

Engineers Without Borders: Connecting Communities through Engineering – Sierra Leone Dumangbe Bridge Project

The Engineers without Borders (EWB) Washington DC Professional Chapter is presently working on the assessment and design of a permanent stream crossing for the township of Dumangbe Sierra Leone. Dumangbe is in the Makpele Chiefdom of the Pujehun District; a Southeastern province of Sierra Leone with a population of roughly 800. The community is separated into two smaller towns, Dumangbe Old Town and Dumangbe New Town, by the Korgorgi stream. The community presently does not have a permanent crossing between the two portions of their towns. While temporary crossings are constructed annually, they are washed away during the rainy season, where monthly rainfall can reach 30" and surge through this stream. This has led community members being isolated for prolonged periods of time causing them to attempt

crossing the stream in an unsafe manner, sometimes leading to drownings. The EWB DC Project team hopes to work with the community to implement a sustainable and long-lasting bridge crossing that will connect the two communities and will allow them access to economic and health opportunities throughout the year.

About the Speakers

Jamel El-Hamri joined the EWB-DC Professional Chapter in mid 2019 after successfully completing his Professional Engineer Certification. He is a civil engineer who has experience in an array of civil and transportation projects, working for both state and federal government agencies. Jamel intends to draw upon his experiences in project management and governance to help lead the project team to develop a resilient, community driven solution – that will help provide the community with better access to their surrounding region.



Evan Perreault is a mechanical design engineer who first joined EWB through the Hartford Professionals Chapter in CT. After moving to the DC Metro area in early 2019 he joined the EWB-DC Professional Chapter to continue his involvement in the organization and meet new engineers and professionals in the DC area. He is a mechanical engineer with experience in the design and production support of commercial and military jet engines. Evan wanted to lead the Sierra Leone Project because he believes that using his engineering knowledge and skills to



Please join us virtually on **Tuesday, February 22nd** from 12:00 pm to 1:00 pm for a modified ASCE National Capital Section September Lunch Meeting! The program will approximately consist of a one hour presentation with a webinar format and one (1) PDH credit will be awarded. The cost will be \$5 for all members, non-members, and students. For questions, please contact president@asce-ncs.org. Please [click here](#) to register by **Monday, February 21st**.

improve the lives of those less fortunate is not just an activity, but a responsibility and being able to help a community gain physical access to medical aid, food security, and basic education is empowering to everyone involved.

Nicole Regobert works in Project Controls/Management on DC Capitol projects and has been involved with EWB-USA since 2010 through leadership roles with the EWB-Mid Columbia Professional Chapter in Washington State, the Central Houston Professional Chapter and the Washington DC Professional Chapter. Additionally, she serves as an ICP Reviewer for EWB-USA. She joined EWB-DC in 2017 to give back and make an impact to communities in need by using her EWB/Project Management skills. Since joining the DC Chapter she has traveled with the El Salvador project team to successfully close it out and hopes to help keep the chapter organized and to find ways to engage with other regional chapters as part of chapter leadership. ■



President's Corner

The month of February is an opportunity to reflect on the past, acknowledge the present, and envision the future. This is through a celebration of African American History Month, the ASCE NCS Scholarship Program, and Engineers Week.



Reflect on the Past

Throughout the month of February, achievements and contributions by African Americans to United States history are celebrated in recognition of African American History Month. The November edition of ASCE's Civil Engineering Source includes an impactful [article](#) by Michael O'Connor, P.E., M.ASCE and Tonja Koob Marking, Ph.D., P.E., D.WRE, F.ASCE. The article features a photograph of ASCE's 20th Annual Convention in 1888 from the Library of Congress. By matching a conference attendee list with the photograph, Mr. O'Connor, a History and Heritage Committee corresponding member, identified Emily Warren Roebling, known for her engineering work on the Brooklyn Bridge, on the first row. He also observed an African American man standing at the center of the photograph. The man is wearing a watch fob on his vest, similar to others. As mentioned in the article, this is significant because his presence could date membership by the first African American ASCE member back 60 years. Researchers continue to locate the name of the person in

the photograph. Please read the article to learn more. Upon identification, I hope to recognize his name as a trail blazer along with Mr. Howard P. Grant, an African American civil engineer who joined the Society in 1948. There are so many stories to learn about and tell in African

American history, and I encourage you to discover a new one this February. The Smithsonian National Museum of African American History and Culture (NMAAHC), as featured in our [April 2021](#) Section Meeting, is full of stories to explore about past **and present** achievements of African Americans.



Photo Credit: Jameelah C. Muhammad Ingram

Acknowledge the Present

Applications are due this month for the ASCE NCS Scholarship Program, where the Section will recognize bright students with monetary awards. Scholarships have been awarded by the National Capital Section (NCS) since the 1970s and the program was formally established in 1988. NCS continues this tradition in 2022. Deserving students from ASCE Student Chapters at local universities are considered for scholarship awards. This includes the Catholic University of America, George Mason University, George Washington University, Howard University, and the University of the District of Columbia. This recognition is a true acknowledgement of the students' efforts and a show of support as they continue their journeys to become civil engineers.

Envision the Future

Engineers Week takes place from February 20th through the 26th. This year's theme is "Reimagining the Possible." Pre-College Outreach is a significant effort by ASCE members throughout the country at this time. Near the end of January, I listened to student presentations about waste-free cities with circular economies at the Future City Mid-Atlantic Regional Competition and viewed their imaginative models. The Future City International Competition will take place this spring, where ASCE members can still volunteer to be a [judge](#).

continued on page 3

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

March 2022 Issue Deadline: February 25, 2022

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.

President's Corner, continued

ASCE's [Future World Vision](#) initiative is also moving forward in 2022. A beta version of the immersive Future World Vision Mega City 2070 desktop platform will be unveiled during Engineers Week.

In closing, as the month of February continues, NCS will highlight engineering accomplishments from the past and present on [LinkedIn](#) in celebration of African American History Month and Engineers Week. During Engineers Week on February 22, 2022 at 12 pm EST, we will feature a bridge project in Dumangbe, Sierra

Leone led by the Engineers without Borders (EWB) Washington DC Professional Chapter. We are honored to have Nicole Regobert (EWB-DC Chapter President), Jamel El-Hamri, and Evan Perreault to present their team's efforts. Thank you to Phillip Melville, P.E., F.ASCE, Chair of the ASCE NCS Life Member Forum, who has championed this Section Meeting and promoted collaboration between ASCE-NCS and EWB-DC. Thank you to Sheila Duwadi, P.E., M.ASCE, who answered the call to provide technical support for the bridge project. In addition, Mr. Melville will celebrate

his personal centennial later this year! His continuous dedication and service to ASCE NCS is stellar and much appreciated.

We look forward to engaging with you online and at the February Section Meeting!

Sincerely,



Jameelah C. Muhammad Ingram,
P.E., M. ASCE
ASCE NCS President

2022 FGIA Hybrid Annual Conference

The [FGIA Hybrid Annual Conference](#) will take place from March 1 to March 3 and will be held both in-person at the Omni Plantation in Amelia Island, FL and online as this will be the second hybrid event.

Many meeting sessions will be offered concurrently to online and in-person attendees, and moderators will ensure full engagement for all participants. We look forward to welcoming you to another content-rich event, where you can connect with an indispensable community of industry peers.

In advance of the 2022 Fenestration and Glazing Industry Alliance (FGIA) Hybrid Annual Conference, the Association will host an exclusive session for those whose membership is affiliated with the FGIA Southeast Region. Taking place both in-person in Amelia Island, FL, and online the 2022 FGIA Southeast Region Exclusive Session will begin at 3 p.m. on Monday, February 28. [Register](#) now for access to sessions pertaining to this region's codes, regulatory matters and other Southeast Region-specific matters.

"We know FGIA members who are local to the region will want to participate in this session on the ground to benefit from the information and connection with expert speakers," said Florica Vlad,



FGIA Meetings Manager. "For those who are unable to travel, an online option is also available offering the same excellent information those in-person will hear."

Schedule highlights include:

- A briefing from Murray Morrison at the Insurance Institute for Business & Home Safety ([IBHS](#)) of what the organization has been doing in the region
- An update on regional activities from FGIA Southeast Region President, Lynn Miller ([PGT Custom Windows + Doors](#)) and FGIA U.S. Technical Operations Director, Kathy Krafka Harkema



- Information from Jennifer Hatfield ([J. Hatfield & Associates PL](#)) on Florida's sea turtle-friendly glass design negotiations, where those talks stand and how FGIA members may be impacted

The day will conclude for in-person participants with a reception, which doubles as the kick-off event for the 2022 FGIA Hybrid Annual Conference.

You can register for the in-person conference, online conference, or the southeast region exclusive session here: <https://fgiaonline.org/events>.

For more information about FGIA and its activities, visit [FGIAonline.org](https://fgiaonline.org). ■

Best Advice from Dr. Z. to Engineering Students: Take the F.E. Exam While You're Still in College

For students and educators, January means the beginning of the Spring semester. Our colleagues and friends know that we truly enjoy being an "Engineering Educator" since we are continuously working with young minds, inspiring, motivating and most importantly educating them to become our future engineers.

Quite often, our readers and engineering students ask us for advice to become a competent civil engineer. And the best advice to them is to set goals, work hard and most importantly, take the Fundamentals of Engineering (FE) exam before you graduate. Last year, almost half our civil engineering students took and passed their FE exams on their first attempt, while they were in school. Of course, all of them received job-offer letters from well-known engineering firms after taking their first interviews.

For this month's ASCE-NCS, Dr.Z's Corner article, I've decided to share the success story of Maksim Bahdanovich, a civil engineering student from Belarus. Currently he is a senior engineering student at UDC. He just conquered the formidable FE exam before graduation. I hope our readers will enjoy reading Maksim's interesting story:

Dear Dr. Zeytinci,

I was born and raised in Brest, Belarus. When I was a kid I fell in love with math. I was receiving a lot of joy from solving simple math problems, it really made me feel smart. As a result, I became really good at it. I passed math and physics exams and entered one of the best schools in my hometown. Throughout my high school education, I won many prizes at Olympiads in mathematics and physics. Because of my achievements, some universities from Belarus and Russia reached out to me with scholarship offers. However, I decided to try to enroll into

a University in the United States so that I could continue my tennis career and engineering education.

I started playing tennis when I was 5 years old. I played for the regional tennis team and took part in many national and European tournaments. My achievements helped me to become a member of the Men's Tennis team at the University of the District of Columbia and to receive a good scholarship. During my tennis career, I have learned so many things that help me succeed in my personal life as well. I learned a lot about the benefits of a healthy diet and gained strong willpower.

My father is a very respected Civil Engineer with years and years of experience. He has been managing multi-million-dollar projects of major construction companies in Europe and Asia. Quite often my father took me to the construction sites and taught me about various construction materials and processes. I really liked what he was doing, that is why I decided to become a Civil Engineer.

In August of 2018, I came to Washington, D.C. and started my college education receiving a full scholarship at the University of the District of Columbia. As an international student it was not easy for me to study at the beginning. However, with the support of my teachers, coaches, teammates and friends, I was able to adapt relatively fast. My analytical thinking and learning skills also helped me to understand the material and get good grades throughout my undergraduate education.

All of my professors at the University of the District of Columbia, Civil Engineering department, continuously reminded me that the first step to becoming a good civil engineer is to conquer the Fundamentals of Engineering (FE) exam. That is why I've

decided to work hard and pass the FE exam before I graduate.

As soon as I started my senior year, I was preparing for the FE exam and solving all the problems published at ASCE-NCS, Dr. Z's CORNER. I also covered several classes that I had not yet taken at school myself, and successfully passed my FE exam in November of 2021. That was great news for me and for my family. Years of hard work paid off.

I really value the knowledge I gained at the University of the District of Columbia. After graduation, I want to work as a civil engineer and get some experience in the office and the field.

Thank you, Dr. Z., for all the help. I can't wait to send you the "good news" after I also pass my Professional Engineering (PE) exam!

– Maksim Bahdanovich,
UDC-Senior Civil
Engineering Student



Finally, as always, we have to remind our readers that FE and PE exams are very fast paced exams and you will have little time to look up information. Therefore, make sure you are familiar with your NCEES-FE Reference Handbook, Version 10.1 and begin with the subject areas you know best. This will give you more time and build your confidence.

Most importantly, stay relaxed and confident. During the exam, keep a good attitude and remind yourself that you are going to do your best!

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



Celebrating 100 Years of Engineering Excellence in the Commonwealth of Virginia

Please join The ASCE Virginia Section celebrate 100 years of engineering excellence in the Commonwealth! The ASCE Virginia Section is hosting their Centennial Celebration GALA on Saturday, March 26th, 2022 in Richmond, VA. Come join your engineering colleagues from across the Commonwealth for a night of fun and comradery.

The Celebration GALA will be at the Omni Hotel in Downtown Richmond at 100 S 12th St, Richmond, VA 23219. We have a block of rooms at the Omni that are available at \$169.00 per night for that Friday and Saturday. Use the promo code "ASCE GALA" when booking your hotel reservation to get the discounted rate. Valet parking is available for overnight guests at \$20.00 per night (normally \$27.00). There is also an hourly rate available for those choosing to not stay over. Contact the Omni Hotel at 804-344-7000 to reserve your room.

Our Keynote Speaker will be 2022 ASCE President, Dr. Dennis D. Truax, PE, DEE, DWRE, FASCE, FNSPE; White Endowed Chair, Head & Prof., Civil & Environmental Engineering, Mississippi State University. Dr. Truax is a 1976 graduate of Virginia Tech.

Schedule

- Registration opens at 4:30 pm
- Networking Social Hour: 5:00 – 6:00pm
- Dinner: 6:00 – 7:00pm
- Presentations, Awards and Dancing: 7:00 – 11:59 pm

Ticket Pricing

- Early Bird (From October 1 to December 31, 2021) – \$40
- Regular (From January 1, 2022 to March 11, 2022) – \$50
- Students – \$10

Questions?

Contact Nancy Lehr at nlehr@moffatnichol.com or Christina Ammens at cammens@vbgov.com

Refunds only given until March 11, 2022. In the event that COVID Regulations or any other government directed restrictions on assemblies due to acts of nature such as fires, floods, hurricanes, etc., or other pandemics impact the date the gala is held, tickets purchased will still be honored for the new date and refunds will be issued if requested.



The poster features a dark blue background with golden bokeh lights. At the top left is the Virginia Section logo (American Society of Civil Engineers, Founded 1927). At the top right is the ASCE 2022 Centennial Virginia Section logo. The main text reads: "ASCE VIRGINIA SECTION CORDIALLY INVITES YOU TO THE CENTENNIAL CELEBRATION GALA". Below this, the event details are listed: "MARCH 26, 2022", "REGISTRATION 4:30 PM", "RECEPTION 5 PM", "DINNER 6 PM". A paragraph follows: "Join the Virginia Section and its members in celebrating 100 years of Engineering Excellence in the Commonwealth of Virginia. Celebration includes a night of dinner, dancing and awards. Keynote speaker is ASCE President Dr. Dennis Truax". At the bottom is the ASCE logo.

The ASCE Virginia Section will be following CDC guidelines and the Omni Hotel protocols for in-person events. This will include social distancing and hand sanitizing stations. If you are fully vaccinated, face masks are not required, however if you are not vaccinated, we ask that you please wear a face mask. However, we will not be checking for vaccination cards. We are all professionals and are respectful, courteous, and honorable, so, we ask that you be on your honor. In the event of a continued emergency or new emergency, we have a clause in the contract that allows us to reschedule or cancel the event. Thank you for your consideration and patience. ■



The advertisement has a blue header with the text "ASCE-NCS Newsletter Patron". Below this is a white box with the text "ESE CONSULTANTS" in large blue letters, followed by "ENGINEERING · PLANNING · SURVEYING · ENVIRONMENTAL" in smaller blue letters. Below the white box is a photograph of an industrial or construction site. At the bottom of the advertisement, it says "JOIN OUR GROWING TEAMS IN ASHBURN, RESTON, & COLUMBIA" and "EMAIL MMAYHEW@ESECONSULTANTS.COM".

Your Documents as Library: The Vision

The first in a series of four articles for managing your Documents folder as a library by Ranjit Sahai, PE, F.ASCE.

Electronic documents are an integral part of modern life, both personal and professional. In a sense, your PC is like your local library. It holds information for you to locate and access when needed.

Whether opening or saving documents, most software applications seek your Documents folder by default.

Were you to review the contents of your Documents folder, you might be surprised by the count, topic, age, and personal value of documents it contains. The purpose of this article series is to help you locate documents in your Documents (or other) folder with lightning speed.

You don't need to install a Document Management System to access sophisticated search capabilities. Nor do you need to populate a spreadsheet or database with keywords and the name of each document. You can quickly and easily locate desired documents with a tool that comes preinstalled on every PC: PowerShell.

How this series is organized

This February article, the first of four, helps you visualize what you will accomplish by working through this series.

The March article introduces you to PowerShell, a command line interface (CLI), like the DOS prompt of yore. PowerShell's approach to automation is paradigm shifting. It breaks away

```
PS C:\> $dal = Get-ChildItem $env:OneDrive -File -Recurse
PS C:\> ($dal).count
16760
PS C:\> |
```

from the 50-year-old text-parsing paradigm that spawned CLIs still in use today. Instead, it implements an object-processing paradigm that delivers easy user access to the same functions that programmers use to develop powerful applications.

The April article introduces the language PowerShell speaks, with an emphasis on its discoverable nature that makes it easy to discover how to instruct it to do what you want of it.

The May article pulls it all together by examining several PowerShell statements that make searching your Documents folder fun and fast.

The knowledge gained by working through this series will help you modify the examples from the May issue, to implement even complex search criteria.

The concept and method outlined in this series is not restricted to managing your Documents folder as a library. It can serve as a springboard to projects, such as associating the GIS inventory of infrastructure assets with related documents from an electronic repository containing drawings, surveys, reports, and other types of files.

The blueprint

To design search for a file on disk is a simple task when compared to designing a building for a developer. However, the process of design for both is the same. First identify its purpose, then arrange relevant components to achieve the purpose.

File properties relevant to searching for documents include:

- Name and extension
- Size
- Directory
- Date (created, accessed, last written)
- Attributes (read-only, hidden, archive, system, etc.)

Additionally, it is assumed that files and directories were named to be meaningful when created in your Documents folder.

Files in your Documents folder

With the introduction to this series behind us, let's conclude the first step in our journey with hands-on time with PowerShell.

The following steps walk you through counting the number of files in your Documents or your OneDrive folder.

continued on page 7

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STEP 1: Invoke Windows PowerShell

Click Start, type PowerShell, and then click Windows PowerShell.

STEP 2: Load content of Documents folder

Copy and paste the following one-line statement on the PowerShell prompt and press Enter.

```
$dal = Get-ChildItem $env:USERPROFILE\Documents -File -Recurse
```

The above statement gets (Get-ChildItem) all files (-File), including those in subfolders (-Recurse), from the Documents folder located in your PC environment's (\$env:) user profile. The result is then stored in the \$dal variable.

STEP 3: Extract the count of files

Copy and paste the following expression on the PowerShell prompt and press Enter.

```
($dal).count
```

The above expression uses the count function to extract the number of records (i.e. files) contained in the \$dal variable.

When I went through this exercise for the OneDrive folder on my PC:

```
$dal = Get-ChildItem $env:OneDrive -File -Recurse
```

It took PowerShell only 3 seconds to crawl recursively through a folder containing 16,760 documents!

The content stored in \$dal is the key to all sorts of searches, from the simple to the very complex.

Looking forward to your taking the next step in our journey next month.

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.



Construction Institute and Construction Research Congress Joint Conference

Welcome to the first-ever, CI & CRC Joint Conference! We invite you to join us in our nation's capital for this special event located at the [Hyatt Regency Crystal City at Reagan National Airport](#) at 2799 Richmond Highway, Arlington, VA 22202 from March 9 through 12, 2022.

ASCE's Construction Institute (CI) and Construction Research Council (CRC) are joining forces to bring you this [joint conference](#) for the latest in construction insights, from the academic community and industry professionals. CRC leads academic, cutting-edge construction research, and the Vecellio Construction Engineering and Management Program (VCEMP) at Virginia Tech (VT) will host the annual Construction Research Congress. The Construction Institute Summit, with its heavy industry component, will facilitate interaction between



construction research professionals, contractors, owners, and practitioners. Together, we will share new developments and innovative practices. Network with peers, earn PDHs, and get access to top-notch industry research.

There's still time to [register](#) here! Check out the [schedule-at-a-glance](#) to learn more about the offerings of this first ever joint conference. ■

Important Dates

OCT 13 2021	Registration & Housing Opens
DEC 1 2021	CRC Speaker Registration Deadline
DEC 15 2021	Early Bird & Industry Speaker Deadline Registration Ends
FEB 15 2022	Hotel Booking Deadline
FEB 16 2022	Cancellation Deadline
FEB 16 2022	Advance Registration Ends
MAR 9 2022	Conference Begins



CI & CRC Joint Conference 2022

Arlington, Virginia | March 9–12, 2022

A Note from the Editor

I recently returned from a visit to the United Arab Emirates (UAE) for Expo 2020 in Dubai. Like many who I've told about my trip, you may be wondering what an Expo is and why I traveled 7,000 miles to visit one! A *world's fair*, *world expo*, or *international exposition* all refer to the same mega-event designed to showcase achievements of nations at a selected location and typically last for three to six months. World Expo's are generally held every 5 years and began as early as 1851 starting with The Crystal Palace in London. World Expos have often left architectural legacy on the host city: the Eiffel Tower, the Golden Gate Bridge, the Atomium, and the Space Needle are all physical reminders that the city once held this coveted event.

Expo 2020 in Dubai sits on a 1000 acre site in the middle of the desert and cost the UAE almost \$7 billion dollars to construct. The master plan, designed by HOK, is organized around a central plaza and enormous ornamental tube steel dome over 420 ft in diameter and standing 220 ft tall. The site is organized in a starburst pattern with three main



Site plan for Expo 2020 in Dubai



AI Wasl Tube Steel Dome at the center of Expo 2020 adjacent to the UAE Pavilion designed by Santiago Calatrava



Flyer for Paris Exposition in 1889

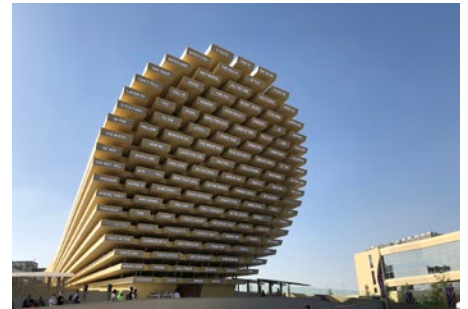
thematic districts (sustainability, mobility, and opportunity) and two feature park districts. The site is marketed as an example of a “future city” and the UAE hopes for it to remain as such even after the conclusion of the expo. 192 countries participated in this year's event – the most in the history of world expos. Over 75 pavilions were custom-designed for this year's event and feature work by internationally recognized architects like Santiago Calatrava (United Arab Emirates and Qatar Pavilions) and Christian Kerez (Bahrain Pavilion).

The sites, sounds, and smells of Expo 2020 were nothing short of amazing. The experience is like walking into upwards of 15 world-class museums a day which focus on anything from historical languages, contemporary national art, sustainable infrastructure, or artificial intelligence and augmented reality. The Russia Pavilion features an immersive installation of the human brain surrounded by a colorful facade reminiscent of a neural network. The Austria Pavilion consists of 38 white cones open at the top mimicking traditional Arab passive cooling techniques. The UK Pavilion is inspired by a project from Stephen Hawking and

continued on page 9



Russia Pavilion



UK Pavilion



Germany Pavilion



Pakistan Pavilion



Alif – the Mobility Theme Pavilion

A Note from the Editor

continued from page 8

displays an AI-generated poem on the exterior facade constructed of cross laminated timber and steel, appearing to grow from a single point.

Each building is exemplary of integrated design, from the motorized light cubes on the facade of the South Korean Pavilion to the solar panel canopy of the Terra – Sustainability Pavilion which offers shading from the harsh desert sun. With my background in building enclosures, I was impressed by the thoughtful architecture, almost all of which meticulously considered passive cooling, solar geometry, and shading—rare in the architecture of the Mid-Atlantic United States. To contrast,



Solar panel collectors within the sustainability district

historically there is virtually no rainfall in Dubai (less than 3 in. of rain annually) and many of the buildings were open to the exterior or used moisture-sensitive

materials inside and outside. From my perspective, it seems that without the consideration for rain, architecture has no limits.

The Expo 2020 has been dubbed “the world’s greatest show” by the media but I would counter that – far from being a superficial carnival, it is the world’s greatest display of substantive architecture and innovative engineering in one place. There is still time to visit – Expo 2020 will continue until March 31st, 2022. See you there!

Sincerely,
Maria Raggousis
ASCE NCS Newsletter Editor 2019–2022

ASCE-NCS Committee and Branch News and Updates

Architectural Engineering Institute

In January, the AE Committee hosted a webinar on cladding fire protection in partnership with the Building Enclosures Council of AIA DC. The event was met with good turnout and positive feedback. Thanks to all who attended, and please let us know if you would be interested in seeing more events on similar topics.

Several Committee members were able to make the NCS Showcase event on January 26, and enjoyed sharing some of our upcoming events and learning about the activities of the other Committees and Branches in the Section. If you weren’t able to make the showcase but are looking to get involved, we highly recommend reviewing the slides available on the website for a concise and exhaustive listing of local engagement opportunities and Committee contacts.

We are working on several ongoing and upcoming programs, many of them in collaboration with other organizations in the area. Stay tuned for an announcement for a February or March ice skating event with IES in Georgetown. We are excited to be continuing our partnership with Catholic University’s Senior Design class this year, which is shaping up to be a full and diverse roster of guest presentations. Our warm thanks



to everyone who has volunteered their time as a mentor or guest speaker – and if you haven’t heard back from us yet, you will soon.

In partnership with SEA-MW, we sent a call for presenters last month for an upcoming lightning talks event consisting of a series of short, fast-paced presentations. Like many of our events, this is a lower stakes environment with less up-front preparation than a traditional presentation or webinar, and is a great opportunity for busy veteran presenters and first-timers alike. If interested, you can see more details and volunteer to present here: <https://forms.gle/XXjvjUH8sc6y2NMZ9>

Finally, we are working on our next walking tour. This tour will be in two parts, one in the spring and another in the fall, and will take place in Penn Quarter and Capitol Hill. We anticipate shorter walking distances than our

previous tours, and, pandemic allowing, will follow each tour with a casual social gathering. If you have worked on – or have engineering and architecture knowledge about – any buildings in this area, please consider joining us and sharing your knowledge in an informal setting. You can reach out directly to Christian Parker at cparker@af-engineers.com to participate. We will announce a date by email closer to the event.

Education Committee

By Kush Vashee, PE, CAPM, M. ASCE
The ASCE NCS Education Committee is seeking **Practitioner Advisors (PA)** for student chapters within the section for the 2022 – 2023 School Year. Student chapters include the Catholic University of America, George Washington University, and the University of the District of Columbia. Looking back, there is information that professional members often wish they knew as students. As a PA, professionals have an opportunity to impart advice and provide students with a head start! It is also a great way for professionals to reminisce about their college days and connect with the next generation.

If you would like to become a PA or just have questions, please contact Kush Vashee, PE, ASCE NCS Education Committee Chair at kvashee@rkk.com.

continued on page 10



Reminder for students from Catholic University of American, George Mason University, Howard University, George Washington University, and University of District of Columbia that the 2021 ASCE-NCS Scholarship Application is open. Please reach out to your Faculty Advisor at your College or University for the application package and eligibility requirements. Applications are due on **February 11th, 2022.**

ASCE-NCS Reston Branch

By Michael J. Magyarics, P.E., M. ASCE,
Reston Branch Vice President

On January 20, 2022, the Reston Branch hosted Glenn Havinoviski, P.E., Director of Intelligent Transportation Systems at Johnson, Mirmiran & Thompson, Inc., for his virtual presentation entitled, "The Changing World of Mobility." Glenn gave a very thorough and enlightening presentation on the history, current times, and future of Intelligent Transportation Systems.



Over the last 37 years, Glenn Havinoviski has emerged as one of the world's foremost experts in ITS development and transportation systems management. He has served both as a practice builder and a practice leader, providing project management and technical leadership for ITS and traffic management projects both in the US and abroad. He currently leads Johnson, Mirmiran & Thompson's ITS practice, applying his experience in ITS and CAV program planning and architecture, system design, deployment and operations. He brings additional experience in managed lanes, active traffic management systems, and integrated corridor management, along with real-time traveler information, road pricing and transit signal priority. He has led or served in a key role for projects in 18 U.S. states, Mexico, Eastern Europe, the Middle East and Asia. For three years Glenn served as a core instructor in training workshops for the International Road Federation (IRF), providing background to engineers in the Middle East on ITS and integrated mobility strategies. Mr.

Havinoviski was a member of the TRB standing committee on Transportation Demand Management and its predecessor, Congestion Pricing, between 2014 and 2021, is a former President of ITS Virginia and served as US Expert to ISO Technical Committee 204 Working Group 1 (ITS Architecture and Data Dictionaries). He is currently a registered Professional Engineer in Virginia, Ohio, Georgia, Maryland, Delaware, Florida, North Carolina, and the District of Columbia. Glenn graduated from the University of Wisconsin-Milwaukee in 1984 with a BS in Civil Engineering.



On February 8, 2022, the Reston Branch will host Eric Sender, PE, DBIA, Senior Vice President, and Julia Simo, PE, Project Manager, both from Wallace Montgomery for their virtual presentation entitled, "Albemarle Intersection Bundling." The VDOT Albemarle Intersection Bundling Project consists of six separate intersection and interchange spot location improvements (elements) for traffic safety/operations and overall traffic congestion relief around the City of Charlottesville "bundled" under a \$28.5m best value design-build contract. This presentation will provide an overview of the Albemarle Intersection Bundling Project's procurement, design submittals, and construction and will highlight challenges faced in the on-going delivery of the six intersection/interchange improvements.

Eric Sender is a PE and DBIA-certified professional with over 30 years of experience in transportation roadway projects, including the last 20 years as a Design Manager dedicated to delivering design-build projects. In 1994, he joined Wallace Montgomery as a Design Engineer, and advanced to become a Senior Vice President and Chief Engineer of the Highways Department. From 1999 to 2004, he provided general engineering



consultant services to the Maryland Department of Transportation State Highway Administration (MDOT SHA) to develop design-build concept designs, performance specifications, and ROW and utility relocation requirements. Eric facilitated establishing utility relocation corridors along the MDOT SHA roadway dualization design-build projects, which earned a National AASHTO Award for Innovation. Eric has spent the past 18 years as a Design Manager delivering design-build final design efforts on traffic operations and safety interstate-expressway/arterial/collector roadways and intersection/interchange improvements projects – which gave him the technical expertise and oversight skills to serve as the Curtis Contracting Design-Build Team's Design Manager on the Albemarle Intersection Bundling Project.

Julia Simo is a PE with over 9 years of experience in structural engineering, highway engineering, project management, and program management. She joined Wallace Montgomery in 2020 as a Project Manager for the Highways Department, primarily for transportation-related projects in Virginia. Julia served as the Wallace Montgomery Project Manager for the US 250/Route 151 roundabout; the new Rio Mills Road to Berkmar Drive connector road; and the I-64 Exit 124 at US 250 Diverging Diamond Interchange (DDI) improvements on the Albemarle Intersection Bundling Design-Build Project. Prior to working at Wallace Montgomery, Julia was employed with VDOT as a Structural Engineer in the Structure & Bridge Division and as the first VDOT eConstruction Program Manager where she spearheaded eConstruction initiatives such as Tablet Based Inspection and 3D/4D Engineered Models. As part of her roles, Julia served as Lead Designer for bridge design and maintenance projects, coordinated multiple high-profile design-build and P3 projects, and developed 3D Engineered models with reality modeling for public involvement.



The Reston Branch has launched a [group](https://www.linkedin.com/groups/13759693/) 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/>

Environmental and Water Resources Institute

EWRI NCS February Webinar: AnthroHydro Research on Plastics in the Anacostia

EWRI NCS welcomed Dr. Jason Davidson and the AnthroHydro research group from The Catholic University of America to our monthly webinar series on February 3, 2022, 12:00 – 1:00 pm EST. We heard from Dr. Davidson and



his students on their research conducted on plastic waste source identifica-

tion and AI object detection of waste materials throughout watersheds within the Civil and Environmental Engineering Department.

This presentation focused on the work of the AnthroHydro research group at Catholic University with two student presentations. The talk started with PhD student Grace Pooley discussing her work on plastic waste source location identification. Ms. Pooley is developing a novel method using Lagrangian particles and inverse methods to identify the origins of debris throughout a watershed. This work will be used to help policy makers identify the cleanup locations and focus remediation efforts. Additionally, Computer Science student Wesley Garnes presented his work on using cloud-based AI platforms for object detection of waste materials, to accurately calculate the flux of debris in the environment.



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](#).



Younger 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.

The group held a virtual happy hour on January 5th and on February 2nd on Webex! We hope for a bigger turnout at our next happy hour starting at 6PM on March 2nd. Look out for some emails soon with registration details and location information. We hope to see you there!

Professional Development:

Additionally, 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.

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. ■



A Look Ahead

March 9–12, 2022

[CI/CRC Joint Conference](#)
(Arlington, VA)

March 13–16, 2022

[Operation and Maintenance of Stormwater Control Measures Conference](#)
(Wilmington, NC)

March 20–25, 2022

[ASCE Week](#) (Orlando, FL)

March 20–23, 2022

[Geo-Congress](#) (Charlotte, NC)

April 3–5, 2022

[UESI Surveying & Geomatics Conference](#)
(Lawrenceburg, IN)

April 7–8, 2022

[AEI Forum](#) (Virtual)

April 20–23, 2022

[Structures Congress](#) (Atlanta, GA)

May 31–June 3, 2022

[International Conference on Transportation and Development](#)
(Seattle, WA)

June 5–8, 2022

[World Environmental & Water Resources Congress](#) (Atlanta, GA)