

## Call for Project of the Year Nominations

During the ASCE NCS Annual Banquet held annually in March, the NCS will be awarding our Project of the Year winner.

This award recognizes a civil engineering project within the National Capital region that demonstrates the greatest civil engineering skills and represents the greatest contribution to civil engineering progress. The project must have

been substantially completed within the preceding three years. The Awards and Nominations Committee considers the contribution to the well-being of individuals, the resourcefulness in planning, the solution of design problems, the pioneering use of materials and methods, innovations in construction, impact on the physical environment, unusual aspects, and aesthetic values.

If you have a project, or know of a project, that you think should be nominated, please let us know; we love to highlight local engineers and their projects and would love to hear from you. Please contact ASCE NCS President, Michael D. Venezia, P.E. ([president@asce-ncs.org](mailto:president@asce-ncs.org)) for additional information and for a copy of Nomination Form. ■

## Scholarship News

### The ASCE NCS Scholarship Trust

Take a look – there is a new entry on the NCS website under Special Features – [Scholarship Program](#). Here you'll find an overview of our Scholarship Program – its history, qualification requirements, university coverage, and funding sources. The Memorial Scholarship program is explained along with the biographical sketch of our six – yes now six – Memorial Scholarships: Gail Hathaway, Harold Williams, James Harland, John Hummel, Neal FitzSimons, Jay Padgett.

Application packages for 2021 Scholarships have gone out to the five universities and we hope to receive nominations in early February, despite the pandemic disruptions. Faculty Advisors from each university informed us that classes are continuing remotely for the most students. Despite these conditions, ASCE Student Chapter activities are continuing with virtual meetings, work on Concrete Canoe, and speaker events – all very encouraging.

So, check out the new presence on the Section website. If you have questions or would like additional information,

contact Scholarship Trust Chairman Bernie Dennis at [berniedennisjr@gmail.com](mailto:berniedennisjr@gmail.com).

### Donald Van Norman Roberts Global Sustainability Award

#### ASCE is establishing the Donald Van Norman Roberts Global Sustainability Award

to honor Don Roberts for his significant contributions to the profession and his leadership in sustainability. Once established, the award will consist of a cash prize awarded annually to engineering professionals or to engineering students for papers on sustainability or climate change that are published in a peer-reviewed ASCE journal.

**Background:** Don Roberts graduated from the Department of Civil Engineering at Stanford University and obtained a master's degree in the emerging field of soils mechanics and foundation engineering at the Imperial College of the University of London in 1951. After completing his master's degree, Don pursued a career as a professional engineer, first at Dames and



Moore where he was Senior Partner, and subsequently at CH2M Hill where he was Vice President.

During his practice as a professional engineer, his interests evolved from soil mechanics and foundation engineering to consulting engineering management, leadership, and strategic planning. This trajectory brought the concept of environmental sustainability to his attention. Don served as an inspirational leader in many professional organizations including ASFE (now the Geoprofessional Business Association); International Federation of Consulting Engineers (FIDIC); World Engineering Partnership for Sustainable Development; Engineers Without Borders USA ; World Federation of Engineering Organizations (WFEO); and the American Society of Civil Engineers (ASCE), where he reached the highest accolade of Distinguished Membership. Don's leadership at ASCE was instrumental in the Society's decision to include the principles of sustainable development in its Code of Ethics.

**Funding:** The Don Roberts Family and friends and colleagues have made  
*continued on page 2*

## Scholarship News

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contributions in Don's memory totaling \$39,850 to the award fund. *An additional \$6,150 in contributions is needed to permanently endow the Don Roberts Award.*

**Contributions to the Don Roberts Award fund may be sent to the ASCE Foundation, 1801 Alexander Bell Drive, Suite 100, Reston, VA 20191. Donald Van Norman Roberts Global Sustainability Award;**

**Online donation link: <https://www.ascefoundation.org/don-roberts-award> ■**

## Employment Clearinghouse

### Prince George's County Planning Department of The Maryland National-Capital Park and Planning Commission

The Prince George's County Planning Department of The Maryland National-Capital Park and Planning Commission is seeking a Planner Coordinator with a background in geotechnical engineering. The Planner Coordinator will play an important role in reviewing geotechnical reports, evaluating proposed land developments from geotechnical perspectives, ensuring implementation of the applicable environmental regulations and geotechnical

requirements, educating the public on the requirements, permitting regulations, and assisting with the myriad of state reporting requirements. [Click here](#) for more information and to apply on the website.

### Simpson Gumpertz & Heger Inc., Consulting Engineer, Structures Division

Simpson Gumpertz & Heger Inc. (SGH) is currently looking to hire a structural engineer with a minimum of 5 years industry experience. SGH's Washington, DC Structures Division provides structural engineering services with an emphasis on new design,

repair and rehabilitation of constructed works, and investigation and performance evaluation. [Click here](#) for more information and to apply on the website.

*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](#).*

## Upcoming Events

Until further notice, all in-person ASCE NCS events have been cancelled. Opportunities for virtual events will be announced as they are planned.

## Newsletter

**Maria Raggousis, Editor**

**February 2021 Issue Deadline:** January 18, 2021

**To Submit Articles:** [newsletter@asce-ncs.org](mailto:newsletter@asce-ncs.org)

**NCS eNewsletter Archives:** go to [www.asce-ncs.org](http://www.asce-ncs.org) and view along the sidebar.

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

## National Capital Section

### Officers (2020–2021)

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### Committee Chairs

Please refer to the [NCS website](#) for a current list of NCS committees and chairs.

## The Abridged Calumet "K": Episode 3

The fascinating novel *Calumet "K"* by Samuel Merwin and Henry Webster was published in 1901. Its hero? A civil engineer!

An 8-episode condensed edition with text by Ranjit Sahai © 2020. All Rights Reserved. [Illustrations by Harry Edwards, from novel.]



Sloan cursed, "I'll have the law on those fellows...."



They stuck posters at every crossroads between Ledyard and Manistogee.



She did not look like the girl he had expected to see.

After dinner, Bannon went back to Sloan's office and told him what he had discovered. Sloan cursed, "I'll have the law on those fellows...." "And I'd get the stuff when I was likely enough dead." "What's the best way to get it?" "Take it over to Manistogee by wagons and then down by barges." Sloan snorted. "How are you going to get the barges?" "I've got one already. It leaves Milwaukee tonight." Sloan looked him over. "I wish you were out of a job," he said. Then abruptly he went on, "where are your wagons coming from? It'll take a lot of them."

"I know it. Well, we'll get all there are in Ledyard. The farmers round here, don't they think the railroad discriminates against them? I never saw a farmer yet that wouldn't grab a chance to get even with a railroad." "That's about right." "You get up a regular circus poster saying what you think of the G&M and call on the farmers to hitch up and drive to your lumber yard. We'll stick that up at every crossroads between here and Manistogee." Sloan scribbled text for a poster. Bannon read it and whistled. "It's grand," he said. "I never saw anything like it." Sloan telephoned the *Eagle* office to print the poster on the front page of the Ledyard Evening Eagle and send the posters to his office to hang at every crossroad.

It was half past seven before Bannon and Sloan reached the Manistogee hotel. Bannon was gone nearly an hour as Sloan finished supper. "I've cinched the wharf," he said when he returned. Then they started back as they had come. The first of the wagons carrying the cribbing to the barge passed them by, then the stream of wagons became almost continuous.

It was nearly five o'clock when Bannon appeared at the grain elevator on Thursday and asked Pete if he had received his message about the two-thousand feet of lumber coming by boat, and what he had done about it. "Oh, we'll be ready for it, soon's it gets here." "Look here, Pete, that timber hasn't got any business out there on the wharf. We've got to have that room for the cribbing." "But it's five o'clock already. There's the whistle." Bannon said, "Offer the men double pay, and tell them that any man can go home that wants to, right now, but if they say they'll stay, they've got to see it through."

Max was starting back after the returning laborers when he said to Bannon, "You spoke about needing a stenographer the other day. I know a first-rate stenographer and bookkeeper; it's my sister."

Not a quarter of a mile away was a big steamer, ploughing slowly up the river. "Well," Bannon said, "we're in for it now. I never thought they'd make such time as this. We don't get any sleep till every piece of that cribbing is over at the annex, ready for business in the morning. I'll be at the office."

There was a light in the office. A girl was sitting on the stool, bending over a ledger and rapidly footing up columns. She did not look like the girl he had expected to see. To be sure her hair was red, but unlike Max's, it was of a dark, rich color. She was slender. "Miss Vogel? There wasn't any need of your working tonight."

"Yes. I wanted to look things over before starting in tomorrow. It hasn't been kept up very well," she presently said. "But it won't be hard, I think, to straighten it out."

### Novel's condensed text by

Ranjit Sahai, ASCE-NCS Past President (2013–14), is a principal with RAM Corp serving State DOTs on projects in traffic engineering design, stormwater facility inspections, and information technology. ■



## The Amazing True Story of a Former Student and Fresh PE: "Finally, a Sense of Accomplishment"

The new year is just around the corner and for my January 2021 article I've decided to share an inspirational story of a former student and a real Washingtonian, Curtis Day, a fresh Professional Engineer:

"I remember my high school graduation day as if it was yesterday. I recall how everyone seemed so happy, excited, and had a sense of completion. In contrast, I found myself locked in deep thought, unable to enjoy the moment, as I contemplated what was next. My perspective was a sense of urgency. For me things were just getting started, and I realized that I did not have a solid plan for my future.

College was such an unknown to me at the time, and I didn't see the benefit of attending college. The men in my family were all self-employed or entrepreneurs, I was taught to learn a trade and be independent. I went to work for my father after high school, learning the HVAC trade and obtaining my Commercial Drivers License.

I worked as an HVAC technician and heating oil delivery driver until I was 27 years old. Working in the family business has its challenges and my mom kept encouraging me to just enroll in a class. She told me to just try it out for one semester, what did I have to lose? Then I started the process of enrolling for the Spring 2011 semester at The University of the District of Columbia. The choice to attend UDC was very simple, Washington, DC has several local universities, however UDC was the only one who had affordable tuition in the area. I started the process of enrolling myself, but I had no idea what was in store for me. First, locating high school transcripts after being out of school for nearly 10 years is not easy. Second, I never failed any class in high school, but since I never had any aspirations of going to college I skated by and did just enough to pass and get out.

I remember the day I took my application and transcript to the enrollment office. My son was 2 years old at the time and he was with me, I went into the office, handed over my papers, and sat down. The person in charge at the desk proceeded to calculate my GPA and informed me that I didn't meet the



minimum requirements for entry into the University and that I would have to start at community college.

I never forgot how my feelings were hurt and I felt a sense of rejection. My first thought was to go back to what was working for me and give up this whole college dream. I felt totally discouraged, but after talking to my mother she convinced me to continue with the process. I ended up taking a placement test later that week, and after I finished, I was called into the office. I wasn't sure what was going on, but I found out that I had scored pretty high on the placement test. I told the advisor that it was recommended that I start in Community College and she printed out my test scores and gave me instructions to return back to the University. I had scored high enough to enter the University after all.

I remember my first semester at college. I particularly remember Calculus class because I was so unsure of how I would perform. I had always been pretty good at math, but Calculus was always tough. I still have the first exam I took in my calculus class, I received an A and it has always been my reminder that I belong.

I remember meeting Dr. Z and Dr. Behera. They stressed the importance of the FE Exam and the PE Exam, what seemed like everyday. They both guided me through my college experience making sure I not only learned the material, but that I was prepared to enter the workforce. I remember my college graduation day, once again the same atmosphere of jubilee and relief surrounded me. Even though I had completed my studies with the honor of Summa Cum Laude, I felt a sense of urgency, even more so than on my high school graduation day.

I had spent the previous 4.5 years on a path to change my career and now it was show time. I remember getting my FE Exam results shortly after graduation, but still not relief. I had a sense of anxiety to get into industry and prove that I belonged. At the time I had three job offers, and I chose to join the Boeing Company in Everett, Washington. At the time I worked with the team responsible for the design of the Cargo System on the 777-9 Commercial Airplane. After working in the aerospace industry for 2 years, I realized that I was not working in the field of engineering that I loved. I decided to resign and move back to DC and pursue a lifelong career as a Civil Engineer in the Water Resource discipline.

I am now employed with an engineering firm in the D.C. metro area, working with a team on land development projects. I am responsible for Stormwater Management/Storm Drain Design, Water and Sewer Main Design, Erosion Sediment Control Design, Flood Plain Mapping, and various other tasks related to land development.

I was first scheduled to take my PE exam in April 2020, but due to Covid-19 it was cancelled. I eventually ended up taking the exam in October 2020, and I am pleased to announce to the world that I received a passing score on my first attempt. I am also pleased to announce that I finally felt a sense of accomplishment. I feel like passing the PE exam and obtaining my PE License, will be something that I will remember forever and will be a major stepping stone for myself and my family.

I hope to be an inspiration to others and be an example of why it is never too late to do anything in life.

Pursue your dreams, never give up, work until you feel a sense of accomplishment, enjoy it for a moment, and keep building. Curtis Day, PE."

Wishing all of you health, wealth, and happiness in 2021.

Until next time,  
Ahmet Zeytinci (Dr.Z.)  
[az@akfen.com](mailto:az@akfen.com)



# Customer Survey Finds Overwhelming Support for Advanced Metering Infrastructure Project

**Cost-Benefit Analysis Shows Project Pays for Itself in 11 Years and Saves \$286 million over 20 Years**

An overwhelming majority of WSSC Water's customers support the implementation of Advanced Metering Infrastructure (AMI) technology, according to a recently conducted survey that was presented today at WSSC Water's monthly Commission meeting. AMI replaces outdated manual meter reading with a modern system that allows water meters to communicate encrypted usage information wirelessly using radio or cellular technology. A recently completed AMI cost-benefit analysis also shows the project will pay for itself in 11 years and save customers \$286 million over 20 years.

## Customer Survey

The quantitative survey consisted of 512 randomly selected Montgomery and Prince George's County residential (408) and commercial (104) customers evenly split among both counties. Key highlights of the comprehensive survey include:

- 84 percent of customers surveyed support implementation of AMI technology.
- The vast majority of customers surveyed would use AMI to compare water usage to previous bills, conserve water and check for leaks.
- 75 percent of customers would not opt-out of having AMI technology installed at their home/business.

- Of the 25 percent who would opt-out, a majority (59 percent) would be willing to pay a fee.
- After learning more about the benefits of AMI, the percentage of customers choosing not to opt-out climbed to 80 percent.



"With AMI, customers can better manage water usage and protect against high bills," said WSSC Water General Manager and CEO Carla A. Reid.

"Through a user-friendly portal, customers will have near real-time water usage information at their fingertips and receive leak alerts, thereby reducing bills and saving money. From an environmental perspective, new smart meters will mean fewer WSSC Water vehicles on the road, helping us reduce our carbon footprint by 130 metric tons per year."

WSSC Water has heard from some customers concerned about radio frequency (RF) exposure from smart meters. AMI uses non-ionizing RF to communicate encrypted water usage data. This type of RF is commonly used in cell phones, TV remotes, Wi-Fi, baby and medical monitors, garage-door openers and Bluetooth devices. Key highlights around RF use include:

- 86 percent of customers had no health concerns related to AMI technology.

- Nearly 100 percent of all respondents to the survey have Wi-Fi in their home or business.

## Cost-Benefit Analysis

In addition to the survey, WSSC Water recently completed an extensive AMI cost-benefit analysis to provide more information on this important infrastructure investment project. Key highlights of the analysis include:

- AMI will pay for itself in 11 years – six years after project completion in summer 2026.
- Over a 20-year period, AMI savings will exceed the cost by more than \$286 million, which will have a long-term positive impact on rate stabilization while significantly improving customer service.
- WSSC Water will achieve significant cost savings with more accurate meters and redeploying existing meter readers. No jobs will be lost.
- AMI installation is estimated to cost approximately \$208 million. This is in line with comparably sized water utilities. The primary cost driver is complete replacement of all 492,000 meters.

WSSC Water's AMI project is currently in the planning phase with meter installation starting winter 2022, and project completion expected in summer 2026.

A full copy of the survey and cost-benefit analysis can be found at [wsscwater.com/AMI](https://wsscwater.com/AMI). ■

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## Digital Twins: Industrial IoT to Civil Engineering

The first in a series of articles on the use of digital twins in civil engineering, written by Ranjit Sahai, PE, F.ASCE.

The concept of modeling an entity is as old as we have been making things. Digital twins is a twenty-first century concept for a branch of digital modeling that, after gestating and delivering value in manufacturing industries, is beginning to spawn opportunities for civil engineers to go where they haven't gone before.

### Digital Model: Design to Production

A paper airplane is a *physical model* of the real airplane. The model, when assembled with carefully constructed wings, fuselages, control flaps, rudders, canopies, and other pieces – as explained in the Super Paper Airplanes Book and Kit from Sterling Publishing Co., Inc. – helps one understand and replicate the behavior of the real airplane.

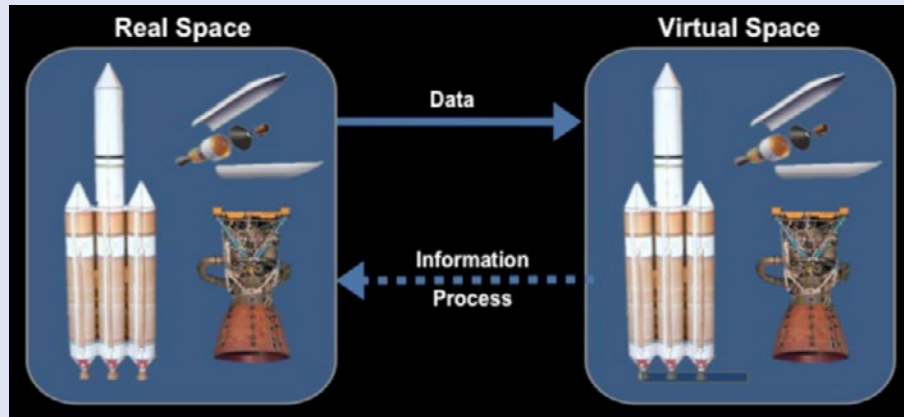
The visual representation in CAD of a proposed building is a geometric *digital model*. It conveys to a contractor the design intent of the proposed structure, typically in the form of two-dimensional views on orthogonal planes, such as elevations and plans.

In addition to geometric models, there are innumerable types of digital models used by civil engineers in various design disciplines.

Structural analysis software adds to a geometric model, attributes such as the type of span (simple or continuous), the strength of material (concrete or steel), and the type of joint (hinged or rigid). It too is a digital model for design.

Thermal modeling software analyzes the thermal performance of facilities. It relies on climatic data in conjunction with thermal properties of materials used in the facility to compute thermal performance. This helps with the design of its mechanical heating and cooling requirements. It too is a digital model for design.

Hydraulic modeling software computes the flow of water through natural rivers and other channels. It too is a digital model for design.



The key distinguishing feature that makes a digital model a Digital Twin is the nature of its modeling platform and of its connectivity to the entity it models.

[Link to source of image: Digital twin – Wikipedia]

Creating and using models is integral to the engineering design process. The digital nature of models and the availability of inexpensive computers to analyze them in minutes fostered design creativity. However, these design models, after conveying the design intent to contractors were of little use and typically filed away for reference.

Industrial plants were among the first of few industries with downstream processes that could harness design models to directly manufacture products with machines. In these industries, the digital model not only conveys design intent but also drives the manufacturing process.

### Real-Time Sensors

The use of sensors for real-time active control of products is yet another concept, just as old as modeling, that is integral to understanding digital twins.

The thermostat is an example of an active control device. It is a sensor that actively controls in real-time the mechanical heating and cooling equipment during operation.

The traffic control cabinet at signalized street intersections that monitors presence of vehicles and controls traffic signal devices is another example of localized real-time active control.

The video doorbell, a motion and push-button sensor that communicates in real-time with cloud-hosted notification and communication software represents the next class of sensors that are commonly referred to as IoTs, an acronym for *Internet of Things*.

### What Is a Digital Twin?

It is the representation of an entity in a digital virtualization platform with real-time sensor connectivity to reality.

It can monitor the real entity and improve the digital model to better replicate behavior by using machine learning tools on incoming data streams.

Civil engineering digital twin scenarios we explore in this article series include, among others:

- Predictive maintenance of bridges
- Storm surge mitigation
- Improving retrofit constructability

### About the Author

Ranjit, a Past President (2013–14) of ASCE-NCS, is a principal and founder of RAM Corporation, a firm serving State DOTs with a focus on traffic engineering design, stormwater facility inspections, and IT solutions for engineering workflows. He is also an [author](#) and speaker.



## RePicture Innovation in the Nation's Capital

This fall ASCE-NCS again teamed with RePicture to help science, technology, engineering, and math (STEM) college and high school students discover the amazing work done by civil engineers and other STEM professionals. For the RePicture STEM Program, college and high school students competed for prizes by researching, writing about, and publishing on RePicture.com a summary of projects done by STEM professionals. Through this, students learned more about the work of STEM professionals, sharpened their writing skills, and strengthened their resume.

ASCE-NCS sponsored the Innovations in the Nation's Capital contest. The winning project was "Pivot Point: Stacking Rotated Steel Frames on a Pivot Column". The project was written by Akwasi Duah, a senior civil engineering student at Case Western Reserve University. Akwasi is an aspiring engineer who not only

uses his civil engineering education professionally, but also as a tool to explore the world around him.

Akwasi researched the project as part of his senior-level structural engineering class, taught by Professor Katie Wheaton. Professor Wheaton noted: "My students and I had a great experience working with RePicture as a course project. Within a few weeks my students received a wide variety of experiences that will help them in their professional work. They practiced the art of writing for a large audience of professionals, as well as reaching out to potential interviewees in a respectful way. They followed a workflow which reinforced the importance of research, finding their voice, avoiding plagiarism, and copyright laws. They built a social media profile to connect with fellow engineers. And, perhaps most importantly, their final product is a published project they can

showcase on their resume to potential employers."

Akwasi's work was based on an article in the American Institute of Steel Construction (AISC) Modern Steel Construction Magazine, as well as other sources. The AISC article was written by Suzy Dehoratis, Jason Meyers, and Timon Hazell from Silman. AISC has also been a sponsor of several other RePicture contests to help students learn about structural steel. Christina Harber, ASIC Director of Engineering, noted "Students who were less familiar with structural steel projects have told us that the RePicture program has sparked a deep interest and opened their eyes to new design and career possibilities."

For those attending the ASCE-NCS May 2020 session meeting, you may recognize the topic of Akwasi's write-up – The Heights School in Arlington, Virginia. Jason Myers from Silman, Tony-Saba Shiber from BIG, and Tyler Swartzwelder from Gilbane presented the Heights School during the May 19th virtual ASCE-NCS Lunch meeting. That meeting was recorded and a link to this meeting has been added to Akwasi's write up, which you can see at [bit.ly/RPheights](https://bit.ly/RPheights). Through Akwasi's write-up and the ASCE-NCS video, students (and others) worldwide can learn more about the structural engineering, architecture, and construction management aspect of this innovative building.

If you know a college or high school student that is self-motivated and wants to learn more about STEM careers and build their resume, have them join the free RePicture STEM Resume-Builder Program by going to [RePicture.com](https://RePicture.com). ■



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# ASCE-NCS Committee and Branch News and Updates

## Education Committee

By Jameelah Muhammad Ingram, P.E.,  
M. ASCE

### New Year & New You

January is a great month for students to hit the reset button. The new semester begins, often with a fresh slate of courses. Here are some quick tips for students to start the year off in a reinvigorated way:

#### 1. Self-Reflection

Check in by asking yourself a few questions: How do I feel? What did I do well in 2020? What habits would I like to maintain in 2021? What changes would I like to see for myself in 2021? A moment of self-reflection will set you on a path to a fruitful new year.

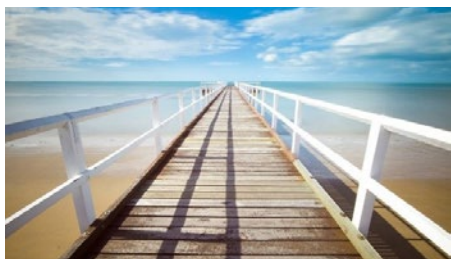
#### 2. Have a Vision

Create a vision board for yourself. Cut out objects from magazines (or draw them) and paste them on a poster board. This physical act is one step toward seeing your dreams manifest.

#### 3. Create a Road Map

Now that you know where you want to go, plan your route. Be mindful to embrace the detours as well. If things do not go according to plan, stay hopeful and keep a positive attitude. Success is incredibly rewarding, but adversity can build character.

**Please have a happy start to your new year!**



## 2021 ASCE NCS Scholarship Application

The world has turned the corner from 2020 to 2021, and the ASCE National Capital Section Scholarship Application period is still open for nominations! ASCE student chapter members from Catholic University of America, George Mason University, George Washington University, Howard University, and the University of the District of Columbia should consider contacting their



ASCE Faculty Advisor for eligibility requirements and application packages. Applications are due on **Friday, February 12, 2021**. Scholarships will be awarded at the ASCE NCS Annual Event in 2021.

## ASCE-NCS Reston Branch

By Christopher J. Friend, P.E., Reston Branch Vice President

On November 5th, the Reston Branch hosted a virtual meeting with presenter Amir Gheitasi, PhD, P.E., a Senior Bridge Evaluation Engineer with WSP USA. His presentation discussed the importance of refined analysis and its potential to assist bridge owners in executing their asset management policies when considering bridge inspection data. Asset management policies include but are not limited to posting, capital programming, and resource allocations for maintenance and rehabilitation of the national transportation infrastructure. Overall, Amir provided an interesting and informative presentation for our Branch!

On January 12th, at 12 PM, the Reston Branch will host Zachary Beach, P.E., a senior structural engineer at Bechtel for a presentation titled *"Leveraging BIM for Requirements Management"*. Zachary is also the Steel and Concrete Lead for the Bechtel Digital Enterprise Program. His presentation will cover Building Information Modeling (BIM) and Requirements Management for Structural Engineering. He will highlight how a robust requirements management program can minimize quality issues during construction and ensure high performance of the design once in service.

Given the current nature of the pandemic, the ASCE Reston Branch is planning to have our technical meetings in a virtual format continuing into the spring. As the situation develops in the spring, the Board will continually reevaluate the

situation and will schedule virtual or in-person meetings as appropriate.

The Reston Branch has launched a [group](#) on LinkedIn to provide regular updates for the branch as well as offer a place for branch members to connect. See the following link for additional information: <https://www.linkedin.com/groups/13759693/>



## Geo-Institute, National Capital Chapter

Now accepting applications for the annual **DMV area's Geo-Institute Student Essay Contest!** Download the submission form at this [link](#).

### The Prompt:

*What are the positive and negative aspects of Geotechnical Engineering that shape your desire to pursue a career in the field?*

### Why should you participate?

First Place Winner will receive a prize of \$1,000 and free attendance at our next Annual Geotechnical Symposium where you will have the opportunity to network with geotechnical professionals in the DC metro area. Second Place Winner will receive a prize of \$500

### Rules:

1. Your essay must be original and address the topic of your vision of the future of geotechnical engineering and be a minimum of 300 words. Essays may be longer than 300 words.
2. Without exception, submissions are due to [scarroll@dwkozera.com](mailto:scarroll@dwkozera.com) by midnight on March 15, 2021.
3. The winner will be notified on March 31, 2021.
4. A complete submission form must accompany your entry. Please *do not list your name on your essay* as they will be judged without regard to any identifying information.

### Eligibility:

You must be a full-time student studying engineering at an ABET accredited school located in The District of Columbia, Maryland, or Virginia.

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## Young Members Forum

By Kush Vashee, P.E., CAPM, M. ASCE

**Monthly Happy Hour.** The NCS Younger Members Forum (YMF) holds monthly happy hours, alternating between Arlington, VA and Washington, DC. Happy hours are usually the first Wednesday of each month unless a holiday falls during that week.

On November 4th the NCS YMF held a socially distanced happy hour at The Bronson Bierhall (Ballston).

The YMF group also organized and hosted the Virtual Annual Holiday Party on December 2nd, where we had an evening of networking, games, and prizes for the winners! Our members enjoyed spending the virtual time with each other since we have been apart for much of the year, and lively conversations continued well past the end of trivia.



Due to the increase in COVID-19 cases around the DMV area, we have made the decision to return to virtual happy hours for the foreseeable future. The group will host their next virtual happy hour starting at 6PM on January 6th on Webex, look out for an email soon with registration details. We hope to see you there!

**Professional Development:** If you have suggestions for professional development meeting topics or would like to become more involved with the YMF in other areas, please contact the YMF President at [ncsymfpresident@gmail.com](mailto:ncsymfpresident@gmail.com).

**Stay Connected!** Check out photos and stay up-to-date with YMF events by visiting the new YMF Facebook page (ASCE National Capital Section Younger Members Forum), following us on

Twitter (@ASCE\_NCS\_YMF), LinkedIn (ASCE National Capital YMF), and Instagram (@asce\_ncs\_ymf)

**Get Involved!** Are you interested in getting involved with more Younger Members activities? Do you have ideas for social events or volunteering activities? The NCS Younger Members Group is always looking for new members! Let us know if you are not already on our mailing list! If you would like to become more active with the YMF or would like more information on our events, please email the YMF President.

## Architectural Engineering Institute Committee

### A Successful Second Walking Tour

On a warm Saturday in October, the Architectural Engineering Institute Committee (AEI DC) held its second walking tour of the year – socially distanced-style! The 2-mile route started in Tingey Plaza and spanned between Navy Yard and the Wharf, with a little bit of everything: from brand new construction to government facilities and the oldest surviving houses in the District in between. Thank you to those who attended and we hope to welcome you back for another walking tour in 2021!



## Gain Confidence to Pass Your AE PE Exam!

The Architectural Engineering Institute of ASCE now offers an [AE PE Exam prep course](#). Learn electrical, mechanical, and structural systems, as well as, project management and construction administration by experts in their field. Through step-by-step problem solving, tools, and strategies the [Architectural Engineering PE Exam Review Course](#) will help prepare you for your exam. During live sessions, the instructors will review tools and strategies to prepare and pass the exam and solve problems in a step-by-step manner to prepare you for the a.m. and p.m. exam.

Whether you are a practicing AE seeking to refresh your knowledge or an upcoming AE professional preparing for your Architectural Engineering PE Exam, this new [AEI Architectural Engineering PE exam review series](#) has been developed for you! The course will begin in January 2021 – reserve your spot now. Learn more and [Register Today!](#) **Registration Deadline: January 18, 2021**

## AEI 2021 Living Buildings Conference

In light of the ongoing public health concerns related to the COVID-19 pandemic, the Board of Governors of the ASCE Architectural Engineering Institute (AEI) have announced that the AEI 2021 Living Buildings Conference: The New Frontier of Integrated Design will be held as a virtual conference during the original scheduled dates of April 7 – 9, 2021.

The conference, chaired by Professor Wil V. Srubar III, Ph.D., LEED AP, University of Colorado Boulder &

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**AEI**  
ARCHITECTURAL ENGINEERING  
PE EXAM REVIEW – A FOUR-PART SERIES  
Sponsored by ASCE Continuing Education and the Architectural Engineering Institute (AEI)  
JANUARY 25 – FEBRUARY 3, 2021

[www.asce.org/aepe-review](http://www.asce.org/aepe-review)

AureusEarth, Inc., will explore challenges architectural engineers of tomorrow must face beyond energy efficiency – challenges related to carbon, materials, water, climate, and human health and wellbeing. The conference Program Committee looks forward to delivering to you cutting-edge technical presentations focused on sustainable building design and construction!

**Sponsorship & Exhibit Opportunities Available**



Living Buildings: The New Frontier of Integrated Design

**AEI 2021 Virtual Conference**  
April 7-10, 2021  
[www.aei-conference.org](http://www.aei-conference.org)

**AEI Podcast – This Building Might Save Your Life featuring Professor Burçin Becerik-Gerber**

This Building Might Save Your Life, a podcast featuring Professor Burçin



Becerik-Gerber, University of Southern California and director of CENTIENTS (Center for Intelligent Environment). In Season 4, Episode 10,

she discusses her work on intelligent threat-sensing buildings – structures that employ AI technology to keep people safe during emergencies.

[Learn more here](#) and subscribe wherever you listen to podcasts.

**History and Heritage Committee**

**When did you last visit the NCS Website?**

Check out the NCS website for new material under Committees for [History & Heritage](#). Thanks to the efforts of webmaster Ranjit Sahai, we now have information on the ASCE Landmark Program and summaries of the five National Historic Civil Engineering Landmarks (NHCEs) within our Section. Writeups include the first NHCEL for the Bollman Truss in Savage, MD, designated in 1966; the Patowmack Canal & Locks at Great Falls in VA; the Cabin John Aqueduct Bridge in Cabin John, MD; the US Capitol and the Washington Monument.

This represents an initiative to instill new interest in local civil engineering achievements. Our H&H Committee intends to continue adding content to this website and we would welcome all who are interested in helping. We need several people interested in training to expand our website posting such content.

The H&H Committee planning for this season includes: replacement of the Local HCEL plaque for the C&O Canal at Great Falls, MD; maintenance of existing NHCEL plaques; preparation of landmark nomination packages for several notable landmarks; and, several WebEx speaker presentations. We can also use WebEx for virtual meetings to discuss H&H topics – interesting websites, book reviews, and other areas of committee member interest. When weather and



pandemic permit, we will resume field trips – always a favorite activity.

**We need new members – “many hands make light work”**

All of these efforts require a committee and we need new members. Would you like to know more about sites around our area – the background stories, the challenges, the engineers? Are you interested in site visits exploring interesting sites and achievements in our area? Do you want to learn more about how we developed what we have, are curious about civil engineers who helped shape our region, country, and the world (some of them NCS members)? If yes, then you should consider joining our H&H Committee – it’s worth a try. Please **act now** by sending an email to both:

- Committee Chairman Steve Pennington, author of “Benjamin Wright – Father of American Civil Engineering”, at [steve.pennington@geo-instruments.com](mailto:steve.pennington@geo-instruments.com), and
- Bernie Dennis, the 2020 ASCE Civil Engineering History Award winner, at [berniedennisjr@gmail.com](mailto:berniedennisjr@gmail.com). ■

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