

32nd Annual International Bridge Conference (IBC 2015)

Pittsburgh, Pennsylvania, USA
7-11 June 2015

ISBN: 978-1-5108-1304-5

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Red Hook, NY 12571



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**OFFICIAL PROCEEDINGS OF THE
32nd ANNUAL INTERNATIONAL BRIDGE CONFERENCE®
June 7 – 11, 2015
David L. Lawrence Convention Center, Pittsburgh, Pennsylvania, USA**

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IBC 2015 Technical Program by Session

Pennsylvania P3 Session

Monday, June 8, 2015

Thomas P. Macioce, P.E., PennDOT, Harrisburg, PA
Kenneth J. Wright, P.E., HDR Engineering, Inc., Pittsburgh, PA
Ben Boisvert, P.E., Plenary Walsh Keystone Partners, Pittsburgh, PA

Keynote

Monday, June 8, 2015

Chair: Rachel Stiffler.; International Bridge Conference® 2015 General Chair; Vector Corrosion Technologies, McMurray, PA

WELCOME REMARKS

Charles R. Toran, Jr., ESWP President; Sci-Tek Consultants, Inc., Pittsburgh, PA

Rich Fitzgerald, Allegheny County Chief Executive, County of Allegheny, Pittsburgh, PA

PENNSYLVANIA TURNPIKE – MODERNIZING AMERICA’S FIRST SUPERHIGHWAY

Mark P. Compton, Chief Executive Officer, Pennsylvania Turnpike Commission, Middletown, PA

THE PLANNING, CONSTRUCTION, AND MAINTENANCE BASED ON A BRIDGE LIFECYCLE

Dr. FAN Chih-Ku, Administrative Deputy Minister, Ministry of Transportation and Communications, R.O.C., Taipei, Taiwan (R.O.C.)

BUILDING BRIDGES TO PROSPERITY

Avery Bang, CEO, Bridges to Prosperity, Denver, CO

Featured Country - Taiwan

Monday, June 8, 2015

INTRODUCTION OF FEATURED COUNTRY

Mr. CHEN Yen-Po, Director General/Taiwan Area National Freeway Bureau,
MOTC

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Eric Bonet, Bridging the Gap Africa, Kitale, Kenya
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Session Chair: Richard L. Connors, P.E. PMP, County of Allegheny – Department of Public Works,
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NOT AVAILABLE AT TIME OF PUBLICATION

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Session Chair: John C. Dietrick, P.E., S.E., Michael Baker International, Cleveland, OH

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Wednesday, June 10, 2015

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Steven M. Hodgdon, VHB, Bedford, NH

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Lance Peterman, P.E., S.E., HDR Inc., Chicago, IL
Julie Rivera, P.E., HDR Inc., Chicago, IL
Brandon Chavel, Ph.D., P.E., HDR Inc., Cleveland, OH
Nicholas Cervo, P.E., HDR Inc., Pittsburgh, PA

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Edward Bazink, P.E., Michael Baker International, Cleveland, OH
Matthew Chynoweth, P.E., MDOT, Southfield, MI
Nabil Grace, Ph.D., P.E., Lawrence Tech University, Southfield, MI

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Dipal Vimawala, AECOM, Chicago, IL
Dan Manojlovski, AECOM, Chicago, IL
David Liu, TranSystems Corporation, Schaumburg, IL

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Dan Patterson, P.E., Mackin Engineering Company, Pittsburgh, PA
Troy Pritts, PennDOT, Uniontown, PA

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Paul Skelton, P.E., Hardesty & Hanover, LLC, New York, NY
Keith Griesing, P.E., Hardesty & Hanover, LLC, New York, NY

IBC 15-70 (New) DESIGN AND CONSTRUCTION OF NEW YORK CITY'S FIRST SEGMENTAL PLATFORM STRUCTURE - WITH A RECORD 240' SIMPLE SPAN 734

Andrea Travani, , Rizzani de Eccher USA, Bay Harbor Islands, FL

Evaluation/Analysis/Inspection

Wednesday, June 10, 2015

Session Chair: Raymond A. Hartle, P.E. GAI Consultants, Inc., Cranberry Township, PA

- IBC 15-71** RESILIENT BRIDGE DESIGN TO EXTREME LOADS 740
Shalva Marjanishvili, Hinman Consulting Engineers, Inc., San Francisco, CA
Francois Fayad, Hinman Consulting Engineers, Inc., New York, NY
- IBC 15-72** THE DEVELOPMENT OF THE MULTI-HAZARD DESIGN GUIDES FOR
HIGHWAY BRIDGES 750
Phillip Yen, FHWA, Washington, DC
George Lee, State University of New York at Buffalo, Buffalo, NY
- IBC 15-SP** ACTIVE CORROSION PREVENTION WITH NON-DESTRUCTIVE CORROSION
MONITORING FOR SUSPENSION BRIDGE MAIN CABLES 758
Matt Sloane, Columbia University, New York, NY
Claudio Gatti, Columbia University
- IBC 15-74** DEVELOPMENT AND VERIFICATION OF WEB-BASED BRIDGE MONITORING
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Jason Lloyd, P.E., Purdue University, West Lafayette, IN
Robert Connor, Purdue University, West Lafayette, IN
- IBC 15-75** A COMPARATIVE INVESTIGATION OF CROSS-FRAME CHORD MEMBER
FORCES IN CURVED STEEL I-GIRDER ANALYSIS SOFTWARE 777
Michael Murdock, P.E., TranSystems Corporation, Richmond, VA
Austin Clark, P.E., TranSystems Corporation, Richmond, VA
Daniel Davis, P.E., TranSystems Corporation, Richmond, VA
Prasad Nallapaneni, P.E., VDOT, Richmond, VA
- IBC 15-76** "TUNNEL INSPECTION 101:" FHWA-NHI 130110 TUNNEL SAFETY INSPECTION 788
Thomas Ryan, Michael Baker International, Moon Township, PA
Brian Leshko, HDR Inc., Pittsburgh, PA
Douglas Blades, FHWA, Washington, DC

Design III

Wednesday, June 10, 2015

Session Chair: M. Patrick Kane, P.E., KCI Technologies, Inc., Pittsburgh, PA

- IBC 15-77** SEISMICALLY ISOLATING THE NEW NY BRIDGE 798
Michael Martello, HDR Inc., Manhattan, NY
Nicholas McDowell, HDR Inc., Boise, ID
- IBC 15-78** DESIGN AND CONSTRUCTION OF THE LÉON BLUM VIADUCT IN POITIERS,
FRANCE 812
Jean-François Blassel, RFR, Paris, France
Christian Rieser, RFR, Paris, France
Daniel Garcia, RFR, Paris, France
- IBC 15-79** DESIGN AND CONSTRUCTION OF NELSON MANDELA PEDESTRIAN BRIDGE
IN CREIL 819
Jean Francois Blassel, RFR, Paris, France
Raphael Royer De Vericourt, RFR, Paris, France
Minh Nguyen, RFR, Paris, France
Christian Rieser, RFR, Paris, France
- IBC 15-80** INNOVATIVE DESIGN FOR THE SFOBB I-80 RAMPS AT YERBA BUENA
ISLAND 829
Hohsing Lee, S.E., P.E., AECOM, Sacramento, CA
Allen Ely, P.E., Moffatt & Nichol, Long Beach, CA
- IBC 15-81** UNIQUE STRUCTURAL COUNTERMEASURE AGAINST DEEP SCOUR FOR PILE
SUPPORTED PIERS: THOMAS J. HATEM MEMORIAL BRIDGE, MD 838
Ani Chatterjee, STV Inc., Baltimore, MD
Geoffrey Kolberg, STV Inc., Baltimore, MD
David LaBella, Maryland Transportation Authority, Baltimore, MD
Damian Mesia, Athavale, Lystad and Associates, Rockville, MD
Jay Musser, McLean Contracting, Baltimore, MD

ABC II

Wednesday, June 10, 2015

Session Chair: M. Myint Lwin, P.E., S.E., Consultant, Olympia, WA

- IBC 15-82** THE LARDO BRIDGE SLIDE-IN 848
Brian Byrne, Lochner, East Hartford, CT
Dan Minturn, Lochner, East Hartford, CT
Lisa Hoeke, Lochner, Pittsburgh, PA
Rick Jensen, Idaho Transportation Department, Boise, ID
- IBC 15-83** ACCELERATED BRIDGE CONSTRUCTION OF THE PATROON ISLAND BRIDGE DECK REPLACEMENT 857
Gary Dinmore, Dinmore Engineering, PLLC, Upper Black Eddy, PA
Vincent Siefert, Siefert Associates, LLC, Naugatuck, CT
William Frank, William J. Frank Engineering, Brewster, NY
S. Jayakumaran, SJH Engineering P.C., Princeton, NJ
Thomas Valenti, A.Servidone/B.Anthony Construction Corporation, Old Bridge, NJ
- IBC 15-84** AN ARCH ON THE MOVE 865
Natalie McCombs, P.E., S.E., HNTB Corporation, Kansas City, MO
Marwan Nader, Ph.D., P.E., T.Y. Lin International, San Francisco, CA
- IBC 15-85** ENHANCING US331 OVER THE CHOCTAWHATCHEE BAY 873
Charles Rudie, Parsons Brinckerhoff, Tampa, FL
Christopher Vanek, Parsons Brinckerhoff, Tampa, FL
John Poulson, Parsons Brinckerhoff, Tampa, FL
- IBC 15-86** CONSTRUCTION TECHNIQUES– ABC LATERAL-SLIDE METHOD 881
Kevin O'Neill, Siefert Associates, LLC, Naugatuck, CT
Vincent Siefert, Siefert Associates, LLC, Naugatuck, CT
- IBC 15-ABC2Reserve** THE 123'S OF SPMT'S FOR ABC
Charles Neth, P.E., Siefert Associates, LLC, Naugatuck, CT
John Engberg, P.E., Barnhart Crane and Rigging, Memphis, TN
NOT AVAILABLE AT TIME OF PUBLICATION

Rehabilitation/Historic Preservation

Wednesday, June 10, 2015

Session Chair: Donald W. Herbert, P.E., Pennsylvania Dept. of Transportation, Uniontown, PA

- IBC 15-87** THE USE OF TUBULAR STEEL ARCHES IN EARTH FILLED ARCH REHABILITATION
Dale Arnold, P.E., Jones-Stuckey, A Division of Pennoni, Columbus, OH
David Jones, P.E., Jones-Stuckey, A Division of Pennoni, Columbus, OH
NOT AVAILABLE AT TIME OF PUBLICATION
- IBC 15-88** REHABILITATION OF THE 105 YEAR OLD MULBERRY STREET BRIDGE; HARRISBURG'S FIRST MAJOR CONCRETE HIGHWAY BRIDGE 886
Michael Cuddy, P.E, TranSystems Corporation, Philadelphia, PA
Geoffrey Elsavage, P.E., PennDOT, Harrisburg, PA
Harivadan Parikh, P.E., PennDOT, Harrisburg, PA
- IBC 15-89** THE UNCOMMON DUO: PRECAST CONCRETE DECK PANELS ON A STONE MASONRY ARCH 899
Quentin Rissler, P.E., Larson Design Group, Lititz, PA
Jeffrey Given, P.E., Loftus Construction, Inc., Cinnaminson, NJ
- IBC 15-90** SHAWSHEEN RIVER BRIDGES: REBUILDING INFRASTRUCTURE WITHOUT ERASING HISTORY 904
Malek Al-Khatib, Louis Berger, Needham, MA
Daniel Deng, Louis Berger, Needham, MA
Michael Ryan, Massachusetts Bay Transportation Authority, Boston, MA
Timothy Polson, Louis Berger, Needham, MA
- IBC 15-91** PRESERVING A LEGACY OF EXCEPTIONAL METAL TRUSS BRIDGES IN PENNSYLVANIA 913
Thomas Leckrone, P.E., C.B.S.I., Gannett Fleming, Inc., Camp Hill, PA
Ira Beckerman, Ph.D., R.P.A., PennDOT, Harrisburg, PA
Michael Cuddy, P.E., TranSystems Corporation, Philadelphia, PA
- IBC 15-HistoricPreservation/RehabReserve** HISTORY IN THE MAKING: THE NEWEST ERA OF THE WASHINGTON BRIDGE NO. 200 933
Thomas Hennessy, VHB, Providence, RI

Rail Bridges II

Wednesday, June 10, 2015

Session Chair: Jeremy Shaffer, Ph.D., PMP, Bentley Systems, Incorporated, Pittsburgh, PA

IBC 15-92 Design for Future Rail on the New NY Bridge (CANCELLED – NOT PRESENTED)

**IBC 15- 92 (New)RailIReserve EXAMINING ACCELERATED BRIDGE CONSTRUCTION
TECHNIQUES IN THE CLAYTON STREET BRIDGE REPLACEMENT 943**

Malek Al-Khatib, Louis Berger, Needham, MA

Daniel Deng, Louis Berger, Needham, MA

Elizabeth Ozhatil, Massachusetts Bay Transportation Authority, Boston, MA

(Paper originally listed under Rail I Session)

**IBC 15-93 ABC BRIDGE STREET RAILROAD BRIDGE REPLACEMENT PROJECT-
HARTFORD, VT 951**

Adam Stockin, Parsons Brinckerhoff, Manchester, NH

Keith Donington, Parsons Brinckerhoff, Manchester, NH

IBC 15-94 UNION PEARSON (UP) EXPRESS SPUR AND T1 STATION 957

Srdjan Brasic, AECOM, Mississauga, ONT, Canada

Paul Kim, AECOM, Boston, MA

**IBC 15-95 INNOVATION IN THE AERIAL GUIDEWAYS FOR THE DULLES METRORAIL
EXTENSION 965**

Gregory Shafer, Parsons, Baltimore, MD

IBC 15-96 LIGHT RAIL BRIDGES THAT SAVE BIG DOLLARS FOR TRANSIT AGENCIES 973

Mansoor Ahsan, P.E., Bridgefarmer & Associates, Inc., Dallas, TX

Posters

- IBC POS-01** INNOVATIVE THOUGHTS IN CONSTRUCTING SCOUR FRAGILITY CURVES WITH CONCEPTUAL EQUIVALENT SCOUR LOAD 983
Chun-Chung Chen, Ph.D., National Center for Research on Earthquake Engineering, Taipei, Taiwan (R.O.C.)
Chi-Ying Lin, Prof. Kuo-Chun Chang, and Chun-Jen Liu, National Taiwan University, Taipei, Taiwan (R.O.C.)
- IBC POS-02** EVALUATION OF THEORETICAL METHODS TO CALCULATE OF TRANSVERS LIVE LOADS DISTRIBUTION FACTOR OF CONCRETE BEAM BRIDGES 984
Rafat Edlebi, Ph.D. and Dina Tanbakji, Damascus University, Damascus, Syria
- IBC POS-03** SEISMIC BEHAVIOR OF PRECAST SEGMENTAL BRIDGE PIERS WITH SHEAR RESISTANCE PROVIDED BY SHEAR KEYS 985
Yui-Chi Sung, National Center for Research on Earthquake Engineering, Taipei, Taiwan (R.O.C.)
H.H. Hung, National Taiwan University, Taipei, Taiwan (R.O.C.)
K.C. Lin, National Taiwan University, Taipei, Taiwan (R.O.C.)
C.R. Jian, National Taiwan University, Taipei, Taiwan (R.O.C.)
K.C. Chang, National Taiwan University, Taipei, Taiwan (R.O.C.)
- IBC POS-04** ANALYTICAL MODELING APPROACH FOR SEISMIC EVALUATION OF CURVED PRECAST-PRESTRESSED CONCRETE BRIDGES 986
Junwon Seo, Ph.D., P.E. and Luke Rogers, South Dakota State University, Brookings, SD
- IBC POS-05** LONG-TERM MONITORING OF BRIDGE PIERS, BEARINGS, AND GIRDERS USING WIRELESS SENSPOT SENSORS 987
Mehdi Kalantari Khandani, Ph.D. and Sina Farzinfard, Resensys LLC, College Park, MD
- IBC POS-06** EVALUATION OF STRUCTURAL PERFORMANCE OF BRIDGES BY AMBIENT VIBRATION MEASUREMENTS 988
Nader N. Tadros, P.E. and Hani Melham, Ph.D., P.E., Kansas State University, Manhattan, KS
- IBC POS-07** REPLACEMENT OF S.R. 0885 BRIDGE OVER UNION RAILROAD 989
Patrick L. Minnaugh, P.E. and Steven Kocsuta, P.E., CDM Smith, Pittsburgh, PA
- IBC POS-08** FINITE ELEMENT ANALYSIS OF AN INTEGRAL ABUTMENT BRIDGE 990
Scott Brendler and Yasser Khodair, M.Sc., Ph.D., Bradley University, Peoria, IL