

Keynote Session

Presented Monday, June 14, 2004

Chaired By: Thomas G. Leech, PE, SE, Gannett Fleming, Inc., Pittsburgh, PA
Not Published in these Proceedings

T.R. (Tom) Draeger, *Bechtel Construction Operations, Incorporated*

Donald P. Fusilli, Jr., JD, PE, *Michael Baker Corporation*

Joseph G. Brimmeier, *Pennsylvania Turnpike*

Featured Agency Session

Presented Monday, June 14, 2004

Chaired By: Gary L. Graham, Pennsylvania Turnpike, Harrisburg, PA

The History of “America’s Dream Highway” – From “A” to “EZ-Pass”

Gary L. Graham, PE, *Pennsylvania Turnpike Commission, Harrisburg, PA*

IBC-04-01

(Not Published in these Proceedings)

Utilizing Tomorrow’s Technology to Manage “America’s Tunnel Highway”

James L. Stump, PE, *Pennsylvania Turnpike Commission, Harrisburg, PA* and John E. Tarquinio, PE, *URS Corporation, Bridgeville, PA*

IBC-04-02

Rebuilding “America’s 1st Super Highway” – A Total Reconstruction

Donald S. Klingensmith, PE, and John S. Ozimok, PE *Pennsylvania Turnpike Commission, Harrisburg, PA*

IBC-04-03

(Not Published in these Proceedings)

Susquehanna River Bridge Replacement – “Pennsylvania’s 1st Major Concrete Segmental Bridge”

Brian M. Ranck, PE, *Pennsylvania Turnpike Commission, Harrisburg, PA* and William J. Rohleder, Jr., PE, SE, *Figg Bridge Engineers, Inc., Exton, PA*

IBC-04-04

Replacement of the Allegheny River, Lehigh River and Pohopoco Creek Bridges – “Fitting Large Bridges in Tight Places”

Donald S. Klingensmith, PE and Bernard J. Zielinski, PE, *Pennsylvania Turnpike Commission, Harrisburg, PA*

IBC-04-05

“Expanding the Turnpike” - The Mon/Fayette Expressway and Southern Beltway

Frank J. Kempf, Jr., PE, and Bernard J. Zielinski, PE, *Pennsylvania Turnpike Commission, Harrisburg, PA*

IBC-04-06

Connecting the Pennsylvania Turnpike and Interstate 95 - “The Missing Link”

Donald S. Klingensmith, PE, *Pennsylvania Turnpike, Harrisburg, PA* and Ronald DeNadia, P.E., *Edwards & Kelcey, Inc., Philadelphia, PA*

IBC-04-07

Proprietary Session

Presented Monday, June 14, 2004

Chaired By: Eric S. Kline, KTA-Tator, Inc., Pittsburgh, PA

Integrated Hydraulic Solutions for the World's Highest Bridge: Hydraulic Solutions Used on the Millau Viaduct

Luis Sordo, *Enerpac, Madrid, Spain*; Paul Hohensee, *Enerpac, Milwaukee, WI*; and Marc Buonomo, *Eiffel Construction Metallique, Paris, France*

IBC-04-08

Power Washing and Overcoating is Effective and Much Less Expensive than Sandblasting and Completely Repainting Bridges

Craig Ballinger, *Termarust Technologies, Vienna, VA* and Wayne Senick, *Termarust Technologies, Anjou, Montreal, Quebec, Canada*

IBC-04-09

(Not Published in these Proceedings)

Material Property Testing of Disk Bearings

Ronald J. Watson, *RJ Watson, Inc., Amherst, NY*

IBC-04-10

Is There an Alternative to Abrasive Blasting?

Peter K. Fisher, *Rust-Oleum Corporation, Vernon Hills, IL*

IBC-04-11

Implementing a Computer Bridge Inspection and Management System

Jeremy Shaffer and Michael Schellhase, *InspectTech, Pittsburgh, PA*

IBC-04-12

Field Testing of New Novel Technique for Controlling Crevice Corrosion on Rocker Assemblies

Wayne Soucie and Nancy Heimann, *Elisha Technologies Co. LLC, Moberly, MO*

IBC-04-13

A 20 Year Case Study of Polyurethane Waterproofing on Civil Engineering Projects

Adrian J. Pike, *Pitchmastic PmB Ltd, Sheffield, UK*

IBC-04-14

Rehabilitation Session

Presented Tuesday, June 15, 2004

Chaired By: Richard Connors, PE, PMP, NorthWest Engineering, Inc., Tidioute, PA

Gay Street Bridge, Knoxville, Tennessee: Disassembly and Rehabilitation of 1897 Pin Connected Truss

Joseph J. Pullaro, PE, *Lichtenstein Consulting Engineers, Inc., Paramus, NJ*

IBC-04-15

Seismic Analysis, Evaluation and Preliminary Retrofit Design for the Macdonald-Cartier Bridge

Sylvain Montminy, P.Eng., *Delcan Corporation, Ottawa, Ontario, Canada*; John Stephenson, P.Eng., PE, *Region of Waterloo, Kitchener, Ontario, Canada*; and Bill Danson, P.Eng, *Public Works and Government Services, Gatineau, QC, Canada*

IBC-04-16

Inspection and Repair of a Fire Damaged Prestressed Girder Bridge

Richard Stoddard, *Washington State DOT, Olympia, WA*

IBC-04-17

Suspension Bridge Cable Replacement

Imam Hossain and Peter Sluzka, *Ammann & Whitney, New York, NY*

IBC-04-18

Rehabilitation and Widening of Bridges on Interstate I-77 over New River, Wythe County, Virginia

Thomas S. Flournoy, PE, *TAMS Consultants, Inc., Alexandria, VA*; Raj K. Ailaney, PE, *Federal Highway Administration, Washington, DC*; and Nalin Mathuria, PE, *Virginia Department of Transportation, Richmond, VA*

IBC-04-19

The Rehabilitation of the Chicago Skyway

Elizabeth Gallagher, SE, PE, and Jixing He, SE, PE, *Consoer Townsend Envirodyne Engineers, Inc., Chicago, IL*; and Bradley Radovich, SE, PE, *Consoer Townsend Envirodyne Engineers, Inc., Woodstock, IL*

IBC-04-20

Design, Part 1 Session

Presented Tuesday, June 15, 2004

Chaired By: Herbert M. Mandel, PE, GAI Consultants, Inc., Monroeville, PA

An Innovative Arch Bridge for the City of Des Moines

Salvatore Di Bernardo and Chris Stine, *Earth Tech, Inc., Chicago, IL*

IBC-04-21

Replacement of the Third Avenue Swing Bridge over the Harlem River

Sean A. Bluni, PE and Paul J. Connolly, PE, *Hardesty & Hanover, LLP, New York, NY*

IBC-04-22

Replacing the Moses Wheeler Bridge

Richard Ezyk and Kassim Tarhini *STV Incorporated, Stratford, CT*

IBC-04-23

Rancocas Creek Bridge - A State-of-the-Art Design of a Railroad Tied-Arch Bridge

Ruchu Hsu and Lori Gale, *Parsons Brinckerhoff, Inc., New York, NY*

IBC-04-24

Seismic Analysis and Design of the New Tacoma Narrows Suspension Bridge

Serafim Arzoumanidis, PhD, PE and Ayman Shama, PhD, PE, *Parsons Corporation, New York, NY*;

Shawn Marlow, PE, *Parsons Corporation, San Francisco, CA*; and Farhang Ostadan, PhD, PE, *Bechtel Group of Companies, San Francisco, CA*

IBC-04-25

The FHWA Comprehensive Prestressed Concrete Girder Bridge Design Example and Commentary

Wagdy Wassef and Christopher Smith, *Modjeski and Masters, Inc., Harrisburg, PA*; and Thomas Saad, *FHWA Resource Center, Chicago, IL*

IBC-04-26

Aesthetics / Pedestrian Bridges Session

Presented Tuesday, June 15, 2004

Chaired By: Lisle E. Williams, PE, PLS, DMJM+HARRIS, Inc., Pittsburgh, PA

A Quantitative Analysis of Bridge Aesthetics

Linda Figg, *Figg Engineering Group, Tallahassee, FL*

IBC-04-27

America's Longest Concrete Arch Cable Supported Bridge

W. Denney Pate, PE, *Figg Engineering Group, Tallahassee, FL*

IBC-04-28

Historic Bridge of Lions Rehabilitation

David T. Sweeney, PE, *Reynolds, Smith and Hills Inc., Jacksonville, FL* and Joseph J. Pullaro, PE, *Lichtenstein Consulting Engineers, Inc., Paramus, NJ*

IBC-04-29

Small Signature Bridges "The Design and Construction of the Lane Avenue Bridge"

Mark D. Sherman, PE, *Franklin County Engineers, Columbus, OH*

IBC-04-30

The Millenium Garden Avenue Overpass, Innovative Bridge for Republic of Kazakhstan

Biljana Rajlic, P.Eng. and Philip D. Murray, M.Eng., P.Eng., *Acres International Limited, Oakville, Ontario, Canada*

IBC-04-31

Esplanade Riel – Cable-Stayed Pedestrian Bridge

Craig Michaluk, P.Eng. and Robert van Ginkel, P.Eng., *Wardrop Engineering Inc., Winnipeg, MB, Canada*; and Bob McDonald, *City of Winnipeg, Public Works Dept., Winnipeg, MB, Canada*

IBC-04-32

Innovative Curved Cable Stayed Bridge to Provide Pedestrian/Bicycle Trail Connections

Cesar Fernandes, Jr., PhD, PE, SE, *Figg Engineering Group, Tallahassee, FL*

IBC-04-33

Dynamic Testing of the I-235 Pedestrian Bridge for Human Induced Vibration

David D. Byers, *Genesis Structures, Inc., Kansas City, MO*; Stoyan Stoyanoff, *RWDI, Guelph, Ontario, Canada*; and John P. Boschert, *HNTB Corporation, Kansas City, MO*

IBC-04-34

Materials & Inspection Session

Presented Tuesday, June 15, 2004

Chaired By: Gerald Pitzer, PE, GAI Consultants, Inc., Monroeville, PA

Comparing Load and Resistance Factor Ratings to Load Factor Ratings

Bala Sivakumar, PE, *Lichtenstein Consulting Engineers, Inc., Paramus, NJ*

IBC-04-35

Shear Capacity of Horizontally Curved Steel Box Girder Bridges

Jian Huang and G. Alan Klevens, *Lichtenstein Consulting Engineers, Fort Lauderdale, FL*

IBC-04-36

Redundancy of Twin Steel Box Girder Bridges - A Preliminary Study

Sena Kumarasena, Gary Gardner and Joey Breton, *HNTB Corporation, Boston, MA*

IBC-04-37

A Summary of Six Years Experience Using FRP Composites for Bridge Decks

John M. Hooks, PE, *Federal Highway Administration, McLean, VA* and Jerome S. O'Connor, PE, *Multi-Disciplinary Center for Earthquake Engineering and Research, Buffalo, NY*

IBC-04-39

Use of Stainless Steel Reinforcing in Coastal Bridges

Frank J. Nelson, PE, *Oregon Department of Transportation, Salem, OR*

IBC-04-40

A New Bridge on the Ticino River in Italy: Advantages and Problems Related to the Use of a New Stainless Steel Rebar

Antonio Migliacci, Pietro Crespi and Alberto Franchi, *Politecnico of Milano, Milano, Italy*; Maurizio Acito, Danilo Campagna and Giovanni Franchi, *MSC & Associates, Milano, Italy*; and Aldo Bennani, *Cogne, Aosta, Italy*

IBC-04-41

Stainless Steels for Application to Bridge Construction: A Technical and Economical Comparison with Carbon Steel

Patrick Toussaint, Jean-Pierre Audouard, Pierre Soullignac and Bruno Vincent, *INDUSTEEL, Arcelor Group, Le Creusot, France*

IBC-04-42

Construction Session

Presented Wednesday, June 16, 2004

Chaired By: Arthur W. Hedgren, Jr., PhD, PE, Consultant, Pittsburgh, PA

New Carquinez Strait Suspension Bridge

Eugene Thimmhardy, PhD, PE, Michael Marquez, PE and Joe Reyes, PE, *California Department of Transportation, Sacramento, CA*; Frank Daams, *FCI Constructors, Inc./Cleveland Bridge California, Inc., Crocket, CA*

IBC-04-43

"Lightening the Load" - The Installation of an Orthotropic Deck System At the Triborough Bridge

James Valenti, PE, *Greenman-Pedersen, Inc., Babylon, NY*

IBC-04-44

The "Big Pick" - Construction of Church Street South Extension over the New Haven Interlocking and Rail Yard

Paul van Olden, *Gannett Fleming, Inc., Manchester, CT*; Timothy Young, *Parsons Brinckerhoff Quade & Douglas, Inc., Glastonbury, CT*; John Hanifin and Christopher Gallucci, *Connecticut Department of Transportation, Newington, CT*; and John Gemetro, Jr., *O&G Industries, Torrington, CT*

IBC-04-45

Innovative Historic Structure Rehabilitation - A Construction Engineering Solution for Johnstown, Pennsylvania's Stonycreek River Bridge

Jared G. Fasick and Thomas G. Leech, PE, SE, *Gannett Fleming, Inc., Pittsburgh, PA*; Thomas C. Dugan, *Alvarez, Inc., Finleyville, PA*

IBC-04-46

The Reconstruction of L'Acadie Elevated Roundabout

Olivier Joly and Adel R. Zaki, *SNC-Lavalin Inc., Montreal, QC, Canada*

IBC-04-47

The Ohio Turnpike Bridges over the Cuyahoga River: Use of Innovative Construction and Materials Concepts

Robert J. Gulyas, FACI, *Degussa Building Systems, Cleveland, OH*

IBC-04-48

Design and Fabrication of Corrugated Web Girder Bridge

Thomas P. Macioce, PE and Joseph A. Bracken, III, PE, *Pennsylvania Department of Transportation, Harrisburg, PA*; Alan W. Pense, PhD, *Lehigh University, Bethlehem, PA*

IBC-04-49

Innovations with Corrugated Webs

Roger Wildt, PE, *RW Consulting Group, Bethlehem, PA* and Hans Spelten, *Spelten Consulting GmbH, Nettetal, Germany*

IBC-04-50

Widening of the Atlantic City Expressway Thru-Girder Replacement

Joel Stahmer, *Ammann & Whitney Pennsylvania, Inc., Philadelphia, PA* and Otto Schatz, *Cornell & Company, Woodbury, NJ*

IBC-04-51

Long Span Bridges Session

Presented Wednesday, June 16, 2004

Chaired By: James Dwyer, Port Authority of Allegheny County, Pittsburgh, PA

The Panama Canal Second Crossing Paraíso, Panamá

Rafael Manzanarez, Alex Sanjines, Man-Chung Tang, Roupen Donikian, James Duxbury and Jack López-Jara, *TY Lin International, San Francisco, CA*

IBC-04-52

Design of the Main Spans of the Chongqing Caiyanba Bridge

Tom Ho, John Sun, and Man-Chung Tang, *TY Lin International, San Francisco, CA*

IBC-04-53

Aerodynamic Improvements at the Bronx-Whitestone Bridge

Genaro Velez and Guang-Nan Fanjiang, PE, *Weidlinger Associates, New York, NY*, and Omar Fernandez, *MTA Bridges & Tunnels, New York, NY*

IBC-04-54

(Not Published in these Proceedings)

The Saguenay River Suspension Bridge

Vijay Chandra, Joseph Tse and Ruchu Hsu, *Parsons Brinckerhoff, New York, NY* and Adel R. Zaki, *SNC Lavalin, Montreal, Quebec, Canada*

IBC-04-55

Southern Outer Bangkok Ring Road Chao Phraya River Bridge: A Cable-Stayed Bridge Designed for Thailand's Future

Ruchu Hsu, *Parsons Brinckerhoff, Inc., New York, NY*

IBC-04-56

Lessons Learned Session

Presented Wednesday, June 16, 2004

Chaired By: Donald W. Herbert, PE, Pennsylvania Department of Transportation, Uniontown, PA

Anatomy of a Collapse - the July 21st Collapse of the Kinzua Viaduct

Thomas G. Leech, PE, SE, *Gannett Fleming, Inc., Pittsburgh, PA*; Russell L. Ricker III, *Gannett Fleming, Inc., Harrisburg, PA*; and Eugene J. Comoss and James A. Eppley, *PA Dept of Conservation & Natural Resources, Harrisburg, PA*

IBC-04-61

Blue Ribbon Panel Recommendations for Bridge and Tunnel Security

James D. Cooper, PE, *BridgeRD&T, Purcellville, VA*; Michael C. Smith, PhD, *Science Applications International Corporation, Charlottesville, VA*; and Steven L. Ernst, PE, *Federal Highway Administration, Washington, DC*

IBC-04-62

Forensic Investigation of the SR 422 over the Schuylkill River Girder Fracture

Robert J. Connor and Eric J. Kaufmann, *Lehigh University, Bethlehem, PA*; Jian Jin, *Edwards and Kelcey, West Chester, PA*; and Charles H. Davies, *Pennsylvania Department of Transportation, King of Prussia, PA*

IBC-04-63

Retrofit of Thirteen Bridges With Hoan-Like Details

Ahmad K. Ahmadi, PE, PhD and David Miller, PE, *SAI Consulting Engineers, Inc., Pittsburgh, PA*; Louis Ruzzi, PE, *PENNDOT District 11-0, Pittsburgh, PA*

IBC-04-64

Brandywine Bridge Fracture Analysis and Retrofit

John A. Milius, PE, *DMJM+HARRIS, Inc., Philadelphia, PA*; Jiten Soneji, PE and Gerard Mulderrig, PE, *Delaware Department of Transportation, Dover, DE*; Michael J. Chajes, PhD, PE, *University of Delaware, Newark, DE*

IBC-04-65

Design, Part 2

Presented Wednesday, June 16, 2004

Chaired By: Victor E. Bertolina, PE, SAI Consulting Engineers, Pittsburgh, PA

Precast Segmental Technology and the Woodrow Wilson Bridge: Design and Construction of the Fixed Span Piers

Cris Moen, PE and Daniel Teal, PE, *Parsons, Baltimore, MD*
IBC-04-66

Return to the Basics: Economical Steel Bridge Design

Kenneth J. Wright, PE, *HDR Engineering, Inc., Pittsburgh, PA*
IBC-04-67

Larreategui Bridge - Learning the Hard Way

Radu Dragan, Christopher Gagnon and Peter Sluszka, *Ammann & Whitney Consulting Engineers, PC, New York, NY*
IBC-04-68

Marquette Interchange Reconstruction: HPS Twin Box Girder Ramps

Finn Hubbard, *Wisconsin DOT, Madison, WI*; Tony Shkurti, *HNTB, Milwaukee, WI*; and Kenneth D. Price, *HNTB, Chicago, IL*
IBC-04-69

Innovative Design for the Scotia Road Bridge Foundation

Catherine Chia-Calabria, PE, *McCormick Taylor, Inc., Philadelphia, PA* and Carl F. Henderson, PhD, PE, *AGES, Inc., Canonsburg, PA*
IBC-04-70

Other Presentations

Improving Fatigue Strength of Cover Plate and Stiffener Details using Ultrasonic Impact Treatment

Sougata Roy, *Lehigh University, Bethlehem, PA*
Graduate Student Winner

Steel Tied Arch Design for the I-74 Mississippi River Bridge

Laura Mullendore, Sara Hyatt, Ashley Lucas, *Washington University in St. Louis, St. Louis, MO*
Undergraduate Student Winner

Acito, Maurizio, *MSC & Associates, Milano, Italy* - **A New Bridge on the Ticino River in Italy: Advantages and Problems Related to the Use of a New Stainless Steel Rebar** (IBC-04-41)

Ahmadi, PE, PhD, Ahmad K., *SAI Consulting Engineers, Inc., Pittsburgh, PA* - **Retrofit of Thirteen Bridges With Hoan-Like Details** (IBC-04-64)

Ailaney, PE, Raj K., *Federal Highway Administration, Washington, DC* - **Rehabilitation and Widening of Bridges on Interstate I-77 over New River, Wythe County, Virginia** (IBC-04-19)

Arzoumanidis, Serafim, *Parsons Corporation, New York, NY* - **Seismic Analysis and Design of the New Tacoma Narrows Suspension Bridge** (IBC-04-25)

Audouard, Jean-Pierre, *INDUSTEEL, Arcelor Group, Le Creusot, France* - **Stainless Steels for Application to Bridge Construction: A Technical and Economical Comparison with Carbon Steel** (IBC-04-42)

Ballinger, Craig, *Termarust Technologies, Vienna, VA* - **Power Washing and Overcoating is Effective and Much Less Expensive than Sandblasting and Completely Repainting Bridges** (IBC-04-09)

Bennani, Aldo, *Cogne, Aosta, Italy* - **A New Bridge on the Ticino River in Italy: Advantages and Problems Related to the Use of a New Stainless Steel Rebar** (IBC-04-41)

Bluni, PE, Sean A., *Hardesty & Hanover, LLP, New York, NY* - **Replacement of the Third Avenue Swing Bridge over the Harlem River** (IBC-04-22)

Boschert, John P., *HNTB Corporation, Kansas City, MO* - **Dynamic Testing of the I-235 Pedestrian Bridge for Human Induced Vibration** (IBC-04-34)

Bracken, III, PE, Joseph A., *Pennsylvania Department of Transportation, Harrisburg, PA* - **Design and Fabrication of Corrugated Web Girder Bridge** (IBC-04-49)

Breton, Joey, *HNTB, Boston, MA* - **Redundancy of Twin Steel Box Girder Bridges - A Preliminary Study** (IBC-04-37)

Buonomo, Marc, *Eiffel Construction Metallique, Paris, France* - **Integrated Hydraulic Solutions for the World's Highest Bridge: Hydraulic Solutions Used on the Millau Viaduct** (IBC-04-08)

Byers, David D., *Genesis Structures, Inc., Kansas City, MO* - **Dynamic Testing of the I-235 Pedestrian Bridge for Human Induced Vibration** (IBC-04-34)

Campagna, Danilo, *MSC & Associates, Milano, Italy* - **A New Bridge on the Ticino River in Italy: Advantages and Problems Related to the Use of a New Stainless Steel Rebar** (IBC-04-41)

Chajes, PhD, PE, Michael J., *University of Delaware, Newark, DE* - **Brandywine Bridge Fracture Analysis and Retrofit** (IBC-04-65)

Chandra, Vijay, *Parsons Brinckerhoff, New York, NY* - **The Saguenay River Suspension Bridge** (IBC-04-55)

Chia-Calabria, PE, Catherine, *McCormick Taylor, Inc., Philadelphia, PA* - **Innovative Design for the Scotia Road Bridge Foundation** (IBC-04-70)

Comoss, Eugene J., *Pennsylvania DCNR, Harrisburg, PA* - **Anatomy of a Collapse - the July 21st Collapse of the Kinzua Viaduct** (IBC-04-61)

Connolly, PE, Paul J., *Hardesty & Hanover, LLP, New York, NY* - **Replacement of the Third Avenue Swing Bridge over the Harlem River** (IBC-04-22)

Connor, Robert J., *Lehigh University, Bethlehem, PA* - **Forensic Investigation of the SR 422 over the Schuylkill River Girder Fracture** (IBC-04-63)

Cooper, PE, James D., *BridgeRD&T, Purcellville, VA* - **Blue Ribbon Panel Recommendations for Bridge and Tunnel Security** (IBC-04-62)

Crespi, Pietro, *Politecnico of Milano, Milano, Italy* - **A New Bridge on the Ticino River in Italy: Advantages and Problems Related to the Use of a New Stainless Steel Rebar** (IBC-04-41)

Daams, Frank, *FCI Constructors, Inc./Cleveland Bridge California, Inc., Crocket, CA* - **New Carquinez Strait Suspension Bridge** (IBC-04-43)

Danson, P.Eng, Bill, *Public Works and Government Services, Gatineau, QC, Canada* - **Seismic Analysis, Evaluation and Preliminary Retrofit Design for the Macdonald-Cartier Bridge** (IBC-04-16)

Davies, Charles H., *Pennsylvania Department of Transportation, King of Prussia, PA* - **Forensic Investigation of the SR 422 over the Schuylkill River Girder Fracture** (IBC-04-63)

DeNadia, P.E., Ronald, *Edwards & Kelcey, Inc., Philadelphia, PA* - **Connecting the Pennsylvania Turnpike and Interstate 95 - “The Missing Link”** (IBC-04-07)

Di Bernardo, Salvatore, *Earth Tech, Inc., Chicago, IL* - **An Innovative Arch Bridge for the City of Des Moines** (IBC-04-21)

Donikian, Roupén, *TY Lin International, San Francisco, CA* - **The Panama Canal Second Crossing Paraíso, Panamá** (IBC-04-52)

Dragan, Radu, *Ammann & Whitney Consulting Engineers, PC, New York, NY* - **Larreategui Bridge - Learning the Hard Way** (IBC-04-68)

Dugan, Thomas C., *Alvarez, Inc., Finleyville, PA* - **Innovative Historic Structure Rehabilitation - A Construction Engineering Solution for Johnstown, Pennsylvania's Stonycreek River Bridge** (IBC-04-46)

Duxbury, James, *TY Lin International, San Francisco, CA* - **The Panama Canal Second Crossing Paraíso, Panamá** (IBC-04-52)

Eppley, James A., *PA Dept of Conservation & Natural Resources, Harrisburg, PA* - **Anatomy of a Collapse - the July 21st Collapse of the Kinzua Viaduct** (IBC-04-61)

Ernst, PE, Steven L., *Federal Highway Administration, Washington, DC* - **Blue Ribbon Panel Recommendations for Bridge and Tunnel Security** (IBC-04-62)

Ezyk, Richard, *STV Incorporated, Stratford, CT* - **Replacing the Moses Wheeler Bridge** (IBC-04-23)

Fanjiang, PE, Guang-Nan, *Weidlinger Associates, Inc., New York, NY* - **Aerodynamic Improvements at the Bronx-Whitestone Bridge** (IBC-04-54)

Fasick, Jared G., *Gannett Fleming, Inc., Pittsburgh, PA* - **Innovative Historic Structure Rehabilitation - A Construction Engineering Solution for Johnstown, Pennsylvania's Stonycreek River Bridge** (IBC-04-46)

Fernandes, Jr., PhD, PE, SE, Cesar, *Figg Engineering Group, Tallahassee, FL* - **Innovative Curved Cable Stayed Bridge to Provide Pedestrian/Bicycle Trail Connections** (IBC-04-33)

Fernandez, Omar, *MTA Bridges & Tunnels, New York, NY* - **Aerodynamic Improvements at the Bronx-Whitestone Bridge** (IBC-04-54)

Figg, Linda, *Figg Engineering Group, Tallahassee, FL* - **A Quantitative Analysis of Bridge Aesthetics** (IBC-04-27)

Fisher, Peter K., *Rust-Oleum, Vernon Hills, IL* - **Is There an Alternative to Abrasive Blasting?** (IBC-04-11)

Flournoy, PE, Thomas S., *TAMS Consultants, Inc., Alexandria, VA* - **Rehabilitation and Widening of Bridges on Interstate I-77 over New River, Wythe County, Virginia** (IBC-04-19)

Franchi, Alberto, *Politecnico of Milano, Milano, Italy* - **A New Bridge on the Ticino River in Italy: Advantages and Problems Related to the Use of a New Stainless Steel Rebar** (IBC-04-41)

Franchi, Giovanni, *MSC & Associates, Milano, Italy* - **A New Bridge on the Ticino River in Italy: Advantages and Problems Related to the Use of a New Stainless Steel Rebar** (IBC-04-41)

Gagnon, Christopher, *Ammann & Whitney Consulting Engineers, PC, New York, NY* - **Larreategui Bridge - Learning the Hard Way** (IBC-04-68)

Gale, Lori, *Parsons Brinckerhoff, Inc., New York, NY* - **Rancocas Creek Bridge - A State-of-the-Art Design of a Railroad Tied-Arch Bridge** (IBC-04-24)

Gallagher, SE, PE, Elizabeth, *Consoer Townsend Envirodyne Engineers, Inc., Chicago, IL* - **The Rehabilitation of the Chicago Skyway** (IBC-04-20)

Gallucci, Christopher, *Connecticut Department of Transportation, Newington, CT* - **The "Big Pick" - Construction of Church Street South Extension over the New Haven Interlocking and Rail Yard** (IBC-04-45)

Gardner, Gary, *HNTB, Boston, MA* - **Redundancy of Twin Steel Box Girder Bridges - A Preliminary Study** (IBC-04-37)

Gemetro, Jr., John, *O&G Industries, Torrington, CT* - **The "Big Pick" - Construction of Church Street South Extension over the New Haven Interlocking and Rail Yard** (IBC-04-45)

Graham, PE, Gary L., *Pennsylvania Turnpike, Harrisburg, PA* - **The History of "America's Dream Highway" – From "A" to "EZ-Pass"** (IBC-04-01)

Gulyas, FACI, Robert J., *Degussa Construction Systems Americas, Cleveland, OH* - **The Ohio Turnpike Bridges over the Cuyahoga River: Use of Innovative Construction and Materials Concepts** (IBC-04-48)

Hanifin, John, *Connecticut Department of Transportation, Newington, CT* - **The "Big Pick" - Construction of Church Street South Extension over the New Haven Interlocking and Rail Yard** (IBC-04-45)

He, SE, PE, Jixing, *Consoer Townsend Envirodyne Engineers, Inc., Chicago, IL* - **The Rehabilitation of the Chicago Skyway** (IBC-04-20)

Heimann, Nancy, *Elisha Technologies Co. LLC, Moberly, MO* - **Field Testing of New Novel Technique for Controlling Crevice Corrosion on Rocker Assemblies** (IBC-04-13)

Henderson, PhD, PE, Carl F., *AGES, Inc., Canonsburg, PA* - **Innovative Design for the Scotia Road Bridge Foundation** (IBC-04-70)

Ho, Tom, *TY Lin International, San Francisco, CA* - **Design of the Main Spans of the Chongqing Caiyanba Bridge** (IBC-04-53)

Hohensee, Paul, *Enerpac, Milwaukee, WI* - **Integrated Hydraulic Solutions for the World's Highest Bridge: Hydraulic Solutions Used on the Millau Viaduct** (IBC-04-08)

Hooks, PE, John M., *Federal Highway Administration, McLean, VA* - **A Summary of Six Years Experience Using FRP Composites for Bridge Decks** (IBC-04-39)

Hossain, Imam, *Ammann & Whitney, New York, NY* - **Suspension Bridge Cable Replacement** (IBC-04-18)

Hsu, Ruchu, *Parsons Brinckerhoff, Inc., New York, NY* - **Rancocas Creek Bridge - A State-of-the-Art Design of a Railroad Tied-Arch Bridge** (IBC-04-24)

Hsu, Ruchu, *Parsons Brinckerhoff Inc., New York, NY* - **The Saguenay River Suspension Bridge** (IBC-04-55)

Hsu, Ruchu, *Parsons Brinckerhoff, Inc., New York, NY* - **Southern Outer Bangkok Ring Road Chao Phraya River Bridge: A Cable-Stayed Bridge Designed for Thailand's Future** (IBC-04-56)

Huang, Jian, *Lichtenstein Consulting Engineers, Fort Lauderdale, FL* - **Shear Capacity of Horizontally Curved Steel Box Girder Bridges** (IBC-04-36)

Hubbard, Finn, *Wisconsin DOT, Madison, WI* - **Marquette Interchange Reconstruction: HPS Twin Box Girder Ramps** (IBC-04-69)

Hyatt, Sara, *Washington University in St. Louis, St. Louis, MO* - **Steel Tied Arch Design for the I-74 Mississippi River Bridge**
(Undergraduate Student Winner)

Jin, Jian, *Edwards and Kelcey, West Chester, PA* - **Forensic Investigation of the SR 422 over the Schuylkill River Girder Fracture** (IBC-04-63)

Joly, Olivier, *SNC-Lavalin Inc., Montreal, QC, Canada* - **The Reconstruction of L'Acadie Elevated Roundabout** (IBC-04-47)

Kaufmann, Eric J., *Lehigh University, Bethlehem, PA* - **Forensic Investigation of the SR 422 over the Schuylkill River Girder Fracture** (IBC-04-63)

Kempf, Jr., PE, Frank J., *Pennsylvania Turnpike, Harrisburg, PA* - **"Expanding the Turnpike" - The Mon Fayette Expressway and Southern Beltway** (IBC-04-06)

Klevens, G. Alan, *Lichtenstein Consulting Engineers, Fort Lauderdale, FL* - **Shear Capacity of Horizontally Curved Steel Box Girder Bridges** (IBC-04-36)

Klingensmith, P.E., Donald S., *Pennsylvania Turnpike, Harrisburg, PA* - **Rebuilding “America’s 1st Super Highway” – A Total Reconstruction** (IBC-04-03)

Klingensmith, P.E., Donald S., *Pennsylvania Turnpike, Harrisburg, PA* - **Replacement of the Allegheny River, Lehigh River and Pohopoco Creek Bridges – “Fitting Large Bridges in Tight Places”** (IBC-04-05)

Klingensmith, P.E., Donald S., *Pennsylvania Turnpike, Harrisburg, PA* - **Connecting the Pennsylvania Turnpike and Interstate 95 - “The Missing Link”** (IBC-04-07)

Kumarasena, Sena, *HNTB Corporation, Boston, MA* - **Redundancy of Twin Steel Box Girder Bridges - A Preliminary Study** (IBC-04-37)

Leech, PE, SE, Thomas G., *Gannett Fleming, Inc., Pittsburgh, PA* - **Innovative Historic Structure Rehabilitation - A Construction Engineering Solution for Johnstown, Pennsylvania's Stonycreek River Bridge** (IBC-04-46)

Leech, PE, SE, Thomas G., *Gannett Fleming, Inc., Pittsburgh, PA* - **Anatomy of a Collapse - the July 21st Collapse of the Kinzua Viaduct** (IBC-04-61)

López-Jara, Jack, *TY Lin International, San Francisco, CA* - **The Panama Canal Second Crossing Paraíso, Panamá** (IBC-04-52)

Lucas, Ashley, *Washington University in St. Louis, St. Louis, MO* - **Steel Tied Arch Design for the I-74 Mississippi River Bridge**
(Undergraduate Student Winner)

Macioce, PE, Thomas P., *Pennsylvania Department of Transportation, Harrisburg, PA* - **Design and Fabrication of Corrugated Web Girder Bridge** (IBC-04-49)

Manzanarez, Rafael, *TY Lin International, San Francisco, CA* - **The Panama Canal Second Crossing Paraíso, Panamá** (IBC-04-52)

Marlow, S., *Parsons Transportation Group, San Francisco, CA* - **Seismic Analysis and Design of the New Tacoma Narrows Suspension Bridge** (IBC-04-25)

Marquez, PE, Michael, *California Department of Transportation, Sacramento, CA* - **New Carquinez Strait Suspension Bridge** (IBC-04-43)

Mathuria, PE, Nalin, *Virginia Department of Transportation, Richmond, VA* - **Rehabilitation and Widening of Bridges on Interstate I-77 over New River, Wythe County, Virginia** (IBC-04-19)

McDonald, Bob, *City of Winnipeg, Public Works Dept., Winnipeg, MB, Canada* - **Esplanade Riel - Cable Stayed Pedestrian Bridge** (IBC-04-32)

Michaluk, P.Eng., Craig, *Wardrop Engineering Inc., Winnipeg, MB, Canada* - **Esplanade Riel - Cable Stayed Pedestrian Bridge** (IBC-04-32)

Migliacci, Antonio, *Politecnico of Milano, Milano, Italy* - **A New Bridge on the Ticino River in Italy: Advantages and Problems Related to the Use of a New Stainless Steel Rebar** (IBC-04-41)

Milius, PE, John A., *DMJM+HARRIS, Inc., Philadelphia, PA* - **Brandywine Bridge Fracture Analysis and Retrofit** (IBC-04-65)

Miller, PE, David, *SAI Consulting Engineers, Inc., Pittsburgh, PA* - **Retrofit of Thirteen Bridges With Hoan-Like Details** (IBC-04-64)

Moen, PE, Cris, *Parsons, Baltimore, MD* - **Precast Segmental Technology and the Woodrow Wilson Bridge: Design and Construction of the Fixed Span Piers** (IBC-04-66)

Montminy, P.Eng., Sylvain, *Delcan Corporation, Ottawa, Ontario, Canada* - **Seismic Analysis, Evaluation and Preliminary Retrofit Design for the Macdonald-Cartier Bridge** (IBC-04-16)

Mulderrig, PE, Gerard, *Delaware Department of Transportation, Dover, DE* - **Brandywine Bridge Fracture Analysis and Retrofit** (IBC-04-65)

Mullendore, Laura, *Washington University in St. Louis, St. Louis, MO* - **Steel Tied Arch Design for the I-74 Mississippi River Bridge**
(Undergraduate Student Winner)

Murray, M.Eng., P.Eng., Philip D., *Acres International, Oakville, Ontario, Canada* - **The Millenium Garden Avenue Overpass, Innovative Bridge for Republic of Kazakhstan** (IBC-04-31)

Nelson, PE, Frank J., *Oregon Department of Transportation, Salem, OR* - **Use of Stainless Steel Reinforcing in Coastal Bridges** (IBC-04-40)

O'Connor, PE, Jerome S., *Multi-Disciplinary Center for Earthquake Engineering and Research, Buffalo, NY* - **A Summary of Six Years Experience Using FRP Composites for Bridge Decks** (IBC-04-39)

Ostadan, F., *Bechtel Group of Companies, San Francisco, CA* - **Seismic Analysis and Design of the New Tacoma Narrows Suspension Bridge** (IBC-04-25)

Ozimok, P.E., John S., *Pennsylvania Turnpike, Harrisburg, PA* - **Rebuilding “America’s 1st Super Highway” – A Total Reconstruction** (IBC-04-03)

Pate, PE, W. Denney, *Figg Engineering Group, Tallahassee, FL* - **America's Longest Concrete Arch Cable Supported Bridge** (IBC-04-28)

Pense, PhD, Alan W., *Lehigh University, Bethlehem, PA* - **Design and Fabrication of Corrugated Web Girder Bridge** (IBC-04-49)

Pike, Adrian J., *Pitchmastic PmB Ltd, Sheffield, UK* - **A 20 Year Case Study of Polyurethane Waterproofing on Civil Engineering Projects** (IBC-04-14)

Price, Kenneth D., *HNTB, Chicago, IL* - **Marquette Interchange Reconstruction: HPS Twin Box Girder Ramps** (IBC-04-69)

Pullaro, PE, Joseph J., *Lichtenstein Consulting Engineers, Inc., Paramus, NJ* - **Gay Street Bridge, Knoxville, Tennessee: Disassembly and Rehabilitation of 1897 Pin Connected Truss** (IBC-04-15)

Pullaro, PE, Joseph J., *Lichtenstein Consulting Engineers, Inc., Paramus, NJ* - **Historic Bridge of Lions Rehabilitation** (IBC-04-29)

Radovich, SE, PE, Bradley, *Consoer Townsend Envirodyne Engineers, Inc., Woodstock, IL* - **The Rehabilitation of the Chicago Skyway** (IBC-04-20)

Rajlic, P.Eng, Biljana, *Acres International Limited, Oakville, Ontario, Canada* - **The Millenium Garden Avenue Overpass, Innovative Bridge for Republic of Kazakhstan** (IBC-04-31)

Ranck, P.E., Brian M., *Pennsylvania Turnpike, Harrisburg, PA* - **Susquehanna River Bridge Replacement – “Pennsylvania’s 1st Major Concrete Segmental Bridge”** (IBC-04-04)

Reyes, PE, Joe, *California Department of Transportation, Richmond, CA* - **New Carquinez Strait Suspension Bridge** (IBC-04-43)

Ricker III, Russell L., *Gannett Fleming, Inc., Harrisburg, PA* - **Anatomy of a Collapse - the July 21st Collapse of the Kinzua Viaduct** (IBC-04-61)

Rohleder, Jr., PE, SE, William J., *Figg Bridge Engineers, Inc., Exton, PA* - **Susquehanna River Bridge Replacement – “Pennsylvania’s 1st Major Concrete Segmental Bridge”** (IBC-04-04)

Roy, Sougata, *Lehigh University, Bethlehem, PA* - **Improving Fatigue Strength of Cover Plate and Stiffener Details using Ultrasonic Impact Treatment** (Graduate Student Winner)

Ruzzi, PE, Louis, *PENNDOT District 11-0, Pittsburgh, PA* - **Retrofit of Thirteen Bridges With Hoan-Like Details** (IBC-04-64)

Saad, Thomas, *FHWA Resource Center, Chicago, IL* - **The FHWA Comprehensive Prestressed Concrete Girder Bridge Design Example and Commentary** (IBC-04-26)

Sanjines, Alex, *TY Lin International, San Francisco, CA* - **The Panama Canal Second Crossing Paraíso, Panamá** (IBC-04-52)

Schatz, Otto, *Cornell & Company, Woodbury, NJ* - **Widening of the Atlantic City Expressway Thru-Girder Replacement** (IBC-04-51)

Schellhase, Michael, *InspectTech, Pittsburgh, PA* - **Implementing a Computer Bridge Inspection and Management System** (IBC-04-12)

Senick, Wayne, *Termarust Technologies, Anjou, Montreal, Quebec, Canada* - **Power Washing and Overcoating is Effective and Much Less Expensive than Sandblasting and Completely Repainting Bridges** (IBC-04-09)

Shaffer, Jeremy, *InspectTech, Pittsburgh, PA* - **Implementing a Computer Bridge Inspection and Management System** (IBC-04-12)

Shama, Ayman, *Parsons Transportation Group, New York, NY* - **Seismic Analysis and Design of the New Tacoma Narrows Suspension Bridge** (IBC-04-25)

Sherman, PE, Mark D., *Franklin County Engineers, Columbus, OH* - **Small Signature Bridges "The Design and Construction of the Lane Avenue Bridge"** (IBC-04-30)

Shkurti, Tony, *HNTB, Milwaukee, WI* - **Marquette Interchange Reconstruction: HPS Twin Box Girder Ramps** (IBC-04-69)

Sivakumar, PE, Bala, *Lichtenstein Consulting Engineers, Inc., Paramus, NJ* - **Comparing Load and Resistance Factor Ratings to Load Factor Ratings** (IBC-04-35)

Sluszka, Peter, *Ammann & Whitney, New York, NY* - **Suspension Bridge Cable Replacement** (IBC-04-18)

Sluszka, Peter, *Ammann & Whitney Consulting Engineers, PC, New York, NY* - **Larreategui Bridge - Learning the Hard Way** (IBC-04-68)

Smith, Christopher, *Modjeski and Masters, Inc., Harrisburg, PA* - **The FHWA Comprehensive Prestressed Concrete Girder Bridge Design Example and Commentary** (IBC-04-26)

Smith, PhD, Michael C., *Science Applications International Corporation, Charlottesville, VA* - **Blue Ribbon Panel Recommendations for Bridge and Tunnel Security** (IBC-04-62)

Soneji, PE, Jiten, *Delaware Department of Transportation, Dover, DE* - **Brandywine Bridge Fracture Analysis and Retrofit** (IBC-04-65)

Sordo, Luis, *Enerpac, Madrid, Spain* - **Integrated Hydraulic Solutions for the World's Highest Bridge: Hydraulic Solutions Used on the Millau Viaduct** (IBC-04-08)

Soucie, Wayne, *Elisha Technologies Co. LLC, Moberly, MO* - **Field Testing of New Novel Technique for Controlling Crevice Corrosion on Rocker Assemblies** (IBC-04-13)

Soulinac, Pierre, *INDUSTEEL, Arcelor Group, Le Creusot, France* - **Stainless Steels for Application to Bridge Construction: A Technical and Economical Comparison with Carbon Steel** (IBC-04-42)

Spelten, Hans, *Spelten Consulting GmbH, Nettetal, Germany* - **Innovations with Corrugated Webs** (IBC-04-50)

Stahmer, Joel, *Ammann & Whitney Pennsylvania, Inc., Philadelphia, PA* - **Widening of the Atlantic City Expressway Thru-Girder Replacement** (IBC-04-51)

Stephenson, P.Eng., John, *Region of Waterloo, Kitchener, Ontario, Canada* - **Seismic Analysis, Evaluation and Preliminary Retrofit Design for the Macdonald-Cartier Bridge** (IBC-04-16)

Stine, Chris, *Earth Tech, Inc., Chicago, IL* - **An Innovative Arch Bridge for the City of Des Moines** (IBC-04-21)

Stoddard, Richard, *Washington State DOT, Olympia, WA* - **Inspection and Repair of a Fire Damaged Prestressed Girder Bridge** (IBC-04-17)

Stoyanoff, Stoyan, *RWDI, Guelph, Ontario, Canada* - **Dynamic Testing of the I-235 Pedestrian Bridge for Human Induced Vibration** (IBC-04-34)

Stump, P.E., James L., *Pennsylvania Turnpike, Harrisburg, PA* - **Using Tomorrow's Technology to Manage "America's Tunnel Highway"** (IBC-04-02)

Sun, John, *TY Lin International, San Francisco, CA* - **Design of the Main Spans of the Chongqing Caiyanba Bridge** (IBC-04-53)

Sweeney, PE, David T., *Reynolds, Smith and Hills Inc., Jacksonville, FL* - **Historic Bridge of Lions Rehabilitation** (IBC-04-29)

Tang, Man-Chung, *TY Lin International, San Francisco, CA* - **The Panama Canal Second Crossing Paraiso, Panamá** (IBC-04-52)

Tang, Man-Chung, *TY Lin International, San Francisco, CA* - **Design of the Main Spans of the Chongqing Caiyanba Bridge** (IBC-04-53)

Tarhini, Kassim, *STV Inc., Stratford, CT* - **Replacing the Moses Wheeler Bridge** (IBC-04-23)

Tarquinio, PE, John E., *URS Corporation, Bridgeville, PA* - **Using Tomorrow's Technology to Manage "America's Tunnel Highway"** (IBC-04-02)

Teal, PE, Daniel, *Parsons, Baltimore, MD* - **Precast Segmental Technology and the Woodrow Wilson Bridge: Design and Construction of the Fixed Span Piers** (IBC-04-66)

Thimmhardy, PhD, PE, Eugene, *California Department of Transportation, Sacramento, CA* - **New Carquinez Strait Suspension Bridge** (IBC-04-43)

Toussaint, Patrick, *INDUSTEEL, Arcelor Group, Le Creusot, France* - **Stainless Steels for Application to Bridge Construction: A Technical and Economical Comparison with Carbon Steel** (IBC-04-42)

Tse, Joseph, *Parsons Brinckerhoff Inc., New York, NY* - **The Saguenay River Suspension Bridge** (IBC-04-55)

Valenti, PE, James, *Greenman-Pedersen, Inc., Babylon, NY* - **"Lightening the Load" - The Installation of an Orthotropic Deck System At the Triborough Bridge** (IBC-04-44)

van Ginkel, P.Eng, Robert, *Wardrop Engineering Inc., Winnipeg, MB, Canada* - **Esplanade Riel - Cable Stayed Pedestrian Bridge** (IBC-04-32)

van Olden, Paul, *Gannett Fleming, Inc., Manchester, CT* - **The "Big Pick" - Construction of Church Street South Extension over the New Haven Interlocking and Rail Yard** (IBC-04-45)

Velez, Genaro, *Weidlinger Associates, New York, NY* - **Aerodynamic Improvements at the Bronx-Whitestone Bridge** (IBC-04-54)

Vincent, Bruno, *INDUSTEEL, Arcelor Group, Le Creusot, France* - **Stainless Steels for Application to Bridge Construction: A Technical and Economical Comparison with Carbon Steel** (IBC-04-42)

Wassef, Wagdy, *Modjeski and Masters, Inc., Mechanicsburg, PA* - **The FHWA Comprehensive Prestressed Concrete Girder Bridge Design Example and Commentary** (IBC-04-26)

Watson, Ronald, *RJ Watson, Inc., Amherst, NY* - **Material Property Testing of Disk Bearings** (IBC-04-10)

Wildt, PE, Roger, *RW Consulting Group, Bethlehem, PA* - **Innovations with Corrugated Webs** (IBC-04-50)

Wright, PE, Kenneth J., *HDR Engineering, Inc., Pittsburgh, PA* - **Return to the Basics: Economical Steel Bridge Design** (IBC-04-67)

Young, Timothy, *Parsons Brinckerhoff, Quade & Douglas, Inc., Glastonbury, CT* - **The "Big Pick" - Construction of Church Street South Extension over the New Haven Interlocking and Rail Yard** (IBC-04-45)

Zaki, Adel R., *SNC-Lavalin Inc., Montreal, QC, Canada* - **The Reconstruction of L'Acadie Elevated Roundabout** (IBC-04-47)

Zaki, Adel R., *SNC Lavalin, Montreal, Quebec, Canada* - **The Saguenay River Suspension Bridge** (IBC-04-55)

Zielinski, P.E., Bernard J., *Pennsylvania Turnpike, Harrisburg, PA* - **Replacement of the Allegheny River, Lehigh River and Pohopoco Creek Bridges – “Fitting Large Bridges in Tight Places”** (IBC-04-05)

Zielinski, P.E., Bernard J., *Pennsylvania Turnpike, Harrisburg, PA* - **"Expanding the Turnpike" - The Mon Fayette Expressway and Southern Beltway** (IBC-04-06)