Engineers, USA

4:15 - 6:05 pm

**SESSION 6C: BRIDGE INSPECTION,
MANAGEMENT & REHABILITATION (II)**

Objective Multihazards Considerations: A Security Viewpoint S. Alampalli, NYSDOT, USA & M. Ettouney, Weidlinger Associates, USA

Rehabilitation of the Alexander Hamilton Bridge and Highbridge Interchange Ramps M. T. Shaikh, Hung-Pui Ho, Jacobs, USA; T. Bashir, NYSDOT, USA

Design of the Replacement South Park Bridge in Seattle, Washington, USA G. Harrell, HNTB, USA; T. Lane, A. Tse, King County of Transportation, USA

Rehabilitation of Historic Wells Street Bascule Bridge, Chicago, Illinois D.P. Vimawala, AECOM, USA; D. Burke, Chicago Department of Transportation, USA

Repainting the Iconic Brooklyn Bridge
G. Vainblat, Greenman Pedersen, Inc., USA

3-D Visualization for Better Bridge Asset Management B. Witter, J. Shaffer, T. Gilmore, InspectTech, USA

6:05 pm

CONFERENCE ADJOURNS

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