

2017 NEW YORK CITY BRIDGE CONFERENCENEW YORK MARRIOTT EAST SIDE HOTEL
AUGUST 21ST-22ND, 2017**PLENARY SESSION****Maintenance on New York City Bridges** Robert O. Collyer, PE, Deputy Commissioner, Chief Bridge Officer, New York City Department of Transportation, USA**An International Multi-Country Living Bridge Laboratory** Michael C Forde, Carillion Professor, School of Engineering, The University of Edinburgh, Scotland, UK**Setting up a Digital Bridge Asset Management System with Data from Robots, Drones & IoT sensors** Lars Fuhr Pedersen, Technical Director, Sund & Baelt Holding A/S, Copenhagen, Denmark**Bridge Design for the First High Speed Train in Morocco** Jean-Marc Tanis, Consultant, Egis JMI, France**CABLE-SUPPORTED BRIDGES I****Main Cable Dehumidification – Flow Testing and Other Innovations**

M. L. Bloomstine, J. Fredrik Melén, COWI A/S, Denmark

Internal Inspection and Strength Evaluation of Suspension Bridge Cables – Tools for Asset Management and Preservation K. Mahmoud, BTC, USA, and W. Hindshaw, Transport Scotland, R. McCulloch, Amey, Scotland**Dehumidification of the Main Cables of the Delaware Memorial Bridge** S. A. Elnahal, S. K. Scindia, Delaware River and Bay Authority (DRBA), B. R. Colford & S. R. Beabes, AECOM, USA**Application of Dehumidification to Cable Management and Preservation Strategies** S. R. Beabes, B. R. Colford, & J. D. Pudleiner, AECOM, USA**CABLE-SUPPORTED BRIDGES II****Conceptual design and typological structures of cable-stayed bridges** H. C. Peiretti, Universidad Politecnica de Madrid, Spain, M. Arici, M. F. Granata, S. Amoroso, Università di Palermo, Italy**Fracture-based Analysis for the Cable Bands of Yavuz Sultan Selim Bridge in Turkey** K. Mahmoud, BTC, USA**Ship Impact Assessment for Izmit Bay Bridge** O. Cetinkaya, T. Kawakami and M. Yanagihara, IHI Infrastructure Systems Co. Ltd., Japan**Erection Engineering for the Cable-Stayed Spans of the Kosciuszko Bridge** A. B. Halpern, O. Murat Hamutcuoglu, and J. A. Bryson, HNTB, USA**CABLE SUPPORTED BRIDGES III****M48 Severn Bridge – Managing the Main Cables since 2005** C. Cocksedge, AECOM, M. Maynard, Highways England, A. Burt, Severn River Crossing, and B. Urbans, S. A. Baron, AECOM, UK**Angus L. Macdonald Bridge Suspended Structure Replacement – An Owner's Perspective** J. Eppell, Halifax Harbour Bridges, Canada**Design of John Greenleaf Whittier Memorial Replacement Bridge** G. Wollmann, HNTB, USA**Design of a Short Span Suspension Bridge: Detailing for Success in Rural Kenya** M. Bowser, WSP/MMM, Canada and K. Severns, WSP/PB, USA**FATIGUE ANALYSIS & ASSESSMENT****Fatigue Damage Assessment of Stay Cables for the Light Rail Transit Bridges** J. Jiang WSP, Canada, and R. Coughlin, City of Vancouver, Canada**Multiaxial Fatigue Life Prediction of Welded Connections in Railway Steel Bridge under Constant and Variable Amplitude Loading** K. Praveen, S. Mishra, National Institute of Technology Patna, India, P. Babu, DB Engineering and Consulting, India, and A. Spagnoli, A. Carpinteri, University of Parma, Italy**Bridge Rating Modification to Incorporate Potential Fatigue Damage from Truck Overloads** B. Jang & J. Mohammadi, Illinois Institute of Technology, USA**Flexural fatigue performance of bridge decks with GFRP bar reinforced UHPC joint** K.M. A. Hossain & C. Mak, Ryerson University, Canada**Phased Array Ultrasonic Testing (PAUT) performed on Electroslag Weld Specimen Subject to Cyclical Tension Load Testing** M. Wahbeh, M. Foerder, and R. Boundouki, Alta Vista Solutions, USA**BRIDGE ANALYSIS & DESIGN I****New Littoral Road Precast Box Girder Viaduct on the Coast of la Réunion Island** Jean-Marc Tanis, Consultant, Egis JMI, France**When bearing is not enough – Uplift Bearings** A. Kutumbale, G. Moor & O. Maass, Mageba, Switzerland**The Sarah Mildred Long Bridge** P. Roody, S. Harlacker & F. Sieh, Hardesty & Hanover, USA**Testing of long-term performance of bridge expansion joints – a critical factor in minimizing life-cycle costs** B. Baillès, G. Moor & S. Hoffmann, Mageba, Switzerland**Development of AASHTO Wind Load Provisions** W. Wassef & J. Raggett, West Wind Laboratory, USA**The Effect of New Interchange Solutions on Structure Type Selection** H. Sinson & S. Heimbürg, Hardesty & Hanover, USA**BRIDGE ANALYSIS & DESIGN II****Cross-Frame and Connection Design for Ensuring Brace Effectiveness in Skewed Steel Bridges** J. Zhou, C. Bennett & A. Matamoros, University of Kansas, USA**Analysis and Design of the South Road Double Composite Steel Tub Girder Bridge** M. Loureiro, M. Ingram & M. Loizias, JACOBS, USA**High Load Multirrotational Bearings for the New Goethals Bridge** R. Watson, R.J. Watson, Inc., USA**The Kew Gardens Interchange Project** M. Liona, Hardesty & Hanover, USA**Bending Stresses in Parallel Wire Suspension Bridge Cables** A. Gjelsvik, Columbia University & B. Yanev, New York City Department of Transportation, USA**BRIDGE ANALYSIS & DESIGN III****Design and Construction of the New Champlain Bridge** M. Nader, Z. McGain, S. Demirdjian, J. Rogerson and G. Mailhot, TY Lin, USA**Exploration of EUROCODE Live Load Distribution Factors for Multi Girder Bridges** M. Çınar, M. Açıklan Altunlu, BridgeWiz, New York, USA and A. Caner, Middle East Technical University, Turkey**A Fresh Start – The New Geotechnical Design Manual for the New Jersey Turnpike Authority** M. Riegel, D. GE, J. DiMaggio, K. Ravishankar, HNTB**Case Studies of FRP Composite Pedestrian Bridges in Japan** W. Zatar & H. Nguyen, College of Information Technology and Engineering, Marshall University, USA and H. Mutsuyoshi, Dept. of Civil and Environmental Engineering, Saitama University, Japan**Interaction Between Pedestrian Loading and Vibration response of a Laboratory-Scale FRP Composite Footbridge** P. Archbold & B. Mullarney, Materials Research Institute, Athlone Institute of Technology, Ireland**BRIDGE ANALYSIS & DESIGN IV****Load-carrying capacity of deformed steel girder due to collision** E. Yamaguchi, H. Tsuji, and Y. Tanaka, Kyushu Institute of Technology, Japan**A Conceptual Design of a Footbridge over Kızılırmak River that Allows Pedestrian Induced Vibrations** Ö. Turan, N. Kesici, M. Ersoylu, İ. Şenol, H. Öztekin, N. Shaban, Middle Eastern Technical University, and A. Yilmaz, SismoLab, Turkey**Non-uniform Temperature Fluctuations Effect on Partially Fixed Single Span Post-Tensioned Box Girder Bridges** R. Ferhadi, The American University of Kurdistan**The Design and Construction of Kemaliye Bridge** S. Caculi and M. Kaba, EMAY, USA**Bridge 19 Vessel Impact Analysis and Repairs** D. Marcic, Hardesty & Hanover, USA and M. R. Palumbo, St. Lawrence Seaway Management Corporation, Ontario, Canada**BRIDGE MODELING****Finite element modeling of the influence of residual weld stresses on buckling** A. Outtier & H. De Backer, Ghent University, Belgium**Study on FE Models of Composite Bridge Using Concrete Filled Steel I-Girder** W. Safi and S. Nakamura, Tokai University, Japan**Numerical modeling of drilled shaft lateral response adjacent to existing caisson foundation** – Pulaski Skyway L. Wei, D. Ha and S. Patel, JACOBS, USA**3D Structural Modeling of Stringer-Bent Connections on Gowanus Expressway** WSP, USA**BRIDGE SECURITY****Robust Bridge Design to Blast, Fire, and other Extreme Threats** S. Marjanishvili, and F. Fayad, Hinman Consulting Engineers, Inc., USA**Effects of extreme fire scenarios on bridges**

I. Kaundiny, U. Bergerhausen, Federal Highway Research Institute (BAST), Bergisch Gladbach, and J. Schmidt, Leipzig Institute for Materials Research and Testing, Leipzig, Germany

Instrumentation and Monitoring Metro-North Park Avenue Viaduct after Fire Damage

Jesse D. Sipple, B. Commander, BDI, and M. R. Sheehan, N. Ziegler, Metro-North Railroad, USA

Investigation of Existing Warning Systems for Overhead Clearance Detection M. Maghiar, G. Maldonado & M. Jackson, Georgia Southern University, USA**BRIDGE FOR HIGH SPEED & LIGHT RAIL****Rail-Structure Interaction in Freight and High-Speed Rail Viaducts** G. Wollmann, HNTB**Concrete Time-Dependent Effects on Track-Structure Interaction Analysis for High-Speed Trains** E. Honarvar, A. Ranasinghe, S. Albhaisi, and P. Banibayat, JACOBS, USA**Ride comfort assessment of Light Rail Vehicles** M. Nelson, I. Ashcroft & D. Harrison, Ove Arup and Partners, USA**Design of Bridges for High Speed Rail Loads and Requirements** A. Ranasinghe, E. Honarvar, S. Albhaisi, and P. Banibayat, JACOBS, USA**BRIDGE CONSTRUCTION****Accelerated Bridge Construction Project and Research Database** D. Garber & Mary Lou Ralls, Director of Technology Transfer, ABC University Transportation Center, USA**Route 110 Bridge Design-Build** E. Tormey Stehlgens & K. Griesing, Hardesty & Hanover, USA**Five (5) Mile Belt Parkway Reconstruction Project - Six (6) Bridges between Pennsylvania Avenue and Knapp Street, Brooklyn, NY** D. Hom, New York City Department of Transportation, W. Ferdinandsen, Greenman Pedersen, Inc., P. Dombrowski, AECOM, USA**Concrete Filled Tube Columns For Rapid Construction of Bridge Superstructure and Substructure Components** D. Lehman & C. Roeder, University of Washington, USA**Construction of the Ohio River Bridges East End Crossing Cable-stayed Bridge** M. Loizias, JACOBS, USA**Design and Construction of a Bus/HOV Ramp at the Verrazano Narrows Bridge** P. Blasko, G. Zikely, HNTB and A. Zulinska, MTA Bridges & Tunnels, USA**Design-Build Replacement of the I-278 Kosciuszko Bridge - Approaches and Connectors Design Challenges and Solutions** P. D'Ambrosio, G. Decorges, and B. Sivakumar, HNTB, USA**BRIDGE PAINTING & REPAIR****Widening of I-55 Over I-220 Near Jackson, MS with Shallow Depth Steel Girders** L. Rolwes Jr., HNTB, USA**An Overview of the Behavior of Concrete Bridges Strengthened with CFRP Laminates** C. A. Issa, Lebanese American University, Lebanon**Continuous Galvanized Rebar (CGR): How the new ASTM spec replacing the traditional spec for hot-dip galvanizing (HDG) creates better corrosion resistance** M. Stroia, AZZ Metal Coatings, USA**Testing of the Oil Heritage Road Underpass – Before and After Repair Work** A. Au, Bridge Office, Ontario Ministry of Transportation, Canada**Surface Preparation of Hot-Dip Galvanized Iron and Steel and Hardware Surfaces for Painting** K. Irving, AZZ Metal Coatings, USA**STRUCTURAL HEALTH MONITORING OF BRIDGES****Structural Health Monitoring of Cable Stay Bridges as Applied on the New Champlain Bridge in Montreal, Canada** S. Rassy, G. Moor & B. Baillès, Mageba, Switzerland**Protection of Existing Structures Using Health Monitoring**

A. Ramakrishna and R. Mankbadi, Hardesty & Hanover, USA

Data-to-Decision Framework for Monitoring Railroad Bridges S. Alampalli, S. Alampalli, Prospect Solutions, LLC, and M. Ettouney, Mohammed Ettouney, LLC, USA**Structural Health Monitoring of the Pulaski Skyway** X. Li, and T. Gallagher, HNTB**SEISMIC ANALYSIS & FOUNDATION DESIGN****Design-Oriented Seismic Soil-Pile-Superstructure Interaction Analysis using a Dynamic p-y Method** A. Taghavi, J. Chung, M. Davidson, Engineering School of Sustainable Infrastructure & Environment, College of Engineering, University of Florida, USA**Seismic Retrofit Design of Highway-Railway Combined Suspension Bridges** Y. Hirayama, M. Nishitani, and C. Kawatoh, Honshu-Shikoku Bridge Expressway Co., Ltd., Kobe, Japan**Seismic Isolation of Cable Supported Railway Bridges** C. Mendez-Galindo, G. Moor & M. Brüninghold, Mageba, Switzerland**Foundation Reuse in Urban Bridge Projects** F. Jainoo, FHWA R&D and A. Agrawal, The City College of New York, USA**ORTHOTROPIC BRIDGE DECK DESIGN & FABRICATION****Innovative fatigue design of orthotropic steel decks**

H. De Backer, A. Outtier, W. Nagy & K. Schotte, Ghent University, Belgium

Riding Surface for the Orthotropic Portion of San Mateo/Hayward Bridge R. Maggenti, California Department of Transportation & S. Shatnavi, Shatec Engineering Consultants, LLC, USA**Fabrication of the Orthotropic Deck for the Yavuz Sulan Selim (Third Bosphorus) Bridge** B. Uner, Gemak, Turkey**Fabricating orthotropic deck panels for the Macdonald Bridge, Halifax, NS, Canada** S. Ross, Cherubini Metal Works Limited, Canada**Open Panel Discussion on Orthotropic Bridge Deck****BRIDGE INSPECTION & REHABILITATION****In-depth Inspection of I-10 over Lake Calcasieu River** Presenting Author: M. D. Schrepfer, and D. H. Krone, TRC, USA**Extending the Life of Bridge Decks and Tunnels from the Inside Out** P. S. Rhodes, Hycrete Inc., USA**Illinois's First Precast Deck Panel Bridge with UHPC Joints** D. Liu, Gec-Group and J. Schiff, Illinois Department of Transportation, USA**Garden State Parkway Interchange 163 Mainline Bridge over NJ Route 17** D. Hicks, Dewberry, USA**MOVABLE BRIDGES****The Gut Bridge** P. Roody, Hardesty & Hanover, USA**Innovative Cable System Designs** T. W. Klein, WireCo World Group, USA**Repairs to 13 Movable Bridges in NYC after Hurricane Sandy** E. Kelly, HNTB, & B. Gusani, New York City Department of Transportation, USA**The New Johnson Street Bridge – A Unique Bridge in a Unique Project** K. R. Griesing, Hardesty & Hanover, USA**BRIDGE MAINTENANCE & REPLACEMENT****Design-Build Replacement of the I-278 Kosciuszko Bridge - Approaches and Connectors Design Challenges and Solutions** P. D'Ambrosio, G. Decorges, and B. Sivakumar, HNTB, USA**Weekend Replacement and Widening of SimpleSpan Superstructures for an Interchange using Prefabricated Superstructure Units and Micropiles** G. Ricks & H. Jovani, HNTB, USA**Design-Build Services for Ellison Avenue Bridge Replacement** J. Stern, Greenman-Pedersen, Inc., USA**Modern non-bituminous flexible plug expansion joints – minimizing noise, maximizing driver comfort and accelerating bridge maintenance** R. Bradley, G. Moor & G. Gallai, Mageba, Switzerland**BRIDGE HISTORY & AESTHETICS****The Hell Gate Arch Bridge in New York** K. Gandhi, Gandhi Engineering, USA**Painting New York's Bridges** Stuart Rothwell, Stuart Rothwell & Associates, Australia**Visual impact of signature bridges in urban settings** E. Sadek, Consultant, Egypt**The Failure and Reconstruction of the Quebec Bridge** K. Gandhi, Gandhi Engineering, USA**The Impact of Ancient History, Conflict and Globalization on Bridge Aesthetics in Iraq** R. Mansour, International Bridge Technologies, Canada**2017 NEW YORK CITY BRIDGE CONFERENCE****SPONSORED BY**

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