

Success and Failure: A Paradoxical Relationship

An Evening with Professor Henry Petroski

The NCS is honored to welcome Professor Henry Petroski, P.E., Dist. M. ASCE, Aleksandar S. Vesic Professor of Civil Engineering, and Professor of History at Duke University, who will present a talk on **Success and Failure: A Paradoxical Relationship** at our September meeting.

Professor Petroski is known for his writings on engineering design, success and failure, and the history of engineering and technology.

Henry Petroski's dozen or so books on these subjects include *To Engineer Is Human*, *Design Paradigms*, and *Engineers of Dreams*, which deal principally with large structures like bridges. He has also written about small, common things in his books *The Pencil*, *The Toothpick*, *The Evolution of Useful Things*, *The Book on the Bookshelf*, and *Small Things Considered*. His 2010 book, titled *The Essential Engineer: Why Science Alone Will Not Solve Our Global Problems*, is about the difference between scientists and engineers and about how science and engineering approach global problems. Petroski's



forthcoming book, *An Engineer's Alphabet: Gleanings from the Softer Side of a Profession*, is a compendium of facts about, reflections on, and impressions of engineering. Henry has received the ASCE's Civil Engineering

History and Heritage Award, and currently chairs ASCE's History and Heritage Committee.

Professor Petroski's talk will discuss success vs. failure. Engineering is about making and doing things that have not been done before. To be successful, it is essential that engineers

properly anticipate how things can fail, and design accordingly. Case studies provide invaluable information for the design of future successes. However, designs based on the extrapolation of successful experience alone can lead to failure. This paradox will be explored in the context of historical case studies, including the design of ocean liners and also of suspension bridges, which from the 1850s through the 1930s evolved from John Roebling's enormous successes – culminating in the Brooklyn Bridge – to structures that

oscillated in the wind and, in the case of the Tacoma Narrows Bridge, twisted itself apart and collapsed in 1940. Lessons learned from these cases and others can be generalized to apply across a broad spectrum of engineering structures and systems.

We hope you will be able to join us for this exciting presentation which kicks-off our 2011–12 dinner-meeting season. We will meet on **Tuesday, September 20, 2011**, at the **Hilton Arlington**, 950 North Stafford Street in Arlington, VA, on the second floor in the Gallery Ballrooms. This location is in the same block as the Ballston Station on Metro's Orange Line. Registration and networking will be from 6:00 to 6:30 p.m., followed by dinner. The program will start around 7:00 p.m. with the installation of the new NCS Officers for the 2011–2012 year and end by 8:30 p.m. Please RSVP by September 15, 2011. The cost will be \$10 for students, \$35 for those preregistering, and \$45 for walk-ins. One Professional Development Hour will be awarded to attendees. Click [HERE](#) to register. For questions, please e-mail or call Mark Leeman at mark.leeman@feapc.com or 703-591-4855. ■

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Questions? Contact Melissa Prelewicz at ASCE: 703-295-6341 or e-mail mprelewicz@asce.org. Visit www.asce.org/lead for more information. ■

President's Corner

The ASCE's National Capital Section (NCS) has an exciting program of events planned for the upcoming 2011–2012 year. We had great participation from the leadership and membership at our summer planning meeting in July. We are excited about the Hilton Arlington as the new venue for our monthly section meetings. This year's meetings



will feature a terrific lineup of dynamic speakers and cutting-edge topics. These meetings are the cornerstone of our Section, and great networking opportunities. As an added benefit, one Professional Development Hour is earned for each meeting attended. We also will focus our Committee activities this year, with new Committee Chairs for Structural

Engineering, Sustainability, and a new Water Resources Committee. Keep tuned to our newsletter and our website (www.asce-ncs.org) for news about Section and Committee events throughout the year. I look forward to working with you and the new Board of Directors to continue to improve our Section.

Sincerely,



John Casana

Infrastructure Report Card Update

The NCS has started the efforts to prepare a Washington, DC Infrastructure Report. We are currently assembling the teams to work on the project, consisting of members of the NCS and engineering students from Catholic University of America, George Mason University, The George Washington University, and Howard University. This year-long project will allow us to gather existing data, visit sites, prepare a draft report

with initial grade, and finalize the report and the grade by September 2012.

The specialty areas that will be looked at include: **Water & Environment:** (1 – Dams and Levees, 2 – Drinking Water, 3 – Hazardous Waste, 4 – Solid Waste, 5 – Wastewater, 6 – Stormwater), **Transportation:** (7 – Aviation, 8 – Bridges, 9 – Navigable Waterways, 10 – Freight Rail, 11 – Roads, 12 – Transit), **Public Facilities:**

(13 – Parks & Recreation, 14 – Schools), and **Energy** (15 – Energy).

If you are interested in being part of this project, please contact Fady Afif at afiff@bv.com. We are looking for group leaders and technical experts for the specialty areas listed above. We are also looking for mentors to work with the students, as well as members to help with field trips. **Come and be a part of this important project!** ■

NCS Launches Legislative Affairs & Public Policy Task Group

Are you a civil engineer with an interest in how Washington, DC or your state legislature works? Have you participated in ASCE's annual "Fly-In" event before, but wanted to take action beyond the 2-day event? Or are you just wondering how your knowledge of engineering and infrastructure can be used for the greater

good? If so, the NCS is forming a Task Group to increase civil engineers' visibility in the public policy arena with local and national lawmakers. The group intends to hold brief meetings with legislators and develop a relation than can be used to establish ASCE-NCS as a trusted resource for engineering and infrastructure issues.

Additionally, the group will work to educate our legislators on issues of importance to the engineering community and share the views of experts. No previous government or specialized experience is needed. If you are interested or would like to learn more, please contact Christopher Johnson at chris.johnson.eng@gmail.com. ■

Newsletter

L.J. Sauter, Jr., Editor
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October 2011 Issue Deadline:
September 16, 2011

To Submit Articles:
laurence.sauter@ferc.gov

Address Changes:
Call 1-800-548-ASCE, email member@asce.org, go to <http://www.asce.org>, or write: ASCE – Membership, 1801 Alexander Bell Drive, Reston, VA 20191. Remember to include your membership number.

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Committee Chairs

Please refer to the NCS website at <http://www.asce-ncs.org> for a current list of NCS committees and chairs.

2011 NCS Awards Banquet Highlights

The annual Awards Banquet is an opportunity for the Section to honor individuals and teams for outstanding achievement. Over 140 people listened to ASCE National President Kathy Caldwell deliver her keynote address at the Hyatt Regency, Crystal City, on April 19, 2011. This year's Student, Life Member, Community/Meritorious Service, and Project of the Year Award recipients are described below.

Civil Engineering Student Awards

The NCS awarded \$12,000 in scholarships to deserving Civil Engineering students from five local universities: Catholic University of America (CUA), George Mason University (GMU), The George Washington University (GWU), Howard University (HU), and the University of the District of Columbia (UDC). We also honored the faculty's selection for Outstanding Senior. These individuals and their respective schools are listed below.

Scholarship Recipient	University	Outstanding Senior
Nicholas J. Colameco	CUA	
Timothy G. Cork	CUA	Christopher Reymann
Philip M. Goolkasian	CUA	
Justin Nguyen	GMU	
Emily A. Alexander	GWU	Moustafa H. Ibrahim Awad and Abraham Todd
William J. Henry	GWU	
Claire W. Powers	GWU	
Amy L. Moinet	HU	Philip Utubor and Dawit Kebede
Max Jordan T. Nguemeni	HU	
Richard S. Barrett	UDC	Adenike A. Ogunbode
Timothy L. Coville	UDC	
Mahboob O. Yonis	UDC	

Life Member Awards

The following NCS members were awarded Life Member certificates. To achieve this status, a member must have reached their 65th birthday, have paid dues in any membership grade that when added to their age equals or exceeds 95, and have paid dues for at least 20 years. We offer our sincere congratulations to the following Life Members!

- Mr. Douglas J. Alspach
- Mr. Lowry M. Close
- Mr. Marvin S. Fertel
- Mr. Anthony F. Welch
- Mr. Martin E. Falk
- Mr. John J. Gander
- Mr. Dennis W. Graber
- Mr. Arthur H. Osgood, Jr.
- Mr. Edward Y. Papazian
- Mr. Lew W. Pratsch
- Mr. W. Eric Rathgeber
- Mr. Robert Skinner, Jr.
- Mr. David Charles Wohlscheid
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- Mr. Joseph A. Behun

- Mr. John T. DeBell
- Mr. Raleigh H. Leef
- Mr. Philip Joseph Caruso
- Ms. Man-Ying K. Chan
- Mr. Gerald C. Davit
- Mr. Jay Arthur Padgett, Jr.
- Dr. Zabi Mojaddidy
- Mr. Denis John McMullan
- Mr. Frederick S. Mattson
- Mr. John Mack Wall, Jr.
- Mr. James D. Arnoult
- Mr. Jan H. Zicha

Additional Award Recipients

Community Service Award:

Stephen Powers, P.E., M.ASCE, for his leadership in preservation and restoration of the original District of Columbia boundary stones.

Meritorious Service Awards:

- Dr. Michael Casey, Assistant Professor
Department of Civil, Environmental, and Infrastructure Engineering
George Mason University
- Dr. Manzari, Professor
Department of Civil and Environmental Engineering
The George Washington University

Outstanding Civil Engineering Project Award: The U.S. Capitol Visitor's Center

Not only is the Capitol a working office building, but it is also a museum and tourist destination. One challenge that Congress faces is an ever-increasing number of visitors to its campus. Tourism to the Capitol tripled from one million visitors in 1970 to over three million visitors in 2000. In 1991, Congress authorized funding for conceptual planning of a visitor center, and in 1995, the

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2011 NCS Awards Banquet Highlights

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design report was issued. The events of September 11, 2001, provided the impetus for additional funding and enhancements, including perimeter security elements, the build-out of expansion space for the House and Senate, a pedestrian tunnel to the Library of Congress, and a other scope increases.

From its inception, the U.S. Capitol Visitor's Center (CVC) was conceived as an extension of the Capitol. It was designed as a subterranean facility below the East Plaza in order to preserve the historic views of the Capitol and revive the historic landscape. Large skylights above the CVC's central hall allow natural light to bathe the interior space while providing visitors with dramatic views of the Capitol Dome and preserving their connectivity and orientation to the historic building. Building materials, including sandstone, limestone, marble, granite, and bronze, were selected to respect the architectural palette of the historic Capitol.

Congress authorized and funded the center in October 1998. After a design update in 1999 for safety and security enhancements, the Architect of the



The project team for the U.S. Capitol Visitor's Center accepts the Project of the Year Award.

Capitol (AOC) began drafting the construction documents, which concluded in 2002. Concurrently, site preparation and tree preservation work started in October 2001. In spring 2002, project bids were sought and the first major contract was awarded to launch the first phase: "Sequence 1 – Foundation and Structure." By August 2003, over 60,000 truckloads of material had been removed from the site. In spring 2004, the second phase, "Sequence 2 – CVC Build-Out and Finishes," began. Nearly 500 workers per day installed mechanical, electrical, and plumbing systems during peak activity times. By November 2007, the CVC construction was substantially finished and

the AOC launched a thorough acceptance testing of its state-of-the-art fire and life-safety systems. On December 2, 2008, the 145th anniversary of the Statue of Freedom's placement atop the Capitol dome, the AOC publicly unveiled the impressive CVC. A number of features greet visitors, including an Exhibition Hall (a 16,500-square-foot area that tells the history of Congress and the Capitol); two 250-seat orientation theatres; new elevators; a 500-seat dining facility; gift shops; and 26 restrooms.

The CVC represents a modern, secure, educational, and convenient addition that respects the Capitol's historic setting while greatly enhancing visitor access to the Capitol Building and the work of Congress. In little more than two years, the CVC has welcomed over five million visitors to the nation's Capitol.

The NCS extends its hearty congratulations to all the 2011 award recipients! ■



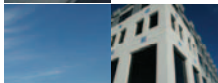
Past Presidents reconnect (from left): Jay Padgett, NCS Past President (PP); Pat Natale, ASCE Executive Director; Bernie Dennis, NCS PP; Dr. Robert E. Efimba, NCS PP; Delon Hampton, ASCE PP.

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Engineered Problem Solving

New NCS Committees Form

Engineering Management Committee

An Engineering Management Committee is being formed and would like to request some ideas and suggestions for topics to aid in preparing a seminar. This seminar (date to be determined) will focus on assisting engineering professionals who wish to develop into managers. If you would like to be part of the committee and/or would like to provide some ideas, please contact Thomas Lanyon at tlanyon@myrapidsys.com.

Sustainability Committee

Alex Rosenheim has volunteered to chair the NCS Sustainability Committee this year. Alex has set several main goals for the year. As early as September 2011, the committee will begin to focus on providing an evaluation of the proposed Institute for Sustainable Infrastructure guidelines, which is a joint venture of the ASCE, American Public Works Association, and American Council of Engineering Companies. The committee hopes to get participation from a broad cross-section of the NCS membership, as well as feedback from designers,

contractors, project managers, owner representatives, government officials and association employees/volunteers. It is hoping to get as broad of a reaction as possible to make sure that the guidelines become as realistic and effective as possible.

As the year progresses, the committee will also need some help reaching out with support to local universities that are involved with sustainable design competitions such as the EPA P3 National Sustainable Design Expo and the U.S. Department of Energy Solar Decathlon. We will continue to assist ASCE's National Sustainability Committee with participation in its information booth at the EPA's P3 Expo in April 2012.

As 2011 closes, the committee will need lots of help as it ramps-up plans for the Sustainability Awards dinner in March 2012 with calls for innovative local sustainable projects and initiatives. The committee would like to explore expanding the awards dinner (with coordination with the ASCE's National Committee for Sustainability) with an additional educational venue and an open forum for discussion about the

history, current status, and future of sustainable design. The committee would like to focus its efforts on relevant and key green issues such as smart-growth and congestion, efficient use of materials, and emerging green technologies.

If you have any interest in participating now or through out the coming year, please contact Alex Rosenheim at alex.rosenheim@gmail.com. We are anxious to begin this journey and to continue the NCS's traditions of focus on and commitment to sustainable design and construction.

Water Resources Committee

A new Water Resources Committee is forming, to be chaired by Christian Manalo, P.E., DEE. The committee will lead a number of activities throughout this upcoming year, including organizing speaker events, newsletter articles, and other related efforts. If you are interested in joining or contributing to the Water Resources Committee, please contact Mr. Manalo (703-377-1697, manalo_christian@bah.com) or Sudhanshu Mishra, P.E., CFM (240-542-3085, sumishra@gmail.com). ■

And in Additional Committee News...

Structural Engineering Committee

The Structural Engineering Committee (SEC) has exciting plans for new presentations on design and construction topics this season. Fall programs will include presentations from the American Institute of Steel Construction (AISC) regarding the SteelTalks event (October) and Simpson Strong Ties (November). Committee members will also be interested in September's Section Meeting

with Henry Petroski speaking on engineering failures. The SEC will also work on developing its presence on the Section's web page so there will be easy access to information on our programs. These initiatives are being spearheaded by the Committee's new Chairman – Timothy Park of AECOM. Many of you may know Timothy already; he's been very active in helping to coordinate SEC programs during the last 2 years and is now stepping forward as the new

Chairman. If you have a particular topic or speaker you would like the SEC to address, jot the idea(s) down and send them to the Chairman – Timothy Park at Timothy.Park@aecom.com or Bernie Dennis at berniedennis@mindspring.com. Announcements for upcoming events will be forthcoming to those on the SEC e-mail list. If you would like to receive these announcements directly, e-mail Mr. Park or Mr. Dennis to be added to the list. ■

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Update on Younger Member Professional Development Meetings

Over the summer, the NCS Younger Members held two fully-attended professional development meetings for members in the DC area. The April meeting, held at Restaurant 3 in Arlington, VA, featured a detailed presentation on the inspection and load rating of gusset plates following the collapse of the Interstate 35 West Truss Bridge in Minneapolis, MN. The speaker, Justin Ocel, Ph.D., P.E., of the Federal Highway Administration, has been closely involved with the ongoing forensic investigations following the collapse. He is currently the principle investigator for the National Cooperative Highway Research Program Project 12-84 that is performing full-scale tests of steel truss gusset plate connections. Mr. Ocel provided a description of the events that led to the bridge collapse and outlined the recommendations for the load rating of gusset plates that have come to light throughout the investigation. To address these recommendations, extensive full-scale experimental and finite element simulations of gusset plate connections are currently being performed at the Turner-Fairbank Highway Research Facility in McLean, VA. The research has already provided a deeper understanding of the failure modes of gusset plate connections, and will ultimately lead to enhancing design guidelines for load rating of these critical elements. (See www.fhwa.dot.gov/research for additional information.)

The latest meeting was held on June 29th at The Front Page near Dupont Circle in DC, and featured a joint presentation on the construction of the U.S. Coast Guard Headquarters Project in Southeast DC near St. Elizabeth's West

Campus. The project involves the preservation of dozens of existing structures on the campus and the construction of a new Coast Guard Headquarters. The Clark Construction Group is leading the construction and working alongside a group of top design professionals to tackle unique challenges in order to construct the state-of-the-art structures which are built directly into the existing

for Clark Foundations, spoke about the significant challenges that were faced in the support-of-excavation design and construction of deep foundations; and Frank Malits, a Structural Engineer at Cagley & Associates, discussed the challenges faced during the design of the building structure and described the structural system that was used to resist the massive earth-pressure forces



Justin Ocel of the Federal Highway Administration addresses Younger Members during Professional Development Event in April.

hillside. Three members of the project team were available to present an overview of the project and discuss the unique design and construction challenges associated with the project: Larry Moore, the Director of Engineering for Clark Concrete Contractors, discussed the overall progress of construction and gave a general overview of the project; Corey Surber, a Senior Project Manager

from the surrounding hillside. The \$435 million design-build project (currently under construction) is scheduled for completion at the end of 2013. (See www.uscgproject.com for additional information.)

For more information about NCS Younger Member Professional Development Meetings, please contact Kelly Cronin at kcronin@wje.com. ■

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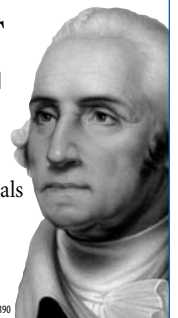
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Sidney O. Dewberry Named a Distinguished Member

NCS Member Gains Highest Society Recognition

Sidney O. Dewberry, P.E., LS, and F.ASCE, was recently named a **Distinguished Member** of the ASCE. Dewberry is a founding partner and Chairman of the Board at Dewberry, a professional engineering, architecture, and management consulting services firm headquartered in Fairfax, VA. The Society's highest accolade, active distinguished membership is comprised of approximately only 200 of its 140,000 members worldwide. Since 1852, only 615 individuals have been elected to Distinguished Membership. Dewberry will be presented the award, in honor of his leadership in urban infrastructure development, practices in urban and land development, and deep commitment to civil engineering education in the greater Washington, DC, area, at the ASCE's 141st Annual Civil Engineering Conference in Memphis, TN, on October 20–22, 2011.

Dewberry began his civil engineering career at Greenhorne & O'Mara, a full-service engineering firm. He worked there as a civil engineer from 1951 to 1956 shortly after graduating from The George Washington University. Following his employment with



Greenhorne & O'Mara, Dewberry went on to become a founding partner of Dewberry, a professional services firm that focuses on management planning, engineering, architecture, surveying, mapping, and program management. The firm now has more than 1,800 employees and 40 locations nationwide.

Mr. Dewberry's membership in professional organizations includes the American Public Works Association, the National Society of Professional Engineers, the Virginia Association of Surveyors, the Surveyors Historical Society, the Northern Virginia Transportation Alliance, Inova Health Systems Foundation Board, and the Virginia Business-Higher Education Council. Dewberry has received numerous awards for his achievements from the Northern Virginia Building Industry, the Engineers and Surveyors Institute, the House of Representatives and Senate Congressional Records. He also received a distinguished alumnus award from his alma mater, The George Washington University, and the George Mason Medal, the highest award bestowed by George Mason University for his excellence and leadership.

His distinguished career is supported by his renowned contributions to the Northern Virginia area. In addition to 55 years of practice with his own firm, he continues to leave his mark in civil engineering throughout the country. His love for achieving the highest quality in land development challenges led him to author *The Land Development Handbook*, which is currently used as a textbook for students in the engineering education programs at George Mason University in Fairfax, VA, Virginia Tech, and many other colleges and universities. He established the Engineers and Surveyors Institute, which trains local practitioners as well as fosters collaboration with area engineers and their review boards. He was also instrumental in the founding of the Urban Systems Engineering Department at George Mason University, now known as the Department of Civil, Environmental and Infrastructure Engineering.

Dewberry received his bachelor's degree in civil engineering from The George Washington University in Washington, DC. He currently resides in Arlington, VA.

The NCS offers its sincere congratulations to Sidney on this occasion! ■

Jerry A. DiMaggio Receives Foundation Engineering Award

Another NCS Member Recognized

Jerry A. DiMaggio, P.E., D.GE, and M.ASCE, was recently selected by the ASCE Board of Direction to receive the **Martin S. Kapp Foundation Engineering Award**. DiMaggio is a principal at Jerry A. DiMaggio Consulting, LLC, a small, specialized consulting firm serving the civil engineering and construction industry related to design, construction, monitoring, and disputes resolution of structural foundations, earth retaining structures, ground improvement techniques, and earthworks. This award recognizes contributions to design or construction of foundations, earthworks, retaining structures, or underground construction. Emphasis is placed on constructed works in which serious difficulties were



overcome or substantial economies were achieved. Mr. DiMaggio received the award for greatly improving the practice of foundation engineering of geotechnical design manuals and for the development of companion training courses instructing engineers on the implementation of these technologies. The award was presented at Geo-Frontiers 2011 in Dallas, TX, on March 14, 2011.

Mr. DiMaggio has served on a number of projects related to Load Resistance Factor Design, risk management assessment/mitigation plans, value engineering, innovative contracting, and accelerated construction. He is the retired (2008) Principal Bridge Engineer – Geotechnical and National Program Manager with

the U.S. Department of Transportation (DOT), Federal Highway Administration in Washington, DC. Mr. DiMaggio is a certified Master Trainer and licensed Contract Arbitrator. He has provided consulting services related design, construction and contract matters on over 1000 civil construction projects in all 50 states, throughout Central and South America, several Middle Eastern countries, and Australia. He has presented over 350 seminars and workshops for professionals on the geotechnical and foundation features of bridges, buildings, energy facilities, retaining structures, and engineered earthworks.

Mr. DiMaggio holds B.S. and M.S. degrees in Civil Engineering from Clarkson University in New York State. He has been a member of the adjunct

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NCS Volunteers Restore Three More Boundary Stone Sites

June Effort Bring Total Restored Sites to Seven

On a warm morning in June, ASCE-NCS volunteers again gathered to clean and restore the small fenced areas that surround old stone markers – DC’s original Boundary Stones. The stones date back to 1791–1792, when surveyors delineated the 40-mile-square boundary lines between Virginia, Maryland, and an area simply named “Jurisdiction of the United States,” which was to become the Federal City of Washington, DC.

Led by Stephen C. Powers, P.E., a group of over 20 volunteers took on the task of cleaning up **three additional sites** in June. Efforts included digging up weeds; removing years of old, neglected paint, and priming and painting the fencing; and adding mulch to the area. While strenuous, the work was fun and rewarding. Following the restoration work, the volunteers gathered for a picnic at the West Cornerstone, marking a boundary between Arlington and Falls Church, VA.

This was the third volunteer effort to restore the fences, with the kickoff event held in May 2010 and the second event in October 2010. Stephen is leading efforts with the NCS to increase the numbers of volunteers with the goal of restoring the fences and cleaning up around all of the stones over the next few years. The ultimate goal of the Section is to have ASCE designate the stones a Civil Engineering Historic Landmark by 2016, joining over 200 projects worldwide that have achieved this prominent designation. **The next effort is scheduled for October 22, 2011. Save the date!**

In addition to project leader Stephen Powers, THANK YOU to the volunteers who took part in the June 13, 2011



Volunteers gather at the West Cornerstone for a picnic.

effort. Please see page 9 for photos of the sites and the volunteer teams.

For further information or to **sign-up for the October 22 effort**, contact Stephen Powers at stephen@designpowers.com or 703-906-8542.

Information on this long-term project is posted on the Boundary Stone Restoration page on the ASCE-NCE website at: http://asce-ncs.org/index.php?option=com_content&view=article&id=23&Itemid=19. ■

SteelDay 2011 Event Scheduled

September 23, 2011, in Upper Marlboro

This annual event provides an interactive day of learning about the steel industry. Hosted by the AISC, National Steel Bridge Alliance, and Ironworkers Union/IMPACT, activities will include continuing education courses from the AISC, a presentation about the structural steel supply chain, and competing teams of bridge building students erecting model bridges. Lunch will be provided (11:30), along with snacks and

drinks throughout the day. Come and get your hands dirty bolting, welding, and climbing a column!

The SteelDay 2011 celebration will be held at the Maryland Ironworker Training Facility, 9110 Old Marlboro Pike in Upper Marlboro, MD, beginning at 9 a.m. Dress is casual and attendance is free. For additional information, visit www.steelday.org, or contact 202-384-2941 or collins@aisc.org. ■

Jerry A. DiMaggio Receives Foundation Engineering Award

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faculty at the University of Delaware, Johns Hopkins University in Baltimore, The University of Akron in Ohio, and Columbia University in New York. He also has been the invited Keynote speaker at over 30 national meetings and conferences around the U.S. Mr. DiMaggio has authored 35 technical papers and publications and edited three civil engineering books.

DiMaggio has received numerous national and international recognitions

and awards, including the DOT’s Administrator’s Award, the International Geosynthetics Society Achievement Medal (presented in Nice, France), and the Federal Highway Association’s “Engineer for the Year.” Since 2007, he received special awards for his career contributions from the ASCE, the Transportation Research Board, the Schnabel Engineering Lecturer of the Year, and The International Association for Foundation Drilling. Mr. DiMaggio

also served on the ASCE Geo-Institute National Board of Governors (2005–2007). In 2009, he was inducted to the Academy for Geotechnical Professionals. Mr. DiMaggio is a member of the ASCE’s Geo-Institutes technical committees on Deep Foundations, Ground Improvement and previously, Earth Retaining Structures.

The NCS extends its warm congratulations to Jerry for this honor! ■

NCS Volunteers Restore Three More Boundary Stone Sites

continued from page 8



Southwest stone #7: Before



Southwest stone #7: After



Volunteers at Southwest stone #7: Fran Powers, Mark Leeman (2-time volunteer), Patty Leeman (2-time volunteer), Tim Summerall (2-time volunteer), Debra Schwartz, James Ley, Rachel Anderson, Girum Sadd, and Doug Hansford



Northwest stone #3: Before



Northwest stone #3: After



Volunteers at Northwest stone #3: Brian Glenn, Alicia Karwoski (3-time volunteer), Eric Mendelsohn, Bob Efimba (3-time volunteer), Amy Moinet, Bernie Dennis, Vanessa Aririguzo, Joseph D'Emidio, Alex D'Emidio, and Victor D'Emidio



Northwest stone #2: Before



Northwest stone #2: After



Volunteers at Northwest stone #2: Scott Wolf (2-time volunteer), Ragy Darweesh, L.J. Sauter, Jerry Crosby, Tim Garland (2-time volunteer), Paige Piggott, and Liu Jones

This fence was originally installed and dedicated by the 'Sarah St. Clair' DC Chapter of the Daughters of the American Revolution (DAR) on July 16, 1916.

The original fence was installed by the DAR Old Dominion Chapter of Richmond, VA and dedicated on May 17, 1916. Records from 1949 show that fence was gone at that time. The current fence was installed by 'The Children of the American Revolution/ Thomas Nelson Chapter DAR' on October 12, 1969.

History & Heritage Committee Event – Get Involved!

Living in and around the nation’s capital, we’re surrounded with outstanding examples of our engineering heritage, and sometimes we at ASCE are called on to help save one of these historic landmarks.

In June 2008, the Engineering Section of the Department of Parks and Recreation of the Maryland-National Capital Park and Planning Commission of Prince George’s County brought the plight of the Queen Anne Bridge to the attention of the NCS. They intend to rehabilitate this 19th-Century wrought-iron bridge that served as a connector between Prince George’s and Anne Arundel Counties, and asked for the ASCE National History & Heritage Committee’s (H&HC) assistance to confirm the historic importance of the structure and for advice throughout the rehabilitation project.



View of Queen Anne Bridge from the Anne Arundel County side of the Patuxent River. Right foreground shows collapsed truss portion of bridge on silt sandbar, with intact bridge truss over river extending to the Prince George’s bank in background to left. The nearest span collapsed under the weight of a crossing truck in the 1960s and was never repaired. Photo by BGD.

Since the bridge is within the NCS territory, the NCS H&HC accepted the invitation in a role similar to what we did in the restoration of the Monocacy Aqueduct. We will assist by publicizing the plight of the structure, advise Prince George’s County (PGC) engineers, and provide technical review as the work progresses. To date, efforts consist of on-site observation, researching the bridge’s history and significance, and identifying civil engineering firms who specialize in evaluation and restoration of historic bridge structures.

The Queen Anne Bridge was built at the end of the 19th Century to replace an older bridge that crossed the Patuxent River at the village of Queen Anne. The bridge consists of two Pratt

truss spans composed of wrought iron Phoenix sections. The PGC span is intact, but the Anne Arundel County span is partially collapsed from overloading caused by a truck attempting to cross in the 1960s. The span rests almost entirely on waterborne silt.

Queries within ASCE reveal the historic significance of the bridge. Retired Historic American Engineering Record Director Eric Delony wrote, “Queen Anne Road Bridge (c.1890) did not make the [Historic Bridges of Maryland](#) book, nor is it listed in Maryland’s Historic Bridges eligible for NRHP. This is hard to believe since the Queen Anne Road Bridge is a rare Phoenix column pony truss.”

Nationally renowned bridge engineer Abba Lichtenstein visited and wrote, “I want to add my gratitude to you for bringing us [to] the Phoenix truss bridge. It used to be a good part of my historic bridge course. It is super historic based on patents by the Phoenixville Iron Works and very rare [similar to those] that I personally worked on a long time ago.”

On June 18, 2011, PGC Engineering Division Supervisors Michael (Mick) Terry and Paula Valerio provided a tour of the bridge site for members of the NCS H&HC. We enjoyed complete access to the bridge and closely examined the wrought iron elements and



NCS H&HC members on Queen Anne Bridge – June 18, 2011. (Left to right: Bernie Dennis, Eric Mendelsohn, Bruce Mattheiss, L.J. Sauter, Doug Hansford, Stephen Powers, Mick Terry, Steve Pennington. Missing but in attendance: Dana Bres. Photo by SAD.

connection details. Mick Terry explained a bit of the bridge’s history, which is not well documented. He pointed out, however, that as a result of our recommendations for qualified firms, a Task Order award is eminent for Phase 1 of the restoration effort, which will develop a detailed history of the structure, as well as thorough documentation of its present condition with recommendations and cost estimates for restoration.

If this kind of involvement with civil engineering history interests you, **join the NCS H&HC**. You don’t have to have an extensive background in these specific subjects, just a willingness to come and learn alongside your engineering colleagues with similar interests. For notification of upcoming events, e-mail Committee Chairman Steve Pennington (steve.pennington@geo-instruments.com) or committee member Bernie Dennis (berniedennis@mindspring.com). We look forward to including you in our upcoming adventures. ■



Queen Anne Bridge truss span on Anne Arundel County side. Collapsed under overload weight of a crossing truck. Photo by BGD.



Queen Anne Bridge span, looking from Anne Arundel side toward Prince George’s County bank of the Patuxent River. Photo by BGD.

IT Helps Shatter Competition!

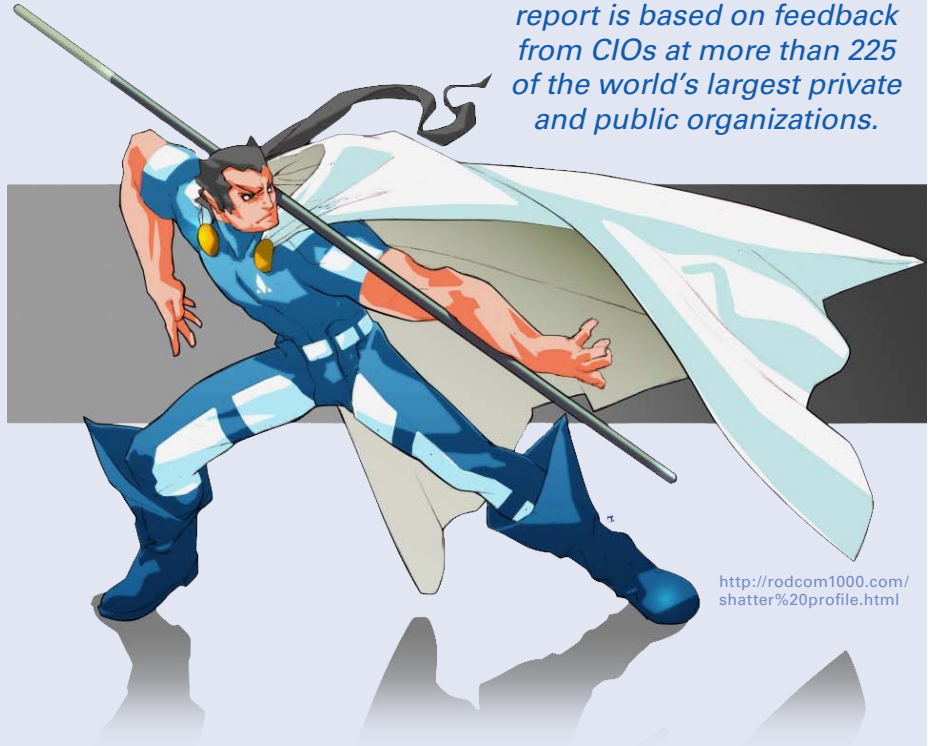
Want to leave your competition in the dust? Don't forget the significant advantage IT initiatives can deliver!

"The Computer Corner," a monthly column by Ranjit S. Sahai, P.E., F.ASCE

This is the compelling message in the research report: "Mind the Gap: Insights from Accenture's Third Global IT Performance Research" that is based on the feedback from Chief Information Officers (CIO) at more than 225 of the world's largest private and public organizations. Researchers noted that well-run firms have increased their gap with the competition when compared to what was observed last in 2008.

I offer below my takeaways from the report – actionable steps businesses can take when implementing technology to support profitable growth:

- **Improve Customer Satisfaction** by Web-enabling interactions. High performers tapped IT to deliver on core business objectives.
- **Diligently Measure Progress** and benefits delivered by IT. High performers made the case for new IT initiatives and diligently measured their progress and benefits.
- **Know When to Switch** to new applications instead of maintaining existing ones. As business processes evolve, there comes a time when maintaining existing applications takes more effort than creating new ones with features in line with current needs.
- **Prioritize Workforce Performance** by reviewing business workflows and developing effective business intelligence and analytics capabilities that help teams do their jobs better through access to needed data in real-time.
- **Leverage Resilient IT Technologies** by evaluating IT infrastructure and platform automation environments that are the backbone of private and/or public clouds. This allows them to deploy such technologies quickly when they make sense for the business.



Accenture's "Mind the Gap" report is based on feedback from CIOs at more than 225 of the world's largest private and public organizations.

<http://rodcom1000.com/shatter%20profile.html>

- **Implement Transparency of Processes** by deploying real-time dashboards and alerts that make it easy to understand where bottlenecks are so solutions can be developed.
- **Manage Corporate Knowledge and Resources** through investments in standardization, worker skill development, market trend analysis, retiring workforce transition plan, and new career tracks for future work. There are numerous technology tools in the market that help better manage key aspects of such initiatives and efforts.
- **Develop Strategic Partnerships** with specialists who enhance the firm's skill set and allow it to act with agility and flexibility. By using such outsourcing strategically, high performing organizations lower their total cost of ownership for applications and infrastructure.

The study found that it is possible to improve the value IT provides in

helping an organization gain competitive advantage while at the same time delivering IT more economically. In other words, deriving more value from technology and improving its economy need not be mutually exclusive.

Conclusion

You and your technology service providers have a choice: Maintain the status quo, or take deliberate steps focused on leveraging technology to foster business agility, innovation, and execution. The approach you and your team takes will determine the outcomes you are likely to see.

About the Author

Ranjit Sahai of RAM Consulting Corporation has been writing on computer topics since 1987 and has authored five books. He is the Chair of the ASCE-NCS Automation Committee. He welcomes comments and feedback via email. Visit the **Contact Us>Committee Chairs** page at www.asce-ncs.org or the **Contact Us** page at www.rcare-solutions.com to send a message to him.

2011 EPA P3 EXPO a Huge Success

The U.S. Environmental Protection Agency's annual People, Prosperity, and the Planet (P3) EXPO, took place Earth-Day weekend (April 23–24) on the National Mall in Washington, DC. Despite wet weather, spirits were high for ASCE-Engineers Without Borders (EWB) volunteers and student teams. And this year, ASCE sponsored a reception at the National Arboretum on the Friday before the event for all of the

approximately 60 university teams taking part in the EXPO.

The **University of Toledo** was selected for the annual ASCE/EWB \$1,000 award at the EXPO for its project "*Contaminant Removal in Sustainable Water Filtration System for the Village of La Barranca Honduras.*" John Casana, Cathy Leslie, and Craig Farkos served as this year's judges. This year's joint ASCE-EWB booth included a porous

pavement demonstration, and computers for children to learn about sustainability. EXPO volunteers included James Ley, Monica Starnes, Leslie Payne, Tim Garland, Sarah Hagan, Susie Lue, Alex Rosenheim, Vanessa Aririguzu, Marcel Prieto, and Katerina Lachinova. Congratulations to the University of Toledo, and thanks to the judges and volunteers! ■

May Meeting Recap

Benjamin Wright and the Birth of American Civil Engineering

The NCS was fortunate to have Steven M. Pennington, P.E., close-out its 2010–2011 slate of meetings with a fascinating presentation on one of civil engineering's seminal figures. Pennington's presentation was taken from his research into Wright and the beginnings of the civil engineering profession, an interest which he attributed to the late Neal Fitzsimons.

Pennington led the audience through Wright's upbringing, from his birth in Connecticut in 1770, through his professional career in roles we might now describe as a design engineer, consulting engineer, and chief of construction on various projects.

Wright's work was extremely varied, at least by today's standards. He worked in navigation improvements, canal engineering, railroad engineering, land

surveying, and was instrumental in founding a professional society for civil engineers.

The reasons Wright was named the Father of Civil Engineering by ASCE were:

1. He was the chief engineer on the first significant public works project in the U.S.
2. He was a mentor to many younger engineers that went on to have accomplished careers in their own right. Some of the names included Canvass White, Nathan Roberts, Charles Ellet, and John Jervis.
3. He was actively involved in efforts to found a professional society for civil engineers. His efforts were recog-

nized as critical to the founding of what is now ASCE, although Wright died 10 years before the organization to which we now belong was organized in 1852.

Steve Pennington's enthusiastic presentation shared technical and personal accomplishments of Wright and civil engineering of the era. Pennington discussed how Wright's work affected aspects of American

life not normally associated with engineering accomplishments. Wrights infrastructure development work significantly impacted national commerce of the day, which later had effects on the Civil War. Pennington masterfully gave the audience the context of how these civil works had an effect on commerce and war politics of the day. ■

Ken Simonson to Provide Fearless Forecast at October NCS Meeting

2011 is proving to be one of the toughest years ever for federal funding decisions and the engineers and contractors who depend on them. Will 2012 be any better, or will election-year hostilities and still-sluggish growth in the U.S. and foreign economies impact design and construction firms that are looking for the light at the end of the tunnel? Ken Simonson, Chief Economist for the Associated General Contractors of America, will provide his fearless forecast for these and other questions at our **October 18th** meeting at the Hilton Arlington in Ballston, VA. ■



Upcoming Events *(Also available on the NCS website under the Events tab)*

September 14

Younger Member Happy Hour in DC at a location to be announced. Watch for an e-mail announcement from the YMF.

September 15–16

Design and Renovation of Wood Structures. Held at the Hilton Garden Inn Baltimore Inner Harbor in Baltimore, MD. ASCE members, \$1,275; nonmembers, \$1,495. Attendees will receive 1.4 CEUs. Click [HERE](#) for more information.

September 15–16

Liability of Engineers: How to Stay Out of Trouble. Held at the Radisson Plaza Lord Baltimore in Baltimore, MD. ASCE members, \$1,195; nonmembers, \$1,415. Attendees will receive 1.4 CEUs. Click [HERE](#) for more information.

September 23

SteelDay Celebration, to be held at the Maryland Ironworker Training Facility in Upper Marlboro, MD. Contact 202-384-2941 or Collins@aisc.org for

additional information. (See newsletter brief.)

September 29–30

Deep Foundations: Design, Construction and Quality Control. Held at the Radisson Hotel Reagan National Airport in Arlington, VA. ASCE members, \$1,265; nonmembers, \$1,485. Attendees will receive 1.4 CEUs. Click [HERE](#) for more information.

October 18

NCS monthly meeting at the Hilton Arlington: Ken Simonson, Chief Economist for the Associated General Contractors of America, will discuss his thoughts on what 2012 may bring for the construction industry. (See newsletter brief.)

October 22

NCS boundary stone fence repair/restoration event. Come and be a part of history! For more information or to volunteer, contact Stephen Powers at 703-906-8542 or stephen@design-powers.com.

November 3–5

Emerging Leaders Alliance Capstone Workshop, to be held at the Westin Tyson's Corner in Falls Church, VA. Additional information is available at www.emergingleadersalliance.org.

November 15

NCS monthly meeting at the Hilton Arlington: Managing the Mississippi River Flood of 2011, to be presented by a speaker from the U.S. Army Corps of Engineers. This will be a joint meeting with the American Water Resource Association. Further details will be forthcoming in the October newsletter.

November 16

The next offering of the ASCE's acclaimed LEAD training, to be held in Reston, VA. Visit www.asce.org/lead to learn more and register. For questions or further information, contact Melissa Prelewicz at 703-295-6341 or mprelewicz@asce.org. (See newsletter brief.)

Employment Clearinghouse

The ASCE-NCS provides the Employment Clearinghouse as a free service to its membership. The Clearinghouse allows members to post short notices for available positions or candidates seeking employment. All employers listed herein are equal opportunity employers. If

you have questions or would like to post a position, please contact the Employment Conditions Committee, National Capital Section ASCE, 8502 Buckhannon Drive, Rockville, MD 20854-3503; phone: 301-983-9777; fax: 301-983-1953; or e-mail sassi22@verizon.net.