2018 Thirtieth Annual Fall Bridge Conference





Friday, November 16, 2018 7:15 am - 6:00 pm

Millennium Hotel Buffalo Buffalo, New York

www.abcdwny.org



Table of Contents

the beautiful th

D be fa ag al E C $\mathbf{E}_{\mathbf{0}}$ Aı Jo W Te fo C of bo ev in pı in

	<u>Page</u>
A Brief Look at our History	1
Message from the President	2
ABCD WNY Hall of Presidents	4
Officers, Directors and Conference Committee	5
Schedule of Speakers	6
Speaker Abstracts & Biographies	8 through 15
List of Conference Exhibitors	16
List of Conference Sponsors	16
2018 ABCD Academic Scholarships	17
Conference Advertisers	18 through 28
History of ABCD of WNY Research Grants	29
ABCD Corporate Sponsors	30
Western New York Chapters Listing	32
2018 ABCD Model Bridge Contest - Buffalo	33
Bridge Design Awards	34 & 35
ABCD 2018-19 Meetings/Events	36
ABCD Spring Seminar (Friday, March 15, 2019)	37

A Brief Look at Our History

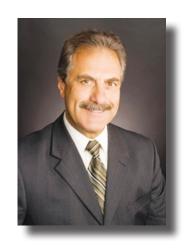
The deplorable condition of our bridges in 1978 led to the formation of the Western New York Chapter, which became the second chapter to formally organize on May 26 and June 2, 1978. The founding members met at the Williamsville Inn, where officers were elected, by laws were adopted, and "dinner meetings" became the norm. The early association focused on promoting the need for additional bridge funding, and pushed hard for the successful passage of the *Surface Transportation Bill* of 1978 (the Howard Bill).

During the years that followed, ABCD focused on becoming an organization dedicated to education in all facets of the bridge industry. Contractors, government agencies, educators, suppliers, and consultants could all find a place for their cause within the organization. Events such as the annual Kenneth Rybarczyk Bridge Contest, the Fall Bridge Conference, regular Technical Education Seminars, Monthly Dinner Meetings, the Annual Bridge Award, Scholarship Golf Tournament, Joint Association Meetings, participation in Engineer's Week, support of the local university Steel Bridge Teams, E3 Fair, Future Cities participation, support for BEAM, and our continued support of the Statewide Conference on Local Bridges in Syracuse are all part of the Association's yearly activities. Today, ABCD WNY boasts a membership of nearly 300 and is as active as ever. Our goal remains to increase recognition of our industry, promote fellowship among members, and provide the very best in educational opportunities for all involved in bridges.

Message from the President

The Officers and Board of Directors of the Association for Bridge Construction and Design – Western New York Chapter, welcome you to our 30th Annual Fall Bridge Conference.

The Fall Conference has served as a forum for professionals, contractors, vendors and students to exchange ideas and information and to educate and inform those who work in our profession.



We have been fortunate to attract presenters from around the country as well as locally, from DOT agencies to leading engineering firms and product manufacturers and contractors.

We are grateful to have, Wahid Albert P.E., Assistant Commissioner and Chief Engineer of the NYSDOT for presenting on unique technical aspects and challenges of area projects.

And after providing an outstanding presentation on the Preassembly and Erection of Girder Units of the New Tappan Zee Bridge last year, Tom Zieman, P.E. returns this year with the Construction of the Las Vegas High Roller Ferris Wheel.

In addition, we have last year's ABCD research grant recipients, Pinar Okumus, PhD, Assistant Professor – University at Buffalo and Amanda Bao, PhD, PE, Associate Professor – Rochester Institute of Technology, providing us with presentations on their research projects.

This Conference continues to grow, and this year we anticipate

that protoc Mi

En

Ro 20

AE

tha

th:

WI

wi

org

Οι

Of in

pr

SO

wł

Yo

To we

of

he

ge yo

Th

Of

that we will be near capacity. We continue to be informed that this is one of the top conferences to attend in New York State. Through this conference and other events hosted by ABCD of WNY we can provide students with scholarships, universities with research grants, and support other bridge related organizations.

Our success is attributed to a dedicated Board of Directors and Officers and is a direct result of your continuing participation in ABCD events. Whether you are a conference attendee, presenter, exhibitor, advertiser, sponsor, board member or just somebody who helps from time to time, your contribution is what makes this organization great.

You are about to experience another outstanding conference. Today's program includes a wide variety of technical topics as well as an ethics presentation. If you have never attended one of David Orr's ethics presentations, I ask that you stay alert as he rewards participates with flying objects. And if you start to get light headed with the High Roller presentation; just close your eyes.

Thank you for your participation and I, as well as the Officers and Board Members look forward to visiting with you throughout the day and at future ABCD events. A special thank you to Bill Rugg, Chair of this year's conference, our presenters, sponsors, advertisers, and exhibitors for making today's conference possible. Please enjoy the day at the Millennium Airport Hotel, host of this conference.

Enjoy your day,

Ron Centola, PE

2018-2019 President

Renold W Contot

ABCD of WNY

ABCD WNY Hall of Presidents

Pr Ro LD Pr 58

Mi Pr JN 71

1978-1979 Phillip F. Frandina, PE	2000-2001 Ronald J. Klinczar, PE
1979-1980 T. Paul Jansen, PE	2001-2002 Daniel D. Duprey, Jr., PE
1980-1981 Ralph F. Abate, PE	2002-2003 Joseph S. Logan, Jr., PE
1981-1982 David J. Thielman, PE	2003-2004 Stanley J. Blas, Jr.
1982-1983 Kenneth T. Rybarczyk, PE	2004-2005 Carmen Garrozo
1983-1984 Gary Hill	2005-2006 Scott Kinsman, PE
1984-1985 Gerard M. Kapsiak, PE	2006-2007 Bo Mansouri, PE
1985-1986 Gerard M. Kapsiak, PE	2007-2008 Mark Laistner, PE
1986-1987 Douglas E. May	2008-2009 Lawrence Mathews, PE
1987-1988 William G. Leslie, PE	2009-2010 Stephen Gauthier, PE
1988-1989 R. Charles Patterson	2010-2011 Seth Kaeuper, PE
1989-1990 Fredrick P. Meli, PE	2011-2012 Mark Mruk, PE
1991-1992 Thomas J. Mallare, PE	2012-2013 Chris Sichak, PE
1992-1993 Earl E. Dubin, PE	2013-2014 Jeffrey J. Blank, PE
1993-1994 Sam Anthony, PE	2014-2015 Daniel D. Duprey, Jr., PE
1994-1995 Joseph S. Logan, Jr., PE	2015-2016 Kevin H. Miller, PE
1995-1996 Richard Ulmer, PE	2016-2017 John Papponetti, PE
1996-1997 Brian Rose, PE	2017-2018 Mark Laistner, PE
1997-1998 Fredrick P. Meli, PE	2018-2019 Ronald W. Centola, PE
1998-1999 John Gast Jr.	
1999-2000 Thomas R. Kiener, PE	

2018-2019 Officers

President

Ron Centola, PE LDSA Services Manager Prudent Engineering, LLP 585.259.2042

Secretary

Michael Davidson, PE Principal JM Davidson Engineering, DPC 716.289.5976

Vice President

William Rugg, PE VP, Project Manager Greenman-Pedersen, Inc. 716.989.3334

Treasurer

Lawrence A. Mathews, PE Project Manager Greenman-Pedersen, Inc. 716.860.7089

2018-2021 Board of Directors

2019

Jason Messenger, PE David Jenkinson, PE 2020

Michael Barrett, PE Elizabeth Smith

2021

Salvatore Collana, PE Todd Swackhamer, PE

Conference Committee

William F. Rugg, PE, Chair Michael Davidson, PE, Co-Chair

Schedule & Speakers

7:15 - 8:15 am Registration, Coffee, Exhibits

Session 1	1.5 PDH Credits
8:15 - 8:30 am	Welcome and Introduction
8:30 - 9:00 am	Evaluation of Shear Strength in Deteriorated I-plate Steel Girder Bridges Amanda Bao, PhD, PE - Rochester Institute of Technology
9:00 - 10:00 am	Construction of Las Vegas High Roller Ferris Wheel Tom Zieman, PE - Zieman Engineering, LLC

2:

3:

10:00 -10:30 am Breaks and Exhibits

Session 2	1 PDH Credit
10:30 - 11:00 am	Scholarship Awards
11:00 - 12:00 pm	Unique Technical Challenges to Implement Western New York Transportation Projects Wahid Albert, PE - Assistant Commissioner and Chief Engineer for NYSDOT

12:00 - 1:00 pm Lunch

Schedule & Speakers

Session 3	2 PDH Credits
1:00 - 2:00 pm	What Would You Do? - Ethical Choices David Orr, PhD, PE - Cornell Local Roads
2:00 - 3:00 pm	Culverts - Inspection, Failure Modes, Rehabilitation & Replacement Lallman Rambali, PE - NYSDOT - Region 5

3:00 - 3:30 pm Breaks and Exhibits

Session 4	1.5 PDH Credits
3:30 - 4:00 pm	Steel Bridge Girders with Web Corrosion: Remaining Capacity & Load Distribution Pinar Okumus, PhD - University at Buffalo
4:00 - 5:00 pm	Ferry Street Lift Bridge Joe Fonzi, PE - WSP Sal Collana, PE - WSP Wesley Frechette - WSP
5:00 - 6:00 pm	Exhibitor Reception

Speaker Abstracts & Biographies

Evaluation of Shear Strength in Deteriorated I-plate Steel Girder Bridges

Abstract:

Aging infrastructure has caught more and more attention recently in the United States. Corrosion is very common in steel girder bridges due to moisture exposure, leakage through deck joints, as well as the frequent use of deicing chemicals during the winter season in cold regions. Excessive rust accumulation and metal area loss pose significant concerns for reduction in structural capacity of steel girders. In this study, the residual shear strength of corroded steel girder bridges is evaluated by 3-D finite element modeling and laboratory testing. Our analysis and testing are focused on the effects of web area loss and web thinning on shear and web buckling capacity reduction. The finite element models simulate how real steel corrosion forms, by varying the shapes, sizes and locations of the area loss. Tests on the scaled steel beam specimens are conducted to verify the numerical modeling results. Corrosion of the steel beam specimens is controlled by soaking the beams in a bleach solution for a sustained period to develop the desired amount of rust and/or by cutting holes of various sizes and shapes in the beam webs. Compression tests on these corroded specimens are conducted using the Material Testing System and the force versus deflection curves are automatically generated by a computer. The residual strengths of the steel beam specimens with different deteriorated conditions are analyzed and compared with the 3-D finite element modeling results. A simple and dependable shear strength evaluation method for corroded steel girders will be proposed.

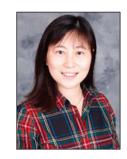
Authors: Amanda Bao, PhD, PE, Caleb Guillaume, Alana Moraes, Christopher Satter, Nadezhda Levitova, Beth Carle, PhD, Alan Raisanen, PhD, and Leslie Gregg

Institution: Rochester Institute of Technology

Presenter:

Amanda Bao, PhD, PE

Amanda Bao is an Associate Professor of Civil Engineering Technology at Rochester Institute of Technology and she has more than 8 years of teaching experience in Structural Engineering. She regularly teaches Structural Steel Design, Bridge Design, Structural Analysis and Dynamics. Prior to RIT, she had worked as a bridge structural engineer for 5 years in Jacobs Engineering Group and Michael Baker International



in Denver, Colorado. She has worked on the design for dozens of bridges across the United States including award-winning signature bridges. Dr. Bao's research interests are focused on practical research needs related to bridge engineering, and she has extensive research experience in finite element modeling, centrifuge modeling and lab testing of structures. She has published more than 20 research papers. Dr. Bao obtained her PhD in Civil Engineering from the University of Colorado at Boulder in 2006 and she is a licensed professional engineer in New York and Colorado.

Abs

The who com who pre- erec pre- segro of t ana and

Pre

Tor

LL

CT

eng pro Ric Veg ma: Eng con

Co

Speaker Abstracts & Biographies

Construction of Las Vegas High Roller Ferris Wheel

Abstract:

The Las Vegas High Roller Ferris Wheel, at 550' tall, is currently the tallest observation wheel in the world. This presentation will focus on the erection methods used to construct the wheel, which was built by adding rim segments at the bottom of the wheel and then rotating the wheel to allow installation of the next rim segment. The presentation will describe erection of the support legs and temporary bracing, the erection of the hub and spindle, and erection of the wheel. The wheel portion of the presentation will focus on three aspects. First, the sequence of installation used for rim segments, temporary radial struts, and permanent radial cables. Second, the design of the holdback tower and the wheel rotating mechanism. Third, the wheel structural analysis during construction, achievement of the required radial cable force distribution, and wheel geometry control.

Presenter:

od

ng

ent

are

Tom Zieman, PE, SE

Tom Zieman is founder and Principal at Zieman Engineering, LLC, which formed in 1992. The firm is located in Stamford, CT and specializes in structural and construction methods engineering on complex construction projects. Notable projects by the firm have included Brooklyn Bridge, Richmond/San Rafael Bridge, Providence River Bridge, the Las Vegas High Roller Ferris Wheel, Madison Square Garden, and many others. Prior to starting his firm he worked for as a Field Engineer, Project Engineer and Project Manager for a general contractor in New York City that specialized in complex bridge work. He has a B.S. and M.Eng in Civil Engineering from Cornell University.



Speaker Abstracts & Biographies

Unique Technical Challenges to Implement Western New York Transportation Projects

Abstract:

As the current Assistant Commissioner and Chief Engineer of New York State Department of Transportation, Mr. Albert is charged with developing and utilizing various delivery methods for reducing the planning to construction time for improving our state's transportation network. His presentation will focus on unique technical aspects and challenges utilized to implement projects in upstate NY, including the possible extension of the US Route 219 Expressway, Scajaquada Expressway Improvements, I-390/I-490/31 (Lyell Ave) Interchange Improvements, and the Buffalo Train Station.

Presenter:

Wahid Albert, PE

In June 2016, Wahid Albert was named the Assistant Commissioner and Chief Engineer for the New York State Department of Transportation (NYSDOT). He is directly responsible for overseeing more than \$4.6 billion in annual on-going design and construction projects, assuring the safety of over 17,000 publicly owned bridges, and for the maintenance and operation of the 38,654 lane miles of state owned highways in New York State.



Some notable projects and recent accomplishments include improved access to Hunts Point Peninsula, JFK Access/Van Wyck Expressway and Kew Garden Interchange, Phase II of the Kosciuszko Bridge Replacement, Sheridan Boulevard, Nassau Expressway, Woodbury Commons, I-81 Viaduct Replacement, new Buffalo and Schenectady Train Stations, six Upstate Airports, and the Bridge NY Program.

Mr. Albert has been working for NYSDOT for 34 years, starting in 1984 as a Junior Engineer. Since then he has held a number of key positions from Supervisor of a Structures Design Unit, to Director of Structures Design and then Assistant Deputy Chief Engineer of Structures.

Wahid Albert has a Bachelor's Degree in Civil Engineering from the State University of New York at Buffalo. He is a licensed Professional Engineer registered in the State of New York.

Abs

Wh stra eng acq

Ass usin area

The

Res Web

Boo The Engi Ethi

Pre

Winexp

pro Nev loca the

cou Dep Nev

Speaker Abstracts & Biographies

What Would You Do? - Ethical Choices

Abstract:

t of

ods

When faced with an ethical dilemma, knowing what to do is not always easy or straightforward. This interactive session will review some typical ethical problems for engineers and highway officials. For each scenario, an interactive response will be used to acquire and review the audience's responses when asked "What would you do?"

Assessment of learning: Interactive scenarios given to audience with responses recorded using an iClicker response device and discussed. Scenarios will cover issues from many ethical areas include personal ethics to engineering choices.

The presentation is designed to get the audience to consider the following:

- Think about what you would do before the ethical incident happens
- Even simple problems may have multiple answers
- · Safety, health and welfare come first

Resources

Websites

- NYS Office of the State Comptroller Local Government and School Accountability http://osc.state.ny.us/localgov/pubs/ethics.htm
- ASCE Ethics http://www.asce.org/Leadership-and-Management/Ethics/
- National Society of Professional Engineers http://www.nspe.org/Ethics/index.html
- National Institute for Engineering Ethics http://www.niee.org/murdoughCenter/
- NYS Joint Commission on Public Ethics (JCOPE) http://www.jcope.ny.gov/

Books

The Ethical Engineer, Eugene Schlossberger, 1993
Engineering Ethics Concepts and Cases, Harris, Pritchard, & Rabins, 2009
Ethical Issues in Engineering, Deborah Johnson, 1991

Presenter:

David Orr, PhD, PE

With over 30 years in the local highway community, David has experiences covering the gamut from picking up deer to dealing with the legislature. Among various other duties, he manages a statewide program of technical assistance and training for local highway officials, provides technical assistance and training to highway agencies in New York State, and performs pavement research with a focus on local roads and streets. He is the 2018-19 President of the NLTAPA, the association of 52 LTAP & TTAP Centers located across the county. Before Cornell, David worked for the Yates County Highway Department for eight years. He is a licensed professional engineer in New York State and has Ph.D. on low-volume roads from Cornell University.



Speaker Abstracts & Biographies

Culverts - Inspection, Failure Modes, Rehabilitation & Replacement

Abstract:

The National Bridge Inspection Program (NBIS) and the New York State Bridge Inspection and Bridge Safety Assurance Program was designed to insure the safe passage of vehicles and other traffic across waterways, roadways, railroads, etc. The inspection program provides a uniform database from which nationwide and state statistics on the structural and functional safety of bridges and large culvert-type structures are derived. Although these bridge inspections are essentially for safety purposes, the data collected is also used to develop rehabilitation and replacement priorities.

This presentation seeks to highlight some of the structural and hydraulic defects associated with concrete and metal culverts, the failure modes associated of these defects and the documentation of these defects through the NYSDOT Bridge/Culvert Inspection process.

Based on the condition state of each defect, rehab or replacement alternatives are developed to enhance the structural integrity of the highway and the safety of the traveling public. This is achieved by considering all environmental and hydraulic design criteria's

Presenter:

Lallman Rambali, PE

Mr. Lallman Rambali is a licensed professional engineer with extensive experience in water resources and river hydraulics. He has served as Regional Hydraulics Engineer for the New York State Department of Transportation (NYSDOT) in Buffalo, NY for 23 years. In that role, Mr. Rambali performs detailed hydraulic analyses for all of NYSDOT Region 5's bridge and culvert replacement projects to determine hydraulic adequacy and scour susceptibility of existing structures and the recommendation for replacement structures. In addition, he is responsible for the Diving Inspection, Hydraulic Vulnerability Assessment, Flood



Watch and Post Flood Inspection programs. He is certified as a bridge inspector and designs emergency repairs when necessary. Lallman graduated from the University of Guyana, South America, in 1991, with a BS in Civil Engineering, and has completed 24 graduate credits at University of Buffalo.

Abs

cor

and eler a lo det

Thi

stuc girc The

In a

cap the

Stu Un

Pre Pin

Pin

Un rese and load of b

resi brid Un Eas

Speaker Abstracts & Biographies

Steel Bridge Girders with Web Corrosion: Remaining Capacity & Load Distribution

Abstract:

d is

24

De-icing agents accumulate near the web-bottom flange of steel I-girders cause corrosion, section loss or web-flange separation. Section losses and separations leave sections vulnerable to buckling. They may also alter load distribution between girders.

This presentation discusses web section loss or web-flange separation due to corrosion and its reduction in capacity of I-shaped steel bridge girders. Linear and nonlinear finite element models were created. Buckling and moment capacities were investigated from a load rated bridge to understand how corrosion is treated in load ratings compare with detailed finite element results.

In addition, changes in load distribution to girders due to web-flange separation was studied by creating finite element models then the extent of corrosion and number of girders affected were identified.

The results show that the thickness of the corrosion was a key parameter affecting girder capacity and load distribution to girders may be impacted particularly for shear, when there is multiple girders with web-flange separation.

Contributors: Lissette Iturburu, Animesh Dutta, Mauricio Diaz Arancibia, Graduate Students, and Pinar Okumus, Assistant Professor, University at Buffalo, the State University of New York

Presenter:

Pinar Okumus, Ph.D.

Pinar is an Assistant Professor of Civil Engineering at the University at Buffalo, the State University of New York. Her research focuses on understanding the behavior of reinforced and prestressed concrete structures under service and extreme loads. Her work to date included investigating service behavior of bridge structures, high performance materials, seismic resiliency for new and retrofitted structures, and accelerated bridge construction. She has received her MS and PhD degrees at University of Wisconsin, Madison and her BS degree in Middle East Technical University in Turkey.



Speaker Abstracts & Biographies

Ferry Street Lift Bridge

Abstract:

The West Ferry Street Strauss Bascule Bridge provides the only public vehicular, pedestrian, and bicycle access to Broderick Park and the Bird Island Pier on Unity Island, which separates the Niagara River from the navigable Black Rock Canal in Buffalo. Initially, WSP was retained by the City of Buffalo to provide design services to rehabilitate the structural, and parts of the electrical and mechanical components of the bridge. However, prior to commencement of design work, condition inspections revealed problems requiring emergency "red flag" repairs to mitigate severe structural deterioration of the bridge floor system and abutment.

The longer range, in-depth project followed the emergency repairs to facilitate an overall rehabilitation of the structure and extending the life of this important link. This presentation will highlight the project constraints and special considerations for rehabilitation of a moveable structure while maintaining navigation traffic.

Presenters:

Joe Fonzi, PE

Joe Fonzi is a Supervising Structural Engineer at WSP. He has 27 years of design and project management experience in several engineering disciplines that include marine, civil, structural, building mechanical, custom steel fabrication, telecommunications, and material handling projects. He has supervised the construction for many of his projects. Joe has a special talent for understanding constructability from a global perspective down to the fine details of assembly. His diverse experience gives him a broad understanding of design and construction issues, coordination between engineering disciplines, and he can successfully tackle and complete unique one-off

projects that require the application of multiple knowledge areas and thinking outside of the confines of typical guidelines and standards. Joe earned a B.S. in Civil Engineering from the University at Buffalo.

Pre

Sal

Sal stru eva load rail incl Fall Lev Add for Sal But

We

We

yea his of p

Speaker Abstracts & Biographies

Presenters, continued:

Sal Collana, PE

Sal Collana is a lead structural engineer in WSP's Buffalo structures group. He has over 15 years of experience in bridge evaluation and design, with expertise in the condition inspection, load rating, and repairs of moderate to complex highway and railroad bridges. Notable projects that he has recently worked on include the three international crossings operated by the Niagara Falls Bridge Commission which are the Rainbow Bridge, the Lewiston-Queenston Bridge, and the Whirlpool Rapids Bridge. Additionally, he has served as Design Quality Assurance Engineer for the oversight of various NYSDOT Design-Build projects.



Sal received both a B.S. and M.E. degree in Civil Engineering from the University at Buffalo.

Wesley Frechette, EIT

Wesley Frechette received his BS in Civil Engineering from SUNY Buffalo in 2011. He joined WSP's structures group that year and currently is a Project Manager working on obtaining his PE license. He has seven years of experience on a wide range of projects, including, but not limited, to waterfront structures, light-rail stations, and several bridge rehabilitation projects.



g

Thank You's

Th

in

SC

W

The Board of Directors extends a special thank you to all the Presenters, Exhibitors, Sponsors and Advertisers who make the ABCD Fall Conference possible. Also a special thank you to the Millennium Buffalo Hotel for hosting this event, and to Sound Video Solutions for providing Audio Visual support.

2018 ABCD Fall Conference Exhibitors

Barron & Associates

C.S. Behler, Inc.

Kistner Concrete Products, Inc.

R.J. Watson, Inc.

2018 Sponsors

Fisher Associates, PE, LS, LA, DPC
SJB Services, Inc.

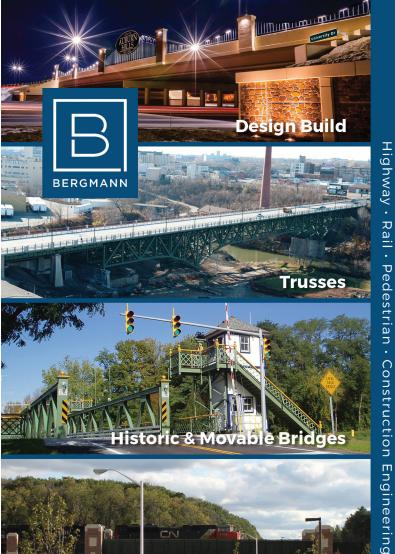
2018 ABCD Academic Scholarships

The Western New York Chapter of ABCD has been providing college scholarships to area students and schools since 1998. There are currently 3 different types of scholarships offered to students enrolled in an undergraduate 2, 4, or 5 year bridge related curriculum. The scholarships are awarded based on eligibility, scholastic performance, a written essay, extra-curricular activities/employment, and references.

The award and scholarship types are as follows:

- \$6,000 Phillip F. Frandina Memorial Scholarshipawarded to Christopher Miller (UB)
- \$3,000 ABCDWNY Bachelor's Degree Scholarshipawarded to Joseph Cutugno (RIT)
- \$2,000 ABCDWNY Associate's Degree Scholarshipawarded to Dylan Atwater (ECC)

2018 ABCD Fall Conference - Advertisers



ANN BRIDGE SOLUTIONS

Historic & Movable Bridges **Rail Bridges**

ALBANY | BUFFALO | HORSEHEADS | ROCHESTER | SYRACUSE WWW.BERGMANNPC.COM



Frandina Engineering and Land Surveying, PC Civil Engineers and Land Surveyors NYS Certified WBE and DBE Firm

Philip F. Frandina, PE, LS Memorial Undergraduate Scholarship



Congratulations to Scholarship Recipients:

2018 - Christopher W. Miller, UB, 2020
2017 - Rebeeca C. Kohlman, RIT, 2018
2016 - Cody Coonradt, UB, 2017
2015 - Ryan O'Malley, UB, 2016
2014 - Edward Almeter, UB, 2015
2013 - Dana White, UB, 2014



The WNY chapter of ABCD was founded in 1978 and Phil Frandina served as its first president. In 2012, Phil endowed this scholarship to assist future bridge engineers to complete their studies. Sadly, he passed away in February 2013 at the age of 84, before the first scholarship was awarded. ABCD and the Frandina family jointly evaluate applications to select the recipients.

FRANDINA ENGINEERING AND LAND SURVEYING, P.C. NYS Certified WBE and DBE Firm

Providing Land Surveying Solutions Throughout WNY Successor to records of Deborah Naybor, PLS

1701 Hertel Avenue, Buffalo, NY 14216 | www.frandina.com Rosanne Frandina, PE, LS | rosanne@frandina.com





ENHANCING HOW PEOPLE

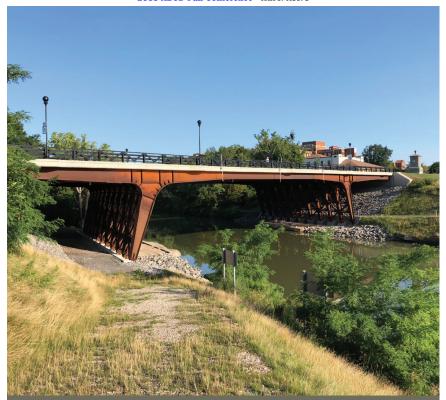
Live. Work. Play.

- Bridge Design
- Highway Design
- Civil Engineering
- Structural Engineering Forensic Consultants
- Condition Assessments
- Construction Inspection
 - Construction Management
- Site Development Environmental Engineering



urbanengineers.com

716.856.9510



TRANSPORTATION INNOVATION

As Lead Designer for our second consecutive NYSDOT Region 4 design-build project, T.Y. Lin International worked side by side with the contractor to fast track the \$30 million I-390 Interchange Improvements project. This complex project highlights originality and design innovation. T.Y. Lin International and Crane-Hogan Structural Systems declined traditional detours in favor of temporary ramps designed and constructed to maintain traffic safely and efficiently during bridge construction. Our distinctive slant-leg rigid frame design for the bridge over the Erie Canal eliminated the need for tall piers, large foundations, bearings, and joints while meeting aesthetic, efficiency, and constructability goals and yielding future maintenance savings. Our team completed the project on time and within budget, hallmarks of T.Y. Lin International projects.

TYLININTERNATIONAL

www.tylin.com

Providing Professional and Responsive Engineering Since 1992!



Prudent Engineering LLP provides quality, cost-effective engineering services to state and local governments, authorities and agencies; consultant partners; and private-sector clients across New York State.

- Bridge & Highway Design
- •Construction Inspection & Administration
- •Civil & Site Engineering
- Land & Hydrographic Survey
- Bridge Condition Inspection
- •Highway Design
- Municipal Engineering

Certified MBE/DBE. Now a NYC-Certified MBE!



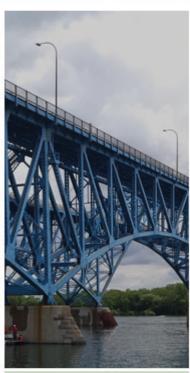
www.prudenteng.com 315.748.7700 | (F) 315.748.7780

Albany | Binghamton | Buffalo | Rochester | Syracuse | Staten Island

GPI

WNY Branch Offices:

Buffalo | 716.633.4844 Rochester | 585.486.4859 Jamestown | 716.488.2803







gpinet.com

DESIGN.
CONSTRUCTION.
INSPECTION.



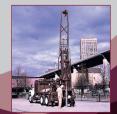
SJB SERVICES, INC.

QUALITY. DEDICATION. EXPERIENCE every step of the way

- Subsurface Exploration
- Geotechnical Engineering
- Bridge/Parking Deck Evaluations
- Environmental Services
- SWPPP Monitoring
- Special Inspections
- Geotechnical Laboratory
 - Material Testing







5167 South Park Avenue • Hamburg, NY 14075
716.649.8110 • sjblas@sjbempire.net • www.sjbegs.com
Offices in Albany, Buffalo, Cortland and Rochester, NY



SOUTH GRAND ISLAND BRIDGE REHABILITATION PROJECT



Locally owned & operated since 1933

3556 Lake Shore Road | Suite 500 | Buffalo, NY 14219 t: 716.827.8000 | f: 716.826.7958 | www.nussclarke.com

Offices: Buffalo, East Aurora, N. Tonawanda, Lockport, Dunkirk

Full-Service Capabilities Coupled with Local Expertise

LAND SURVEYING . ENGINEERING DESIGN . CONSTRUCTION ADMINISTRATION . CONSTRUCTION INSPECTION

WMA ENGINEERING DPC | DBA
EMPIRE TECHNICAL
ENGINEERING SERVICES
"A WOMAN OWNED FIRM"

Wanda M. Allen, P.E. wallen@sjbempire.net

Buffalo / Rochester Office (716) 649-8110

John J. Danzer, P.E. jdanzer@sjbempire.net Buffalo Office (716) 649.8110

Thomas R. Seider, P.E. tseider@sjbempire.net

Buffalo Office (716) 649-8110

Site Investigations

John S. Hutchison, P.E. Albany / Cortland Office jhutchison@sjbempire.net (518) 899-7491

- Geotechnical Engineering Services
- Construction Monitoring / Special Inspections

Empire Geo-Services, Inc., the former engineering subsidiary of SJB Services, Inc. (SJB) is now WMA Engineering, DPC doing business as Empire Geotechnical Engineering Services (WMA / Empire) "A Woman Owned Firm", under the principal ownership and guidance of Ms. Wanda M. Allen, P.E., President. Please feel free to contact us for more information, or to discuss your project needs.



Certified WBE & DBE

Providing quality construction inspection services & expertise in digital delivery and e-construction deployment

Stacy M. Kubit, PE, MBA smaekubit@kubiteng.com (716) 417-4522

Linkedin.com/company/kubit-engineering-pllc

Barton & Ioguidice

Fueling Innovation in Transportation



Bridge and Highway Design • Drainage Engineering **Stormwater Management • Construction** Administration & Inspection • Trails and Greenways Traffic Engineering • Transportation Planning

The experience to The power to **solve**

www.BartonandLoguidice.com







Syracuse • Albany • Rochester • Binghamton • Buffalo • Watertown • Newburgh • New Paltz • Somers









Bridge Design Services

Inspections • Load Ratings • Hydrology & Hydraulics
Bridge Rehabilitation and Replacement Design

WWW.POPLIGROUP.COM

ROCHESTER * BUFFALO * SYRACUSE * ALBANY * BINGHAMTON * NEW YORK CITY

2018 ABCD Fall Conference - Advertisers





20 \$5 to 6

pro The

20 Pe

\$1 Dr. Bu

Fin

20 Co \$1

Jer Ted at 1

> **gi**1 **\$1** Am

20

Tec **Ev**

\$10 Dr. **Sto**

Fin

20 res

Se: sig

History of ABCD of WNY Research Grants

2011 - 2013 - BRIM (Bridge Information Modeling)

\$5,000 Fellowships were awarded to several Graduate and PHD candidates to conduct a research project on advancing a bridge oriented integrated project delivery method which is called BRIM (Bridge Information Modeling). The project extended the knowledge base of applying virtual design and construction approaches to bridges.

2014 - 2015 - Extreme Event Response of Ultra-High Performance Concrete for Segmental Columns

\$10,000 Research Grant awarded to:

Dr. Pinar Okumus, Dr. Andrew Whittaker, Jerome O'Connor – University at Buffalo

Findings were presented at the 2015 ABCD Fall Conference.

2016 - Field Determination of Dead Load Stresses in Concrete Bridges

\$10,000 Research Grant awarded to:

Jerome O'Connor, PE, Executive Director on behalf of Technical POC and Principal Investigator Andreas Stavridis, PhD – University at Buffalo

2017- Two awards to study girder web corrosion on steel girder bridges

\$10.000 Research Grant awarded to:

Amanda Bao, PhD, PE, Associate Professor – Rochester Institute of Technology

Evaluation of shear strength in deteriorated I-plate steel girder bridges

\$10,000 Research Grant awarded to:

Dr. Pinar Okumus, Assistant Professor - University at Buffalo

Steel Bridge Girders with Web Corrosion: Remaining Capacity and Load Distribution

Findings to be presented today at the 2018 ABCD-WNY Fall Conference

2018 and beyond – Input from ABCD members is welcome so as to expand research needs in bridge engineering.

Several of the Fellowships and Research Grants have been significantly co-funded by the Federal Highway Administration.

ABCD Corporate Sponsors

La

La

Lu

Mo

Mo

Mo

Νυ

Oa

Po

Pr

Pr

Ra

R.

Sa

SJ

Sta

Т.

Te

Ur

Ur

Wa

We

WS

Acrow Corporation of America, Inc.

Barton & Loguidice, D.P.C.

Bergmann

2018mam
Buffalo Drilling Company, Inc.
BVR Construction Co., Inc.
CHA Consulting, Inc.
CPL
Cold Spring Construction Company
C&S Engineers, Inc.
DiDonato Associates
Erdman Anthony
Fisher Associates, P.E., L.S., L.A., D.P.C.
Foit-Albert Associates
Frandina Engineering and Land Surveying, P.C.
Greenman-Pedersen, Inc.
Hanes Supply
Herbert F. Darling, Inc.
Hohl Industrial Services
Hunt Engineers Architects & Land Surveyors
JLK Engeneuring, P.C.
JM Davidson Engineering, D.P.C.
Kistner Concrete Products, Inc.
KPFF Consulting Engineers

ABCD Corporate Sponsors, continued

LaBella Associates, D.P.C.

Lakelands Concrete Products, Inc.

Lu Engineers

McKinney Drilling Company

McMahon & Mann Consulting Engineers

Mott MacDonald

Nussbaumer and Clarke

Oakgrove Construction, Inc.

Popli Design Group

Precast Concrete Association of New York, Inc.

Prudent Engineering

Ravi Engineering & Land Surveying, P.C.

R.J. Watson, Inc.

Safespan Platform Systems, Inc.

SJB Services, Inc.

Stantec Consulting Services, Inc.

T.Y. Lin International

Terracon

Union Concrete and Construction Corp.

Urban Engineers of New York, P.C.

Watts Architecture & Engineering, D.P.C.

Wendel

WSP

Association for Bridge Construction and Design



The Western New York Chapter was established in 1978 and is one of six chapters nationally. The current chapters include the following:

Buffalo, NY (Western New York Chapter, est. 1978) **www.abcdwny.org**

T

7

W

a

T H

h

Ir

T

ir a

Albany, NY (Eastern New York Chapter, est. 1994) **www.abcdeny.org**

Harrisburg, PA (Susquehanna Chapter, est. 2001) **www.abcd-susquehanna.org**

Pittsburgh, PA (Pittsburgh Chapter, est. 1976) **www.abcdpittsburgh.org**

Columbus, OH (Central Ohio Chapter, est. 2013) **www.abcdcoh.org**

Cleveland, OH (Northeast Ohio Chapter, est. 1998) **www.abcdneoh.org**

2018 ABCD Model Bridge Contest - Buffalo



Michael Barrett, ABCD (left) with Mary Palmer, winner of Model Bridge Contest



Intricate Truss Bridge

The 26th annual *Kenneth T. Rybarczyk* Memorial Model Bridge **Contest** was held February 15, 2018 at Classics V Banquet Hall in Amherst. Six (6) schools were represented by 126 students.

76 bridges were presented, judged and tested until failure. Bridges were checked to ensure all requirements were met on bridges' weight, length and height. Judging consisted of review and assignment of scoring for: Complexity, Engineering, Workmanship and Efficiency. The best possible score is 40 points.

The winning bridge built by Mary Palmer from North Tonawanda High School weighed 43 grams, carried a load of 97 pounds and had a total score of 36.9 points.

In 2^{nd} place was the team of Cole Axburg, Jace Fisher, Lilly DeJesus. 3^{rd} place was Wyatt Kueblerwith both from North Tonawanda.

2019: Event is scheduled for February 14, 2019 at Classics V in Amherst. Please contact Mike Barrett if you are interested in assisting.

Bridge of the Year Awards

For over 20 years the Western New York Chapter of ABCD has recognized outstanding new and replacement bridge projects. Our annual Bridge of the Year Awards are awarded for the best project over \$2 million, and the best project under \$2 million, completed the previous year. Nominations are due in early Spring, and the awards are presented at our May meeting.

In 2018, one bridge was nominated for the Under \$2 Million category.





Counterweight Trunnion Bearing Rehabilitation, Bascule Bridge over Buffalo River, Buffalo, Erie County, New York

Owner: CSX Transportation

Designer: Bergmann Associates & Stafford Bandlow Engineering

General Contractor: Hohl Industrial Services

Bridge of the Year Awards

Two bridges were nominated for the Over \$2 Million category.

2018 Bridge of the Year - Over \$2 Million



Replacement of the Portageville Railroad Bridge <u>Letchworth State Park, New York</u>

Owner: Norfolk Southern Corporation Designer: Modjeski and Masters, Inc.

General Contractor: American Bridge Company

Look for the upcoming request for nominations for the 2019 ABCD Bridge Award in the near future.

Mark your calendars as nominations will be due in April 2019.

We look forward to seeing your nominations!

ABCD 2018-19 Meetings/Events

January 2019: Topic - To Be Determined

Rochester

Mid-February 2019: Presentation To Be Determined

Classics V Restaurant, Amherst

a

O

C

p:

March 15, 2019: Annual Spring Technical Seminar

Batavia Downs

May 16, 2019: Annual Meeting / Bridge Awards /

Election of Officers Red Osier, Stafford

June 20, 2019: Annual Scholarship Golf Outing

Terry Hills, Batavia





ABCD Spring Seminar

Friday, March 15, 2019

CALL FOR PAPERS

ABCD's Spring Conference will be held on March 15, 2019, at Batavia Downs, Batavia, New York. This has proven to be a very popular event, where attendance has grown to

over 120 professionals, from inspectors to engineers to contractors. We are interested in all aspects of bridge construction and design, from lessons learned to the latest research, codes and design parameters, constructability and construction techniques.



If you have an interesting topic that would benefit the Bridge Community, consider submitting a presentation for our Spring Seminar.

Contact either David Jenkinson or Jason Messenger for further information:

David Jenkinson, PE
Popli Design Group
(585) 364-1634
DJenkinson@popligroup.com

Jason Messenger, PE Lu Engineers (585) 385-7417, ext. 241 jmessenger@luengineers.com

2018 Thirtieth Annual Fall Bridge Conference Buffalo, NY Friday, November 16, 2018

