



# INTERNATIONAL BRIDGE CONFERENCE

PRESERVING LEGACIES  
DESIGNING LANDMARKS

JUNE 4-6

Hilton Pittsburgh  
& Towers

Pittsburgh,  
Pennsylvania

U.S.A.

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# IBC Executive Committee

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**GENERAL CHAIR: JAMES COOPER**

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SAI Consulting Engineers

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DMJM+Harris, Inc.

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**Gerald Pitzer**

GAI Consultants, Inc.

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**Gary Runco**

Parsons Brinckerhoff

**Charles Schubert**

Michael Baker, Jr., Inc.

**Robert Wellner**

Figg Engineering Group

**Lisle Williams**

DMJM+Harris, Inc.

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Engineers' Society of Western Pennsylvania

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The opinions expressed in this program are not necessarily those of the International Bridge Conference Executive Committee or the Engineers' Society of Western Pennsylvania. Speakers and program content are subject to change.

## Chairman's Welcome

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On behalf of the Engineers' Society of Western Pennsylvania (ESWP), I have the distinct honor and pleasure to welcome you to the 18th annual International Bridge Conference and Exhibition, the preeminent annual bridge conference dedicated to

the practicing professional.

This years' Conference theme, "Preserving Legacies, Designing Landmarks," aptly reflects the turn of the century and our profession as we look back at preservation of some engineering marvels of the Twentieth Century and focus on mega projects for the Twenty-first Century. We are proud to offer a full slate of Technical Sessions, Seminars and Special Interest Sessions which will afford you the opportunity to learn more about the latest technology in the bridge industry as well as share your experiences with a network of old and new friends and colleagues.

The Conference begins with an outstanding Keynote Session highlighting key government and industry leaders. New York, this year's Featured State, will present a technical session Monday afternoon on their current programs, plans and projects. The IBC EXPO is one of the main attractions of the Conference with more than 100 companies participating. You can get up-close and personal with industry leaders who will be showcasing the latest bridge products, services and technologies.

James Cooper

Federal Highway Administration

# IBC Historical Perspective

## **JOHN A. ROEBLING MEDAL WINNERS**

Award for lifetime achievement in bridge engineering

- 2001 James E. Roberts, California Department of Transportation
- 2000 Eugene C. Figg, Jr., P.E., Figg Engineering Group
- 1999 Abba G. Lichtenstein, P.E., Dr. Eng.
- 1998 Dr. Man-Chung Tang, P.E., T.Y. Lin International
- 1997 Dr. Christian Menn, Swiss Federal Institute of Technology
- 1996 Frank D. Sears, Modjeski and Masters, Inc.
- 1995 Dr. John W. Fisher, Lehigh University
- 1994 Dr. Jean M. Muller, J. Muller International
- 1993 Arthur L. Elliott, Consultant/Retired from California DOT
- 1992 Frank L. Stahl, Amman & Whitney
- 1991 Herbert Rothman, Weidlinger Associates
- 1990 T.Y. Lin, T.Y. Lin International
- 1989 Blair Birdsall, Retired/Consultant to New York DOT
- 1988 Carl H. Gronquist, Steinman, Boynton, Gronquist & Birdsall

## **GEORGE S. RICHARDSON MEDAL WINNERS**

Award for a single, recent, outstanding achievement

- 2001 Rede Ferroviaria Nacional EP, Portugal for the Tagus River Suspension Bridge Rail Addition Project
- 2000 Ray McCabe, HNTB Corporation for the Storrow Drive Bridge
- 1999 Gerard Sauvageot, J. Muller International for the Confederation Bridge, Northumberland Strait, Canada
- 1998 Honshu Shikoku Bridge Authority for the Akashi-Kaikyo Bridge
- 1997 Virginia DOT, Parsons Brinckerhoff and Tidewater Construction Corp. for the George P. Coleman Bridge, Yorktown, Virginia
- 1996 John M. Kulicki, Modjeski and Masters, Inc. for Development & Approval, LRFD Design Specifications
- 1995 Michel P. Virloguex, Designer, Bertrand Deroubaix, Project Manager for the Normandy Bridge
- 1994 Figg Engineering and Eastern Federal Lands Highway Div., FHWA for the Natchez Trace Parkway Bridge, Tennessee
- 1993 Colorado DOT for the Hanging Lake Viaduct, Glenwood Canyon, Colorado
- 1992 Washington State DOT for the Lake Washington Floating Bridge
- 1991 James W. Neal, Jr., John F. Beasley Engineering, Inc. for the Roosevelt Lake Bridge
- 1990 Denny A. McLeod, Rigging International for the Oakland Bay Bridge, California
- 1990 L. Ray Davis, Hardaway Company for the Ben Sawyer Bridge, South Carolina
- 1989 Tsutumu Yamane, Honshu-Shikoku Bridge Authority for the Honshu-Shikoku Bridge Routes, specifically the Kojima-Sakaide Route
- 1988 Jean M. Muller and Eugene C. Figg, Jr., Figg and Muller Engineers, Inc. for the Sunshine Skyway Bridge Across Tampa Bay, Florida

# IBC Historical Perspective

## **GUSTAV LINDENTHAL MEDAL WINNERS**

Awarded for a single, recent outstanding achievement demonstrating harmony with the environment, aesthetic merit and successful community participation.

- 2001 Oresund Fixed Link Bridge Project, Henrik Christensen, for the Oresundskorsortiet, Denmark
- 2000 GGB Highway & Transportation District, Celia Kupersmith for the Golden Gate Bridge
- 1999 Hawaii Dept. of Transportation, Kazu Hayashida for Interstate H-3 Windward Viaduct

## Attendee Information

### **MEETING INFORMATION**

All IBC functions are located in the Hilton Pittsburgh and Towers. Please check individual listings in the program for specific locations and times for all technical sessions, seminars and social functions.

Any changes in the program schedule will be posted or announced.

As a courtesy to the Speakers and fellow attendees, the IBC requests that all cell phones and pagers be turned off or switched to silent mode in all Presentation Rooms.

### **REGISTRATION**

The IBC registration area is located in the Kings Garden area of the Hilton Pittsburgh and Towers. Registration hours are as follows:

Sunday, June 3 .....	5:30pm - 8:00pm
Monday, June 4 .....	8:00am - 6:00pm
Tuesday, June 5 .....	8:00am - 5:00pm
Wednesday, June 6 .....	7:00am - 1:30pm

### **REGISTRATION LISTS**

Registrations received prior to May 25 have been compiled in the **IBC PRE-REGISTRATION LIST**. This popular service provides attendees with additional networking opportunities.

An addendum to the registration list will be available Wednesday morning. This list reflects those attendees who registered after May 25 or on-site during the conference.

An electronic copy of the entire list is also available for \$25 on Wednesday morning.

# **Attendee Information**

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## **MESSAGE BOARD**

As a service to conference registrants, a Message Board will be located in the Ballroom Foyer of the Hilton Pittsburgh and Towers. The board will be manned by registration staff from 8:00am - 5:00pm on June 4-6. Messages will be retained until the end of each day.

## **IBC EXHIBITION**

One of the main attractions of the Conference is the IBC EXPO. As you stroll through over 100 exhibits, you will be able to explore the latest technologies, products and services the bridge industry has to offer.

The IBC EXPO is located in Ballroom 1, the Ballroom Foyer, Kings Garden and our newest area - Sterlings. You will be able to view the exhibits during the following hours:

Monday, June 4 .....	11:00am - 8:00pm
Tuesday, June 5 .....	7:00am - 5:00pm
Wednesday, June 6 .....	7:00am - 1:30pm

## **BADGE IDENTIFICATION**

Please wear your IBC name badge at all times. Not only is the badge your passport to all conference activities, but it also lists several important local phone numbers on the back. ESWP has authorized monitors on staff to deny access to anyone not wearing the appropriate badge.

## **HOTEL INFORMATION**

Hilton Pittsburgh and Towers  
Gateway Center  
Pittsburgh, PA 15222  
Telephone: (412) 391-4600  
Business Center fax: (412) 471-4485

## **IBC GIFT ITEMS**

Once again at this year's IBC, you will have the opportunity to purchase IBC T-shirts, Golf Shirts, Sweatshirts, and Golf Hats. These items are high quality and feature the popular IBC logo. The Gift Item Table is located at the Preprint desk where you can make your purchases throughout the Conference up until Wednesday at 2:00pm.

## **PRE-PRINTS**

Pre-prints for all technical presentations are available at the Pre-Print Booth located in the Ballroom Foyer. Pre-prints can be purchased for just \$2.00 per copy. Also, you can find copies of previous years' IBC Proceedings (for \$55 per volume). The Pre-Print Booth will be open:

Sunday: .....	5:30pm to 8:00pm
Monday: .....	8:00am to 6:00pm
Tuesday: .....	8:00am to 5:00pm
Wednesday: .....	8:00am to 1:30pm

# Attendee Information

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## COFFEE STAND

Looking for some coffee to start your day or a shorter line during the afternoon breaks? Complimentary coffee and breakfast breads are available throughout the Exhibit Hall hours in the Sterlings area on the First Floor.

## PITTSBURGH RECREATIONAL HIGHLIGHTS

The Three Rivers Arts Festival is an annual Pittsburgh tradition marking the beginning of the summer season. The Festival, which attracts artists from around the country, is a showcase for every imaginable craft in the exhibit booths surrounding the Hilton Towers & Hotel, Gateway Center and Point State Park. In addition to the artists market, a wide variety of ethnic foods can be found at the food booths across the street from the main entrance to the Hilton. Live performances of music and dance are scheduled throughout the day and evening. A world of cultural activity is right outside your door.

The Duquesne Incline, utilizing two original 1877 cable cars, is a working museum. Visit the Upper Station's display of the Duquesne Incline's history and pictures of other cable and rail cars from around the world. A spectacular view of the "Golden Triangle" can be seen from the Duquesne Incline Observation Deck atop Mt. Washington. Hours of operation are: Monday - Saturday, 5:30am to 12:45am; Sunday, 7:00am to 12:45am.

Sunday Night IBC Trolley Shuttle to Pittsburgh's fabled "Strip District" Originally a bustling "strip" of land along the Allegheny River where merchants would buy and sell fresh fruits and vegetables, it's grown into one of the regions best areas for dining and nightlife. Everything from sandwiches to jazz to brew pubs are open and waiting for you on Sunday evening. Simply jump on our complimentary shuttle and enjoy some of Pittsburgh's nightlife. Shuttle operation hours are from 5:00pm to 10:00pm - Sunday only.

Please visit the Greater Pittsburgh Convention & Visitors Bureau information table located on the 2nd floor Mezzanine Level for more information regarding these attractions and many more.

# SUNDAY

## PRE-CONFERENCE

11am - 6pm

Exhibit Set-up

6:30 - 8pm

Registration / Preprint Open

5 - 10pm

Complimentary Shuttle stops at Hilton Front Entrance

# MONDAY

## TECHNICAL SESSIONS

8am - 6pm

Registration / Preprint Open

11am - 8pm

Exhibit Hall Open

## Keynote Session

SESSION CHAIR:

**JAMES COOPER**

Federal Highway Administration,  
Washington, DC

8:30-11AM

### BALLROOM 2, MEZZANINE

**Thomas O'Neill, President & CEO**

Parsons Brinckerhoff Inc., New York, NY

**Kenneth E. Stinson, Chairman and CEO**

Peter Kiewit Sons', Inc., Omaha, NE

**Christopher M. Connor, Chairman & CEO**

The Sherwin-Williams Company, Cleveland, OH

**Joseph H. Boardman, Commissioner**

New York State Department of Transportation, Albany, NY

## Bridge Awards Luncheon

11:15-12:45

### BALLROOMS 3 & 4, MEZZANINE

George S. Richardson Award

**Tagus River Suspension Bridge Rail  
Addition Project**

Accepting: Luis do Canto Moiniz, Rede Ferroviaria  
Nacional EP, Portugal

John A. Roebling Award

**James E. Roberts**

Chief Deputy Director, Acting, California Department of  
Transportation

Gustav Lindenthal Award

**Oresund Fixed Link Bridge Project**

Accepting: Henrik Christensen, Øresundskorsortiet,  
Denmark



# MONDAY

## TECHNICAL SESSIONS

### Featured State Session

**SESSION CHAIR:** PAUL WELLS, Chief Engineer, New York State Dept. of Transportation, Albany, NY

1-5PM

**BALLROOM 2**

1:00PM

#### **I-287 Cross Westchester Expressway Viaduct Replacements** *IBC-01-01*

George Christian, PE, NYS DOT, Albany, NY

This paper gives an overview of the design and construction of the I-287 viaduct replacement project in Westchester County, NY. Maintaining 6 lanes of expressway traffic throughout construction and a restricted work site were key challenges. Value engineering proposals for using precast deck panels and segmental concrete piers, combined with fast track designs and construction reviews, helped to reduce construction time by nearly one year, while improving the quality of the final product.

1:25PM

#### **Tappan Zee Bridge/I-287 Environmental Process** *IBC-01-02*

John Brizzell, PE and Peter Melewski, PE, NYS Thruway Authority, Albany, NY

The myriad of alternatives being considered under an ongoing 3 year EIS process to address I-287 corridor congestion and the structural needs of the 3 mile long Tappan Zee Bridge are discussed. Alternatives range from major rehabilitation to replacement with a bridge that can accommodate commuter rail.

1:50PM

#### **Structural Integrity Evaluation of Hoxie Gorge Bridges** *IBC-01-03*

David O. Clements, PE, NYS DOT, Syracuse, NY, Steven W. Bennett, PE, Parsons Transportation Group, New York, NY

This paper gives an overview of the Structural Integrity Evaluation for twin steel arch structures carrying I-81 in Cortland County, NY. The SIE was performed because of weld cracking in the bridges. The study included: the review of original design and design code changes, steel detail seismic and overload vulnerability; in-depth inspection; geotechnical investigation; instrumentation and finite element analysis for fatigue; 3-D modeling; dynamic analysis for vibration, and development of rehabilitation alternatives.

# MONDAY

## TECHNICAL SESSIONS

**2:15PM**

**East River Bridges / Williamsburg Bridge Reconstruction Program** *IBC-01-04*

Henry Perahia, PE, Jay A. Patel, PE, Rahul P. Shah, PE, Jagtar S. Khinda, PE, NYC DOT Bridges, New York, NY

The East River Bridges, which include the famous Brooklyn, Manhattan, Williamsburg, and Queensboro bridges in New York City, are undergoing the most ambitious rebuilding program since their original construction at a cost of \$2.5 billion. Many innovations in design, construction, and rehabilitation of these bridges are being implemented. The paper will discuss these innovations, accomplishments of the program so far and future plans.

**2:40-3:10PM**

Coffee Break

**3:10PM**

**The Safety and Integrity of Overhead Sign Structures** *IBC-01-05*

Robert C. Holt, PE, NYS DOT, Albany, NY, Eric Thorkildsen, PE, Collins Engineering, PC, East Greenbush, NY, John Neidhart, PE, NYS DOT, Albany, NY

This paper presents an overview of the management plan development and implementation to ensure the safety and integrity of the overhead sign structures which are owned and maintained by NYS DOT. It includes a brief history and background of sign structures in New York State, describes the basic elements of a management plan and how to implement it. Finally, the current status of implementation is presented with some of the findings and resulting actions taken during the inspection phase.

**3:35PM**

**The Use of Visualization Tools on New York State Department of Transportation Bridge Projects** *IBC-01-06*

David A. Thurnherr, PE and Charles L. Hixon III, Bergmann Associates, Rochester, NY

The New York State Department of Transportation utilizes a variety of visualization tools on their bridge construction, rehabilitation and replacement projects. The use of appropriate visualization tools has been found to economically provide substantial benefits on these projects. The presentation will summarize the tools that are available and discuss how they were used effectively on the \$64 million O'Rourke Bridge project and the \$8.5 million Ford Street Bridge Rehabilitation project.

# MONDAY

## TECHNICAL SESSIONS

### Featured State Continued

4:00PM

#### **Field Testing and Analysis of Truss Hangers on the Newburgh- Beacon Bridge, I-84**

**IBC-01-07**

William J. Moreau, PE, NYS Bridge Authority,  
Poughkeepsie, NY, Bala Sivakumar, Lichtenstein Con-  
sulting Engineers, New York, NY

A case study was presented at the 1999 IBC surround-  
ing very high stress levels in the truss hangers of the  
Newburgh-Beacon Bridge. This paper will present  
additional information learned from short term and long  
term monitoring. The hangers have been instrumented  
and are the focus of a laborious and thorough inspec-  
tion program. Reconstruction to improve the alignment  
will be a multi-million dollar task, and a better under-  
standing of how this truss system behaves will help  
minimize capital reconstruction costs.

4:25PM

#### **Tidal Scour – The Threat to New York's Coastal Bridges**

**IBC-01-08**

Steve Georgopoulos, NYS DOT, Albany, NY and John  
Hunt, Ayres Associates, Fort Collins, CO

In 1998, one pier of the Wantagh State Parkway Bridge  
over Goose Creek on Long Island subsided, resulting in  
the bridge's immediate closure and subsequent re-  
placement. The event demonstrated the vulnerability of  
coastal structures to tidal scour. This paper reports on  
NYS DOT's efforts to identify the extent of tidal scour  
and to predict the resulting risk to bridges constructed  
in that environmental.

# MONDAY

TECHNICAL SESSIONS

## Special Interest Session

### Structural Healthcare Bridge Repair, Protection & Monitoring Innovations

PRESENTED BY: DAVID WHITE, P.E., Sika Corporation  
JIM CHILINSKI, Sika Corporation  
GRAEME JONES, C-Probe Technologies Ltd.

1-5PM

#### BENEDUM ROOM, 1ST FLOOR

The presentation will highlight the latest innovations for repairing & protecting bridge decks, piers, beams, etc. Material technologies and case studies such as FRP Strengthening, Post Tensioning Grouts, Thin-Bonded Polymer Overlays, Penetrating Corrosion Inhibitors, and Rapid Strength Gain Concrete will be reviewed.

Methods and examples of state-of-the-art Remote Monitoring capabilities will include Corrosion Rates, Chloride Content, P/T Strand Stress/Strain, and Structural Impact.

# MONDAY

## TECHNICAL SESSIONS

### Proprietary Session

SESSION CHAIR: ERIC KLINE

KTA-Tator, Inc., Pittsburgh, PA

4-6PM

**BALLROOMS 3 & 4**

4:00PM

#### **Non Corrosive Anchorage System for Prestressing CFRP Sheets** *IBC-01-09*

Raafat El-Hacha and Gordon Wight, Royal Military  
College of Canada, Kingston, Ontario, Canada

Carbon fibre reinforced polymer (CFRP) sheets applied to the lower face of a deficient concrete beam can contribute significantly to the strength of the beam when loaded. An anchorage system was developed to directly prestress the CFRP sheet by tensioning the sheet and reacting against the strengthened beam.

4:25PM

#### **Evaluative Testing of a Novel Weld-less Open Steel Grid Deck System** *IBC-01-10*

Matthew Pierce, Christopher Earls, Ph.D., University of  
Pittsburgh, Pittsburgh, PA, Gerald E. Cibik, Stargrate  
Systems, Inc.

The performance of this novel, weld-less open steel grid deck design is evaluated within the contexts of fatigue and ultimate strength. Such evaluation is based on results obtained from a testing program carried out in the Structures Laboratory at the University of Pittsburgh. A complete description of the deck system, as well as a thorough discussion of the testing methods and their results, are presented.

4:40PM

#### **RM2000 – World Class Bridge Design Software** *IBC-01-11*

Vince Sobash, ANATECH Corporation, San Diego, CA,  
Dorian Janjic, Heinz Pircher, TDV, Graz, Austria, Brian  
Hansen, ANATECH Corporation, San Diego, CA

This paper highlights features and benefits of RM2000 bridge analysis/design software by presenting project case studies from the first application of this tool. It combines the most advanced 3-D algorithms with extensive design code functions accessed within a comprehensive graphical user interface developed for bridge engineers by bridge engineers.

# MONDAY

## TECHNICAL SESSIONS

5:00PM

**Case Study: A Load Analysis  
and Rating System for the  
New River Gorge Bridge**

**IBC-01-12**

Ronald A. Love, PE, CW Beilfuss & Associates, Inc.,  
Downers Grove, IL and Rita K. Oglesby, PE, HS Kwoh &  
Associates, Inc., St. Petersburg, FL

It has been the goal of the West Virginia Department of  
Transportation (WVDOT) to have the means to analyze  
the New River Gorge Bridge for purposes of periodic  
rating, and to support the issuance of permits for  
overweight vehicles. A new computer system being  
developed will provide this capability.

5:20PM

**Non-destructive Testing of  
Large Diameter Bridge Cables**

**IBC-01-13**

Rodney Pryde, Rotesco Inc., Scarborough, Ontario,  
Canada

While bridge cables with diameters up to 2-1/2" in  
diameter can be nondestructively tested using the  
current electromagnetic rope testing instruments,  
larger diameter bridge cables cannot practically tested  
because of the weight of the test head. Rotesco has  
developed a practical instrument that should be able to  
test bridge cables up to 12" and hopefully 24" in  
diameter.

6:00-8:00pm

**ATTENDEES COCKTAIL PARTY**

Hosted by the IBC Exhibitors

In addition to the food and beverage hosted by the  
Exhibitors', be sure to stop downstairs at Sterlings  
Room for the Chef's special dessert — Bananas Foster!

# TUESDAY

## TECHNICAL SESSIONS

8am - 5pm

Registration / Preprint Open

7am - 5pm

Exhibit Hall Open

7am - 8am

Continental Breakfast in Exhibit Hall

### Design Session, Part 1

SESSION CHAIR: SCOTT CHRISTIE

Pennsylvania Dept. of Transportation,  
Harrisburg, PA

8:30AM-NOON BALLROOM 2

8:30AM

#### Past, Present and Future Developments in Spliced Concrete Girders *IBC-01-14*

Reid W. Castrodale, PhD, PE, Ralph Whitehead Associates, Inc. Charlotte, NC, Christopher D. White, Ralph Whitehead Associates, Inc. Tallahassee, FL

This paper will review several projects where splicing has been used to overcome design and construction limitations in order to increase the achievable span lengths of precast, prestressed concrete girders. Different applications, details and techniques for splicing precast, prestressed concrete girders, and possible future developments, will also be discussed.

8:55AM

#### Prestressed / Precast Spliced Girder Design — The Innovative Solution *IBC-01-15*

David A. Tomley, PE, LEAP Software, Tampa, FL

The race for longer bridge span lengths with low initial costs continuously forces engineers to consider innovative design and construction alternatives. Traditionally, prestressed/precast concrete girders were not considered viable alternatives in the 150-300 feet span range. In response to these limitations, construction techniques including spliced-girders were developed.

9:20AM

#### Design of HPS 485W Hybrid Girders for the IL 47 Bridge *IBC-01-16*

John Ritchie, SE, PE, Hong Mei, PE, Teng & Associates, Inc., Chicago, IL, and Ralph E. Anderson, SE, PE, IDOT, Springfield, IL

This paper will address the design of this long span plate girder bridge. The challenges included hybrid plate girder design with HPS 70W flanges and Grade 50 webs, bolted splices in high moment regions and managing large deflections during staged construction.

# TUESDAY

## TECHNICAL SESSIONS

9:45AM

### **Design and Construction of the Elizabeth Bridge**

**IBC-01-17**

Matthew A. Bunner, PE and Robert L. Dodson, PE, HDR  
Engineering, Inc., Weirton, WV

Aspects of the analysis, design, detailing and construction of the eight foot diameter drilled shaft pier foundations and fully integral abutments for this 536 foot long steel plate-girder bridge will be presented. Results of cross-hole sonic log testing for the drilled shafts and a remedial repair will be discussed.

10:10-10:30AM

Coffee Break

10:30AM

### **Foundation Design and Construction for Route 33 Bridge Over the Lehigh River**

**IBC-01-18**

John R. Meyers, PE, William K. Petersen, PE, URS Corporation, King of Prussia, PA

Construction of the new, 570 meter long steel truss bridge carrying Pennsylvania State Route 33 over the Lehigh River required a variety of foundation types as a result of the varying geologic conditions. This project demonstrates the wide variety of investigative, design and construction techniques used at this structure.

10:55AM

### **Modular Bridge Expansion Joints: Fabrication, Construction and Maintenance — An Owner's Perspective**

**IBC-01-19**

Steven J. Cook, P.E., Michigan Department of Transportation, Lansing, MI

This paper will discuss fabrication, construction, maintenance and performance of Modular Bridge Expansion Joints (MBEJs) for large movements on long span bridges. MBEJs will be discussed and reviewed in detail for the Grand Rapids S-Curve project, the Second Blue Water Bridge, the Zilwaukee Bridge, and the high level Rouge River Bridge.

11:20AM

### **Design and Construction of the Slate Covered Bridge**

**IBC-01-20**

Sean T. James, PE, Hoyle, Tanner & Associates, Inc.,  
Manchester, NH

The original Slate Covered Bridge served the citizens of Swanzey, NH for 131 years before being lost to arson in 1993. This paper addresses the procedures used to analyze key bridge components, material and design assumptions and the construction issues faced in designing and constructing this unique covered bridge project.



# TUESDAY

## TECHNICAL SESSIONS

### Rehabilitation & Strengthening Session

SESSION CHAIR: GERALD PITZER

GAI Consultants, Inc., Monroeville, PA

8:30AM-NOON BALLROOMS 3 & 4

8:30AM

#### Reconstruction of the Eads Bridge Highway Deck

**IBC-01-21**

Michael J. Cronin, PE, SE, Sverdrup Civil, Inc., St. Louis, MO and Robert A. Bettigole, PE, Exodermic Bridge Deck, Inc., Lakeville, CT

St. Louis's Eads Bridge opened in 1874, with steam engines on its lower deck and horse drawn carriages on its upper deck. The challenge in restoring vehicular traffic more than 120 years later was to provide a historically sympathetic superstructure that could be constructed with minimal impact to the light rail system operating below.

8:55AM

#### New Bridge Performance Measures for Prioritizing Bridges

**IBC-01-22**

Bala Sivakumar and William Edberg, Lichtenstein Consulting Engineers, PC, Paramus, NJ

There is a need for new bridge performance measures that provide more specific information than the Sufficiency Rating. NCHRP Project 20-07 was initiated by AASHTO to develop new bridge performance measures. Four individual performance sub-indices and a weighted composite index is used to evaluate the databases of eight states bridges.

9:20AM

#### Rehabilitation of the Smithton High-Level Bridge

**IBC-01-23**

Robert W. Bondi, Michael Baker Jr., Inc., Coraopolis, PA and Brian J. Gilkey, Dick Corporation, Pittsburgh, PA

Built in 1956, the Smithton High-Level Steel Deck Truss Bridge's rehabilitation plans included deck and bearing replacement, widening, stringer and floorbeam strengthening, substructure replacement and modification, along with other repairs. This paper describes how the soon to be completed rehabilitation will be accomplished ahead of schedule while maintaining two lanes of traffic.

# TUESDAY

## TECHNICAL SESSIONS

9:45AM

**When Steel Cracks: A Case Study  
of Virginia's Interstate 77  
Bridges over the New River** *IBC-01-24*

James Fowler, Robert Prince, Hayes, Seay, Mattern & Mattern, Inc., Roanoke, VA, Chris Blevins, VDOT, Bristol, VA, John Fischer, Ph.D., PE, Lehigh University, Bethlehem, PA, and Peter Massarelli, Ph.D., VTRC, Charlottesville, VA

This paper reports testing methods and recommendations for alleviating fatigue cracking in the structural steel for dual, 1,800-ft long bridges carrying Interstate 77 traffic over the New River in Virginia. The bridges, constructed in the 1970's, have succumbed to fatigue cracking in less than 30 years of service.

10:10-10:30AM

Coffee Break

10:30AM

**Rehabilitation of the Monongahela  
Connecting Railroad Bridge** *IBC-01-25*

David A. Charters, Jr., Parsons Brinckerhoff Quade & Douglas, Inc., Pittsburgh, PA

Railroad Bridge was constructed circa 1900 to carry steel mill trains across the Monongahela River. Using a combination of field inspection, non-destructive testing, detailed analysis, and rehabilitation design techniques, the aging railroad bridge was renovated to carry highway traffic between two burgeoning developments in Pittsburgh.

10:55AM

**CTA Elevated Structures Over  
Wacker Drive Viaduct** *IBC-01-26*

John R. Hillman, PE, SE and Meng (Michael) Xin, Teng & Associates, Inc., Chicago, IL

The Wacker Drive Viaduct Reconstruction Project in Chicago, necessitates replacement of three Chicago Transit Authority (CTA) elevated train structures. This paper characterizes many of the unusual geometric and construction constraints encountered in designing these replacement structures, as well as addressing the aesthetic issues considered in developing the steel framing systems.

# TUESDAY

## TECHNICAL SESSIONS

### Rehabilitation & Strengthening Session

11:20AM

#### **Staged Deck and Transverse Beam Replacement of an Historic Concrete Arch Bridge** *IBC-01-27*

Michael J. Seidel, PE, David A. Thurnherr, PE, Anthony Borrelli, PE, Bergmann Associates, Rochester, NY, Thomas Mialki, PE, New York State Department of Transportation, (NYSDOT) Rochester, NY

The \$34 million Veteran's Memorial Bridge Project involved the staged rehabilitation of a 972' long historic concrete arch bridge carrying eight traffic lanes 190' above the Genesee River Gorge in Rochester, NY. Work included replacement of the deck and transverse beams as well as the rehabilitation of the spandrel framing.

## Steel Bridge Forum

PRESENTED BY: AMERICAN IRON AND STEEL INSTITUTE

8AM - NOON

DUQUESNE ROOM, 1ST FLOOR

### **Opening Remarks and Welcome**

Charlie Gorman, P.E., Senior Structural Consultant, Bethlehem Steel Corp., Bethlehem, PA

### **Cost Effective Design and Detailing of Steel Bridges**

Elmer Weber, P.E., Manager of Engineering, PDM Bridge, Wausau, WI

### **Cost Effective Design and Software for Steel Bridges**

### **AASHTO's LRFD Specifications & AISI Splice Software for Bolted Field Splices**

Dr. Firas Ibrahim, P.E. Bridge Engineer, HDR Engineering, Pittsburgh, PA

### **AASHTO's LRFD Specifications and AISI Beam Software for Short Span Bridges**

Dr. Karl Barth, P.E., Assistant Professor, West Virginia University, Morgantown, WV

# TUESDAY

## TECHNICAL SESSIONS

### Special Interest Sessions

#### Coatings, Part 1

SESSION CHAIR: ERIC S. KLINE, KTA-Tator, Pittsburgh, PA

8AM - NOON

**BENEDUM ROOM, 1ST FLOOR**

##### **SSPC Update**

William L. Shoup, SSPC

##### **The Economics of Bridge Painting**

Robert A. Kogler, Jr., FHWA

##### **New York State Bridge Painting Program**

William Feliciano, NYS DOT

##### **A588 Weathering Steel —**

##### **The Other Corrosion Protection System**

William McEleney, National Steel Bridge Alliance

##### **National Impact of South Coast Air Quality Management Initiatives, VOC and HAPS**

Madelyn Harding, Sherwin Williams

##### **NTPEP and NEPCOAT Update**

Greta N. Smith, Kentucky Division of Materials,  
L. Brian Castler, ConnDOT

### Recent Installations and Emerging Technology in FRP Composites for Bridge Construction

PRESENTED BY: MARKET DEVELOPMENT ALLIANCE OF THE  
FRP COMPOSITES INDUSTRY

8AM - NOON

**BOARD ROOM, 1ST FLOOR**

This session showcases how FRP composites are no longer the "new kid on the block" in bridge design and installation. Producers and owners will share their practical experiences of recent bridge installations (design, installation, connections) and consider the exciting future that FRP composites technology provides the bridge industry. Presentations will focus on unique applications, experience in installation techniques, and cost-effective rehabilitation solutions that demonstrate the many advantages of FRP composites.

# TUESDAY

## TECHNICAL SESSIONS

### Seminar

## Post-Tensioning Application to Bridge Design and Construction

**PRESENTED BY:** DR. BIJAN OLIVER AALAMI, Professor  
Emeritus San Francisco University,  
ADAPT Corporation  
JEAN-PHILIPPE FUZIER,  
Freyssinet International, France  
DREW MICKLUS, Freyssint LLC, Chantilly, VA

**8AM - NOON**

**RIVERS ROOM, MEZZANINE**

This educational and practical seminar provides a solid and comprehensive coverage of the application of post-tensioning in bridge construction. It starts with a review of history of application of post-tensioning in bridge construction and bridge types where post-tensioning has been used effectively. Next it presents the underlying concepts of modern design of post-tensioned bridges, introducing the integrated technology of post-tensioning design from concept to implementation in design office. It covers the fundamentals of design of segmental bridge construction, spliced girders and modern computer application. The seminar is tailored for engineers engaged in or interested in design of modern concrete bridges.

Seminars at the International Bridge Conference are intensive, four (4) hour, single-topic focused sessions. Each seminar requires an additional fee of \$95 — please see the Registration personell at the Registration desk. Seating for each Seminar is limited.

## Bridge Tour by Bus

**Additional fee:** \$40 per person — see the registration desk personel for availability.

**1 - 5PM**

**MEETS AT HILTON FRONT ENTRANCE**

For the past 7 years, this Tuesday Bus Tour has been a sell-out event at the IBC. Due to popular demand, we are pleased once again to offer the tour of unique Pittsburgh area bridges. The tour will be hosted by the Port Authority of Allegheny County. A trip to the top of scenic Mount Washington, which overlooks the "City of Bridges" will conclude this event.

# TUESDAY

## TECHNICAL SESSIONS

### Design Session, Part 2

SESSION CHAIR: HERBERT MANDEL

GAI Consultants, Inc., Monroeville, PA

1:30-5PM

BALLROOM 2

1:30PM

#### **Design Considerations for Tall Piers**

**IBC-01-28**

Kenneth J. Wright, PE, HDR Engineering, Inc., Pittsburgh, PA, Sherif S. Morcos, Ph.D., PE, HDR Engineering, Inc., Los Angeles, CA, Edward H. Power, PE, HDR Engineering, Inc., Norfolk, VA

As bridge pier heights increase, column slenderness becomes a consideration for pier column and foundation designs. Improved general analysis programs and desktop computers have brought rigorous analyses within reach of most design engineers. This paper will discuss when it is prudent to assess second-order slenderness effects with a rigorous analysis.

1:55PM

#### **NCHRP 12-50 Bridge Software — Validation Guidelines and Examples**

**IBC-01-29**

Mark Mlynarski, PE, Michael Baker Jr., Inc., Coraopolis, PA, Jay Puckett, PE, Mark Jablin, Bridge Tech Inc., Laramie, WY, Chad Clancy, PE, Modjeski & Masters, Mechanicsburg, PA

Bridge designers are, and will be, using new software to design bridges based on new specifications. In theory, this software should be error-free — yet the aim of perfect software remains elusive. The NCHRP 12-50 is a research project investigating current software validation procedures, and provides an improved method of verifying bridge design and analysis software.

2:20PM

#### **Wacker Drive Viaduct Reconstruction**

**IBC-01-30**

Patrick Cassity, PE, SE, Eddie He, PhD, PE, J Muller International, Chicago, IL, Frank Powers, PE, SE, Earth Tech, Chicago, IL

Wacker Drive is a 2-level, 6-lane distributive artery located in the heart of downtown Chicago with a combined average daily traffic of 200,000 vehicles and 60,000 pedestrians. The new two-way slab structure combines the durability advantages of high performance concrete and bi-axial post-tensioning with the objective of achieving a service life of 100 years.

# TUESDAY

## TECHNICAL SESSIONS

### Design Session, Part 2

2:45PM

#### **Reliability-Based Design of Foundations**

**IBC-01-31**

Anthony M. DiGioia, Jr., PE and F. Barry Newman, PE,  
GAI Consultants, Monroeville, PA

While reliability-based design (RBD) concepts are gaining acceptance and being implemented at an increasing rate in the United State, the RBD approaches to the design of foundations are growing at a slower pace than parallel approaches for that of structures. This paper outlines an RBD approach for the design of drilled shaft and direct embedded pole foundations for highway structures. The approach is based on concepts outlined in ASCE Manual 74.

3:10-3:45PM

Coffee Break

3:45PM

#### **Design for Secondary Effects at Ultimate of Continuous, Prestressed Concrete Structures Using the LRFD Specifications**

**IBC-01-32**

Christopher D. White, PE, Reid W. Castrodale, PE, PhD,  
Ralph Whitehead Associates, Inc., Tallahassee, FL,  
Randy E. Bradley II, DMJM+Harris, Tallahassee, FL

Despite recognition that continuous structures redistribute moments after cracking, there has never been a convenient method to account for this redistribution in the design of concrete bridges at ultimate. The factored elastic forces at ultimate can be excessively conservative, particularly when the substructure is integral with the superstructure. To remedy this the new AASHTO-LRFD Specifications use reduced Load Factors (1.0) for displacement — and temperature-induced forces at ultimate.

# TUESDAY

## TECHNICAL SESSIONS

### Design Session, Part 2

4:10PM

#### **WV Route 10 Bridge Over Buffalo Creek: West Virginia's First Bridge Utilizing High-Performance Steel** *IBC-01-33*

M. Britt Simmons, Ph.D., PE, Joseph R. Tucker, PE,  
Infrastructure Design Group, Parkersburg, WV, Roy Teal,  
Roy Teal Inc., Averill Park, NY

WV Route 10 Bridge over Buffalo Creek is the first bridge in West Virginia to utilize high performance steel with a 70 ksi yield strength. This 820 foot, 4-span, curved bridge economically combines the best features of Grade 50W, quenched and tempered Grade HPS70W, and TMCP Grade HPS70W steels.

4:35PM

#### **Design and Construction of the Smart Road over Wilson Creek** *IBC-01-34*

Amy Kohls Karas, PE, SE, Figg Bridge Engineers, Inc.,  
Tallahassee, FL

The Smart Road Bridge in southwestern Virginia is a cast-in-place concrete segmental box girder bridge with 472' spans and pier heights up to 137 feet. The superstructure was built in balanced cantilever using form travelers. Aesthetics, future maintenance, and future research testing were considered during the design of the bridge.



# TUESDAY

## TECHNICAL SESSIONS

### Innovative Design Session

SESSION CHAIR: VICTOR BERTOLINA

SAI Consulting Engineers, Pittsburgh, PA

1:30-5PM

BALLROOMS 3 & 4

1:30PM

#### **Final Design of the Woodrow Wilson Bridge** *IBC-01-35*

Richard Cary-Brown, PE, Parsons Transportation Group, Inc., Baltimore, MD, Greg Shafer, PE, Parsons Transportation Group Inc., Baltimore, MD, Serafim Arzoumanidis, PhD, PE, Parsons Transportation Group, Inc., New York, NY

The Woodrow Wilson Memorial Bridge is a 6,000-foot Potomac River crossing in the southern Washington D.C. Metropolitan area. The structure has 6 land and 12 water piers. The fixed approach spans consist of pre-cast segmental concrete V-shaped piers with curved legs supporting steel haunched box girders. A 260-foot long eight-leaf steel bascule bridge spans the navigational channel.

1:55PM

#### **Scour Evaluation for the Replacement of the Woodrow Wilson Memorial Bridge** *IBC-01-36*

David P. Arzt, PE, Parsons Transportation Group, Inc., Baltimore, MD, Stanley R. Davis, PE, Maryland State Highway Administration, Baltimore, MD, J. Sterling Jones, PE, Federal Highway Administration, McLean, VA

The Woodrow Wilson Memorial Bridge carries I-95 over the Potomac River in the Washington DC metropolitan area. The currently approved FHWA scour procedures could not adequately address the following: the complex pier shapes of the proposed bridge; the ship collision system; the flow patterns between the vastly different existing and proposed bridges; cohesive soil in the channel bed; tidal influence; and long term stability of the river.

2:20PM

#### **Design & Construction of a National Parkway Road through Extreme Terrain Using Innovative Applications of Segmental Concrete** *IBC-01-37*

Hala Elgaaly, PE, Federal Highway Administration, Sterling, VA and Wade Bonzon, PE, Figg Bridge Inspection, Inc., Tallahassee, FL

This paper addresses the challenges faced during the design and construction of two bridges on the Foothills Parkway, a national parkway road traversing environmentally sensitive and steep mountainous terrain. The original design used a precast progressive, top-down construction method, different from the Contractor's cast-in-place balanced cantilever segmental construction method.

# TUESDAY

## TECHNICAL SESSIONS

2:45PM

### **Innovative Movable Bridges with Welded Orthotropic Steel Decks** *IBC-01-38*

Alfred R. Mangus, CALTRANS, Sacramento, CA

Movable Bridges with Orthotropic steel decks are very rare. The advantages of these innovative bridges in operation will be summarized. Featured bridges are from Europe, Asia and the Walpole Island of Ontario; the Miller-Sweeney of California; Danziger of Louisiana; Sacramento River of California; and Valdez Dock of Alaska.

3:30-3:45PM

Coffee Break

3:45PM

### **Public Involvement Creates Revolutionary Bridge Design for Toledo, Ohio** *IBC-01-39*

Eugene C. Figg, Jr., PE, Figg Engineering Group, Tallahassee, FL

The design charrette process for this \$150 million bridge created a single pylon, single plane of stays in the center of the bridge, rectangular-shaped piers, precast segmental box girder superstructure and substructure, (piers), glass with backlit 190' of pylon top, and stainless steel sheathing on the stays.

4:10PM

### **Rapid Bridge Deck Construction / Replacement Methods —**

#### **A Precast Deck Solution** *IBC-01-40*

John Dietrick, Y. Eddie He, Ken Price, J Muller International, Chicago, IL

The method presented here utilizes precast full depth deck slabs with post-tensioning that act compositely with bridge girders. Innovative construction methods, such as erection methods, match-casting, and longitudinal jacking, are developed.

4:35PM

### **Design of Curved Steel Bridges for the Pittsburgh Light Rail** *IBC-01-41*

Stephen A. Matty, PE, Matthew J. Horvath, URS Corporation, Hunt Valley, MD, James D. Dwyer, Port Authority of Allegheny County, Pittsburgh, PA

The design of three curved steel bridges with direct fixation track presented unique challenges in bridge design. The nonlinear interaction of the rail fasteners, for the continuous welded rail, with the bridge structure, along with the stiffness requirement for the continuous spans played a key role in the design.

# TUESDAY

## TECHNICAL SESSIONS

### Special Interest Sessions

#### Galvanize It!

**PRESENTED BY:** AMERICAN GALVANIZERS ASSOCIATION

**PRESENTERS:** KIMBERLIE DUNHAM, AGA, Marketing Manager  
DAVID SHEEHAN, Korns Galvanizing  
KEVIN IRVING, AAA Galvanizing

1 - 5PM

#### FORBES ROOM, 1ST FLOOR

Galvanize It! Is an educational seminar designed to address the applications of and specifications for hot-dip galvanizing. This two hour seminar focuses on three essential topics: corrosion and the galvanizing process, design of products to be hot-dip galvanized, and applications of hot-dip galvanizing. Significant question and answer time is provided so that specific industry and regional concerns can be addressed. Local galvanizers and other industry professionals will be present to answer questions and respond to concerns. A complimentary reception will follow the seminar.

#### Using SAM, Your Free LRFD Software

**PRESENTED BY:** BESTECH SYSTEMS LIMITED

1 - 5PM

#### CHARTIERS ROOM, MEZZANINE

During the conference, you will have had the opportunity to collect a free copy of SAM, the software for bridge design to LRFD. In this Special Interest Session (split into two identical sessions for your convenience) we will be showing you what SAM is and does, and how you use it. We will cover:

- what is on the disk,
- what we mean by "free",
- designing a steel/concrete composite girder, or
- designing a precast pretensioned girder,
- general section properties (including torsion stiffness),
- general section design (including interaction curves),
- linebeam analysis,
- grillage analysis,
- integration considerations.

Please contact [www.lrfdsoftware.com](http://www.lrfdsoftware.com) for more details.

# TUESDAY

## TECHNICAL SESSIONS

### Special Interest Session

#### Automated Design of Spliced Prestressed/ Precast Bridge Girders and Cast-in-Place Concrete Slabs

PRESENTED BY: LEE D. TANASE, LEAP Software, Inc.

1 - 5PM

#### BOARD ROOM, 1ST FLOOR

For the first time in a public forum, attendees will be exposed to the unique analysis and design concepts specific to post-tensioned splice girder bridges. The session will provide a detailed practical look at this innovative concept, exploring the major aspects of this type of design and construction. Some of the topics discussed:

- Overview of spliced girder construction/design methodology,
- History/background,
- Current use and bridges that have been built using this method,
- Benefits of spliced-girder design and construction:
  - ♦ Increased span lengths,
  - ♦ Reduced vertical clearances,
  - ♦ Increased girder spacing,
  - ♦ Increased public safety by eliminating shoulder piers,
  - ♦ Reduced construction time,
- FEM modeling and time dependent analysis (CEB-FIP, ACI-209, LRFD),
- Lateral stability, critical stresses and factors of safety during lifting and transportation of precast I-girders using lateral beam buckling methodology.

The session will include a comparison of existing automated design and analysis tools. In addition, LEAP Software will showcase a new software product, the first dedicated program for the analysis and design of spliced bridge girders, in both AASHTO Standard and LRFD Specifications.

# TUESDAY

## TECHNICAL SESSIONS

### Special Interest Session Coatings, Part 2

MODERATED BY: WILLIAM SHOUP, SSPC

1 - 5PM

#### BENEDUM ROOM

**Pioneering Use of Plural Component Spray Applied Coatings on 7 Million Sq. Ft. of the San Mateo Bridge Concrete Substructure**  
Stuart B. Smith, Hehr International Polymers

**Advances in Technology: Fluoropolymers in Bridge Painting and Topcoating**  
Kendall D. Smith, Tnemec

**Update on Rapid Deployment Coatings**  
Anthony Lambroso, Sherwin Williams

**The Role of Painted Steel Bridges in the Future**  
James Cooper, FHWA

### Seminar

### Technology in Bridge Fabrication/Bridging the Change

PRESENTED BY: ROBERT A. KASE, VP Eng.,  
QC Field Operations & Technology  
GEORGE CROSLAND, Engineering Technical  
Manager  
DON W. LEE, Engineering Expeditor  
SCOTT W. KOPP, Welding Technician  
GREGORY S. PIKE, Welding Engineering  
Manager  
RUSS PANICO, Director of Quality

1 - 5PM

#### RIVERS ROOM

Participating presenters from High Steel Structures (Lancaster, PA) represent over 100 years experience in bridge fabrication.

Topics presented will reduce cost, improve quality and reduce cycle time through use of the following: standard contract and shop drawings, electronic drawing & information distribution, high performance steels, improved fabrication processes, more effective inspection techniques, innovative design concepts and elimination of shop assembly requirements.

# WEDNESDAY

## TECHNICAL SESSIONS

7am - 1:30pm

Registration / Preprint Open

7am - 1:30pm

Exhibit Hall Open

### Construction Session

SESSION CHAIR: CHARLES SCHUBERT

Michael Baker, Jr., Inc., Coraopolis, PA

8AM - 12:30PM BALLROOM 2

8:00AM

#### **Design-Build Bridge Solutions: I-15 Interstate Freeway Reconstruction**

**IBC-01-42**

Robert J. Shulock, PE, Paul Bott, PE, Sverdrup Civil,  
Bellevue, WA

The I-15 design-build project in Salt Lake City involved the design of 144 bridges. Innovations enabled success with quick, accurate preparation of designs and economical use of materials. Efficient pre-stressed girders were developed and segmental highway girders were used for 68m long spans. Challenges included seismicity, compressible soils, and aesthetics.

8:25AM

#### **Challenges of the Newark Airport Monorail Extension**

**IBC-01-43**

Michael F. Hebor, PE, Kenneth J. Wright, PE, HDR Engineering, Inc., Pittsburgh, PA

This presentation takes a practical and informative journey through the design, fabrication, and construction of the curved steel box girders for the Newark Airport Monorail Extension. The unique fabrication and construction techniques required to meet the significant design constraints will be highlighted as valuable "lesson-learned" for steel fabrication.

8:50AM

#### **Innovation in the Construction of Long Span Bridges**

**IBC-01-44**

Richard Hornby, Cleveland Bridge, UK Ltd, Darlington, UK

The construction of long span bridges presents many engineering and commercial challenges to contractors. Cleveland Bridge has to anticipate these challenges at the time of tender, master them during construction, and offer the most competitive price. The most successful way of offering this difficult combination is through innovation in construction.

# WEDNESDAY

## TECHNICAL SESSIONS

### Construction Session

9:15AM

#### **The Hathaway Bridge** *IBC-01-45*

Christopher J. Mills, Alexander Collins, HNTB Corporation, Orlando, FL

The new Hathaway Bridge, in Panama City, Florida, is a design-build project that is designed and constructed by the team of Granite Construction Company/HNTB. The structure consists of twin, 80-ft wide, segmental concrete box girders with seven spans of 330 ft and shorter approach spans. This presentation will address the bridge design, construction to date, and the design-build process.

9:40AM

#### **The King Avenue Bridge — A Precast Post-tensioned Concrete Arch Structure** *IBC-01-46*

Christian J. Brown, PE, David M. Rogowski, PE, HNTB Corporation, Kansas City, MO, Mark Sherman, PE, Franklin County Engineers Office, Columbus, OH

The new King Avenue Bridge over the Olentangy River in Columbus, Ohio was designed to replace an existing historic earth fille, cast-in place concrete arch bridge. The replacement structure is a unique, five span structure consisting of a continuous series of precast, post-tensioned concrete arches. The new King Avenue Bridge has received design awards from the Precast Concrete Institute, the Portland Cement Association and the American Consulting Engineers Council.

10:10-10:30AM

Coffee Break

10:30AM

#### **JFK Light Rail System — Construction Innovations used to Build the Longest Precast Concrete Segmental Bridge in America** *IBC-01-47*

D. Brice Urquhart, PE, Figg Bridge Inspection, Inc., Tallahassee, FL

The JFK Airport Light Rail Project is 9 miles of elevated precast segmental superstructure. Due to the construction congestion and relatively high labor cost, the designer works closely with the contractor to create an erection system that is flexible and cost efficient to erect the 461 spans on time and on budget.

# WEDNESDAY

## TECHNICAL SESSIONS

### Construction Session

10:55AM

#### **Nighttime Bridge Deck Replacement with Precast Concrete Panels at Route 7 Over Route 50, Fairfax County, Virginia**

**IBC-01-48**

Khossrow Babaei, PE, SE, Amir Fouladgar, PE, Wilbur Smith Associates, Falls Church, VA, Ronaldo T. Nicholson, PE, VDOT, Chantilly, VA

This paper presents the design and construction aspects of nighttime redecking of two bridges of Route 50 interchange at Route 7 in Fairfax County, Virginia. The nighttime precast deck replacement design was completed in 1998. The construction of the bridges began in September of 1999 and was successfully completed in less than two months. Construction time was limited to 8 hours per day, from 9:00 pm to 5:00 am. During the construction hours, the bridges were partially open to traffic. All of the traffic lanes were open during peak travel times from 5:00 am to 9:00 pm.

11:20AM

#### **Value Engineering and Construction of the Putnam Street Bridge Replacement**

**IBC-01-49**

Thomas W. Stelmack, PE, SE, Finley McNary Engineers, Inc., Broomfield, CO

The Putnam Street replacement bridge carries traffic across the Muskingum River in Marietta, Ohio. The concrete structure is 21.29 m (69'-10") wide with spans of 55.50, 98.0 and 55.50m (182'-1", 321'-6", and 182'-1"). This paper discusses the value engineering design modifications and the resulting cast-in-place segmental construction details.

11:45AM

#### **Construction of the Evans Crary Sr Bridge**

**IBC-01-50**

Philip M. Hartsfield, PE, Finley McNary Engineers, Inc., Tallahassee, FL

The Evans Crary Bridge, Stuart, Florida sets a record for the longest spans erected by the "span-by-span" method. The bridge consists of twin precast segmental structures, 909-meters long and comprised of 55-meter typical spans. Finley McNary developed the alternative to meet the project challenges with an "engineered construction" approach.



# WEDNESDAY

## TECHNICAL SESSIONS

### Long Span Bridges Session

SESSION CHAIR: ARTHUR HEDGREN

HDR Engineering, Inc., Pittsburgh, PA

8AM - 12:30PM BALLROOMS 3 & 4

8:00AM

#### **Collapse of the Koror Bridge** *IBC-01-51*

Man-Chung Tang, TY Lin International, San Francisco, CA

The 241m span Koror-Babelthuap Bridge was the world's longest span prestressed concrete bridge when it was completed in 1978. The bridge showed excessive creep deformation at the mid span but no structural distress. Eighteen years later, two months after the rehabilitation to correct excessive deformation, the bridge collapsed into the water under almost no traffic. This is an attempt to find the failure mechanism of the bridge.

8:25AM

#### **Charles River Mainline**

##### **Cable-Stayed Bridge**

*IBC-01-52*

Raymond McCabe and Ted Zoli, HNTB Corporation, Fairfield, NJ, Sena Kumarasena, HNTB Corporation, Boston, MA

The new mainline bridge carrying I-93 is a five span signature cable stayed structure with a main span of 745 ft. The geometry and structural configuration makes this bridge asymmetric in both longitudinal and transverse directions. The complexity of the site posed special challenges that required one-of-a-kind and innovative design solutions on several facets of this complex project. This paper will discuss the key aspects of the design and progress of construction of this signature bridge.

8:50AM

#### **Carquinez Bridge Seismic Retrofit**

##### **Bearing Construction**

*IBC-01-53*

John Hinman, PE, SE, CH2M HILL, Boise, ID, Stephen Thoman, SE, PE, CH2M HILL, Sacramento, CA, Vong Toan, PE, CALTRANS DOT, Sacramento, CA

Summary of the design concept, fabrication provisions, and installation processes for 21-inch-deep by 60-inch by 52-inch elastomeric bearings under the 3,350-ft Carquinez Bridge near Solano, CA. Safeguards used to protect the bridge and traveling public during the work are described, and the performance of the bearings is summarized.

# WEDNESDAY

## TECHNICAL SESSIONS

9:15AM

### **Seismic Design of the New Carquinez Bridge**

**IBC-01-54**

Ravi Mathur, Gregory I. Orsolini, Parsons Transportation Group, San Francisco, CA, Mark A. Ketchum, OPAC Consulting Engineers, San Francisco, CA, C. V. Chang, Geomatrix Consultants, Inc., Oakland, CA

The new Carquinez Strait suspension bridge was designed to meet stringent seismic performance standards. Meeting these standards in the San Francisco Bay seismic environment required innovative design and analysis. The approach to achieving seismic performance is discussed, focusing on global issues, design of the 125-m tall concrete towers, and the 90-m deep drilled shaft foundations.

9:40AM

### **Main Suspension Cable Design for the Self-Anchored Suspension Span of the East San Francisco- Oakland Bay Bridge**

**IBC-01-55**

Rafael Manzanarez, TY Lin International, San Francisco, CA

10:10-10:30AM

Coffee Break

10:30AM

### **Lions Gate Suspension Bridge — Fabrication of Replacement Deck Sections**

**IBC-01-56**

Manfred Frank, Canron Construction Corp. West, New Westminster, BC, Canada, Darryl Matson, Buckland & Taylor Ltd., North Vancouver, BC, Canada

The Lions Gate Suspension Bridge, originally constructed in 1938, is a landmark structure located in Vancouver, BC, Canada. The entire suspended structure is now being replaced with a new orthotropic steel deck, almost 50% wider than the original one. This paper describes the fabrication process, geometry control, and quality control of the full-width, 20m long, deck sections.

# WEDNESDAY

## TECHNICAL SESSIONS

### Long Span Bridges Session

10:55AM

#### **Innovative Tuned Mass Damping System for Mitigation of Stay Cable Vibrations**

**IBC-01-57**

Niket M. Telang, PE and Armin M. Mehbrabi, PhD, PE,  
Construction Technology Laboratories, Inc., Skokie, IL

In February 1998, light rain and wind caused the normally immobile stay cables of the Cochrane Bridge to vibrate with amplitudes of over 4 feet. This paper describes the fast-tracked applied research in the quest for developing practical and cost-effective vibration mitigation solutions using tuned mass and impact mechanisms in alleviating the potentially distressing cable vibrations.

11:20AM

#### **New Benicia-Martinez Bridge Across Carquinez Strait**

**IBC-01-58**

Sajid Abbas, TY Lin International, San Francisco, CA

A lightweight concrete segmental bridge was selected as the most economical alternative to replace the existing Benicia-Martinez Bridge and its currently limited capacity. The contract for construction will be awarded spring 2001. This paper discusses the innovative engineering approach taken in accommodating the safety of the structure in the high seismic area with deep foundations.

11:45PM

#### **Second Yangtze River Bridge in Nanjing, China**

**IBC-01-59**

Man-Chung Tang and Dennis Jang, TY Lin International, San Francisco, CA, YM Dai and SQ Lee, Nanjing Second Yangtze Bridge Commanding Office, Nanjing, China

The 628m (2,060 ft) span steel cable-stayed bridge over the Yangtze River carries 6 lanes of traffic. Epoxy asphalt was used for the pavement after extensive testing found it to be the most suitable material. Cables are parallel, galvanized wires with extruded colored PE cover.

# WEDNESDAY

## TECHNICAL SESSIONS

### Seminar

## Challenges in Implementing LRFD for Foundation Design

PRESENTED BY: JAMES L. WITHIAM,  
D'Appolonia Engineers, Monroeville, PA

8AM - NOON

RIVERS ROOM, MEZZANINE

Since its initial introduction in 1994, 13 states have fully implemented the *AASHTO LRFD Bridge Design Specifications*, 10 states have set an implementation date and 19 are still reviewing the Specifications. Implementation for foundation and wall design, however, has not been as well received.

Intended for designers who are familiar with the *LRFD Specifications*, this Seminar will include presentation of the LRFD methodology for design of spread footing, driven pile and drilled shaft foundations; discussion of problems encountered; solutions to implementing the LRFD Specifications for foundation design; and example problems.

A Principal at D'Appolonia since 1988, James L. Withiam is Principal Investigator (PI) for FHWA project to develop curriculum, materials and provide instruction for 2-day NHI training course titled LRFD for Highway Bridge Substructures using the *AASHTO LRFD Bridge Design Specifications*. He is also Editor of the *ASCE Journal of Geotechnical and Geoenvironmental Engineering* and Editor-in-Chief for *Geo-Institute Magazine*, *GeoStrata*.

Seminars at the International Bridge Conference are intensive, four (4) hour, single-topic focused sessions. Each seminar requires an additional fee of \$95 — please see the Registration personell at the Registration desk. Seating for each Seminar is limited.

12:30 - 1:30PM

Attendee's Buffet Luncheon in Exhibit Hall

# WEDNESDAY

## TECHNICAL SESSIONS

### Seismic Session

SESSION CHAIR: FRED FISCHER

City of Pittsburgh, Pittsburgh, PA

1:30 - 3:45PM

BALLROOM 2

1:30PM

#### **Bridge Lessons Learned from 1999 Turkish & Taiwan Earthquakes IBC-01-60**

W. Phillip Yen, Hamid Ghasemi and James D. Cooper,  
Federal Highway Administration, McLean, VA

This paper presents the preliminary findings and lessons learned from co-investigations of three large destructive earthquakes in Turkey and Taiwan in 1999.

1:55PM

#### **Design Philosophy and Earthquake Behavior of the 2300 Meter Long Bolu Viaduct IBC-01-61**

Cetin Yilmaz, Middle East Technical University, Ankara,  
Turkey

Dual span 2300 meter long viaduct is one of the most important engineering structure along the Anatolian Motorway in Turkey because of its total length, pier heights (up to 50m) and seismicity of the region. This bridge underwent extensive damage during the November 12, 1999 Duzce Earthquake. In this paper, the background in selecting the type of the bridge, design criteria utilized and seismic considerations will be outlines. The performance of the bridge and energy dissipating devices will be evaluated.

2:20PM

#### **Comparison of Seismic Isolation Bearing Performance Based on Results from the HITEC Testing Program IBC-01-62**

Mary Jacak, Seismic Accessories, Alameda, CA

Full-scale isolation bearings were tested at dynamic speeds as part of the "HITEC" testing program. The results provide the bridge community with information on the dynamic performance of seismic isolation devices. This paper presents an analysis of selected characteristics based on the results published in the HITEC reports.

# WEDNESDAY

## TECHNICAL SESSIONS

2:45PM

### **A Comparative Study on US-Japan Seismic Isolation Design of Highway Bridges**

**IBC-01-63**

Hidesada Kanaji, Hanshin Expressway Public Corp.,  
Osaka, Japan, Hamid Ghasmei, Phillip Yen, FHWA,  
McLean, VA, Sunwoo Park, Professional Services Indus-  
tries, Inc., McLean, VA

The current seismic isolation design practices between US and Japan are critically reviewed and compared with an objective of enhancing the state of practice in both countries through learning from each other's experience. Design specifications of AASHTO and JRA are compared with respect to their design philosophies and methodologies.

3:10PM

### **Seismic Isolation of the I-40 Mississippi River Bridge**

**IBC-01-64**

Ging-Song Chang, PhD, SE, CH2M HILL, Sacramento, CA,  
Wen David Liu, PhD, PE, Parsons Brinckerhoff Quade &  
Douglas, Inc., Sacramento, CA, Roy Imbsen, Imbsen &  
Associates, Inc., Sacramento, CA, Ed Wasserman, PE,  
Tennessee State Department of Transportation, Nash-  
ville, TN

The I-40 Bridge is a lifeline structure crossing the Mississippi River near Memphis, Tennessee. To seismically retrofit this bridge and reduce construction costs, the isolation method was used. This paper discusses the isolator bearing selection process and the effect of foundation rocking for the bridge's steel box girder spans.

# WEDNESDAY

## TECHNICAL SESSIONS

### Innovative Materials Session

SESSION CHAIR: LISLE WILLIAMS  
DMJM+Harris, Inc.,

1:30 - 3:45PM

BALLROOMS 3 & 4

1:30PM

#### **Forensic Investigation of the Hoan Bridge Fracture Failure** *IBC-01-69*

William Wright, FHWA, McLean, VA, John W. Fisher, Lehigh University, Bethlehem, PA, Bala Sivakumar, Lichtenstein Engineers, New York, NY

On December 13, 2000, the northbound approach span of the Hoan Bridge failed by brittle fracture, causing closure of I-794 in Milwaukee, Wisconsin. The failure occurred in the 218 ft. approach span on the south end of the main tied arch over the Milwaukee River. A thorough, in-depth forensic investigation was undertaken to determine all of the factors that might have contributed to this failure. This paper will present results from the initial forensic report on the failure.

1:55PM

#### **Introducing the First Recycled Plastic Bridge in the World** *IBC-01-65*

Malcolm G. McLaren, PE, George Assis, PhD, PE, John Pensiero, PE, M. G. McLaren, PC Consulting Engineers, West Nyack, NY, Peter M. Melewski, PE, New York State Thruway Authority, Albany, NY, Keith F. Lashway, PE, New York State Empire State Development, Prabhat Krishnaswamy, PhD, Engineering Mechanics Corp. of Columbus, Columbus, OH

Designed for an H-15 truck loading, the first fiber reinforced recycled plastic bridge was completed on October 28, 2000. Introduction to the recycled plastic lumber material will be presented, as well as the results of an extensive testing program which consist of monitoring the bridge structure's behavior for deflection and creep, flexural and tensile testing of the FRPL members, and tensile testing of bolted connections.

# WEDNESDAY

## TECHNICAL SESSIONS

**2:20PM**

### **Design Details for FRP Reinforced Bridge Decks**

**IBC-01-66**

Joseph Robert Yost and Shawn P. Gross, Villanova  
University, Villanova, PA

State Department of Transportation standard detail sheets are typically used in design of steel reinforced highway bridge decks. In this paper substitute details for bridge decks reinforced with FRP are proposed. These details are derived from a design criterion that interprets adequate safety with respect to energy consumption and reserve.

**2:45PM**

### **Implementation of FRP Girders in Short Span Bridges**

**IBC-01-67**

Michael Hayes, John J. Lesko, Chris Waldron, Thomas Cousins, Virginia Tech, Blacksburg, VA, Dan Witcher, Glenn Barefoot, Strongwell Corporation, Bristol, VA, Jose Gomez, Virginia Transportation Research Council, VDOT, Charlottesville, VA

A 36" deep double web fiber reinforced polymer (FRP) girder will be installed in a 40' span secondary road bridge in Marion Virginia, Summer of 2001. Employing the principles of girder distribution factor the 28' wide bridge will require 8 girders for an HS20 loading. The design has been confirmed via a finite difference model and will be adjusted for curb stiffening.

**3:10AM**

### **Rehabilitation of a Steel Bridge Member Using Carbon Fiber Reinforced Polymer Strips**

**IBC-01-68**

Hiroyuki Suzuki, Meisei University, Tokyo, Japan

In this paper, tensile tests of notched or cracked steel plates strengthened by the Carbon Fiber Reinforced Polymer strips and steel butted joints spliced by the CFRP strips are examined to obtain a fundamental data to apply the CFRP strips to steel members.



# EXHIBITORS

## 2001 EXHIBIT HALL

### ACI / PENNSYLVANIA CONCRETE PROMOTION COUNCIL

**BOOTH 95**

Contact: Jim Turici  
Tele: 412-771-5513  
Fax: 412-777-6054

American Concrete Institute: highlights include membership; publications; concrete testing; finishing classes; and certification.

Concrete Promotion Council of Pittsburgh: highlights include current flowable fill; rapid repairs; and underwater placement technologies.

### ACROW CORPORATION

**BOOTH 82**

Contact: Ken Scott  
Tele: 905-857-2669  
Fax: 905-857-1334  
Email: ken.acrow@sympatico.ca

Acrow is an industry leader in the design and manufacture of prefabricated modular steel bridges for emergency, temporary detour, and permanent applications.

### ACT-MARTCO (ACRYLTECH, INC.)

**BOOTH 84**

Contact: Jeffrey S. Dumas  
Tele: 914-592-4010  
Fax: 914-592-3060  
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A world leader in the sales and application techniques of water borne acrylic coatings. Featuring our surface coating, Noxyde ZP, which can be applied to most steel surfaces after a simple hand tool cleaning and a 4000 psi pressure wash.

### ADVANCED RECYCLING SYSTEMS

**BOOTH 105**

Contact: Victor Pallotta  
Tele: 330-534-3330  
Fax: 330-534-9249

Manufacturers of Abrasive Sandblasting and Recycling Equipment, Mobile Dust Collectors, and Rapid Deployment Vehicles for sandblasting and lead abatement of bridges and other industrial structures. 1089 N. Hubbard Road, Lowellville, Ohio 44436. website: [www.arsrecycling.com](http://www.arsrecycling.com)

### ADVITAM US

**BOOTH L**

Contact: Eric Le Bis  
Tele: 703-749-9276  
Fax: 703-821-1815  
Email: [elebis@advitam-group.com](mailto:elebis@advitam-group.com)

Advitam propose to structure owners, managers, or consultants a series of advanced tools and software for management, visual inspection, diagnosis, and monitoring of bridges and structures.

# EXHIBITORS

## 2001 EXHIBIT HALL

### ALIMAK ELEVATOR COMPANY

**BOOTH 23**

Contact: Denise Walsh  
Tele: 203-367-7400  
Fax: 203-367-9251  
Email: [info@alimakamericas.com](mailto:info@alimakamericas.com)

Alimak provides industrial elevators, construction hoists and most climbing work platforms for use in construction and for permanent access, inclined or vertically, and on all types of bridges.

### AMERICAN BRIDGE MANUFACTURING

**BOOTH 48**

Contact: Darko R. Jurkovic, PE  
Tele: 412-562-4400  
Fax: 412-562-4478  
Email: [djurkovic@americanbridge.net](mailto:djurkovic@americanbridge.net)

American Bridge Company's Manufacturing Division fabricates the American Grid brand of steel grid bridge deck, miscellaneous structural steel for rail and roadway bridge repair and seismic retrofit, special equipment for the erection of bridges and other structures, the American Precast brand of precast concrete products, and composite steel grid/precast concrete bridge deck panels for nighttime bridge deck replacement.

### AMERICAN GALVANIZERS ASSOCIATION

**BOOTHS 33 & 34**

Contact: Kimberlie Dunham  
Tele: 720-554-0900  
Fax: 720-554-0909  
Email: [marketing@galvanizeit.org](mailto:marketing@galvanizeit.org)

The AGA provides technical information regarding after-fabrication hot-dip galvanizing including specification and design assistance, inspection procedures, performance data, costing statistics and duplex system information.

### AMERON COATINGS

**BOOTH 52**

Contact: Dorothy Tripodi  
Tele: 714-529-1951  
Fax: 714-529-2302  
Email: [dorothy\\_tripodi@ameron-intl.com](mailto:dorothy_tripodi@ameron-intl.com)

Ameron Coatings, a leading supplier of high-performance coatings to the bridge market worldwide, is introducing Amerlock 2, low temperature cure high solids epoxy mastic.

### ANATECH CORP.

**BOOTH 107**

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Tele: 858-455-6350  
Fax: 858-455-1094

Consulting and software for bridges: new design, rehabilitation, and seismic retrofit. RM-Spaceframe and ANACAP software provide load rating, segmental construction, prestressing, nonlinear, dynamic, CADD capabilities.

# EXHIBITORS

## 2001 EXHIBIT HALL

### APPLIED BOLTING TECHNOLOGY

**BOOTH 49**

Contact: Christofer Curven  
Tele: 800-552-1999/802-228-7390  
Fax: 802-228-7204  
Email: ccurven@sover.net

Manufacturer of SQUIRTER DTI's that provide correctly tensioned bolts in half the time vs. turn-of-nut, while giving the bridge owner the best assurance of a quality installation.

### ASPEN AERIALS, INC.

**BOOTH 60**

Contact: John Stubenvoll  
Tele: 218-624-1111  
Fax: 218-624-1714  
Email: ub@aspenn-aerials.com

Manufacturers of Bridge Inspection Unit used on both highway and rail bridges. Horizontal under-bridge reaches from 30 to 60 feet. No outriggers used, two rotating turntables and a variety of work platforms available for both maintenance and inspection work.

### AUTOCON COMPOSITES, INC.

**BOOTH K**

Manufacturer of "Nemac" a two-dimensional grid made of fiber reinforced plates used as primary reinforcement for concrete.

### AUTOMATIC POWER INC.

**BOOTH 09**

Contact: Bob Nichols  
Tele: 713-228-5208  
Fax: 713-228-3717  
Email: sales@automaticpower.com

A.P.I. manufactures navigation lights and other marine aids to navigation for bridges. This includes litepipes, racons and aviation warning lights. Solarpowered signals are a specialty.

### BAILEY BRIDGES

**BOOTH 93**

Contact: Tim Sexton  
Tele: 1-800-477-7320  
Fax: 1-334-382-9207

Temporary panel bridges for emergencies, construction haul roads, detours, and conveyor and pipe supports.

### BAR SPLICE PRODUCTS, INC.

**BOOTH 18**

Contact: Gary R. Foster  
Tele: 937-427-6466  
Fax: 937-427-6470

Mechanical couplers for reinforcing steel. Bargrip, griptwist, barsplicer and new zap coupler systems. A system for all applications, from standard to custom projects.

# EXHIBITORS

## 2001 EXHIBIT HALL

### BESTECH SYSTEMS LIMITED

**BOOTH 77**

Contact: Barry Skinner  
Tele: 44-1293-825-200  
Fax: 44-1293-825-300  
Email: bridges@bestech.co.uk

SAM is a unique software suite that integrates code checking to AASHTO LRFD with structural analysis for the design and rating of bridges. The suite includes: Steel composite bridge decks; Pretensioned concrete bridge decks; and pier sections.

### BETHLEHEM LUKENS PLATE

**BOOTH 06**

Contact: Jim Montgomery  
Tele: 717-533-6887  
Fax: 717-533-7584  
Email: hershey@bethsteel.com

Bethlehem Lukens Plate, Bethlehem Steel Corporation is the largest domestic supplier of bridge plates and is a leader in development of High performance Steel (HPS).

### BORG ADJUSTABLE JOIST HANGER CO.

**BOOTH E**

Contact: Lee Carpenter  
Tele: 952-938-3705  
Fax: 952-938-1505  
Email: lee@borghanger.com

Suspended concrete form hardware use on bridges, box culverts, commercial buildings, tunnels.

### BRIDGE BUILDER MAGAZINE

**BOOTH 15**

Contact: Sandy Lender  
Tele: 888-343-6462  
Fax: 816-254-7446

Bridge Builder is the premier domestic US magazine that provides how-to information on bridge engineering, specifying, design and construction.

### BRIDGE DESIGN & ENGINEERING

**BOOTH 69**

Contact: Peter Plaishowe  
Tele: 44-20-7973-6666  
Fax: 44-20-7233-5052  
Email: bde@ropl.com

Bridge Design & Engineering is the only international magazine covering the design, construction, maintenance and management of bridges, both large and small, around the world.

### BRIDGE PRESERVATION, LLC

**BOOTH B**

Contact: Bill Kudrenski  
Tele: 905-860-3646  
Email: bridgepreserve@aol.com

Manufacturer of rapid curing bridge deck membrane systems.

# EXHIBITORS

2001 EXHIBIT HALL

## BRIDGECOTE/FEROGUARD TECHNOLOGIES

**BOOTH 89**

Contact: Wayne A. Senick  
Tele: 888-279-5447  
Fax: 514-354-2799  
Email: wsenick@bridgecote.com

Bridgecote/Feroguard Technologies manufactures technically advance proprietary coatings know as Bridgecote 8000 series. These coatings are designed and engineered exclusively for encapsulation (overcoat) of existing aged failing paint, or recoating of prepared steel.

## CAMPBELL ENGINEERING SUPPORT SERVICES, INC.

**BOOTH 13**

Contact: Nicholas Nazzareno  
Tele: 800-422-1183  
Fax: 718-353-4537

Full Service Firm Specializing in access to structures for inspection including UBIU's, MPT, bucket trucks and rigging. Services available 24 hours/day, 7 days/week.

## CAPITAL SERVICES

**BOOTH 04**

Contact: Carla Krzykowski  
Tele: 518-344-7777  
Fax: 518-346-1110  
Email: carlak@capitalservicerny.com

Manufacturer - Expansion joints, elastomerics, waterproofing, concrete repair materials. MetaZeal® systems for bridges, marine & corrosive environments. Also, EVAZOTE, Pro-Flex®, ProCrete™, Easy-1 Injection & Control Joint Systems. Vist our webpage at [www.capitalservicesny.com](http://www.capitalservicesny.com)

## CAROLINA STALITE COMPANY

**BOOTH 66**

Contact: Kenneth S. Harmon  
Tele: 704-637-1515  
Fax: 704-642-1572  
Email: kharmon@salisbury.net

Producers of rotary kiln expanded slate aggregate for lightweight structural concrete and geotechnical fill. This low absorption, high performance aggregate has been used in projects across the US, Canada and Europe.

## THE CLEVELAND GROUP OF COMPANIES

**BOOTH 109**

Contacts: Tony Rae & Tom Hamilton  
Tele: +44 1325-502229  
Fax: +44 1325-353793  
Email: tony.rae@clevelandbridge.com

The Group comprises two companies offering the following products and services: Cleveland Bridge - bridge construction, Dorman Long - cable spinning, post tensioning, strand jacking, specialist cutting, access systems and maintenance.

# EXHIBITORS

## 2001 EXHIBIT HALL

### COMPOSITE DECK SOLUTIONS

**BOOTH 78**

Contacts: Kurt Eyring or Amy Fry  
Tele: 937-297-3295  
Fax: 937-299-1564  
Email: keyring@mvg.com

Composite Deck Solutions, LLC, provides innovative products and solutions to improve the problematic nature of conventional steel reinforced bridge deck construction. Our system accomplished this through the integration of composites in conjunction with concrete. Improvements include corrosion resistance, increased life cycle duration and serviceability.

### COMPUTERS & STRUCTURES, INC.

**BOOTH 50**

Contact: Syed Hasanain  
Tele: 510-845-2177  
Fax: 510-845-4096  
Email: syed@csiberkeley.com

Software solutions for structural and earthquake engineering — steel and concrete bridges (suspension, cable stayed, and multi-span concrete bridges), buildings, industrial structures, and transmission towers.

### CON/SPAN BRIDGE SYSTEMS

**BOOTH 59**

Contact: Timothy J. Beach, P.E., S.E.  
Tele: 937-254-2233  
Fax: 937-254-8365  
Email: tbeach@con-span.com

CON/SPAN Bridge Systems is a patented modular precast system for total set-in place construction of bridges, culverts, underground structures and environmentally acceptable alternatives for underground containment. The arch-box units offer clear spans from 12 ft. to 42 ft. with variable rise. The system includes optional precast wingwalls, headwalls and footings.

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Tele: 800-624-0925  
Fax: 901-375-9357  
Email: steve.may@csisteel.com

Stay-in-place metal bridge deck.

### CONTECH CONSTRUCTION PRODUCTS, INC.

**BOOTH 76**

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Fax: 513-425-5993  
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CONTECH manufactures steel and aluminum structural plate bridges to 50 foot spans. Contact your local CONTECH Sales Engineer for durable, cost effective bridge ideas and our latest design tools.

# EXHIBITORS

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### **CORRPRO COMPANIES, INC.**

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Contact: Clem Firlotte, P.E.  
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Fax: 330-722-7606  
Email: cafirlotte@aol.com

Corrpro offers complete cathodic protection and coating services to protect your structures, whether steel or concrete, from corrosion.

### **THE D.S. BROWN COMPANY**

**BOOTHS 80 & 81**

Contact: Bob Rose  
Tele: 732-206-0740  
Fax: 732-206-0953  
Email: brose@sales.dsbrown.com

Design and manufacture engineered bridge construction materials including expansion joint systems, structural bearing assemblies (elastomeric, HLMR and spherical) and Cableguard elastomeric wrap (corrosion protection for bridge cables).

### **D'APPOLONIA**

**BOOTH 29**

Contact: Randy O'Rourke  
Tele: 412-856-9440  
Fax: 412-856-9535

Civil, geotechnical and environmental design services for infrastructure systems including foundations, earth retention and excavation support structures, slope stabilization, subsidence mitigation, dewatering, instrumentation and LRFD training.

### **DEERY AMERICAN CORP**

**BOOTH I**

Contact: Richard Baker  
Tele: 970-260-2774  
Fax: 804-280-9299  
Email: r.baker@deeryamerican.com

FlexAble mastic bridge expansion joint systems, mastic deck repair products in black or gray, waterproof membranes.

### **DMJM & HARRIS**

**BOOTH 38**

Contact: James Hilton  
Tele: 212-973-2900  
Fax: 212-953-0399  
Email: jhilton@frharris.com

DMJM+HARRIS combines the talent and resources of three of the best companies in the field of transportation and infrastructure planning, engineering and architecture - DMJM Infrastructure, Holmes & Narver Infrastructure and Frederic R. Harris. Our capabilities cover the full spectrum of market sectors and disciplines, including Transit, Highways and Bridges, Ports and Harbors, Energy, Water Resources, Marine and Aviation. So from concept to completion, from project design and planning to project delivery, at DMJM+HARRIS we're ready to build a better world.

# EXHIBITORS

## 2001 EXHIBIT HALL

### DOW CORNING / SSI

**BOOTH 11**

Contact: Frank Chiles P.E.  
Tele: 918-587-5567  
Fax: 918-582-7510

X.J.S. Expansion Joint System, a revolutionary new concept in expansion joint construction, combining a polymer nosing and rapid-curing high movement silicone for joint sealing.

### DYNAMIC ISOLATION SYSTEMS, INC.

**BOOTH 10**

Contact: Greg Lawson  
Tele: 866-376-8006  
Fax: 775-359-3985  
Email: glawson@dis-inc.com

Dynamic Isolation Systems, Inc. (DIS), the leader in seismic bearing design and manufacturing. Recent projects include JFK Light Rail, Coronado Bridge and Golden Gate Bridge.

### DYWIDAG-SYSTEMS INTERNATIONAL

**BOOTH 01**

Contact: Mark Micici  
Tele: 973-276-9222  
Fax: 973-276-9292

DSI will be exhibiting our range of Bar and Multi-Strand Posttensioning Systems together with information on Stay Cables.

### EARTHQUAKE PROTECTION SYSTEMS

**BOOTH 99**

Contact: Julie Robinson  
Tele: 510-232-5993  
Fax: 510-232-6577  
Email: eps@earthquake-protection.com

Earthquake Protection Systems is a leading manufacturer of seismic isolation bearings. We offer complete seismic isolation services, including bearing design, manufacture, testing and installation support.

### EMPIRE SPECIALTY STEEL, INC.

**BOOTH 47**

Contact: Gary Zaffalon  
Tele: 800-828-8600 x323  
Fax: 716-366-0478  
Email: sales@empirespecialtysteel.com

Empire Specialty Steel produces stainless and specialty steel bar, wire and rod products including Stainless Steel Rebar, Dowel Bar, Wire (Tie, Strand & Spiral). Production grades includes 216LN, Duplex 2205, 304L, XM-29 & XM-19.



# EXHIBITORS

## 2001 EXHIBIT HALL

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**BOOTH 68**

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Tele: 518-463-3271  
Fax: 518-463-3276  
Email: mt@epoxy.com

E-Poxy Industries, Inc. is the World Leader in "New Evazote" Technology for Expansion-Contraction Joint Seals in Bridges, Parking Garages, Stadiums and Watertreatment Facilities. Call 1-800-833-3400 today for more information.

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State-of-the-art bridge design software for AASHTO LRFD and standard specifications. LRFD training, consulting, and technical publications. Underwriter and maintainer of LRFD.com.

### EXODERMIC BRIDGE DECK, INC.

**BOOTH 64**

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Tele: 860-435-0300  
Fax: 860-435-4868  
Email: info@exodermic.com

An Exodermic bridge deck is a lightweight, panelized deck system, comprised of a 3" to 4" reinforced concrete slab composite with an unfilled steel grid. Overall depths are typically 6" to 10". This efficient deck design permits significant weight savings compared to a standard reinforced concrete deck while providing the same or better strength/stiffness. The concrete component can be precast or cast-in-place. The modular nature of the deck permits rapid erection, even during very short (overnight) work periods. EBDI is an information source for Exodermic design.

### FIBERCAST COMPANY

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Contact: Rich Yannuzzi  
Tele: 314-731-2006  
Fax: 314-731-2610  
Email: deckdrains@control-stl.com

Fiberglass Reinforced Plastic (FRP) Bridge Drainage Piping Systems. Durable, lightweight, corrosion resistant, handsome appearance. Lower installed cost than metallic systems.

### FIGG ENGINEERING GROUP

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Contact: Mark A. Hinderer  
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Fax: 850-224-8745  
Email: mhinderer@figgbridge.com

Exclusively design and inspect construction of economical signature bridges in harmony with their environment. Specialized in cable-stayed, arches and all types of unique bridges.

# EXHIBITORS

## 2001 EXHIBIT HALL

### THE FORT MILLER COMPANY, INC.

**BOOTH 44**

Contact: Peter J. Smith  
Tele: 518-695-5000  
Fax: 518-695-4970  
Email: psmith@fmgroup.com

The Fort Miller Co., Inc., a Northeastern US based precast concrete company, manufactures a broad spectrum of precast concrete products for the transportation industry. This includes such bridge related products as precast concrete box culverts, both 3 and 4 sided, bridge deck panels, parapets, approach slabs, Inverset, and Effideck units. We also manufacture 3 types of precast concrete retaining walls which may be used for bridge abutments and wingwalls.

### FREESPAN SYSTEMS, INC.

**BOOTH 108**

Contact: F. Michael Swalling  
Tele: 907-277-3023  
Fax: 907-274-6002  
Email: mswalling@swalling.com

FreeSpan Systems, Inc. provides design/build services for construction of ultra long span light duty bridges throughout North America.

### GEOTECHNICS, INC.

**BOOTH 22**

Contact: Larry Wetzel  
Tele: 412-823-7600  
Fax: 412-823-8999  
Email: geotechs@usaor.net

Geotechnics Inc. is an independent nationally accredited laboratory that has provided geotechnical, geoenvironmental and geosynthetics testing services throughout the United States for over 17 years.

### GREULICH BRIDGE PRODUCTS

**BOOTH 51**

Contact: Michael Riley  
Tele: 412-828-2223  
Fax: 412-828-4103  
Email: mriley@IFGIndustries.com

The IKG Greulich booth will showcase the company's extensive family of lightweight flooring products for bridge applications. Products included are Grid Reinforced Concrete Decks, Open Steel Grid Decks, Sidewalks of both Orthotropic Steel Plate and FRP Composites, and FRP Grid Flooring for inspection walkways. Latest installation techniques for rapid reconstruction with minimum disruption to traffic flow will be highlighted. The booth will be shared with IKG's sister company, Patent Construction Systems. Patent will feature their latest Forming, Shoring and Scaffolding Systems and Technology. IKG Greulich and Patent are divisions of Harsco Corporation.

# EXHIBITORS

## 2001 EXHIBIT HALL

### HARCON CORPORATION

**BOOTH 104**

Contact: Harry Stoltzfus  
Tele: 717-687-9294  
Fax: 717-687-9296  
Email: [harry@harconcorp.com](mailto:harry@harconcorp.com)

Harcon Corporation provides special access and for protection services on all types of bridges from single span covered bridges to multi-design structures spanning several miles.

### HARDCORE COMPOSITES

**BOOTH 73**

Contact: Greg Blaszak  
Tele: 302-442-5900  
Fax: 302-442-5903

Hardcore Composites is a civil infrastructure manufacturing company that focuses on the use of composite materials for large-scale engineered structures including bridges and walkways, marine fender systems and specialty composite stay in place concrete forms.

### HIGH STEEL STRUCTURES, INC.

**BOOTH 25**

Contact: Steven Bussanmas  
Tele: 717-390-4270  
Fax: 717-399-4102  
Email: [sbussanmas@high.net](mailto:sbussanmas@high.net)

High Steel Structures fabricates structural steel for bridges and major building projects, is a steel erector, provides crane rentals and specialized oversized/overweight hauling.

### HILMAN ROLLERS

**BOOTH 32**

Contact: Andy Cannon  
Tele: 732-462-6277  
Fax: 732-462-6355  
Email: [hilmanrollers@worldnet.att.net](mailto:hilmanrollers@worldnet.att.net)

Hilman Rollers and Rolling Systems are used to roll-in bridge spans, trusses, prestressed segments, box girders, and large bridge components weighing up to 5000 tons. Hilman Rolling Systems are designed in launching systems, traveling forms, concrete forming and casting equipment. The ability to perform entire bridge roll-ins results in huge savings in time and expenses for many contractors..

### HOUSTON STRUCTURES, INC.

**BOOTH 106**

Contact: Jerry Clodfelter  
Tele: 713-678-7998  
Fax: 713-678-7610

Design, material manufacture, construction/supervision of cable supported structures, bridges, roof structures, towers, etc. Manufacture of cast/forged sockets-castings for strand, bridge retrofit, new construction. Bridge engineering/consulting/bridge inspections and maintenance.

# EXHIBITORS

## 2001 EXHIBIT HALL

### IKO / GROUPE LEFEBVRE

**BOOTH 05**

Contact: Keith Love  
Tele: 502-561-3423  
Fax: 502-561-3444  
Email: keith.lowe@iko.com

IKO is a world wide supplier of waterproofing and roofing material. Armourbridge membrane is extremely compatible to asphalt overlay, fast to install and economical.

### INTERLOCKING DECK SYSTEMS INTERNATIONAL

**BLACK DIAMOND**

Contact: Edward Coholich  
Tele: 412-682-3041  
Fax: 412-682-3560  
Email: ecoholich@idsi.org

Interlocking Deck Systems International is dedicated exclusively to the manufacturing and distribution of metal decking systems for new bridge construction and bridge rehabilitation projects. While we continue to offer traditional welded decking projects, IDSI features weldless bridge deck systems that provide numerous advantages over traditional technology.

### IVS HYDRODEMOLITION

**BOOTH 91**

Contact: Joe Romine  
Tele: 912-443-0027  
Fax: 912-443-0446  
Email: joe.romine@ivsgroup.com

Hydro Demolition Services removes deteriorated concrete from all types of surfaces (bridge decks, parking garages, substructures and other concrete structures) using high pressure water blasting equipment.

### IVY STEEL & WIRE

**BOOTH M**

Contact: Robert E. May  
Tele: 713-674-8431  
Fax: 713-674-5931  
Email: bmay@ivysteel.com

The country's leading manufacturer of welded wirefabric providing America with high strength, specialized concrete reinforcements from eight locations nationwide.

### KTA-TATOR, INC.

**BOOTH 61**

Contact: Kathy Memmo  
Tele: 412-788-1300  
Fax: 412-788-1306  
Email: kmemmo@kta.com

KTA is a consulting engineering firm specializing in coatings and corrosion-related products and services. Services include failure analysis, specification preparation/review, coatings evaluation, lead paint management, surface preparation and coatings application inspection, training, and distribution of coatings inspection and environmental monitoring instrumentation.

# EXHIBITORS

## 2001 EXHIBIT HALL

### L.B. FOSTER

**BOOTH 71**

Contact: David C. Seybert  
Tele: 412-928-3425  
Fax: 412-928-7891  
Email: dseybert@lbfosterco.com

L.B. Foster manufactures, fabricates, and distributes products to serve the nation's surface transportation infrastructure. The company provides a full line of new and used rail, trackwork, and accessories to railroads, mines and industry; it supplies bridge decking, expansion joints, mechanically stabilized earth wall systems, precast concrete products and other products for highway construction and repair; and pipe coatings for natural gas pipelines and utilities.

### LARSA, INC.

**BOOTH 70**

Contact: Edward F. Pierson  
Tele: 212-736-4326  
Fax: 212-736-4424  
Email: Epierson@LARSAUSA.com

Integrated linear and nonlinear finite element analysis and design software for structural and earthquake engineering. Construction analysis with time dependent concrete and prestressed tendon material properties.

### LEAP SOFTWARE, INC.

**BOOTH 65**

Contact: Lee Tanase  
Tele: 813-985-9170  
Fax: 813-980-3642  
Email: lee@leapsoft.com

LEAP Software, the nation's leading developer of precast/prestressed concrete bridge design tools, showcases its latest developments in LRFD and metric design software.

### LEHIGH UNIVERSITY — ATLSS RESEARCH CENTER

**BOOTH 30**

Contact: Frank E. Stokes  
Tele: 610-758-5498  
Fax: 610-158-5553  
Email: fes2@lehigh.edu

The Lehigh University ATLSS Research Center has extensive experience in laboratory and field instrumentation, testing, and fatigue and strength evaluation of bridges.

### MARKET DEVELOPMENT ALLIANCE OF THE FRP COMPOSITE INDUSTRY

**BOOTHS  
96 & 97**

Contact: John P. Busel  
Tele: 914-381-3572 x3256  
Fax: 914-381-1253  
Email: jbusel@mdacomposites.org

MDA is a non-profit trade organization representing the FRP composites industry with products for civil engineering applications. MDA will distribute a complimentary reference guide called "FRP Composite Products for Bridge Applications".

# EXHIBITORS

## 2001 EXHIBIT HALL

### MARTIN MARIETTA COMPOSITES

**BOOTH 90**

Contact: Greg Solomon  
Tele: 919-788-4367  
Fax: 919-510-4761  
Email: greg.solomon@martinmarietta.com

MMC, a subsidiary of Martin Marietta Materials, produces a fiberglass-reinforced polymer highway bridge deck called DuraSpan™. Infrastructure and construction applications are the main focus.

### McCLAIN & CO., INC.

**BOOTH 55**

Contact: Daniel McClain  
Tele: 540-972-0776  
Fax: 540-972-1066

Total Bridge Inspection Equipment Supplier. Up to 60' horizontal units, platforms and buckets. Manlifts, cablerigging, pontoon boats & personnel lifts available. DOT Certified traffic control operations. Multiple offices.

### MDX SOFTWARE

**BOOTH 67**

Contact: Chris Douty  
Tele: 573-446-3221  
Fax: 573-446-3278  
Email: support@mdxsoftware.com

Developer of curved and straight steel bridge design and rating software based on AASHTO ASD, LFD, and LRFD specifications.

### MICHAEL BAKER JR., INC.

**BOOTH 63**

Contact: Jeffery J. Campbell, P.E.  
Tele: 412-269-7948  
Fax: 412-269-7915  
Email: jcampbell@mbakercorp.com

Baker provides planning, environmental impact studies, GIS, design, software development, bridge inspection/bridge inspection training and construction management for highways, bridges, airports, and transit facilities.

### MONOTUBE PILE CORPORATION

**BOOTH 27**

Contact: Scott J. Udelhoven, P.E.  
Tele: 330-454-6111  
Fax: 330-454-1572  
Email: monotube@raex.com

End-driven longitudinally fluted steel shell for friction bearing applications available in a variety of diameters and tapers with engineering support for your project needs.

# EXHIBITORS

2001 EXHIBIT HALL

## NATIONAL STEEL BRIDGE ALLIANCE

BOOTH 26

Contact: William McEleney  
Tele: 401-943-5660  
Fax: 401-943-5660  
Email: mceleney@aiscmail.com

The NSBA is a unified industry organization serving those who are interested in enhancing the state-of-the-art of steel bridge design and construction.

## NON-DESTRUCTIVE TESTING GROUP

BOOTH 56

Contact: Mike Forbes  
Tele: 616-891-3570  
Fax: 616-891-3565  
Email: ndtg@iserv.net

Non Destructive Testing Group provides Bridge Fabrication inspections for steel and Prestressed Bridges, existing bridge maintenance NDT inspections for evaluations/recomendations and bridge paint inspections.

## NORTHEAST SOLITE CORPORATION

BOOTH 79

Contacts: Max Lalafat/Barbara Budik  
Tele: 845-246-2646  
Fax: 845-246-3356  
Email: info@nesolite.com

Northeast Solite Corporation strives to provide the construction industry with premier structural light weight aggregates that are durable, inert, uniform and able to withstand severe marine conditions.

## OLDCASTLE PRECAST, INC.

BOOTH 42

Contact: Larry Abatiell  
Tele: 781-246-8727  
Fax: 781-246-9990  
Email: bebobbridge@aol.com

Oldcastle Precast, Inc., is a manufacturer of precast concrete bridge systems. Our systems include precast bridge beams and slabs, 3-sided box sections, and a BEBO Bridge System. The BEBO Bridge System is a cost-effective solution to short-span bridges such as an underpass, overpass, tunnel or stream and wetland crossing. The system is a combination of precast arch elements, footings, spandrel walls, wingwalls and optional mechanically stabilized earth full height precast panels. Our BEBO Bridge System is the largest precast arch spans available in the world, 12 feet to 84 ft.

## PALMER ENGINEERING

BOOTH 85

Contact: John Carnes  
Tele: 859-744-1218  
Fax: 859-744-1266  
Email: jcarnes@palmernet.com

Palmer Engineering has served the public for over thirty years in the areas of highway and bridge design, surveying, land development, and environmental services.

# EXHIBITORS

## 2001 EXHIBIT HALL

### PAXTON-MITCHELL COMPANY

**BOOTH 21**

Contact: Mark Pfeffer  
Tele: 402-345-6767  
Fax: 402-345-6772  
Email: [www.paxton-mitchell.com](http://www.paxton-mitchell.com)

Manufacturer of the Snooper® Bridge Inspection and Maintenance Crane. Snooper®, the most widely used bridge inspection crane in the world, is capable of under bridge reaches from 30' to 60' and available in basket, platform, or combination configurations.

### PHYSICAL ACOUSTICS CORP.

**BOOTH J**

Contact: Dan Johnson  
Tele: 609-716-4115  
Fax: 609-716-0706  
Email: [Djohnson@pacndt.com](mailto:Djohnson@pacndt.com)

Physical Acoustics Corp. (PAC) is a world leader in Nondestructive Testing (NDT), specializing in Acoustic Emission (AE), Impact Echo, Ultrasonics, Radiography and Ground Penetrating Radar for Civil Infrastructure.

### PITTSBURGH RIGGING COMPANY

**BOOTH 28**

Contact: Dean R. Peryea  
Tele: 724-899-3060  
Fax: 724-899-2676

Providing full support and access services for bridge inspection projects for nearly a decade. Offering the finest equipment, highly trained personnel, and excellent safety record. Serving the eastern United States.

### PRECAST / PRESTRESSED CONCRETE INSTITUTE (PCI)

**BOOTH 17**

Contact: John Dick  
Tele: 312-360-3205  
Fax: 312-786-0353  
Email: [j.dick@pcinst.com](mailto:j.dick@pcinst.com)

A dynamic association devoted to promoting the applications of precast concrete. At the booth, staff is available to discuss issues and answer questions. Free literature is displayed.

### PRESTRESSED CONCRETE ASSOCIATION OF PENNSYLVANIA

**BOOTH  
14**

Contact: Heinrich O. Bonstedt  
Tele: 610-395-2338  
Fax: 610-395-8478  
Email: [bonstedt@consult-intex.com](mailto:bonstedt@consult-intex.com)

The Prestressed Concrete Association of Pennsylvania is a non-profit industry organization of prestressed concrete bridge beam manufacturers approved by the Pennsylvania Department of Transportation as a material source and located in the Commonwealth of Pennsylvania.



# EXHIBITORS

## 2001 EXHIBIT HALL

### R.J. WATSON, INC.

**BOOTHS 40 & 41**

Contact: Marc D. Stafford  
Tele: 724-776-7947  
Fax: 724-776-7948  
Email: marc@rjwatson.com

Design, manufacture, and marketing of bridge expansion joints, disc bearings, seismic isolation bearings, waterproofing membranes, pavement dowels, and carbon and glass fiber composites.

### THE REINFORCED EARTH COMPANY

**BOOTH 19**

Contact: Eric Hilberath  
Tele: 703-821-1175  
Fax: 703-821-1815  
Email: E.Hilberath@aol.com

The Reinforced Earth Company is a leader in the development and manufacture of innovative, pre-engineered products: Reinforced Earth®, TechSpan™, TechWall™, and Terratrel™ which provide effective structural solutions and significant cost savings in highway and commercial markets. Included in our arsenal is Menard Soil Treatment Inc., providing soil improvement solutions.

### RJD INDUSTRIES, INC.

**BOOTH 74**

Contact: Randall E. Decker  
Tele: 949-582-0191  
Fax: 949-582-0995  
Email: r-decker@pacbell.net

Manufacturer of products that avoid corrosion in concrete: SuperTie, fiberglass formtie systems; SpliceSeal, concrete reinforcement protection system; and FiberDowel, corrosion proof joint restraint system.

### ROADS & BRIDGES MAGAZINE

**BOOTH 36**

Contact: Julie McGough  
Tele: 847-391-1003  
Fax: 847-390-0408  
Email: Jamcgough@aol.com

As the leading monthly trade publication for the transportation construction market, Roads & Bridges Magazine reaches over 70,000 engineers, contractors, DOT's and other public officials (local, county, state and federal). Our readers design, build and maintain roads, highways, bridges, tunnels and viaducts across the U.S. and Canada.

### ROBERT W. HUNT COMPANY

**BOOTH 43**

Contact: Robert Stachel  
Tele: 412 921-8833  
Fax: 412 921-8836  
Email: res@pa.robhunt.com

Founded in 1888, the Robert W. Hunt Co. is an ISO 9000 Registered provider of International Quality Assurance services associated with the fabrication and erection of structural steel, Pre-stressed concrete and timber bridges.

# EXHIBITORS

## 2001 EXHIBIT HALL

### ROCTEST

**BOOTH N**

Contact: Sonya Lord  
Tele: 450-465-1114 x 237  
Fax: 450-465-1938  
Email: info@roctest.com

World leader in the field of geotechnical and structural instrumentation, Roctest offers a vast range of fiber-optic, vibrating wire and induction-with-frequency output instruments as well as data acquisition systems.

### ROYSTON LABORATORIES DIVISION / CHASE CORPORATION

**BOOTH  
12**

Contact: John Tortorete  
Tele: 800-245-3209  
Fax: 412-828-4826  
Email: jtortorete@chasecorp.com

Royston manufactures state-of-the-art bridge membrane waterproofing. Leading in the formulation and production of additives to waterproof and enhance the performance of asphalt.

### S.G. PINNEY & ASSOCIATES, INC.

**BOOTH 58**

Contact: Pat Marazzi  
Tele: 561-337-3080  
Fax: 561-337-0294  
Email: p-marazzi@sgpinney.com

S.G. Pinney & Associates Instrument Sales, Inc., specializes in corrosion instruments including air monitoring equipment and our new line of Safety, GPS equipment and software.

### SAFESPAN PLATFORM SYSTEMS, INC.

**BOOTH 39**

Contact: David Malcolm  
Tele: 716-694-1100  
Fax: 716-694-1188  
Email: info@safespan.com

Safespan Platform Systems, Inc. develops, engineers, manufactures, supplies and installs labor saving worker access and shielding systems for industrial bridge painting and rehabilitation applications.

### SEISMIC ENERGY PRODUCTS, L.P.

**BOOTH 83**

Contact: Steve Bowman  
Tele: 903-675-8571  
Fax: 903-677-4980  
Email: seismic@aol.com

Nation's largest manufacturer of seismic isolation bridge bearings, elastomeric bridge bearings, and Fluorogold® Teflon® slide bearings.

# EXHIBITORS

## 2001 EXHIBIT HALL

### SHERWIN-WILLIAMS COMPANY

**BOOTH 101**

Contact: Skip Pendry  
Tele: 803-418-0960  
Fax: 412-257-3159  
Email: sbpendry@sherwin.com

Sherwin-Williams is a world leader in the manufacturing of high performance coatings for the DOT market. From Acrylic to Zinc Rich coating, Epoxies and Urethanes, Sherwin-Williams has product offerings with proven performance and long term histories. The Sherwin-Williams Company booth will feature high performance coatings for new bridge construction, as well as state of the art maintenance products. Information on the Sherwin-Williams Trade Marked "Rapid Deployment" process will be available. Sherwin-Williams Corrosion Engineers and Specification Specialist will be on hand to answer your questions and address your requirements.

### SIKA CORPORATION

**BOOTH 07**

Contact: David White  
Tele: 201-933-8800  
Fax: 201-933-6225

Sika Corporation is a worldwide leader in the construction industry specializing in systems for concrete repair, protection and structural strengthening. Sika offer products such as carbon and glass fiber fabrics and plates for external reinforcement, epoxies, concrete admixtures, corrosion inhibitors, repair mortars, grouts, sealants, adhesives, coatings, and segmental bridge adhesives.

### SILIKAL RESIN SYSTEMS

**BOOTH 37**

Contact: Tom Wickett  
Tele: 800-477-4545  
Fax: 203-754-8791  
Email: t.wickett@silikalresins.com

Introducing DEGADECK Crack Sealer, Bridge Overlay and Polymer Concrete for the repair and restoration of bridge decks and related civil engineering applications.

### SOFIS COMPANY, INC.

**BOOTH 20**

Contact: William J. Sofis, Jr.  
Tele: 724-378-2670  
Fax: 724-378-3719  
Email: wsofis@sgi.net

Sofis Co., Inc. has been a DOT prequalified General Contractor for over 41 years. We have earned a reputation for knowledge and respectability specializing in Bridge Repair, Inspection, and Support Services. Supplying top of the line Snoopers, cable rigging, traffic control and all related services, with an exemplary safety record.

# EXHIBITORS

## 2001 EXHIBIT HALL

### **SOLITE CORPORATION**

**BOOTH 45**

Contact: Doug Clark  
Tele: 804-673-8635  
Fax: 804-673-0748  
Email: dcsolite@aol.com

Lightweight aggregate for use in "high performance" lightweight concrete for bridge structures. Controlled lightweight aggregate utilized for geotechnical applications to help reduce density, provide high stability, permeability and thermal resistance.

### **SOPREMA/SPECIAL PROJECTS GROUP, INC.**

**BOOTH 102**

Contact: Adam Brown  
Tele: 207-743-8885  
Fax: 207-743-0598  
Email: spg@spg-antirock.com

SPG, Inc. is the sales and technical arm Soprema's bridge deck waterproofing membrane "Antirock" SPG brought automated heat welded installations to the U.S.

### **SPECIALTY DIVING**

**BOOTH 46**

Contact: Liz Kaske  
Tele: 504-542-8770  
Fax: 504-345-7602

Speciality Diving Inc. is a full service marine construction contractor. We are corps of engineer qualified. SDI offers many services that are unique in the diving underwater bridge repair industry. Providing engineer-designed repairs and inspections meeting DOT and FHWA standards. Corps of engineers certified hubzone contractor has performed NDT Level I, II, III inspections for 9 states.

### **SSPC: THE SOCIETY FOR PROTECTIVE COATINGS**

**BOOTH G**

Contact: Terry Sowers  
Tele: 412-281-2331  
Fax: 412-281-9995  
Email: sowers@sspc.org

Will feature information on conferences and trainings courses, professional certification programs, SSPC membership, the JPCL, new and recently published books and standards and other valuable coating resources.

### **STAFFORD BANDLOW ENGINEERING INC.**

**BOOTH 94**

Contact: Paul Bandlow  
Tele: 215-340-5830  
Fax: 215-340-5815  
Email: BRMCH@aol.com

Mechanical and electrical engineering services specializing in movable bridge machinery. Providing design, rehabilitation, construction and emergency services. Emphasis on achieving practical solutions to real problems.

# EXHIBITORS

## 2001 EXHIBIT HALL

### STEADFAST BRIDGES

**BOOTH 92**

Contact: May Toole  
Tele: 800-749-7515  
Fax: 256-845-9750

Manufacture of prefabricated steel bridges — Steadfast Pedestrian, Bicycle, Equestrian, Golf Cart & 2 Lane Vehicle Bridges. Prefabricated bridge components for — Emergency, Construction Haul Roads, Detours & Other Applications.

### STIRLING LLOYD PRODUCTS, INC.

**BOOTH 03**

Contact: Simon Greensted  
Tele: 203-230-9448  
Fax: 203-230-1025  
Email: slpus@aol.com

The "Eliminator" bridgedeck waterproofing membrane is a sprayed two-coat fast-cure system, providing outstanding waterproofing, adhesion, durability and service life across a wide temperature range.

### STRAIN MONITOR SYSTEMS, INC.

**BOOTH 53**

Contact: Paul E. Grayson  
Tele: 770-209-1282  
Fax: 770-209-1284  
Email: pgrayson@strainmonitor.com

Strain Monitor Systems, Inc. provides cost-effective solutions for remotely monitoring the "health" of major structural inventory. Our LIFE-SPAN™ technology offers clients the ability to reduce the life-cycle cost of bridges, dams, tunnels, pipelines, towers and other major structures. SMS technology effectively eliminates subjectivity; each suspect structural component can be identified and repairs implemented — BEFORE catastrophic failure.

### TAMMS INDUSTRIES

**BOOTH 62**

Contact: Steve Scarpinato  
Tele: 815-522-3394  
Fax: 815-522-2323

Tamms Industries is the leading bridge overlay manufacturer/supplier. A complete line of DOT approved patching, sealing and protective coatings products is available.

### TRANSPO INDUSTRIES INC.

**BOOTH 100**

Contact: John B. Karlson  
Tele: 914-636-1000  
Fax: 914-636-1282  
Email: TRANSPOND@AOL.COM

Manufacturer - Polymer Concrete Products, concrete rehabilitation / repair of bridges. Thin Polymer overlays, MMA Patching System for fast permanent Cold Weather repairs, SEALATE™ Crack Sealer / Healer.

# EXHIBITORS

## 2001 EXHIBIT HALL

### **TRIANGLE RENTALS, LLC**

**BOOTH A**

Contact: Matt Pasquale  
Tele: 607-754-7333  
Fax: 607-754-1257  
Email: mpasquale@stny.rr.com

Offers rental service of DFM Bridgmaster. Under bridge inspection units on a daily, weekly or monthly basis.

### **US STEEL GROUP, DIVISION OF USX CORP.**

**BOOTH 08**

Contact: Mance Parks  
Tele: 218-888-1822  
Fax: 219-888-2241  
Email: mhparks@uss.com

Products include the manufacture and sale of Carbon High-Strength Low-Alloy, Alloy Armor, and Strip Mill Plate Products.

### **VECTOR CORROSION TECHNOLOGIES**

**98**

Contact: Chris Ball  
Tele: 330-723-1177  
Fax: 330-723-2757  
Email: chrisb@vectorgroup.com

Vector offers specialized products/services for investigating, mitigating, and preventing corrosion within concrete structures. Vector's expertise includes bridge, parking garages, coastal/marine structures, and industrial applications.

### **VERMONT FASTENERS MANUFACTURING**

**BOOTH 103**

Contact: Michael Krohn  
Tele: 450-658-7017  
Fax: 450-447-0114  
Email: krotin@infscoco.com

Vermont Fasteners Manufacturing produces fully certified domestic structural fasteners out of steel that is melted and manufactured in the USA. VFM's fasteners meet the most demanding applications including bridge construction. Products produced include A325 Type 1, in plain, mechanical and hot dip galvanized finishes, Type 3 weathering steel, A325 Tension Control Bolts and A490 structural bolts.

### **WASSER HIGH-TECH COATINGS**

**BOOTH 57**

Contact: Wendy Betts  
Tele: 253-850-2967  
Fax: 253-850-3098

Wasser High-Tech Coatings, Inc. is the world's largest producer of and leading authority on single component moisture-cure urethane and micaceous iron oxide coatings for marine and industrial painting.

# EXHIBITORS

## 2001 EXHIBIT HALL

### WATSON BOWMAN ACME CORP.

**BOOTH 75**

Contact: Virginia Foreman  
Tele: 716-691-7566  
Fax: 716-564-0361  
Email: vforman@wbacorp.com

Watson Bowman Acme Corp. is the engineered solutions provider for Bridge & Highway expansion joint systems, concrete repair and protection, and composite strengthening systems. Visit us on the web at [www.wbacorp.com](http://www.wbacorp.com) or call 1-800-6771WBA.

### WESTFALL COMPANY, INC.

**BOOTH 24**

Contact: Garland R. Westfall  
Tele: 314-343-5855  
Fax: 314-343-6956  
Email: dan-smith@msn.com

Fiberglass drain systems and other corrosion resistant products for elevated highways, bridge approaches and bridges. Come see new solutions for age-old problems. Website: [www.westfallcompany.com/bridgedrain.html](http://www.westfallcompany.com/bridgedrain.html).

### WHEELING CORRUGATING CO.

**BOOTH 72**

Contact: Michael Benson  
Tele: 304-234-2326  
Fax: 304-234-2378  
Email: bensonmw@wpsc.com

Wheeling Corrugating Company specializes in permanent metal bridge deck forms. Form depths range from 2 inches through 4.5 inches accommodating girder spacings up to 15'-0".

### WILLIAMS FORM ENGINEERING CORP.

**BOOTH 31**

Contact: Kevin Heinert  
Tele: 616-365-9220  
Fax: 616-365-2668  
Email: [williams@williamsform.com](mailto:williams@williamsform.com)

Williams Form Engineering is one of the world's leading manufactures of high capacity anchorage systems. Our products include bonded and mechanical rock and soil anchors utilizing steel All-Thread and hollow bars, (steel grades as high as 150 KSI) with ultimate strengths as high as 778,000 lbs. These systems are often used for slope stability, tiebacks, tunnel bolting and foundation repair. Williams also manufactures high capacity concrete anchors including mechanical, chemical and cast-in place systems. In addition to our anchoring product line, Williams also supplies pot-tensioning systems and has been manufacturing and supplying concrete forming hardware throughout the world for the past 70 years.