

7:00 am **REGISTRATION: The Ritz-Carlton Battery Park Hotel, 2nd Floor**

8:00-9:45 am **Welcome and Keynote Session located in The Ritz-Carlton Ballroom, Salons I, II & III**

BRIDGE ENGINEERING ASSOCIATION CHAIRMAN'S WELCOME:

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

KEYNOTE SESSION (I)

International Practice using NDE for the Inspection of Concrete and Masonry Arch Bridges Dr. Michael Forde, Professor, University of Edinburgh, Scotland, United Kingdom

The Safety of Bridges Dr. Theodore Galambos, Emeritus Professor, University of Minnesota, USA

Bridge Design: Connecting Engineering and Art Professor, Dr.Ing., Drs.h.c. Jörg Schlaich, Senior Partner, Schlaich Bergermann und Partner, Emeritus Professor, University of Stuttgart, Germany

9:50-10:15 am **COFFEE BREAK: Harbor Vista & Skyline Vista**

10:20 - 12:20 pm **SESSION 1A: CABLE SUPPORTED & LONG-SPAN BRIDGES (I)**
The Ritz-Carlton Ballroom, Salon I

Feasibility Study into the Replacement or Augmentation of the Main Cables of a Long Span Suspension Bridge B. Colford, FETA, Scotland; C. Clark W. A. Fairhurst & Partners, Scotland

Dynamic Performance Evaluation of Straight and Curved Cable-Stayed Bridges M. Bhagwat, A. Upadhyay, Indian Institute of Technology Roorkee, India; S. Sasmal, Structural Engineering Research Center, India; B. Novak, University of Stuttgart, Germany

Evaluation of the Remaining Strength of Main Cables at the Bronx-Whitestone Bridge
K. Mahmoud, Bridge Technology Consulting, USA

Kanchanaphisek Bridge: A Cable-Stayed Bridge Designed for a Low Maintenance Budget R. Hsu, P. Vineyard, Parsons Brinckerhoff, USA

10:20 - 12:20 pm **SESSION 1B: BRIDGE ANALYSIS & DESIGN (I)**
The Manhattan Ballroom, Salon A

Providing the Best Bridges for the Best Cost
R. Lawrie, Lawrie & Associates LLC, USA

A New Bridge in Da Nang, Vietnam R. Dragan, Amman & Whitney, USA

Taconic State Parkway Ramp 'X' Bridge Project, Westchester, NY E. Jarosz, J. Kang, Gandhi Engineering, Inc., USA

10:20 - 12:20 pm
*The Manhattan
Ballroom, Salon A*

Development of Live Load for Long Span Bridges A. Nowak, M. Lutomirska, University of Nebraska, USA; F. Ibrahim, Federal Highway Administration, USA

10:20 - 12:20 pm
*The Manhattan
Ballroom, Salon B*

SESSION 1C: BRIDGE TECHNOLOGY

The Federal Highway Administration Vision for Bridge Research I.M. Friedland, Bridge & Structures R&D, Federal Highway Administration, Office of Infrastructure R&D, USA

Rehabilitation of Bridges using Ultra-High Performance Fibre Reinforced Concrete E. Brühwiler, Ecole Polytechnique Fédéral de Lausanne, Switzerland

Folded Plate Technology for Accelerated Bridge Fabrication and Construction A. Azizinamini, University of Nebraska-Lincoln, USA

Remote Sensing of Bridge Oscillation using Digital Speckle Photography
F.P. Chiang, Stony Brook University, USA

12:25-1:15 pm

AWARDS CEREMONY: The Ritz-Carlton Ballroom, Salons I, II & III

1:05-2:05pm

LUNCH: The Ritz-Carlton Ballroom, Salons II & III

2:15-4:15 pm
*The Ritz-Carlton
Ballroom, Salon I*

SESSION 2A: BRIDGE ANALYSIS & DESIGN (II)

Addressing SCC-Susceptible ASTM A 514 Steel on the I-275 Twin Bridges over the Ohio River T. Hopwood, Kentucky Transportation Center, USA; J. Jendrzewski, IMR Metallurgical Services, USA; J. Hartmann FHWA Turner-Fairbank Highway Research Center, USA

Resiliency of Bridges: A Decision Making Tool M. Ettouney, Weidlinger Associates, USA; S. Alampalli, NYSDOT, USA

Screening and Analysis for the Gusset Plates of the Hawk Falls Bridge, Pennsylvania, USA M. Myers, Arora & Associates PC, USA

New National LFRD Design Criteria for Long Span Bridges J. Tse, Parsons Brinckerhoff, USA; F. Ibrahim, Federal Highway Administration, USA

2:15-4:15 pm
*The Manhattan
Ballroom, Salon A*

SESSION 2B: BRIDGE DECK ASSESSMENT & REPLACEMENT

Understanding the Limitations of Exodermic Bridge Decks: A Case Study on the Kingston-Rhinecliff Bridge, Kingston, NY W. Moreau, New York State Bridge Authority, USA

2:15 -4:15 pm
The Manhattan
Ballroom, Salon A

Shape Analysis of Rib to Floorbeam Connections of Orthotropic Plated Bridge Decks W. De Corte, Ghent University, Belgium

Multi-Level Bridge Deck Evaluation Combining Ground Penetrating Radar and Infrared Thermography K. Maser, B. Miller, Infrasense, Inc., USA

Buffalo Creek Bridge: A Case Study of Empirical versus Traditional Bridge Deck Design S. Shoukry, G. William, K. McBride, M. Riad, West Virginia University, USA; J. Wriston, West Virginia Division of Highways, USA

The History and Benefits of Prefabricated Grid Reinforced Concrete Decks P. Gase, The D. S. Brown Company, USA; M. Kaczinski, Bridge Grid Flooring Manufacturers Association, USA

SESSION 2C: BRIDGE SECURITY & MANAGEMENT

Blast Performance of Various Seismic-Resistant Bridge Pier Concepts
M. Bruneau, University of Buffalo, USA; S. Fujikura, ARUP, USA

Overview of Available Detection Technologies with Applications to Bridge Security J. Chang, Columbia University, USA; J. Godoy, eClic International Advisory Board, USA

The Security Assessment of Structural Cable Assemblies in Bridges T. Klein, WireCo Worldgroup, USA

Special Topics Studies for Baseline Structural Modeling for Condition Assessment of In-Service Bridges E. Bell, University of New Hampshire, USA; J. Sipple, Tufts University, USA

Washington Metropolitan Area Transit Authority's Computerized Structure Inspection System J. Shaffer, M. Schellhase, InspectTech Systems, USA

4:15 - 4:35 pm

COFFEE BREAK: Harbor Vista & Skyline Vista

SESSION 3A: DYNAMIC & SEISMIC ANALYSIS

Seismic Design and Seismic Performance Retrofit Study for the Akashi Kaikyo Bridge
M. Okuda, S. Fukunaga, K. Endo, Honshu-Shikoku Bridge Expressway Co. Ltd., Japan

Seismic Analysis of Peljesac Bridge, Croatia
Z. Savor, J. Radic, G. Hrelja, D. Lazarevic, J. Atalic, University of Zagreb, Croatia

2:15-4:15 pm
The Manhattan
Ballroom, Salon B

4:40-6:30 pm
The Ritz-Carlton
Ballroom, Salon I

4:40-6:30 pm
The Ritz-Carlton
Ballroom, Salon I

Selection and Design of the High Load Multirotational Bearings for the St. Anthony Falls Bridge in Minnesota K. Western, Minnesota Department of Transportation, USA; T. DeHaven, Figg Engineering, USA; R. Watson, R. J. Watson Inc., USA

Dynamic Behavior of Bridge Mounted Sign Structures D. Kim, A. Shroff, Jacobs, USA

SESSION 3B: BRIDGE HISTORY & AESTHETICS

Walkway over the Hudson - Fast Track Design & Construction P. Melewski, J. Brizzell, Bergmann Associates, USA; H. Marcelle, The Fort Miller Company, USA; J. DiStefano, Harrison & Burrowes, USA

Verrugas Viaduct and its Reconstruction, Peru, South America K. Gandhi, Gandhi Engineering Inc., USA

Design and Construction of the Third Millenium Bridge over the Ebro River J.J. Arenas de Pablo, G. Capellan Miguel, H. Beade Pereda, J. Martinez Aparicio, Arenas & Associates, Spain

A Study of the Evolution of Arch Forms: Eiffel's Maria Pia Bridge and Amman's Bayonne Bridge A. Thrall, D. Billington, Princeton University, USA

Design and Erection of Four Signature Urban Bridges Recently Built in Spain G. Capellan Miguel, J. J. Arenas de Pablo, E. Merino Rasillo, M. Sacristan Montesinos, Arenas & Associates, Spain

SESSION 3C: MOVABLE BRIDGES

Innovative Redesign for Cost Savings on a Vertical Lift Bridge E. Kelly, W. Nickoley, HNTB, USA

Replacement of a Rare Hanover Skewed Bascule - The Hamilton Avenue Bridge K. Griesing, Hardesty & Hanover LLP, USA

Rehabilitation of Bridge Street Bridge Preserving a Nineteenth Century Historic Bascule Lift Span P. van Hagen, H. Protin, HDR Engineering, USA

Retrofit and Replacement of Dumbarton Railroad Bridges, California, USA K. Go, S. Treyger, M. Jones, HNTB, USA; S. Hill, B. Susanto, W. Yang, URS Corporation, USA

4:40-6:30 pm
The Manhattan
Ballroom, Salon A

4:40-6:30 pm
The Manhattan
Ballroom, Salon B

7:00am **REGISTRATION: The Ritz-Carlton Battery Park Hotel, 2nd Floor**

8:00-9:30 am **Keynote Session located in The Ritz-Carlton Ballroom, Salons I, II & III**

KEYNOTE SESSION (II)

8:00-8:30 am **Christian Menn's Recent Bridge Designs-- Reducing Structural Elements to the Simplest Solution** Dr. Eugen Brühwiler, Professor, Ecole Polytechnique Fédéral de Lausanne, Switzerland

8:30-9:00 am **A Review of Five Historic Bridge Failures** Dr. Alan W. Pense, Emeritus Professor, Lehigh University, USA

9:00-9:30 am **Manhattan Bridge at 100 Years - An Innovation of Design and Construction** Henry Perahia, PE, Chief Bridge Officer, Brian Gill, PE, Engineer-in-Charge, Manhattan Bridge, New York City Department of Transportation, USA

9:40-10:05 am **COFFEE BREAK: Harbor Vista & Skyline Vista**

10:10 - 12:10 pm **SESSION 4A: CABLE-SUPPORTED & LONG-SPAN BRIDGES (II)**
The Ritz-Carlton Ballroom, Salon I

Design-Build of the Indian River Inlet Cable Stayed Bridge K. Butler, AECOM, USA; D. Robb, Delaware Department of Transportation, USA; P. Halvarsson, Skanska, USA

Mock-up Experiment for Innovative Health Monitoring Technology for Bridge Cables K. Mahmoud, Bridge Technology Consulting, USA

Stay Cable Replacement, High Level Engineering for an Extended Serviceability E. Mellier, S. Joye, V. Maillet, Freyssinet International, France

Pre-fabricated Parallel Wire Strand (PPWS) for the New Self-Anchored San Francisco-Oakland Bay Bridge, California, USA S. Brown, TechStar, Inc., USA

10:10 - 12:10 pm
The Manhattan Ballroom, Salon A

SESSION 4B: BRIDGE PERFORMANCE & REHABILITATION

Enhancing Highway Bridge Performance H. Ghasemi, Federal Highway Administration, USA; A. Maher, Center for Advanced Infrastructure Transportation, Rutgers University, USA

The Maintenance of the Main Expansion Joints on the Fourth Road Bridge, Scotland B. Colford, FETA, Scotland; S. Jones, D. Timby, Atkins, England; K. Brown, Atkins, Scotland

10:10 - 12:10 pm
The Manhattan
Ballroom, Salon A

Reinforced Design of the Filetto Bridge on the Santerno River near Bologna, Italy G. Gasparini, S. Silvestri, T. Trombetti, C. Ceccoli, University of Bologna, Italy

Increasing Navigational Clearance - Bayonne Bridge, NY-NJ/USA

J. LoBuono, HDR Inc., USA

10:10 - 12:10 pm
The Manhattan
Ballroom, Salon B

SESSION 4C: BRIDGE ANALYSIS & DESIGN (II)

LRFD versus ASD, the Differences between the Two Standards for Retaining Wall and Abutment Design S. Esposito Parsons Brinckerhoff, USA; H. Najm, Rutgers University, USA

Cost, Benefit, and Value of Bridge Load Testing S. Alampalli, NYSDOT, USA; M. Ettouney, Weidlinger Associates, USA

Collecting and Using Weigh-in-Motion Data in LRFD Bridge Design B. Sivakumar, HNTB, USA; M. Ghosn, CUNY City College, USA

Implication of Increased Live Load on the Design of Prestressed Continuous Concrete Bridges A. Gergess, University of Balamand, Lebanon; R. Sen, University of South Florida, USA

Evaluation of Flange Bending Stresses in Non-Composite Steel I-Girder Bridges During Construction N. Galindez, K. Barth, West Virginia University, USA

12:20-1:20 pm

LUNCH: The Ritz-Carlton Ballroom, Salons II & III

SESSION 5A: BRIDGE INSPECTION, EVALUATION & MANAGEMENT

BrIM for Project Delivery and the LifeCycle: State of the Art A. Shirole, T. Riordan, Arora & Associates, PC, USA; S. Chen, Q. Gao, H. Hu, University of Buffalo, USA; J. Puckett, University of Wyoming, USA

Developing a Business Model for Bridge Management in Europe

T. Browne, Collins Engineering Inc., USA; J. Harvey, Waterways Ireland, Ireland; P. Owens, CEI Collins Engineering Ltd., Ireland

Use of Public-Private Partnerships in Bridge Infrastructure Delivery

J. Chang, Columbia University & MTA Bridges and Tunnels, USA

Load Rating Guidance for Bolted and Riveted Gusset Plates in Truss Bridges F. Ibrahim, Federal Highway Administration, USA

Merging and Moving Forward with New Jersey Turnpike Authority's Bridge

Inspection Program J. Laird, NJTA, USA; J. Paul, LS Engineering Associates Corporation, USA

1:35-3:35 pm
The Ritz-Carlton
Ballroom, Salon I

1:35-3:35 pm
The Manhattan
Ballroom, Salon A

SESSION 5B: CONCRETE BRIDGES

Experimental Study on Hybrid Steel-Concrete Beam Connected with Perfobond Ribs S-H. Kim, J-H Won & J-H Ahn, Yonsei University, Korea; C. Lee, GS Engineering & Construction, Korea; S-J. Kim, Sampyo Engineering, Korea

Route 36 Highlands Bridge over the Shrewsbury River in Highlands, NJ M. Loizias, Jacobs, USA

Bridge Monitoring to Measure Corrosion Rate and Concrete Resistivity C. Moretti, S. Jerath, University of North Dakota, USA

Upgrading of Ductility and Shear Capacity of Reinforced Concrete Beams of Highway Bridge Bents W. Zatar, Marshall University, USA; H. Mutsuyoshi, Saitama University, Japan

1:35-3:35 pm
The Manhattan
Ballroom, Salon B

SESSION 5C: CABLE-SUPPORTED & LONG-SPAN BRIDGES (III)

A Self Anchored Suspension Pedestrian Bridge over Harbor Drive in San Diego, California, USA D. Fitzwilliam, J. Tognoli, T. Y. Lin International, USA

Potential of Multi Main-Spans Suspension Bridge M. Inoue, IHI Corporation, Japan

Lightweight Concrete for Long Span Bridges R. Castrodale, K. Harmon, Carolina Stalite Company, USA

Extending the Life of the Main Cables of Two Major UK Suspension Bridges through Dehumidification C. Cocksedge, M. Bulmer, AECOM, UK

3:35-4:00 pm

COFFEE BREAK: Harbor Vista & Skyline Vista

4:05-6:05 pm
The Ritz-Carlton
Ballroom, Salon 1

SESSION 6A: BRIDGE INSTRUMENTATION, MONITORING & TESTING

Implementation of a Probabilistic Bridge Health Monitoring Method on a Highway Bridge A. Scianna, R. Christenson, The University of Connecticut, USA

Practices for Monitoring Scour Critical Bridges B. Hunt, STV Inc., USA

Development of a Baseline Model for an Arch using Diagnostic Tests J. Liu, WSP Sells Inc., USA; H.W. Shenton, University of Delaware, USA

4:05-6:05 pm
The Ritz-Carlton
Ballroom, Salon I

Modeling and Instrumentation of the Tobin Memorial Bridge in Boston, Massachusetts, USA B. Brenner, Fay, Spofford & Spondike LLC, USA; E. Santini-Bell, W. Durack, The University of New Hampshire, USA; M. Sanayei, E. Pheifer, Tufts University, USA

4:05-6:05 pm
The Manhattan
Ballroom, Salon A

SESSION 6B: ADVANCED MATERIALS

Lightweight and Recycled Materials for the Construction of the Messina Strait Bridge, Italy G. DiGiannantonio, Laboratory International, Inc., USA

Structural Health Monitoring using Wireless Acoustic Emission Sensor Network T. Hay, S. Jayaraman, D.R. Hay, WavesinSolids LLC, USA

The New Generation of Waterbone Graffiti Resistant Coatings for Sustainable Bridge Structures S. Reinstadtler, Bayer Material Science, USA

Long Term Protection for Approaches and Bridges Using a "Mix Modifier" D. Zuberer, Chase Construction Products, USA

4:05-6:05 pm
The Manhattan
Ballroom, Salon B

SESSION 6C: BRIDGE FABRICATION & CONSTRUCTION

Reconstruction of the East River Bridges in New York City R. Csogi, Greenman-Pederson Inc., USA

Accelerated Bridge Construction using Prefabricated Components: A Puerto Rican Case Study H. Laureano, Y. Robles, J. O'Connor

Accelerated Bridge Construction Approach Keeps Tappan Zee Bridge Open M. Shams, K. Standig, HDR Engineering, USA

Construction Engineering Considerations for Highway Bridges B. Chavel, S. Tunstall, R. Eaton, HDR Engineering, USA

Depressed Roadway Design in Florida - The Okeechobee Design Build Project N. Canjura, HDR Engineering, USA

6:05 pm

CONFERENCE ADJOURNS