

ASCE *E-Update*

AMERICAN SOCIETY OF CIVIL ENGINEERS

NATIONAL CAPITAL SECTION
AMERICAN SOCIETY OF CIVIL ENGINEERS
1852
1916

National Capital Section

April 2012 Volume 58, Number 7

Visit ASCE-NCS on the web: <http://asce-ncs.org>

The ASCE-NCS Annual Awards Banquet Will Be Held April 10

Greg DiLoreto, ASCE National's President-Elect, to be Keynote Speaker

Join us at the Hilton Arlington for one of the National Capital Section's (NCS) highlights of the year. This event gives us the opportunity to recognize and celebrate local excellence in projects, engineers, and students who have contributed to our society and our community. Recognized parties will include our outstanding civil engineering project, meritorious service and community service award winners, student scholarship award winners, outstanding seniors, and members of the NCS who have achieved Life Member status. This year, we also will be recognizing **Sidney O. Dewberry, P.E., L.S.**, and now **Dist.M.ASCE**, for his election to the 2011 Class of ASCE Distinguished Members.

We are honored to have the **ASCE President-Elect Gregory E. DiLoreto, P.E., P.LS, and F.ASCE**, as our keynote speaker. Mr. DiLoreto is the

Chief Executive Officer of the Tualatin Valley Water District, with responsibility for the overall management of the second largest public water utility in Oregon. For the 17-year-period prior to that, Greg acted as City Engineer and Director of Environmental Services/ Public Works for the cities of Gresham, Newberg, and Sandy, OR. He worked in private consulting firms from 1976 to 1982, doing civil and municipal engineering.



Greg DiLoreto, ASCE
President-Elect

Greg graduated from Oregon State University with a Bachelor's Degree in Civil Engineering in 1975 and received a Masters of Public Administration from Portland State University in 1985. He is a member of the American Public Works Association, American Water Works Association, and American Association of Metropolitan Water Agencies. His list of ASCE responsibilities is long and impressive,
continued on page 10

This year's Annual Awards Banquet will be held on **Tuesday, April 10, 2012**, at the **Hilton Arlington**, 950 North Stafford Street in Arlington, VA, on the second floor in the Gallery Ballrooms. Parking is available at the hotel (\$8), at the Ballston Mall garage (\$1 after 6 p.m.), and on the street (free after 6 p.m.). 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 and conclude by 9:00 p.m. The cost will be \$20 for students, \$40 for those who preregister, and \$50 for walk-ins as space allows. Please **RSVP by April 5, 2012**. Click [HERE](#) to register. For questions, please contact John Casana at john.casana@gmail.com or 703-377-8980.



President's Corner

I would like to use his column to continue to highlight some of our rising, and long-standing Champions.

- Our Younger Members held a very informative event, featuring the Dulles Access Project, at *Ragtime* in Arlington, VA, on March 14 (see related article in this issue). Special thanks to rising leaders Kelly Cronin and Jordan Pitt for successfully merging professional development and lots of fun!
- This year, Alex Rosenheim agreed to serve as the NCS Secretary, as well as Sustainability Committee Chair. Alex will announce the 2012 NCS Sustainability Award winner during our March 20 Section meeting. Meeting details, including our Keynote Speaker Peter Binney, are in this issue's lead article (see page 1). Thank you, Alex!



- The Geotechnical Committee conducts meetings in their expertise areas. Thanks to Ed O'Malley and Mike Cowell, who have arranged for speakers and coordinated the meetings for many years!

Thanks to the above, and to the many other leaders who contribute to the continued success of the NCS.

I would like to personally invite you to attend our 2012 Annual Awards Banquet, on April 10, 2012, at the Arlington Hilton. Registration will begin at 6:00 p.m. Greg DiLoreto, the ASCE President-Elect, will be our Keynote Speaker. We will be honoring the following award recipients:

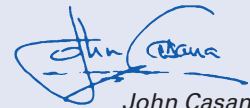
- members of the NCS who have achieved Life Member status this year;
- Outstanding Civil Engineering Graduating CE students;

- Graduating Civil Engineering Undergraduate students;
- NCS Scholarship award recipients;
- NCS Meritorious Service and Community Service award recipients;
- ASCE National's Distinguished Member Award recipient; and
- the Outstanding ASCE-NCS Civil Engineering Project of the Year.

There may also be a surprise or two, so make your reservation today!

I wish to remind you that our Officers and Directors serve for limited terms. Please contact me at john.casana@gmail.com if you would like to explore joining the 2013 ASCE-NCS leadership team. Thank you!

Sincerely,



John Casana, P.E.
NCS President

Obituary – Arthur H. Wu

Arthur H. Wu, P.E., F.ASCE, died of a heart ailment on February 17, 2012, at his home in Potomac, MD, at the age of 79.

Dr. Wu served as an engineer with the Navy Department for 29 years. He retired in 2002 after serving as Director of the Applied Engineering Department and as Chief Engineer of the Navy Department. Over the years, he also had taught soil engineering at The George Washington University (GWU), the U.S. Naval Academy at Annapolis, and the University of the District of Columbia.

He served as a Member of the ASCE-NCS Geotechnical Engineering

Committee, and he was to have been awarded his Life Membership Certificate at the NCS Annual Awards Banquet in April of this year.

In 2002, Dr. Wu received the Society of American Military Engineers' Goethals Medal for distinguished performance.

Arthur Han-Nan Wu was born in Tainan, Taiwan. He graduated in 1956 from Taiwan's National Cheng Kung University, where he also received a Master's Degree in Civil Engineering in 1961.

He came to the United States in 1962 and became a U.S. citizen in 1972.

He received a master's degree in soil mechanics from Ohio State University in 1964 and a doctorate in engineering mechanics from GWU in 1981.

Dr. Wu was a founder and chairman of the National Cheng Kung University Alumni Foundation of North America and president of its Washington chapter.

Survivors include his wife of 52 years, Susie Wang Wu of Potomac; two children, Julie Lee of Taipei, Taiwan, and Ben Wu of Potomac; and five grandchildren. The NCS is saddened to learn of Dr. Wu's passing. ■

Newsletter

L.J. Sauter, Jr., Editor
Telephone: 202-502-8205

May 2012 Issue Deadline:
April 13, 2012

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.

National Capital Section

Officers (2011–2012)

John Casana, President
703-377-8980
john.casana@gmail.com

Qamar A. Kazmi, Vice President
301-585-9419
qkazmi@gmail.com

Rollie D. Berry, III, Treasurer
301-492-3332
rollie.berry@nrc.gov

Alex Rosenheim, Secretary
202-412-3090
alex.rosenheim@gmail.com

L.J. Sauter, Jr., Newsletter Editor
202-502-8205
laurence.sauter@ferc.gov

David R. Dajc, Director
703-404-6363
david.dajc@fhwa.dot.gov

Sara Guerrero, Director and Webmaster
703-591-4855
sara.guerrero@feapc.com

Christian Manalo, Director
703-377-1697
manalo_christian@bah.com

Stephen Powers, Director
703-417-0091
stephen.powers@mwa.com

Adam C. Stewart, YM President
734-223-5866
ncsymfpresident@gmail.com

Mark E. Leeman, Past President
703-591-4855
mark.leeman@feapc.com

Fady Afif, Past President
301-921-2862
afiff@bv.com

Committee Chairs

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



International Perspective on Environmental & Water Resources IPWE 2013 – Call for Abstracts

The Conference Organizing Committee is now accepting submissions.
Submit Your Abstract Today!

Izmir, Turkey • January 7–9, 2013 • www.ipwe2013.org

View the Call for Abstracts flyer [HERE](#).



ASCE-EWRI invites you to submit abstracts to IPWE 2013. This conference will cover a wide variety of topics on sustainable environmental and water resources management. While technical sessions will include topics on developed and developing countries, much of the focus of this conference will be on water resources and the environment in developing countries.

- Advanced Wastewater Treatment Technologies
- Hazardous Waste and Solid Waste Management
- Smart Technologies for Treatment of Plant Sludge
- Artificial Groundwater Recharge
- Hydroclimate
- Snow Hydrology
- Climate Change and Environmental Impacts
- Hydrologic and Hydraulic Engineering and Modeling
- Socio-economic Issues in Water Resources Development
- Conflict Resolution in Interstate and International Water Disputes
- Inter-basin Transfer of Water
- Surface Water Flow and Contaminant Transport
- Droughts and Their Impacts on Water Resources
- Irrigation Management and Land Reclamation
- Wastewater Reclamation and Reuse
- Ecological Modeling and Assessment
- Low Impact Development (LID)
- Water Management for Food Security and Sustainable Rural Development
- Effect of Urbanization on Water Resources and Water Quality
- Management of Contaminated Aquifers
- Water Quality Planning, Management, and Monitoring
- Environmental Modeling and Assessment
- Marine Outfalls and Waste Disposal Systems
- Water Resources Planning and Management
- Flood Risks and Flash Floods
- Rainfall and Runoff Harvesting
- Water Supply and Pricing
- Global Climate Change and Effect on Water Resources and Environment
- Safety and Security of Environmental and Water Resources Infrastructure
- Water Supply and Sanitation in Urban and Non-urban Areas
- Green Energy Development and Management
- Saltwater Intrusion in Coastal Aquifers
- Watershed Processes and Management
- Groundwater Flow and Contaminant Transport
- Seawater Desalination and Desalination Brine Outfalls
- Wetlands Restoration and Protection

**Abstracts are due no later than June 17, 2012! Submit your abstracts [HERE](#).
Visit www.ipwe2013.org for more information.**

This conference is co-organized with the [Turkish Water Foundation](#), [Dokuz Eylul University](#), [Georgia Tech](#), and [Auburn University](#).

ASCE-NCS Newsletter Patrons



Joseph J. Doane, P.E.
President

Simplex Structural Systems, Inc.
8502 Buckhannon Drive
Rockville, MD 20854-3503
301-983-9777
301-983-1953 Fax

Engineered Problem Solving

PROJECT MANAGEMENT

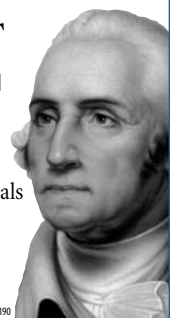
Become a more efficient, effective, and successful project manager!

- Ideal for PMs in all fields including Civil Engineering
- Flexible course schedules designed for working professionals
- State-of-the-art distance courses

Apply Now for the Fall! business.gwu.edu/mspm

THE GEORGE WASHINGTON UNIVERSITY IS AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION INSTITUTION. 642390

THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON DC



The 2012 ASCE Critical Infrastructure Symposium

Building on the successes of the Critical Infrastructure Symposiums of 2010 and 2011 at the U.S. Military Academy at West Point, the 2012 Symposium will be held **April 23–24, 2012**, at the **Hilton Arlington Hotel in Arlington, VA**. The Critical Infrastructure Symposium is hosted by The Infrastructure Security Partnership (TISP), Society of American Military Engineers, George Mason University, and U.S. Military Academy. The Symposium is a collaborative learning community of students, educators, practitioners, and government officials engaged in developing the next generation of critical infrastructure protection and resilience leaders, technologies, and strategies.

The Critical Infrastructure Symposium is not about policy, engineering, or asset protection. Instead, it is about the integration of these disciplines with economics,

ASCE CRITICAL INFRASTRUCTURE



insurance, security, and everything else to form a coherent whole. As such, the theme for the 2012 Symposium is “Full Spectrum Resilience.”

College students (undergraduate and graduate) and faculty conducting research in critical infrastructure protection and resilience have been invited to submit and present papers. Industry professionals and government officials have also been invited to give presentations or simply attend the symposium to participate in the discussions. Student papers are essential to the success of this event and have been strongly encouraged.

Representatives from George Mason University will present an Infrastructure Education workshop before the opening

session on Monday, April 23. The goal of this workshop will be to determine best practices for adapting common critical infrastructure protection curricula to the specific educational and professional development models already in place in engineering, emergency response, and security, in both the private and public sectors.

We look forward to seeing you in April at the 2012 Critical Infrastructure Symposium. Additional information is available from Bill Anderson, TISP Director, at 703-908-2848 or wanderson@tisp.org. The symposium website and Symposium agenda is located at <http://ciasce.asce.org/cisymposium2012>. ■

Civil Engineer-Mentor Needed for Volunteer Position at Alexandria Friends High School

The Alexandria Friends School is looking for a volunteer active or retired civil engineer to meet with our students once or twice a week to direct the projects outlined below. Times and duration of sessions are flexible to accommodate our mentor.

First trimester (September through November)

- Organize a group of approximately ten students to build a scaled-down replica of Stonehenge.
- Use materials similar to what was available in Pre-Roman England.
- Explain and use tools available to Anglo-Saxon tribes in that time period

and location such as levers, rafts for water transport of heavy objects, etc.

The engineer-mentor will know far more about what can and cannot be done, and Alexandria Friends will defer to him/her.

Second trimester (December through February)

- Organize the same group to build a replica of a Mayan pyramid.
 - Use materials and explain methods available in Pre-Columbian Mesoamerica, as for the previous project.
- Again, Alexandria Friends will defer to the mentor and his/her knowledge of

what can reasonably be done. In addition, this project may have to be carried out indoors due to the weather at this time of year.

Third trimester (March through May)

- Help students build Lego robots to meet the local club specifications for competition.

Alexandria Friends is located in the Beth El Temple at 3830 Seminary Road, Alexandria, VA; telephone 703-461-7222. For more information on this unique volunteer opportunity, please e-mail to smaza@afriends.org. ■

ASCE-NCS Newsletter Patrons

- Tunnel Planning & Design
- Claims/Dispute Resolution
- Construction Management

JACOBS ASSOCIATES

WWW.JACOBSSF.COM
EXPERTS UNDERGROUND

THE
LANE
CONSTRUCTION
CORPORATION

Since 1890

A Commitment to Excellence

Engineering Management Committee and Woman Engineers Present Professional Development Seminar

On March 3, the NCS Engineering Management Committee and the Baltimore-Washington Section of the Society of Woman Engineers held a Professional Development Seminar which focused on *Bridging Skills from Engineer to Leader*. This seminar was to prepare and provide engineering professionals with the tools to also be great leaders. The event was well-attended and profiled segments that included:

- Motivation and Career Development,
- Managing Different Generations in the Workplace,
- Effective Communications for Engineers,
- Entrepreneurship, and
- Developing Leadership Skills, Dealing with Increasing Workloads, and Life Balance.

The seminar concluded with a speaker-based panel discussion focusing on the topics of Soft Skills for



Panelists Fernando Pons, Jay Padgett (with microphone), Erin DiMenna, Pamela Faggert, Cindy Simpson, and Susan Pelczynski.

Managers, Communications, Customer Interface, Allocating Resources, and the Art of Delegation. Attendees found the seminar very informative.

Special thanks to all our speakers, including Kevin Leahy, Debbie

Edwards Veihdeffer, and Rene Wilkins of Northrop Grumman; Cindy Simpson and Erin DiMenna of the Association for Women in Science; Fernando Pons of Pons & Associates, LLC; Jay Padgett of GeoServices Corporation; Dick Blatt of Planar World Consulting; Pamela Faggert of Dominion Resources Services, Inc., Susan Pelczynski of SKB Architecture and Design; and Mark Leeman of Facility Engineering Associates, P.C.

Thank you to all our volunteers and committee members who made this seminar a success! The presentation slides are available for download from the ASCE website.

If you wish to be involved in the planning for future events, please contact Thomas Lanyon at tlanyon@myrapidsys.com. ■



The Professional Development Seminar was very well attended.

March Meeting Recap – NCS Sustainability Awards and Keynote Address

It was another successful Sustainability Meeting for the ASCE-NCS! A group of approximately 60 members and students gathered at the Hilton Arlington to learn about the entries for the NCS's Sustainability Awards and hear the keynote presentation by Peter Binney, P.E., M.ASCE, and Vice President for Infrastructure Systems at Merrick & Co. in Aurora, CO.

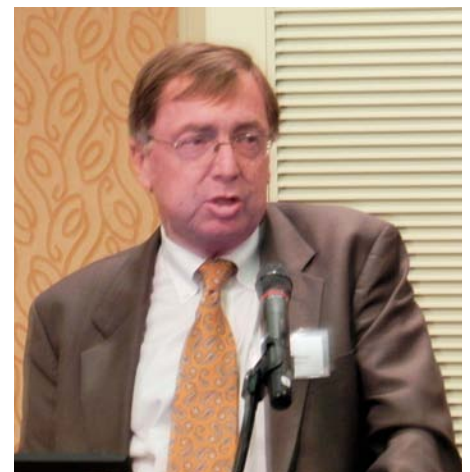
This year's NCS Sustainability Award winner is the Architect of the Capitol (AOC), Washington, DC, for its renovation and upgrade of the East House

Underground Garage (EHUG). The EHUG received a Leader in Energy and Environmental Design (LEED) for New Construction Certification at the Gold level on January 19, 2012.

Some of the features of this project included:

- Sustainable Site Features: The EHUG construction pollution prevention policy controlled dust and debris from contamination of the air and sewer run-off systems.
- Water Efficiency: The EHUG uses new water-efficient plumbing fixtures

continued on page 9



Peter Binney makes a point during the Sustainability Keynote Address.

The 2012 NCS Annual Awards Banquet Sponsors

Booz | Allen | Hamilton

delivering results that endure



Wiss, Janney, Elstner Associates, Inc.

Get your company in the spotlight!

Promote your company to the engineering community in the NCS newsletter, at NCS monthly meetings, and at special events like the Annual Awards Banquet. Become an ASCE-NCS Partner. Contact the [NCS Newsletter Editor](#) to invest in your company's future.

Younger Member Professional Development Meeting

On Wednesday, March 14, the NCS Younger Members held a Professional Development Meeting at *Ragtime* in Arlington, VA. The meeting featured a presentation on the Dulles Corridor Metrorail Project, a 23-mile-long extension of the Washington, D.C. Metro system. The speaker, Terrence McGee, P.E., of the Bechtel-led Dulles Transit



Partners, is the Project Field Engineer overseeing all field activities for all areas of Phase I of the project (the first 11.6 miles). Mr. McGee provided a summary of the project, including the locations and construction techniques used to construct aerial structures and below-grade tunnels, as well as the decision-making process that determined which portions of the new rail line would be above or below-grade. Mr. McGee's presentation included a project update and touched on the following issues:

- the project execution strategy;
- innovative construction techniques;
- the challenges of placing 190,000 cubic yards of concrete in and around Tyson's Corner;
- segmental bridge construction; and
- precast operations.

Phase I of the Dulles Metrorail Project, which will extend the new Silver Line to Wiehle Avenue in Reston, is scheduled for completion in August 2013. Additional information on this project is available at www.dullesmetro.com.

The next NCS Younger Members Professional Development Meeting topic will be the Post-Earthquake Evaluation of the Washington Monument and National Cathedral. This presentation will be held in mid-May 2012. Watch the NCS website and May newsletter for more details as the event date draws nearer.

For more information about the ASCE-NCS Younger Member Professional Development Meetings or if you would like to suggest a presentation topic, please contact Kelly Cronin at kcronin@wje.com. ■

Office Space Cramped? Consider AIO PCs!

The Computer Corner by
Ranjit S. Sahai, P.E., F.ASCE

Is your work area cramped for space? Gone are the days when the only choice for good business-class computers was a desktop PC. Your office computer no longer needs to consist of a separate computer unit and a monitor. With advances in computer component miniaturization and a focus on sleek design by PC manufacturers, your choice in computers now includes All-In-One (AIO) PCs.

An AIO PC eliminates the separate computer unit by mounting all computer components behind the monitor. These computers come in models that use powerful processors, have sleek looks, and more often than not, have touch screens. The benefits of AIO PCs are numerous:

- they save space by eliminating the computer unit (that takes up valuable desk space, or legroom if tucked under the table);
- they need fewer cables to connect than a desktop computer;
- they typically come bundled with several accessories like speakers, a webcam, wireless networking, and a multi-media remote;
- they commonly offer a wall-mount option; and
- they often include multi-touch screens that let you interact with the computer by touch, swipe, and pinch gestures made popular by smartphones.

The expected release, in the Fall of 2012, of the touch-friendly Microsoft Windows 8 operating system makes

a multi-touch AIO PC a superior choice because it future-proofs your new computer investment, assuming Windows 8 plays a role in that future.

Striking Design, Great Variety

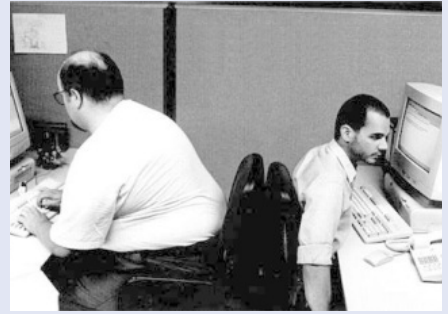
Brands a Plenty: The number of vendors making AIO PCs has steadily increased in recent years. While you may recognize many brands, some of the names in this list may be new to you: Apple, Asus, Averatec, Dell, HP, Lenovo, MSI, Shuttle, and Sony. Each of these brands has several AIO models.

Price Points for Every Budget: For those interested in low-budget (\$500 range) models, there are non-touch, smaller-screen AIO's that have netbook-like specifications. Expect to pay more than \$1,000 if you want larger screens and more powerful processors.

Small Footprint: AIO's deliver a complete computer in the same space taken up by a monitor. They help you maximize your space.

Multi-Touch Borderless Screen: If you expect to upgrade your new AIO computer with the yet-to-be-released Windows 8 operating system, my recommendation would be to choose an AIO with a multi-touch borderless display. That's because Windows 8 is being built from the ground up to take advantage of touch screens in new ways.

All-In-One PCs not only save desk space, they also reduce cable clutter.



(Image Source: <http://www.awkwardworkplacephotos.com/index.php?imgId=41>)

AIOs Are Not For Everyone

If you must have the most powerful class of computers and have a need to expand their functionality with peripherals such as high-end graphics cards, desktop PCs will serve you best. The fact that AIO PCs are compact creates heat dissipation limitations. This precludes the use of ultra-powerful processors that tend to emit more heat. Their compact size will also mean that standard expansion slots are likely to be missing.

About the Author

Ranjit has been writing on computer topics since 1987 and has authored five books on CAD (MicroStation and AutoCAD). His next book is on success in life and business (Be-A-Teacher.com). He is the founder of RAM Corporation and Chair of the ASCE-NCS Automation Committee. He welcomes comments and feedback via e-mail. To contact Ranjit, visit the **Contact Us > Committee Chairs** page at www.asce-ncs.org or the **Contact Us** page at www.rcare-solutions.com.



ASCE Volunteers Needed!

As part of the **2012 USA Science and Engineering Festival**, The George Washington University School of Engineering and Applied Science (SEAS) is proud to present....

SEAS Builds with Curious George!



Volunteers are needed to help SEAS deliver the fun and excitement of engineering to children ages 3-5 on Wednesday, April 25, 2012, 10 a.m.-noon at The Smith Center-The George Washington University.

Children will work in teams with their teachers and chaperones under the leadership of SEAS students and professional engineers volunteering from the American Society of Civil Engineers-National Capital Section. Children will need your help designing, building and testing their structures and much more! They will also have fun meeting “GW Sports Stars” and a special guest, Curious George!

(We’re keeping that part a secret from the kids!)

Volunteer assignments could include:

- Coordinating activities and supplies
- Managing activity stations
- Guiding teachers and chaperones once onsite

For more information or to volunteer, e-mail Lisa J. Jennings at lisajj@gwu.edu.

Two Key Volunteer Events Extend Their Dates – More Opportunities for Outreach (and Fun) in April

National Sustainable Design Expo, April 21–23, National Mall, Washington, DC

Want to help kids understand the role civil engineers play in designing sustainable communities? ASCE World Headquarters is looking for volunteers to help-out with an educational outreach exhibit at the EPA's P3 (*People, Prosperity, and the Planet*) Expo taking place on the National Mall April 21–23. The Expo, featuring collegiate level competition for sustainable design, has been held annually for the past several years and includes project competitions in a wide range of categories: water, energy, agriculture, built environment, and materials and chemicals. **This year, the Expo will be extended through Monday.** Volunteers are needed for morning and afternoon shifts on Saturday, Sunday, and Monday during the Expo. This is a unique opportunity for engineering students to step-up and assist with the ASCEville sustainability game and permeable pavement demonstration! For more information or to volunteer, contact Leslie Payne at lpayne@asce.org.

USA Science and Engineering Festival Expo and Book Fair, April 27–29 – Washington Convention Center

Get out and show your love for civil engineering! ASCE World Headquarters is looking for volunteers to help staff an educational outreach booth at the USA Science and Engineering Festival at the Washington Convention Center on the weekend of April 27–29. The Convention Center is located at 801 Mount Vernon Place NW in Washington, DC. Clemson's Concrete Canoe team will be on hand to display their canoe and tell about their experience at the national competition. Visitors to the booth will also get to experiment with water and buoyancy. As of now, **13,000 kids are expected to attend the Festival on Sneak Peek Friday, April 27.** Volunteers are needed for morning and afternoon shifts Friday, Saturday, and Sunday. Again, Friday will provide a unique opportunity for engineering students to play a leading role with the concrete canoe display, and Flicker and Float My Boat activities. For more information or to volunteer, please contact Leslie Payne at lpayne@asce.org.

Cub Scout Day at the National Building Museum, April 28

The NCS will be conducted the suspension bridge building event for Cub Scouts at the National Building Museum (NBM) from 10 a.m. to 4:30 p.m. Volunteers are needed for a morning shift and an afternoon shift. The NBM is located at 401 F Street NW, on Metro's Red Line at the Judiciary Square Station. Parking is available on streets in the neighborhood and at public parking garages. For more information or to volunteer, contact Dean Westman at dwestman@wrallp.com. ■



The Great East Japan Earthquake and Tsunami of March 11, 2011

The Nuclear Regulatory Commission's Dan Dorman to speak at May NCS Meeting

Please join us on May 15, 2012, when we will be most pleased to hear a presentation by Daniel H. Dorman, Deputy Director for Engineering and Corporate Support in the Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission



(NRC). During the recent earthquake and tsunami in Japan, Mr. Dorman served as a member of the NRC's Near-Term Task Force assessing the lessons of the Fukushima Dai-ichi accident for the licensing and oversight of American nuclear power plants. Prior

to joining the NRC in 1991, Dan served for nearly a decade in the U.S. Navy's nuclear propulsion program as a submarine officer, earning subspecialty designations in nuclear propulsion plant operations and joint intelligence operations. Given Dan's unique experiences, his presentation is expected to be timely and insightful. ■

March Meeting Recap – NCS Sustainability Awards and Keynote Address

continued from page 5

- that increase water savings by more than 50 percent.
- Energy and Atmosphere: The EHUG optimizes energy performance by using high-performance mechanical systems, which reduce energy consumption by more than 24 percent above the American Society of Heating, Refrigerating and Air-Conditioning Engineers standard.
- Material and Resources: The EHUG project diverted more than 99 percent of the 8.5 million pounds of construction debris from landfills. The project used 8.7 million pounds of new materials with more than 18 percent recycled content (including 28,000 pounds of new reinforcing steel and 2,500 cubic yards of new concrete), and more than 50 percent of the new materials were obtained from regional sources.
- Indoor Environmental Quality: The EHUG is a non-smoking facility, includes a new mechanical system with increased ventilation, and incorporates new materials and finishes with low Volatile Organic Compound content.

continued on page 11

The ASCE-NCS Annual Awards Banquet Will Be Held April 10

continued from page 1

and includes virtually all of the major offices in the Oregon Section. If you haven't yet had the opportunity to read Greg's biographical statement, it can be found by clicking [HERE](#).

The ASCE-NCS 2012 Project of the Year is the **Emergency Repairs for Settlement at the Jefferson Memorial Seawall**. Dr. Jesús Gómez, P.E., D.GE, and Darrell Wilder, P.E., Principal and Senior Associate, respectively, of Schnabel Engineering, Inc., will be the award recipients. Attendees at the January 2012 NCS meeting are very familiar with this unique and challenging project, which was presented by Dr. Gómez and Mr. Wilder at that time.

The Jefferson Memorial was constructed in between 1938 and 1943 on reclaimed land along the Potomac River. During the original construction, the plaza area was constructed by placing additional fill. The original designers were cognizant of the soft soils below the site and supported the main memorial structure on Raymond piles and caissons, bearing on underlying rock. By the time the tidal basin seawall construction was started, steel was scarce due to the war efforts. Accordingly, the sea wall was supported on timber piles which did not extend to bedrock. The designers anticipated significant settlements and meticulous records of post-construction settlement were kept by the National Park Service (NPS). By the 1960's, the North Plaza had settled over 3 feet in some places, perimeter walls were sagging, and the memorial steps had undergone considerable deformation. Repair of these features was undertaken at that time.

By 2005–2006, noticeable settlement of the seawall and the North Plaza again was apparent. In October 2006, the NPS

commissioned a comprehensive study to assess the subsurface conditions, understand the mechanism responsible for settlement at the memorial, and perform the necessary analyses to design a fix. Following extensive instrumented surveys, it was determined that the ashlar seawall underwent settlement primarily because its foundation timber piles did not reach bedrock, and that the seawall lateral movement was due to distortion of the soil mass undergoing compression below the edge of the embankment.

Based on alternatives and recommendations developed by Schnabel Engineering (the lead design firm), the NPS considered various options for mitigation of the movements and selected a plan that included demolition and reconstruction of the sea wall on caissons and pipe piles. Repairs began in December 2009. Four-foot-diameter caissons were drilled and socketed into the underlying bedrock, and battered, 18-inch-diameter pipe piles were installed toward the Tidal Basin in an A-Wall configuration. The design is expected to provide resistance to both future vertical and lateral movement of the North Plaza and the new seawall.

The greatest challenge of the project was restoration of the North Plaza and seawall to match the original construction. To accomplish this, each facing and capping ashlar stone was removed, catalogued, carefully stored, and then repositioned back on the seawall like a giant jigsaw puzzle. Replacement of a damaged or broken stone would have been nearly impossible, and maintaining the "historical fabric" of the Memorial was paramount to the NPS. When construction was completed in the summer of 2011, the new seawall was found to maintain the *exact* same exterior geometry as the original wall and supports the same original ashlar facing blocks.

The other primary concern of the NPS in selecting this stabilization solution was maintenance of the "visitors' experience." Some of the options considered would have limited or deteriorated the visitors' experience more than others. In the end, the option implemented allowed thousands of visitors to enjoy and have access to the full Memorial and plaza stairs during construction. ■

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.

ASCE-NCS Newsletter Patrons



NICHOLSON

Fred Tarquinio, P.E.
Business Development Manager
(412) 221-4500

We are Versatile Geotechnical Contractors offering proven expertise in the design and installation of deep foundation elements, earth retention systems and ground treatment solutions.

To learn more, visit us at nicholsonconstruction.com

ANCHORS
AUGERCAST PILES
DIAPHRAGM WALLS
DRILLED SHAFTS
GROUTING
MICROPILES
SECANT PILE WALLS
SOIL MIXING
SOIL NAIL WALLS
SOLDIER PILE WALLS



...Improving the way you manage facilities

Facility Engineering Associates, P.C.
12701 Fair Lakes Circle, Suite 101
Fairfax, Virginia 22033-4910
Ph. (703) 591-4855
Fx. (703) 591-4857
www.feapc.com

Condition Assessment
Repair & Restoration
Engineering
Energy Management
Consulting
Facility Management
Consulting
Sustainability/LEED

March Meeting Recap – NCS Sustainability Awards and Keynote Address

continued from page 9

- Innovation and Design Process: The EHUG features LED lights with significantly longer lifespan and no mercury content. The EHUG established a green cleaning program to reduce exposure to harmful chemicals.

The EHUG became the first LEED Gold-certified project for the AOC, which plans on continuing to use and incorporate sustainable design methods in its on-going and future projects. The project was a collaboration of the AOC, Jacobs Project Management Company (JPMCo), Restoration East LLC, and URS Corporation.

This year's highly qualified nominees for the NCS Sustainability Award included:

- The National Institute of Standards and Technology (NIST) – NIST's Net-Zero Energy Residential Test Facility is a residence that will produce as much energy from renewable resources as it consumes on an annual basis. The two-story home incorporates four bedrooms, three baths, and a two-car detached garage for monitoring purposes, and is designed to achieve LEED Platinum certification. In addition to demonstrating that a residence, similar in aesthetics and size to homes in the surrounding communities, can be energy self-sufficient, this facility will also provide a test bed to develop measurement systems and metrics that better reflect field performance of building systems/equipment.
- Facility Engineering Associates, P.C. (FEA) – FEA has been advising the National Education Association

(NEA) since 2007 and evaluating the NEA building's status for certification under the United States Green Building Council LEED-EB rating system. Their assessment outlined the prerequisites and qualified points the facility met based on their current practices. In addition, they identified sustainable practices that will increase their LEED-EB score. Each sustainable practice recommendation was prioritized to fit the NEA's needs and included cost estimates to implement each practice.

The evening was capped off with the Keynote Address by Peter Binney, P.E., M.ASCE, Vice President for Infrastructure Systems at Merrick & Co., and a member of ASCE's National Sustainability Committee. Mr. Binney focused on providing the background and the latest status updates on ASCE's participation in the Institute for Sustainable Infrastructure (ISI).

He began by summarizing how the design-build-operation community started incorporating sustainability into its work and how the ASCE has treated sustainability up to now. He stressed the need for person-to-person collaboration that is not only required, but desired for our society's collective need for sustainable infrastructure.

Mr. Binney then described how the ASCE's Sustainability Committee has been committed to providing engineers with the tools and knowledge to implement these principles into their designs and projects. He stressed the collaboration that has been on-going between the member organizations.

The ISI is a 501(c)(3) no-for-profit organization, structured to develop and maintain a sustainability rating system for civil infrastructure in the United States. That system, called Envision™, is a collaboration between the ISI in Washington, DC, and the Zofnass Program for Sustainable Infrastructure at the Graduate School of Design at Harvard University in Cambridge, MA. The ISI was founded by the American Council of Engineering Companies, the American Public Works Association, and the ASCE. He pointed out that incorporation of the Zofnass Program will take the standard to a new level, allowing for ease and intuitive application of the goals and metrics for sustainable design.

He reiterated the core value of the ISI concept of sustainability, which is described as the confluence of solutions that support environmental as well as social and economic needs and benefits – the so-called “triple-bottom-line” goal. He walked meeting attendees through some of the details of the goals and metrics that the detailed guidelines and on-line resources will be incorporating through the implementation of the Envision™ system.

Mr. Binney presented several case studies that have been evaluated during the planning stages of the system, and highlighted how the standard is a work-in-progress. The system is intended to ensure that the final results of the evaluation describe quantitatively the observations that are now only available qualitatively and subjectively for major infrastructure projects. A three-tiered

continued on page 12



Accepting the 2012 Sustainability Award (from left): Julian Sabbatini (JPMCo), Ike Ramos (URS), Pete Dyro (Restoration East, LLC), Kristen Foreman (Restoration East, LLC), Steve Yannucci (Restoration East, LLC), Christine Merdon (AOC), Barron Dill (AOC), John Casana (NCS President), Alex Santos (AOC), Mark Galvan (AOC), Noel de Castro (JPMCo), and Alex Rosenheim (NCS Sustainability Committee Chair).

March 31–April 1

Washington Academy of Sciences and Affiliate’s Capital Science 2012, to be held at three university sites in Arlington, VA. More information is available at <http://www.washacadsci.org/capsci12/body.htm>.

April 10

NCS monthly meeting at the Hilton Arlington. The Annual Awards Banquet will feature a keynote address by ASCE President-Elect Greg DiLoreto, and numerous awards/recognition for local projects, engineers, and students. (See newsletter lead article.)

April 14

The Association for the Advancement of Cost Engineering International’s Leadership Conference in Washington, DC, will present Christopher P. De Santis, Management and Organization Development Design and Delivery Consultant. For more information, contact Garth Leech at gleech@aacei.org or 304-296-8444.

April 21–23

The U.S. Environmental Protection Agency’s P3 Sustainability Expo on the National Mall in Washington, DC. Volunteers are needed to help staff an exhibit, which has been extended through Monday. For more information or to volunteer, contact Leslie Payne at lpayne@asce.org. (See newsletter brief.)

April 25

Volunteers are needed to join the GWU School of Engineering and Applied Science as it delivers the fun and excitement of engineering to children ages 3–5 from 10 a.m. till noon at the Smith Center on the GWU campus. (See newsletter flyer.)

April 27–29

The USA Science and Engineering Festival and Book Fair on the National Mall in Washington, DC. Volunteers are needed to help staff an educational outreach booth. For more information or to volunteer, contact Leslie Payne at lpayne@asce.org. (See newsletter brief.)

April 28

Cub Scout Day at the National Building Museum in Washington, DC. Volunteers are needed to help staff this event. Help inspire the next generation of civil engineers! Contact Dean Westman to volunteer or for additional information at dwestman@wrallp.com. (See newsletter brief.)
Add new event:

May 2

Joint meeting of the ASCE-NCS and Federal Water Quality Association, to be held from 11:30 a.m. to 1:30 p.m. in Washington, DC. The speaker will be George Hawkins, General Manager of DC Water (invited). For additional information, contact Christian Manalo at 703-377-1697.

May 15

NCS monthly meeting at the Hilton Arlington. The featured speaker will be Dan Dorman, Deputy Director for Engineering and Corporate Support in the Office of Nuclear Reactor Regulation at the Nuclear Regulatory Commission. Mr. Dorman will speak on the Great East Japan earthquake and tsunami of March 11, 2011. See newsletter brief and the May newsletter’s lead article for more information or to register.

May 15

The ACE Mentor Program’s 2012 Scholarship Awards Breakfast at the Willard Intercontinental Hotel, 1401 Pennsylvania Avenue NW, from 8–11 a.m. in the Lower Level Ballroom. Allan Y. Lew, DC City Administrator, will be the keynote speaker. For additional information, contact the ACE Outreach Coordinator, Susan Muniz, at 202-572-2500, or visit ACE online at www.acementor.org/592.

October 18–20

Civil Engineering in the New Global Economy is the theme for the ASCE’s 142nd Annual Conference in Montreal, Quebec, Canada. Visit the [ASCE Conference Website](http://www.asce.org/conference) for further information.

March Meeting Recap – NCS Sustainability Awards and Keynote Address

continued from page 11

rating score (Gold, Silver, and Bronze) is being considered. Part of the goal of implementing a sustainability standard is to interject longer-term thinking into the earliest planning stages of development when major decisions are being made.

Mr. Binney concluded by stating that the system is scheduled to go on-line this summer and expects to have approximately 10 to 20 projects

evaluated by the end of the year. The results of this pending live run will be used to mold this on-going program into a tool to be utilized into the future; the program is expected to evolve over time to meet the sustainable needs of the communities we serve.

This seventh annual Sustainability Awards meeting provided an opportunity to recognize and share knowledge in the field of sustainability as it relates

to civil engineering. The members got to learn about how practitioners are implementing sustainable design into real-world, local projects. Further, attendees got to learn about the ASCE’s vision of the future of sustainability from one of its own. ■