

The 2018 ASCE-NCS Annual Awards Banquet

Celebrate Our Region's Outstanding Projects and People

Join us on Tuesday, March 20th at the Hilton Arlington for the National Capital Section's (NCS) signature event of the year. This event gives us an opportunity to recognize and celebrate local excellence in projects, engineers, and students who have contributed to our profession and our community. Recognized parties include the ASCE-NCS Outstanding Civil Engineering Project, Sustainable Project of the Year, Meritorious Service and Community Service Award winners, NCS Student Scholarship Award recipients, Outstanding Graduating Seniors from local civil engineering universities, and members of the NCS who have achieved Life Member or Fellow status during the past year.

This year's banquet will also feature a keynote address from ASCE National President-Elect Robin Kemper. Ms. Kemper will highlight ASCE's Strategic Initiatives that encourage engineers from all around the world who are pushing the limits of ingenuity and innovation in unexpected, imaginative, and amazing ways. ASCE's grand dream is for civil engineers to be global leaders in building a better quality of life for mankind. In this presentation, President-Elect Robin Kemper will share how this dream can be achieved as well as describe the ways in which each engineer can contribute.

As the oldest engineering society in the United States, ASCE represents 150,000 members in 177 countries. ASCE stands at the forefront of a profession that plans, designs, constructs, and operates society's economic and social engine – the built environment – while protecting and restoring the natural environment.

Ms. Kemper will explain the leading role of ASCE in advancing the civil

engineering profession. She will also touch on the following focus areas of ASCE:

- **Sustainable Infrastructure** – Maintain and modernize America's deteriorating infrastructure as well as make our communities sustainable
- **ASCE Grand Challenge** – Significantly enhance the performance and value of infrastructure projects over their life cycles by 2025 and optimize investments
- **Raise the Bar** – Increase education requirements for engineering licensure to better protect the public in the future

About the Speaker

Robin A. Kemper, PE, LEED AP, F.SEI, F.ASCE and ASCE President-elect has over thirty-five years of diverse and extensive structural engineering experience in design, analysis and forensics, focused mainly on buildings. Robin currently is a Risk Engineer with Zurich North America. She works for both the Professional Liability and Construction Properties Risk Engineering Groups, providing technical support to construction project policies, developing best practices and investigating losses on construction projects. Robin has a passion for Engineering Ethics and since 2011, in her spare time, has given over 20 presentations to various engineering groups.



Robin is a licensed Professional Engineer in six jurisdictions, and a Fellow of both ASCE and the ASCE Structural Engineering Institute. She has been active in ASCE since college, was President of both the Central Jersey Branch and the New Jersey Section of ASCE, and was District 1/

Please join us on **Tuesday, March 20**, at the Hilton Arlington, 950 North Stafford Street, Arlington, VA, on the second floor in the Gallery Ballrooms. Parking is available at the hotel (\$10), at the Ballston Mall garage (\$1 after 6 pm), and on the street (free after 6 pm). The Hilton is on the same block as the Ballston Station on Metro's orange and silver lines. Registration and networking will be from 6–6:45 pm, followed by dinner. The program will end by 8:30 pm. The cost is \$55 for those preregistering, \$20 for students and \$65 for walk-ins, as space allows. One Professional Development Hour is available to attendees. For questions, please contact [Brian Barna](#). Please click [here](#) to register by **March 15**.

Note that no-shows will be charged the full registration fee. We welcome walk-ins, including any registrations made after the guaranteed number of guests is provided to the hotel. However, the cost for walk-ins is higher because the Section is charged accordingly by the hotel for late registrations.

Region 1 Director on the Society Board of Directors. Robin also served on the Board of Direction of Engineers Without Borders, and the Civil Engineering Industrial Advisory Board of Rensselaer Polytechnic Institute, her alma mater. She is currently a member of the Civil Engineering Industrial Advisory Boards for Rutgers University and the College of New Jersey.

Robin has been recognized for her service to ASCE throughout her career. Her most recent recognitions are the

continued on page 2

Dream Big in 2018

In February 2017, I had the honor of attending the world premiere of *Dream Big* at the Smithsonian National Air and Space Museum right here in Washington, DC. The *Dream Big* IMAX movie was a culmination of over a decade of preparation and planning by a group led by ASCE, Bechtel Corporation, and the filmmakers at MacGillivray Freeman. The movie, narrated by Academy Award-winning actor Jeff Bridges, was made to highlight engineering achievements and inspire K–12 students to consider a career in STEM (Science, Technology, Engineering, and Mathematics). The film features breathtaking eye-candy shots of civil engineering achievements such as the Golden Gate Bridge and the tallest tower in the world, the Burj Khalifa. But the majority of the film actually focuses more on four distinct human stories: Menzer Pehlivan, a structural engineer that dedicated her life to making buildings safe after experiencing a devastating earthquake as a child; Avery Bang, who builds bridges in third world countries to improve the lives of their residents; a group competing in an international solar car competition, and a high school robotics club that built an underwater robot to take on robots from some of the top engineering universities in the country.



Phase One was primarily focused on a nationwide release of *Dream Big* to IMAX theaters across the country, mostly in venues such as science centers. In its first year since its release, over 1 million people have viewed the film in IMAX theaters. *Dream Big* won the award for “Best Film of the Year” at the 2017 Giant Screen Cinema Association Achievement Awards, essentially the equivalent of the Oscars for IMAX movies. The local run at the IMAX theaters at the two Air and Space Museums is ending, but if you missed it, *Dream Big* will start streaming on Netflix this fall.

Phase Two is focused on educational outreach within our schools – all 95,000 public schools in the United States. The goal is to send an educational toolkit to every school, which includes a copy of the movie, a teacher’s guide catered to each grade level, and accompanying educational videos. This will also help expand *Dream Big’s* audience to include economically disadvantaged schools and rural schools, whose students may not have access to IMAX theaters. Each toolkit costs \$5, including shipping. A generous donation from the United Engineering Foundation will enable ASCE to place a toolkit in every American high school. ASCE is seeking additional donations

to get the movie in every middle school and elementary school as well.

National Capital Section wants to do our part to help get *Dream Big* educational toolkits in, at a minimum, every middle school within our geographical region in addition to toolkits that will already be placed in each high school. If funds are available, we will work to get the toolkits in our local elementary schools as well. ASCE has pledged a 1-to-1 match of all donations made before April 15 for middle school educational kits. We will be sending an email to all of our members and posting a link on our website where you can donate to this effort. NCS will earmark these funds to support placing these educational toolkits in our local schools. Any donation amount that you can provide would be greatly appreciated. Please consider donating to help increase the quality of engineering education in our K–12 schools and inspire future generations of civil engineers!

Thank you,

Brian Barna, P.E.
ASCE-NCS President

The 2017 ASCE-NCS Annual Awards Banquet

continued from page 1

2013 William H. Wisely American Civil Engineer Award (a National award), and the 2015 ASCE New Jersey Section Civil Engineer of the Year.

Robin loves travel, seaside vacations, and her family. She and her spouse Chris have been married for 37 years; they have two wonderful daughters and

two great son-in-laws, and Robin loves playing with the newest member of the family, grandson Jonah. ■

Newsletter

Jim Palmer, Editor

Sumon Chatterjee, Editor-in-Training

April 2018 Issue Deadline: March 21, 2018

To Submit Articles: newsletter@asce-ncs.org

NCS eNewsletter Archives: go to www.asce-ncs.org and view along the sidebar.

Address Changes: Call 1-800-548-ASCE, e-mail member@asce.org, visit www.asce.org, or write: ASCE – Membership, 1801 Alexander Bell Drive, Reston, VA 20191. Include your membership number.

National Capital Section

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Committee Chairs

Please refer to the [NCS website](http://www.asce-ncs.org) for a current list of NCS committees and chairs.

Director Letter

Dear Members,

MRLC

The ASCE Multi-Region Leadership Conference held on February 9–10 in Buffalo NY was a great success. Section, Branch, Younger Member and Student leaders from Regions 1, 2, 4 and 5 gathered for training, and to form/renew friendships. Nick DeNichilo, President and CEO of Mott MacDonald shared insights on leadership and professional ethics. In the evening, some attendees even tried their hand at curling!

Region 2 Awards

We received a tremendous response to our request for nominations for the 2018 ASCE Region 2 Awards. I commend all nominees for their accomplishments and contributions to the



Society, and the profession. The Awards Committee selected the following individuals to receive awards in their respective category: I will personally travel to each awardee's Section meeting to present their award. Congratulations to all!

2018 Lifetime Achievement Award: *Frank S. Waesche III, PE, Maryland Section*

2018 Outstanding Faculty Advisor: *Ahmet Zeytinci, PhD, PE, F.ASCE, F.NSPE, University of the District of Columbia, NCS*

2018 Outstanding Student Member: *Cory Bogas, Temple University, Philadelphia*

2018 Outstanding Younger Member: *Angela M. Mayer, EIT, A.M.ASCE, Pittsburgh Section*

Dream Big Initiative

In 2018, ASCE would like to place a DVD copy of *Dream Big: Engineering Our World* with lesson plans in every public school in our country. A donation from the United Engineering Foundation provided a great start. You can help ASCE reach every public school by going to <https://www.engineersdreambig.org> and contributing \$5 to have *Dream Big* in a school of your choice; maybe even to a school that you attended.

Until next time,

John Casana, P.E., F. ASCE, D. WRE, LEED AP
ASCE Director

Engineering Family Day – Huge Success!

More than 40 volunteers from the National Capital Section, Bechtel Corporation and ASCE World Headquarters came out to the National Building Museum on Saturday February 17th to assist with the ASCE-NCS booth, co-hosted by Bechtel, at Discover Engineering Family Day. More than 4,800 kids and parents came through the event, many of them stopping at the ASCE-NCS booth. This year's activity was the "Windy City Tower" from the Dream Big project and is one of many activities available on <http://www.discovere.org/dreambig/activities>. The activity challenges participants to

construct a 14" high tower (minimum) out of 4 sheets of paper and two yards of masking tape. The tower is required



to support a washer (representing dead load) and is then tested against the "wind" as a lateral force (a box fan) at distances of 10' away to as close as 0' away. There were many different creative designs of towers, and many smiles as the towers withstood the wind force! Thanks to all of our volunteers for their time and enthusiasm. Thanks to Jeannine Finton at ASCE World Headquarters for supplies and leadership. Thanks to Bechtel Corporation for leadership, supplies and volunteers. As in past years, Bechtel sponsored a Happy Hour after the event attended by Kristina Swallow, ASCE President. ■

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Ethics 101: Part 1 – Why Be Moral?

By Ranjit S Sahai, PE, F.ASCE

Ethics belongs to the academic discipline of humanities, the study of human culture. Because humans have volition, they can choose to act one way, another way, or not at all. Given the choices you face, how do you decide what to do?

Philosophers have pondered this question throughout history. Yet, unlike scientific inquiry that concludes with one verifiably answer, ethical theories give varying answers to ethical inquiry. In this three-part “Ethics 101” article series, I explore three aspects of ethics to identify its purpose, nature, and applications.

This month’s article explores the question “Why be Moral?” to identify the purpose of morality. Next month’s article explores the question “What is Ethics?” to identify the nature of morality. The final article explores examples of situations that need careful assessment; and it is titled “Applications of Ethics.”

Two Dominant Theories of Ethics

To be moral is to act on principles that are right or good. Moral thought in human history can be classified into two dominant theories based on their view of existence: otherworldly or worldly. The former is based on Plato’s works, the latter on the work of Aristotle.

In the totality of [Plato’s](#) works, cited from the Stanford Encyclopedia of Philosophy, “Plato’s moral ideals

appear both austere and self-abnegating: The soul is to remain aloof from the pleasures of the body in the pursuit of higher knowledge, while communal life demands the subordination of individual wishes and aims to the common good.” Plato held an otherworldly view of existence as described in his “Theory of Forms” that expresses the



Plato (left) and Aristotle (right), a detail of *The School of Athens*, a fresco by Raphael. Aristotle gestures to the earth, representing his belief in knowledge through empirical observation and experience, while holding a copy of his *Nicomachean Ethics* in his hand, whilst Plato gestures to the heavens, representing his belief in *The Forms*, while holding a copy of *Timaeus*. Taken from <https://commons.wikimedia.org/w/index.php?curid=75881>

belief that the material world as we see it is not the real, but an imperfect copy of the real world of Forms. To identify the good is to attain the state of mind through contemplation that enables one to receive information about the good from the world of Forms.

In [Aristotle’s](#) treatise the “*Nicomachean Ethics*,” cited from the Stanford Encyclopedia of Philosophy, morality is not something that comes to us by contemplating the otherworld, “It consists in those lifelong activities that actualize the virtues of the rational part of the soul.” Aristotle held a worldly view of existence in that the good is actualized by logical reasoning, because we are rational beings. In other words, to act virtuously as determined by our rational faculty is to be moral. “He says, not that happiness is virtue, but that it is virtuous *activity*. Living well consists in doing something, not just being in a certain state or condition.”

The purpose of being moral according to both theories is happiness or wellbeing. Plato promotes otherworldly contemplation for happiness in the otherworld; Aristotle promotes rational virtuous action for happiness in this world.

Innocent Acceptance vs Conscious Choice

A modern thinker, whose philosophic thought has been gaining scholarly interest in recent decades, Ayn Rand explains in her essay “[Philosophy:](#)

continued on page 5

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Ethan Grossman
Engineering

Civil Engineering and You, continued

Who Needs It” that man, because of his volitional nature requires morality. To live, man must act, and to act, he needs a morality to choose an action. He has no choice in the matter because he must choose the action to take. His only choice is to innocently accept what he learns about morality, or to make a conscious effort to validate what he learns to be true through logical reasoning.

To act, she says, on principles accepted without logical thought or validation is to not know how to assess whether the action is in one’s wellbeing. This results in a feeling of confusion and unease. To act, she continues, on principles whose foundation of the good has been validated through rational reasoning is to know whether the action promotes wellbeing. This results in a feeling of self-esteem and happiness.

In Part 2 of this three-part article series, we explore next month the question “What is Ethics?” to identify the nature of morality, its core attribute, the principle of the good, and the virtues that emerge from it. In addition to exploring the “what” of ethics from the perspective of both dominant theories, we will explore the core principle of ethics embodied in [ASCE’s code of ethics](#). ■

Local Team Wins 2018 Future City Competition

By Vasantha Ayala

The 2018 Future City Competition started this year with 44,000 students, from 1,350 schools across the United States, Canada, China, and the Middle East. The teams then competed at the State or Regional level in January before those winners were sent to the National Competition in Washington, DC over the Presidents’ Day weekend and culminating with a National Championship run-off on February 20th. This year’s theme, “The Age-Friendly City,” asked students to design innovative solutions that could serve an urban area’s older population and enable seniors to remain active and independent.

Of the 44 teams that spoke about their Future City model and their vision of the future, only five of those teams were ultimately selected to compete for the title of National Champions. Edlin School of Reston, Virginia was one of the five teams.



The team from Edlin School received the Most Advanced Smart Grid System Award and the Best Model Award along with winning the 1st Place in the 2018 Future City National Competition and receive the Winner’s Trophy. The students, Vinay Ayalya,

12, Lucas Ribeiro, 12 and Nikhil Kuntipuram 11, teamed with teacher Vasantha Ayala and volunteer mentor Nandhini Kuntipuram, to earn the 2017 Grand Prize. ■

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February Meeting Recap:

Transform I-66 Outside the Beltway, Susan Shaw (VDOT Megaprojects)

The ASCE National Capital Section was delighted to welcome Ms. Susan Shaw, PE, CCM, DBIA, who leads the Megaprojects Office for the Virginia Department of Transportation in Northern Virginia.

Susan is responsible for overseeing more than \$3 Billion in major design-build and P3 transportation projects, including Transform I-66 Outside and Inside the Beltway, the 395 Express Lanes, and Route 28 Corridor Improvement projects. She is currently managing the Transform I-66 Outside the Beltway project, a \$2+ Billion multimodal project to improve the I-66 Corridor between I-495 and Gainesville, and was able to share her unique perspective on some of the successes and lessons learned during the procurement phase of the project with our members.



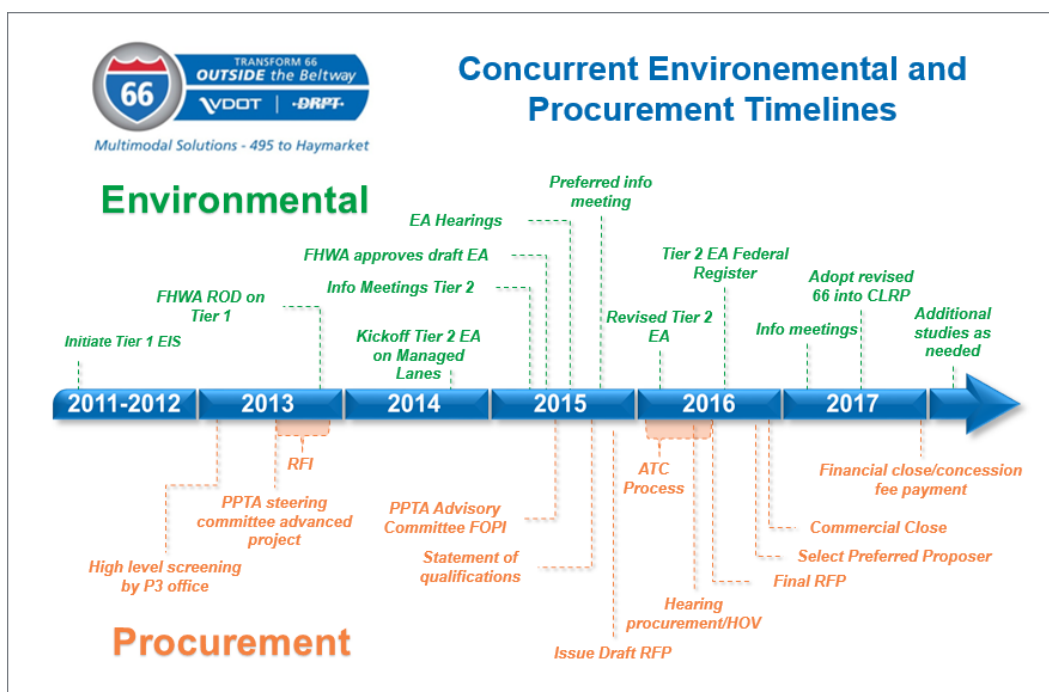
The Transform I-66 Outside the Beltway project is a public-private partnership (P3) between the Virginia Department of Transportation (VDOT), the Department of Rail and Public Transportation (DRPT) and a private partner, I-66 Express Mobility Partners. At its core, it is a large scale, regional transportation improvement project that seeks to address existing and future transportation

problems, improve multimodal mobility by providing diverse travel choices, and enhance transportation safety and travel reliability congestion. Susan explained that these goals will be accomplished by redeveloping the corridor to provide two Express Lanes and three regular General Purpose lanes in each direction, while also providing more transit options such as more reliable bus services during peak periods, new park-and-ride facilities, and bicycle and pedestrian trail improvements.

Although the project ended up being delivered using a P3/Design-Build-Finance-Operate-Maintain (DBFOM) agreement, it was not originally born that way. During the procurement phase, the Department established a philosophy that focused primarily on one thing: the public. That philosophy would seek to protect the taxpayers, provide transparency and accountability to the public and elected officials, and would utilize a P3 agreement only when it was in the best interest of the public. Hence, two other delivery options were pursued: a Design-Build-Operate-Maintain (DBOM) and a traditional Design-Build option where project financing would come from public sources, and the Department would be responsible for operating the facility for the Design-Build option. By encouraging the use of Alternative Technical

Concepts and by highlighting penalties for liquidated damages for unapproved lane closures and late project completion, the Department created an innovative and competitive bidding environment and was able to reach an agreement with Express Mobility Partners that included an upfront payment of over \$550 Million to be used now for transportation improvements in the region. Other benefits of the agreement included \$600 Million in anticipated public subsidy returned for other projects, \$800 Million in Transit subsidy, and \$350 Million in Future Corridor Improvements.

By aligning and coordinating the Environmental process with the Procurement process, the Department was able to streamline its efforts and procure this multi-billion dollar project on a very aggressive schedule. The included graphic demonstrates the various activities that took place since initiating the Tier 1 EIS in 2011 to reaching financial close in December 2017. Since financial close, early work activities have been underway to advance the design work and begin moving forward with construction. On the horizon will be milestones to open 960 park-and-ride spaces in Gainesville in 2019, re-signalize Route 28 in 2020, and finally, open the Express Lanes in December 2022. Now the real work begins! ■



Discover Engineering Family Day & Advice to College Students

The National Building Museum in Washington, DC, held its annual Discover Engineering Family Day on Feb. 17, 2018. Discover Engineering Family Day is a fun-filled day designed to introduce students 4 to 12 to the wonder of engineering. It attracts thousands of people and kicks off Engineers Week activities as well.

Engineers Week is a time for everyone to celebrate and wonder what the next big innovation will be. It's also a wonderful opportunity for volunteers and educators to inspire students by engaging them in hands-on engineering outreach, showing them that their school subjects can help solve real problems, and, of course, encouraging them to wonder "is engineering my future?" It is always fun to be part of these activities and this year I enjoyed not only talking to many parents and young future engineers but also some of the readers of ASCE-NCS monthly newsletters.

And surprisingly we met some of our former students. Especially two engineers from our Saturday classes were very happy since they've conquered their FE and PE exams, thanks to our pro bono classes and ASCE-NCS, Dr. Z's Corner articles.

We met some engineering students as well. Of course, as usual, they've asked for some tips for college students. I promised them I would include the advice of an MIT professor in this month's column. *As always, students and professionals alike are invited to visit Dr Z's monthly practice problems [here](#).*

Dr. Edward Crawley is a professor of engineering and director of the Bernard M. Gordon Engineering Leadership Program at MIT. He gives the following advice to his students at MIT:

"Identify the people who inspire you and find out what makes them tick. If you love Apple products, Steve Jobs may be your idol. Then emulate his good traits in your personal, scholastic, and professional life.

"Develop a portfolio of your projects. Participate in every hands-on, experiential learning opportunity. This way, you'll have something unique to show a prospective employer.

Learn the value of networking. When it comes to being a leader, whom you know is almost as important as what you know.

"In addition to E-mail, you can use LinkedIn or other social media tools to connect online. But remember: There's no substitute for a traditional, face-to-face meeting, so if you can find a way to meet in person, that's always the best.

"Work in teams as much as you can. Whether it's creating a solar-powered car, participating in a sport, or writing for the school paper, get involved with an organization that requires a team effort to produce great results.

"Throughout your career, you can be sure you'll work in teams, and the skills you develop in school will help prepare you to lead teams when you graduate.

"Seek informal leadership roles. You're always a leader, whether you're officially in charge of a team or not. Sounds counterintuitive, but you can lead from any position in an organization by influencing how people work together and how they make decisions.

"Find your flaws – and fix them. As with any skill, leadership needs constant improvement. When you are part of a team, try to create a way to get feedback from team members, group leaders, and professors.

"When you have concrete feedback on how people view you, you can work to improve your skills, including communication and leadership.

"Take a business class. As an engineer, it's not enough for you to be technically proficient; you need to have business savvy. If you're going to be a leader, you need to understand what a P&L is (also known as an income

statement), read organization charts, know how to negotiate contracts, and be familiar with the myriad other functions that every top engineer needs to know.

A business course or two can take you a long way, and these classes are often easier to pass than your calculus course!

"Take design and other humanities classes. There's a wide world out there beyond problem sets, laboratories, and theory.

"Tomorrow's leaders will have to communicate effectively across international borders and be familiar with other cultures, so develop some proficiency in another language, travel abroad, or meet students from other cultures. Start "globalizing" right at college.

"Make your summers productive. Employers place tremendous value on practical experience. Seek out internship opportunities actively and early in your academic career. Try to demonstrate through your internships a series of evolving leadership experiences and use the internships to build your portfolio of actual projects/products

"Recruit and develop your personal board of directors. As an undergraduate, you might feel alone when confronted with hard decisions about the courses to take, jobs to apply for, or even balancing school work and your personal life. You won't feel alone if you develop a personal board of directors just for you."

Until next time,
Ahmet Zeytinci, P.E.
az@akfen.com



ASCE-NCS Committee News and Updates



Younger Member's Forum

By Haley Carpenter, EIT

The ASCE-NCS Younger Members Forum (YMF) holds monthly happy hours in Arlington, VA or Washington, DC. Happy hours are typically held the first Wednesday of each month unless a holiday falls during that week.

The ASCE-NCS YMF held our February Happy Hour at Bluejacket Brewery in Navy Yard, Washington, DC. Approximately 15 members attended the event.



Join us for the next upcoming monthly happy hours, taking place in Arlington, VA at Ireland's Four Courts on Wednesday, March 7th for a St. Patrick's themed celebration, followed by happy hour at Penn Social in Chinatown, Washington, DC on April 4th.

Stay Connected! Check out photos and stay up-to-date with YMF events by visiting the new YMF Facebook page: <http://www.facebook.com/ASCENationalCapitalYMF>. Also, follow us on Twitter (@asce_ncsYMF) at https://twitter.com/asce_ncsYMF.

Sustainability Committee ASCE Five-Year Roadmap to Sustainable Development

(Part 2 in a series begun in January 2018's Newsletter)

The ASCE Five-Year Roadmap takes a two-pronged, "bottom-up/top-down" approach comprising (1) four strategic priorities and (2) key requests for Board action. This month, we will focus on

Strategic Priority 1: Sustainable Project Development (or put more concisely: Do the Right Project).

Economic considerations predominantly drive current project development methodologies. To control costs, projects are often conceived based on what was previously successful or simply on what the project owner finds expedient and is designed to existing standards and practices. This approach can result in impacts – environmental, societal, and otherwise – that have not been thoroughly considered or anticipated in the design process. To reach the paradigm of sustainable infrastructure, engineers must approach projects and engineering in a new way. The focus of our engineering efforts must shift from the product of our work – the stormwater management system, the bridge, the building – to the needs and benefits that the project aims to address.

In other words, attend to the need and the desired benefits to define the outcome rather than simply relying on a process or existing, perhaps outdated, standards (or the lack thereof) to define the project. This shift in thinking overcomes the perpetuation of past mistakes, inaccuracies, or misapplications and seeks outcomes that truly address the need and account for unintended or unknown impacts on surrounding systems. This way of approaching development can often minimize or eliminate the need for new "hard" infrastructure by reducing or eliminating the need or by proposing nature-based systems that can accomplish the same outcome.

While the Institute for Sustainable Infrastructure's Envision Rating System is an example of how to "do the project right," this priority indicates the importance of "doing the right project" as well. Developing new decentralized stormwater management protocols is an example of this shift in approach. Past protocols and existing standards collected stormwater and transported it as expeditiously as possible to receiving waters. Although this approach protected crucial infrastructure, it ignored the negative environmental impacts on receiving water bodies and the possible co-benefits of conserving and beneficially re-using the stormwater. Current design methodologies integrate

retention and infiltration into the outcome, providing the same protection to crucial infrastructure, but also achieving positive aesthetic, recreational, and resource preservation impacts. Such a full systems benefit can be realized if engineers ask, "What am I trying to accomplish and why?"

Priority 1 Strategic Goal:

To achieve such a shift in thinking, the five-year strategic goal is to invent or reinvent infrastructure development processes to identify and address the intrinsic needs of a program or project; minimize those needs to the extent possible; satisfy any residual needs; and consider all possible alternatives before projects and programs are conceived, executed, and operated – in other words, to "do the right project."

Priority 1 Outcomes:

Achieving this strategic goal requires

- A new process for engineers to be engaged as trusted leaders before project approval and execution in identifying and defining project and program needs, as part of complex, multidisciplinary teams; and
- Project and program development methodologies that carefully consider, prior to project approval and execution, all approaches and alternatives that
 - Optimize the use and application of available resources;
 - Use economic, social, and environmental sustainability as the key criteria for selecting the right project; and
 - Meet project and/or program development needs, whether by the use of structural, nonstructural, or so-called "natural infrastructure" solutions.

The Envision Infrastructure Rating System can be used as an appropriate tool for selecting the "right project" in this process.

Over the coming months the ASCE Five-Year Roadmap for Sustainable Development will continue to be explored along with the COS goals,

guidelines and ASCE's Case for Sustainability. The first article of this series appeared in the ASCE-NCS Newsletter for January 2018 and can be found at <http://asce-ncs.org/index.php/2-uncategorised/5-asce-ncs-newsletters-in-pdf>. For more information contact Alex Rosenheim, Chairman NCS-ASCE Sustainability Committee at tcc-sus@asce-ncs.org or for more information on the ASCE Committee on Sustainability, please visit: <http://www.asce.org/sustainability/>.

Education Committee: K-12

By Vic Crawford, PE, M. ASCE, Education Committee Co-Lead

In addition to the National Capital Section very successful STEM outreach at the National Building Museum for Discover Engineering Family Day, the Section also participated in Engineering



Night for Arlington County Schools. As Pam Nagurka, the Secondary STEM Specialist for Career and Technical Education (CTE) for Arlington Public Schools stated, "I am truly grateful for all you did to make our 1st Annual Engineering Night a success! The positive response has been greater than I could have imagined. Many of our students had never met a practicing engineer and sharing your stories help them see the possibility of their pursuing an engineering career." I want to offer a special thanks to L.J. Sauter and Eric Boch for sharing their stories and supporting our Section in working with Generation Next. We made full use of our new banner, showing what we do as Civil Engineers in Engineering the Nation's Capital to students and their parents.

Remember, our biggest STEM event is only a month away. On April 6-8, 2018, we will be at the USA Science and Engineering Festival, where we will have an opportunity to reach out to thousands of student, parents, and

teachers. This event is a lot of fun for our volunteers and provides an opportunity for you to bring your next generation of engineers to tour the exhibits and displays before or after your shift at our booth. Please let us know you are interested so we can ensure you are notified when the roster for this major STEM event becomes available by contacting victor.crawford51@gmail.com.

As discussed in previous Newsletters, the Section receives more requests for representing our profession at K-12 (Elementary to High School) events than we can support due to the short lead time for the event. Therefore, we are developing a roster which will be used to quickly assign a STEM Volunteer to represent our profession by sharing their experiences and benefits as a civil engineer at STEM events held at various K-12 schools across the DC Area. So, if you are interested in influencing Generation Next, while having a lot of funny working with students excited about science and engineering, please contact victor.crawford51@gmail.com to add your name to the roster.

We continue to work with the American Association for the Advancement of Science (AAAS) program for STEM, which has been bring engineers and scientists into classrooms for over eleven years (<http://www.aaas.org/senior-scientists-and-engineers/programs-dc>). Please consider becoming a AAAS volunteer in supporting STEM in the school districts in the DC metro area, including surrounding counties in both Virginia and Maryland. If you are interested in giving back to the profession

while sharing the joy of engineering to eager young minds, please contact Victor I Crawford at victor.crawford51@gmail.com.

Education Committee: Collegiate

By Jameelah M. Ingram, PE, M. ASCE, Education Committee Co-Lead

March has arrived, and so has the 2018 Virginias' Section Regional Student Conference! The conference will be held March 22-24, 2018 and will attract students from fourteen universities in Virginia, West Virginia, and Washington, D.C. The ASCE student chapter at the Catholic University of America (CUA ASCE) is pleased to host this year's event. A few fantastic ways to volunteer remain. Please take a look at the volunteer table below and email Elizabeth Cossel at 29cossel@cua.edu to sign up.

To volunteer and for further information on items marked TBD, please contact CUA ASCE Student, Elizabeth Cossel at 29cossel@cua.edu. If you would like to learn more about the conference, please visit <http://ascecuawixsite.com/cuaasce/2018-virginia-region-competition>.

The ASCE student chapter at George Mason University (GMU ASCE) is making their presence known in the National Capital Section as well. In February, Andres Izquierdo (Secretary) and Sarah Shay (Corresponding Secretary) delivered an excellent presentation to the ASCE NCS Board. The GMU ASCE chapter will host the Region 2 Assembly and the Virginias' Section Regional Student Conference in 2019. This year,

Volunteer Activity	Date	Time	Location
Register Students for Conference	March 23	7 am to 9 am	The Dufour Center, CUA Campus
Distribute Student Lunches (Shift 1)	March 23	11:30 am to 1:30 pm	The Dufour Center, CUA Campus
Balsa Wood Competition Judge	March 23	TBD	The Dufour Center, CUA Campus
Check in Concrete Canoe Teams	March 24	6:30 am to 7 am	TBD
Distribute Student Lunches (Shift 2)	March 24	12 pm to 1:30 pm	TBD
Concrete Frisbee Competition Judge	March 24	TBD	TBD
Steel-Crete Hockey Shootout Judge	March 24	TBD	TBD

the chapter organized a career fair for civil engineering students with 25 companies in attendance. GMU ASCE also hosts a bi-monthly speaker series and consistently looks to engage professional members in their activities. If you or your company are interested in contributing to their efforts, please contact GMU ASCE at gmuasce@gmail.com.

Construction Committee Workshop on Ready-Mix Concrete

By Kunqi Zhang, PE, Vice Chair of the ASCE-NCS Construction Committee

On Thursday, February 1st, fifteen people participated in a professional development workshop hosted by the Construction Committee. The speaker was Ron Terrelonge, Technical Services Manager with Chaney Enterprises. Terrelonge gave an informative presentation about improving ready mix concrete specifications.

Committee Chair Ryan Witters started off the workshop by welcoming the attendees and introducing Mr. Terrelonge, who quipped he was elated to be in a room full of smart people. Terrelonge has extensive experience in ready mix concrete and currently leads a team that come up with mix designs for clients. He discussed a variety of challenges a concrete supplier sees. He showed examples where a client's requirement exceeds ASTM standards and ACI specifications. In those cases,



he explained to the client what the code says and what was the best he could do. And the client always accepts his solution. He talked about ASTM C94, the governing code for ready mix concrete, and what is typically done in practice – from design to testing to handling of concrete in the field, where he stressed he can only control what comes out of the truck. He also entertained questions from the audience.

In the end, vice chair of the committee Ivan Carrasco presented to Mr. Terrelonge a copy of the NCS Centennial Book as a gift. Witters concluded the workshop and handed out PDH certificates. The workshop lasted about an hour and a half.

The Construction Committee will host its next professional development workshop in May. The topic and event details will be announced in April. Please join

our mailing list at <https://groups.google.com/forum/#!forum/asce-ncs-cca> and stay tuned.

Reston Branch

By Lisa Anderson, PE, LEED AP, M. ASCE, Reston Branch Interim President

On February 13th, Tara Hoke Aff. M.ASCE, General Counsel of the American Society of Civil Engineers, presented "A Question of Ethics," an interactive discussion about the ASCE Code of Ethics and real world case histories.

The next meeting of the Reston Branch will be held on March 15th at ASCE Headquarters in Reston, VA starting at 11:45am. Michael J. Drerup, PE LEED AP, F. ASCE, of Drerup Building Performance Engineering, PLLC, will present "Pathology of the Built Environment: Forensic Engineering – An Overview". One PDH will be awarded to attendees. ■



2018 Multi-Region Leadership Conference

The 2018 Multi-Region Leadership Conference for Regions 1, 2, 4, and 5 was held in Buffalo, NY on February 9th and 10th. Mike O'Connor represented the National Capital Section and Lisa Anderson and Manuel Rosario represented the NCS Reston Branch at the Workshop for Section and Branch Leaders. Joe Whartenby attended the Eastern Regional Younger Member Council as the NCS Younger Member Group delegate.

Sessions were held throughout the conference to familiarize attendees with ASCE resources and best practices, in addition to professional development classes in the areas of leadership and ethics. Attendees were encouraged to comment on the current set of ASCE Strategic Initiatives. Throughout the

continued on page 11



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

March 7

YMF Happy Hour, 6:00–8:00 pm, Four Courts, Arlington VA.

Celebrate our monthly happy hour and network with fellow engineers. Look for an email announcement with more details.

March 13–14

Legislative Fly-In. Further information is available [here](#).

March 20

ASCE-NCS Annual Awards Banquet, 6:00 pm, Arlington Hilton. Further information, including registration, is available in this newsletter's cover article.

March 21

Geotechnical Executive Committee Lunch Meeting, 11:30 am, Maggiano's Tysons Corner, VA. Please contact Kellie Owens (kowens@geostructures.com) or Ed O'Malley (eomalley@geostructures.com) for information or to sign up.

March 15

Pathology of the Built Environment, 11:45 am, ASCE Headquarters, Reston VA. Contact Reston Branch President [Lisa Anderson](#) for further information.

March 22

2018 Virginias' Section Regional Student Conference, Catholic University of America. Local Professional Engineer Volunteers are needed for this big event celebrating civil engineering and competition between young people. Visit <http://ascecua.wixsite.com/cuaasce/2018-virginia-region-competition> and contact Elizabeth Cossel at 29cossel@cua.edu to get involved today!

April 4

YMF Happy Hour, 6:00–8:00 pm, Penn Social (Chinatown), Washington DC. Celebrate our monthly happy hour and network with fellow engineers. Look for an email announcement with more details.

April 17

ASCE-NCS Section Meeting, 6:00 pm, Arlington Hilton. Join ASCE-NCS and the local EWRI chapter as we present Ms. Erin Bevis-Carver, PE, civil engineer with the City of Alexandria to discuss Alexandria's combined sewer systems and long-term control plan.

April 18

Geotechnical Executive Committee Symposium, Tysons Corner, VA. A one-day symposium on Engineering Geology will be held in Tysons Corner. Please contact Kellie Owens (kowens@geostructures.com) or Ed O'Malley (eomalley@geostructures.com) for information or to sign up.

2018 Multi-Region Leadership Conference

continued from page 10

Conference, ASCE Staff highlighted a new Code of Ethics Canon related to fairness which was added in July 2017.

The 2018 ASCE President, Kristina Swallow, and 2018 ASCE President-Elect, Robin Kemper spoke and entertained questions from the audience about the State of the Society and their plans in office. Attendees were given the opportunity to ask questions of the

two 2019 ASCE President-Elect nominees. John Casana, Director of Region 2, facilitated a breakout session, bringing together delegates from Region 2 Sections and Branches, Younger Member Groups, and Student Chapters.

There were several networking opportunities, including a bus tour of Niagara Falls, a brewery outing at Rusty Nickel Brewery, owned by the current ASCE

Buffalo Section President, and ice skating and curling at Canalside.

Congratulations to Norine Walker (NCS) and Shainur Ahsan (NCS Reston Branch), who were recognized at the ASCE Industry Leaders Council lunch as ASCE Member Volunteers that exhibit outstanding community volunteerism! ■

Employment Clearinghouse

The 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, are seeking employment or would like to post a position please contact the [newsletter editor](#) and visit our [jobs page](#).