

MONDAY, AUGUST 24TH, 2015

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 (BTC), New York City, USA**

KEYNOTE SESSION (I)

**Lessons learned and the future of Orthotropic
bridge deck in the United States** John W. Fisher,
Professor Emeritus, and S. Roy, Lehigh University, USA

Bridge Safety

David Mayer, Chief Safety Officer, Metropolitan
Transportation Authority (MTA), New York, USA

**Working beyond International Standards to assess
the quality of concrete in old bridges, without coring**

Michael C. Forde, Carillion Professor, R De Bold, N
Dimova, J Kwong & H Al-Abe, School of Engineering,
University of Edinburgh, Scotland, UK

9:40-10:15 am **COFFEE BREAK**

10:25am - 12:15pm

**SESSION 1A: PRESERVATION & STRENGTH
ASSESSMENT OF SUSPENSION BRIDGE CABLES**

**Suspension bridge main cable dehumidification – an
active system for cable preservation** S. Beabes, D. Faust,
AECOM, USA; C. Cocksedge, AECOM, Ltd., UK

**BTC Method's Measurable Metrics for the assess-
ment of remaining strength of bridge cables**

K. Mahmoud, BTC, USA

Chesapeake Bay Bridge dehumidification design M.
Nader, G. Baker, J. Duxbury, C. Choi, T.Y. Lin International,
USA; E. Gundel, Kiewit Infrastructure Co., USA; A. Tamrat,
Maryland Transportation Authority, USA

**Current condition and improvement of dry air injec-
tion system for main cables**

S. Kusuhara, A. Moriyama,
N. Toyama, A. Kagawa, Honshu-Shikoku Bridge Expressway,
Japan; M. Yamamoto, Bridge Engineering, Japan

10:25am -12:15pm

**SESSION 1B: BRIDGE DECK EVALUATION &
REHABILITATION**

**Fatigue assessment of a lightweight steel-concrete
bridge deck concept** W. De Corte, V. Boel, P. Helincks, G.
De Schutter, Ghent University, Belgium

**Flexural fatigue performance of ECC link slabs for
bridge deck applications** K.M.A. Hossain & S.
Ghatrehsamani, Ryerson University, Canada

**Newark Bay-Hudson County Extension deck recon-
struction, Interchange 14C to Holland Tunnel**

J.H. Laird & J.J. Sheedy, NJTA, USA; G.P. Johnson,
Greenman-Pedersen, Inc., USA

Fatigue behavior of GFRP and steel reinforced bridge decks designed using traditional and empirical methodologies

J.R. Yost, D.W. Dinehart, S.P. Gross, Villanova University, USA; P. Reilly, McCormick Taylor, USA; D. Reichmann, AECOM, USA

Full scale laboratory testing of round-bottom rib-to-fitted floor beam connection in a steel Orthotropic deck for a lift bridge

S. Roy & S.Mukherjee, Lehigh University, USA

10:25am - 12:15pm

SESSION 1C: BRIDGE ANALYSIS & MODELING

Limit analysis for steel beams connection nodes

M. Arquier & X. Cespedes, Strains Civil Engineering, France

Application of hot spot modeling and analysis guidelines for a web gap detail

U. Attanayake, Western Michigan University, USA

Role of technology in condition assessment of transportation

H. Azari, FHWA, USA; N. Gucunski, Rutgers University, USA

Preliminary investigation of composite steel box girder bridges in fire

N.L. Braxtan, R. Whitney, Q. Wang & G. Koch, Manhattan College, USA

Integral abutment bridges and the modeling of soil-structure interaction

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

12:15-12:45 pm

AWARD CEREMONY

12:45-1:40 pm

LUNCH

2:05 - 3:50 pm

SESSION 2A: TESTING OF BRIDGE CABLE WIRES & ANCHOR RODS

ASTM A354 grade BD rods: Case study of the SFOBB self-anchored suspension bridge

M. Nader & H. Tazir, T.Y. Lin International, USA; B. Maroney, CADOT, USA; H.E. Townsend, Townsend Corrosion Consultants, USA; L. Raymond, L. Raymond & Associates, USA; K.H. Frank, Hirschfeld Industries, USA; J. Fisher & A. Pense, Lehigh University, USA

Hydrogen embrittlement testing and results of full-size ASTM A354 grade BD rods in the SFOBB

H.E. Townsend, Townsend Corrosion Consultants, USA; K.H. Frank, Hirschfeld Industries, USA; B. Brignano, CADOT, USA; C. Choi, T.Y. Lin International, USA

Test VI, long term verification per ASTM E1681 of the accelerated ASTM F1624 environmental threshold stress intensity

J. Gorman, Dominion Engineering, Inc., USA; W. Crumly, D. Busack, L. Raymond, LRA Laboratories, USA

Experimental and analytical study on fatigue strength and stress concentration of corroded bridge wires

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

2:05 - 3:50 pm

SESSION 2B: SEISMIC ANALYSIS & DESIGN OF BRIDGES

Post-earthquake stability of Gerald Desmond Bridge

P. Banibayat, M. Carter, M. Nelson, T. Chandler, ARUP, USA

Seismic behavior of a long viaduct in Mexico DF: a combined FEM and SHM approach

J.M. Simón-Talero & A. Hernandez, Torroja Ingeniería S.L., Spain, Hernandez; M. Ahijado, OHI Concesiones, Spain; M. Santillan, Solvver Solutions S.L., Spain

Seismic design of Kentucky Lake and Lake Barkley approaches

B. Robson, D. Rust, K. McLemore, Palmer Engineering Company, Inc. USA

Poplar Street Interchange replacement - seismic design

L.E. Rolwes, HNTB, USA

Impact of secondary fault findings to the design of Izmit Bay Bridge in Turkey

O.T. Cetinkaya, M. Yanagihara, T. Kawakami, IHI Infrastructure Systems, Japan, J. Chacko, Fugro, Turkey

2:05 -3:50 pm

SESSION 2C: BRIDGE REDESIGN & REHABILITATION

US190: Mississippi River Bridge rehabilitation design, cleaning, and painting

D.H. Krone, J.D. Richard, M. Schrepfer, TRC Engineers, Inc., USA

I-495 emergency foundation rehabilitation and replacement

B. Shaffer, D. Griffith, W. Alko, AECOM, USA

Slide-in replacement of I-84 bridges in New York

B. Sivakumar, S. Lin & C. Brosio, HNTB, USA

Redesign of the Circle Interchange, Chicago, Illinois

D. Vimawala & D. Manojlovski, AECOM, USA

Rehabilitation of the West Broadway Bridge over the Passaic River, Paterson, New Jersey

G. Zamiskie & J. Chiara, TranSystems Corporation, USA

2:05 -3:50 pm

SESSION 2D: ADVANCED TOPICS IN BRIDGE ENGINEERING

Fabrication, assembly, transportation, and erection of bridges using LRFD analysis and measurement/metrology tools

R. Cisneros, High Steel Structures, LLC, USA

Extending the Range of Cable-Stayed Bridges

E. Mellier, Freyssinet Int'l, France and D. Micklus, Freyssinet, USA

Total load measurements on RFK Bridge eye-bars using X-ray diffraction techniques

J. Pineault & M. Belassel, Proto Manufacturing Limited, Canada; G. Grodzicki & G. Singletary, M. Brauss, C. Sheridan, Proto Manufacturing Inc., USA; M. Mangione, WSP USA, USA

Roll in, roll out of South-South Detour of San Francisco-Oakland Bay Bridge

M. Wahbeh & J. Mehta, Alta Vista Solutions, USA

Performance of CFRP strengthened concrete bridge members under elevated temperatures

C.A. Issa & R.A. Izadifard, Lebanese American University, Lebanon

3:55 - 4:30 pm

COFFEE BREAK

4:35 - 6:35 pm

SESSION 3A: BRIDGE MONITORING

Managing MDTA's bridge inventory S. Schorn & B. Kroely, Advitam, Inc., USA; J. Ianing, Pennoni Associates, Inc., USA

Structural Health Monitoring of unique structures: Normandy and Tancarville S. Schorn, Advitam, Inc., USA; A. Chaperon & N. Cortes, Advitam SA, France

Titanium alloy bars for strengthening a reinforced concrete bridge C. Higgins, Oregon State University, USA; D. Amneus, Group Mackenzie, USA; L. Barker, David Evans & Associates, USA

Developing a methodology for evaluating non-motorized access alternatives over existing highway bridges L. Lopez & U. Attanayake, Western Michigan University, USA

Case studies in Structural Health Monitoring
T. Tamatus, Mistras Group., USA

4:35 - 6:35 pm

SESSION 3B: BRIDGE CONSTRUCTION & REPLACEMENT

Foundation Characterization and Reuse in ABC projects F. Jalinoos, FHWA, USA; A. Agrawal, City College of New York, USA

Reconstructing a bridge in ten days: New Jersey Route 46 over Musconetcong River accelerated replacement R.J. Adams, Greenman-Pedersen, USA; S.J. Deeck, NJDOT, USA

Slip and creep performance for metallized connection faying surfaces used in steel bridge construction M. Ampleman, C-D. Annan & M. Fafard, Université Laval, Canada; J. Ocel, FHWA, USA; E. Levesque, Canam-Bridges, Canada

Continuously galvanized rebar for bridges M. Gagné & S. Pole, The International Zinc Association, Belgium; F. Goodwin, International Zinc Association, USA; G. Dallin, Galvinfo Centre, Canada

Seven documentaries that explain ABC (Accelerated Bridge Construction) techniques used to build California Bridges A. Mangus, G. Kaderabek & S. Lee, PECG Professional Engineers in California Government, USA

4:35 - 6:35 pm

SESSION 3C: BRIDGE MANAGEMENT REPLACEMENT

Implementation and growth of an asset management system R. Nolan, Hardesty & Hanover, USA & W. Pines, Maryland Transportation Authority, USA

Spray applied waterproofing in Callahan Tunnel rehabilitation J. Bilotti, RJ Watson, USA; J. Haydu, Bridge Preservation LLC, USA

Replacement of the 14th Street Viaduct, Hoboken NJ R. Giamario, TranSystems Corporation, USA; E. Zamiskie, Haley & Aldrich, USA

U.S. 84 Mississippi River Bridge pin and link replacement J.P. Gregg, HNTB, USA

Construction report of hanger replacement for Bosphorus Bridge in Istanbul, Turkey N. Kitayama, IHI Infrastructure Systems Co., Ltd., Japan; N. Dost, General Directorate of Highways, Turkey

TUESDAY, AUGUST 25TH, 2015

7:00am **REGISTRATION**

8:00-9:25 am **KEYNOTE SESSION (II)**

Brooklyn Bridge - Rehabilitation of an icon

Robert O. Collyer, PE, Deputy Commissioner, Chief Bridge Officer, New York City Department of Transportation, USA

Long span bridges - Inspection, Maintenance and Rehabilitation

Barry Colford, Vice President, Preservation Practice Leader - Complex Bridges, AECOM, USA

The Bayonne Bridge – progress towards an increased vertical shipping clearance

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

9:30 -10:05 am **COFFEE BREAK**

10:15 -11:55 am **SESSION 4A: FRACTURE ANALYSIS & WIND STABILITY OF CABLE-SUPPORTED BRIDGES**

Vehicle stability in strong winds on long-span bridges

S. Stoyanoff, and **P.-O. Dallaire**, Rowan Williams Davies & Irwin Inc., Canada; **T. Zoli & G. Daly**, HNTB, USA

Mechanical testing & post fracture analysis of ASTM A354 grade BD Rods in the SFOBB

M. Wahbeh & R. Boundouki, Alta Vista Solutions, USA; **T. Langill**, American Galvanizers Association, USA; **G. Thomas & K. Hoffman**, CADOT, USA

Case studies of fracture analysis of bridge cable wire

K. Mahmoud, BTC, USA

Fracture analysis of steel cable-stayed bridges

B. Soule & B. Tappen, International Bridge Technologies, CA

SESSION 4B: ADVANCES IN BRIDGE DESIGN

New bridges for sustainable development of the Adriatic coast in Croatia

J. Radić, Z. Šavor, M. Kušter Maric, University of Zagreb, Croatia

Deep Foundations Case Histories in New York and New Jersey

A. Ramakrishna, R. Mankbadi, Glen Schetelich, Hardesty & Hanover, USA

Design of depth critical steel superstructures

R. Schaefer & G. Ricks, HNTB, USA

Proportioning and design considerations for extra-dosed prestressed bridges

S. Stroh, AECOM, USA

Bridge-weigh-in-motion for axle-load estimation

E. Yamaguchi & M. Kibe, Kyushu Institute of Technology, Japan

10:15 -11:55 am

12:05 - 1:10 pm **LUNCH**

1:25 - 3:20 pm

SESSION 5A: BRIDGE HISTORY & AESTHETICS

Lindenthal and his pursuit of a bridge across the Hudson River K. Gandhi, Gandhi Engineering Inc., USA

Charles Ellet, Jr., the pioneer American suspension bridge builder K. Gandhi, Gandhi Engineering Inc., USA

Visual impact of signature bridges in urban settings
E. Sadek, Consultant, Saudi Arabia

Aesthetics and signature bridges in Europe
G. Capellán Miguel, and M. Sacristán Montesinos, Arenas & Asociados, Spain

"A Walk above the Harlem River" The Revitalization of New York City's High Bridge A.A. Mallick, NYCD-DC, USA; J. Valenti, Greenman-Pedersen, Inc., USA

Should bridges be named after Engineers?
G. Kaderabek, A. Mangus, S. Lee, PEGC Professional Engineers in California Government, USA

Open Discussion on Bridge Aesthetics

1:25 - 3:20 pm

SESSION 5B: SEISMIC ISOLATION DEVICES & BRIDGE SEISMIC VULNERABILITY ASSESSMENT

Preliminary assessment of seismic vulnerability of lifelines with a focus on bridges A. Caner, N. Topkara, G.M. Sarica, A. Askan, Middle East Technical University, Turkey

Seismic isolation of highway bridges: effective performance of LRBs at low temperatures C. Mendez Galindo, Mageba Mexico, Mexico; G. Moor & B. Bailles, Mageba, USA

Seismic evaluation of routine bridges A. Shroff, A. Ranasinghe, S. Patel, Jacobs, USA; M. Yegian, Hardesty & Hanover, USA

High Load Multirotational Bearings for an Extradosed Bridge R.J. Watson & J.C. Conklin, R.J. Watson, Inc., USA

1:25 - 3:20 pm

SESSION 5C: BRIDGE ANALYSIS & DESIGN (I)

Reliability of bridge decks in the United States
H. Tabatabai, C.-W. Lee, University of Wisconsin, USA;
M.A. Tabatabai, Meharry Medical College, USA

Design of the new bridge for the St. Lawrence River
M.L. Carter, M. Hooton, D.M. Harrison, S. Potapova, Arup, USA; P.O. Jensen, Dissing + Weitling, Denmark

Improving structural reliability using a post-tensioned concrete floor system for major non-redundant steel bridges C. Chang, R. Lawrie, Hardesty & Hanover, USA

Ohio River Bridges East End Crossing
M. Loizias, Jacobs, USA

Design-Build for RFK Bridge Ramp Replacement
D. Deluca, K. Eichner, Hardesty & Hanover, USA

3:25 - 3:55pm COFFEE BREAK

4:10 - 5:40pm

SESSION 6A: BRIDGE ANALYSIS & DESIGN (II)

Modern bearings for key bridges – special functions & type selection A. Kutumbale & G. Moor, Mageba, USA

Reliability analysis for existing reinforced concrete highway bridge girders according to the Chinese code Y. Leng & J. Zhang, Ministry Transport of China, China; R. Jiang, New Mexico State University, USA

Design and construction guidelines for skewed/curved steel I-girder bridges V.L. Liang, W.S. Johnsen, & B.P. McFadden, Greenman-Pedersen, Inc., USA; C. Titze, Cambridge Systematics, USA; G. Venkitekela, NJDOT, USA

Fatigue investigation and retrofit of double-deck cantilevered truss I-95 Girard Point Bridge
Y.E. Zhou & M.R. Guzda, AECOM, USA

4:10 - 5:40 pm

SESSION 6B: BRIDGE ANALYSIS TESTING & ASSESSMENT

A higher order beam element for bridge analysis
K. Ferradi & X. Cespedes, Strains Civil Engineering, France

ASTM F1624 rising step load (RSL™) testing for hydrogen embrittlement threshold of threaded cut outs of A354BD rods W. Crumly, E. Doxtad, M. Dearborn, L. Raymond, L. Raymond & Associates, USA; J.A. Gorman, Dominion Engineering, Inc., USA; A. Akinsaya & W. Casey, CADOT, USA; H. Tazir, T.Y. Lin International, USA; R. Boundouki, Alta Vista Solutions, USA

Resilient bridge design to extreme loads
S. Marjanishvili & F. Fayad, Hinman Consulting Engineers, USA

AASHTO fatigue testing of modular expansion joints - setting new standards G. Moor, Mageba USA, USA; S. Hoffman & C. O'Suilleabhain, Mageba SA, Switzerland

4:10 - 5:40 pm

SESSION 6C: ANALYSIS, DESIGN & CONSTRUCTION OF CABLE-SUPPORTED BRIDGES

Repair project on cable stayed bridge "Binh Bridge" damaged by ship collision in Vietnam T. Tokuchi & S. Kaifuku, IHI Infrastructure Systems, Japan

Structural characteristics of multi-span cable-stayed bridges with hybrid, RC and steel towers I. Amiri & S. Nakamura, Tokai University, Japan

Izmit Bay Suspension Bridge – Project overall and schedule M. Yanagihara & T. Kawakami, IHI Infrastructure Systems, Japan; A.N. Oztruk & F. Zeybek, NOMAYG Joint Venture, Turkey

Construction of the Nhat Tan Bridge superstructure
K. Matsuno & N. Taki, IHI Infrastructure Systems, Japan

5:40 pm

CONFERENCE ADJOURNS