ASCE Illinois Section

News

Vol. 64, No.1
Spring 2023

INSIDE:

Looking Forward: The Impact of Technological Advancement on Structural Engineers

Written by Mark Converse, PE

WHERE WE STARTED: Structural Engineering is one of the oldest disciplines of engineering dating back to the 27th Century BC when the pyramids were built. However, the concepts which underpin modern structural engineering weren't derived until Archimedes' efforts in the 3rd century BC when he published his work on geometric areas and centers of gravity. Fast forward to the mid 1600's where Galileo and Hooke provided critical insights on the strength of materials, elasticity, and material behavior under load. Shortly thereafter, Newton and Leibniz both independently developed the Fundamental Theory of Calculus, which paved the way for Euler, Bernoulli, and Navier to develop beam equations, some of which are still used in structural design today.

When Navier published his Elastic Theory of Beams in 1826, he highlighted that the duty of a structural engineer is not to understand the final, failed state of a structure, but to prevent that failure in the first place. This is an important concept because if the current design code provisions (AASHTO, AISC, AREMA, etc.) are predicated upon this theory that all structural design should prevent failure, then it can be assumed that the bulk of the code provisions are likely here to stay. This is primarily why much of the innovation in modern day structural engineering tends to be more driven by practical and economical considerations, rather than a change in the fundamental theories derived since Archimedes. From the late 19th century through the 20th century, significant advancements occurred in terms of economy of material, such as the (Continued on page 7)

President's Notes

Sandra Homola, P.E., CFM

2023 is off to a great start for the Illinois Section. In an effort to engage with younger students and encourage a new generation of engineers, ASCE-IS participated in Future Cites Chicago last month. Future Cities is a competition that allows middle school students the opportunity to research and design a futuristic city with innovative solutions to some of today's most pressing issues. ASCE-IS and several of our Institutes provided special awards and judges for the event, and we were blown away by the ingenious and creative communities that the students presented.

It is exciting to see what our youth envision for the future as ASCE continues to take its own look at what our communities might look like in 2070 as part of the Future World Vision initiative. The first envisioned city – the Mega City - is available now on the ASCE website, and we recently learned that ASCE plans to launch the Future World Vision IMAX film here in Chicago during the 2023 Convention with showings at the Museum of Science and Industry.

Speaking of the 2023 Convention, planning is already underway for the event that is set to take place October 18-21 at the Hilton Chicago. A Local Planning Sub-Committee has been formed and we are working with Society representatives to help plan local content including technical tours and presentations, a community service project, and social events. If you are interested in joining the sub-committee or helping out in any way, please contact me at sandra.homola@exp.com.

In line with our goal to increase student outreach this year, the Illinois Section completed visits to our local Chicagoland universities to meet with students, discuss the benefit of continued ASCE membership, and remind students of the $17.5K available in ASCE-IS scholarship funds. A full list of scholarships, application forms, and instructions are now available on the ASCE-IS website at https://www.isasce.org/scholarships/. Our Diversity and Inclusion Committee also has scholarships available for high school juniors of a minority background to attend Notre Dame's Introduction to Engineering Program this summer (information at the above link).

We are looking forward to hosting the President-Elect / Student Scholarship Dinner on April 26th at Maggiano's in Chicago. We are excited to have confirmed the in-person attendance of ASCE President-Elect Marsia Geldert-Murphey. We are planning a day of activities to engage with the ASCE student chapter leaders culminating in the dinner and presentation of the scholarship awards.

On the advocacy front, the Illinois Section will be sending several members to participate in the 2023 Legislative Fly-In on March 1-3 in Washington, D.C. where we will speak with our legislators about the continued need for infrastructure funding and improvements. We will also be participating in the 2023 Legislative Lobby Day in Springfield, IL on April 14th.

Thank you for reading, and I look forward to seeing you at a future ASCE event.

Yours sincerely,

Sandra Homola, P.E., CFM
ASCE Illinois Section President 2022-2023

ASCE Illinois Section

News

ILLINOIS SECTION NEWSLETTER
E-Mailed to all ASCE-IS dues-paying members
American Society of Civil Engineers Illinois Section - Region 3

Communications Chairs/ Newsletter Editors - Jeana Gowinl
jgowin@cbbel.com
Julia Nigohosian
jnigohosian@cbbel.com

Director of Advertising -
Tim Scully-Granzeier
312-933-4639
Tim.Scully-Granzeier@arcadis.com

Pres. Sandra Homola. . . . . .(312) 616-5095
Pres. Elect Matt Huffman. . . . .(847) 804-7615
Sec. Monica Crinion. . . . . (312) 373-6516
Treas. Thomas Janicke. . . . . (630) 438-6400

Please update your information at
www.asce.org/myprofile or
call 1-800-548-2723
Web Site: http://www.isasce.org

ASCE National Information
Phone: 1-800-548-ASCE

The Treasures in a Geotechnical Report

Written by Andrés Matos, Chair, Thierno Kane, Treasurer, GI ASCE-IL

Geotechnical reports can be *saturated* with information. With the rush of a deadline, the client's eagerness for completion or the city's inquiries, some might glance over the pages to find what they need in the moment. Kind of like when you had open book test in school. In general, most jump to the foundation section or to the first page to know who signed and sealed the report. Yes, the foundation section could be labeled as "The most important" but it is not everything. Geotechnical engineers (geotechs) review, analyze and look at much more to recommend a foundation or a bearing capacity in a geotechnical report. These miscellaneous items are sometimes more important to the success of the project than the actual foundation section.

These mysterious items, that almost all Geotechnical Engineers know, are often ignored during the design and bid phases. Usually, these secrets come afloat during construction when "something happens". Yes, these reports contain a lot of *boring* stuff (no pun intended) but are needed and useful to the project teams. Sections like the Site Conditions, Summary of Borings and Potential Effects on Existing Structures, regularly hold the most treasures.

Site conditions section usually is a sort of documentary of what the geotechs previously discovered at the site. This section is meant to provide the design team with an overview of the site and serves as a baseline for designers and contractors to determine the activities required to prepare for further site development. In some cases, these conditions are different from what the design team expected. At other times, these conditions may change drastically from the time the geotechnical investigation was performed to the start of construction. Either way, it is important to have a baseline to work with.

The summary of borings section is not really that "boring"! This section helps the expediter and city officials meet the geotechnical requirements. Tests performed previously, as well as recommendations and reasons for additional tests will be found in this section. Take your time to discuss the reasons for recommending further testing with your geotechnical engineer because these may be critical to the project development. Suspicion of environmental concerns, known problematic soil conditions, etc are some of several possible reasons for recommending further testing. Additional information about drilling activities is also found in the summary of borings section. Take for example, "…during drilling operations boring B-112 was relocated due to an obstruction. Auger refusal was noted and boring was moved 5ft North…" At first glance, it appears that they simply relocated the boring, but in reality, this was done because there was something down there! Discussing with your geotechnical engineer if they have an idea of what it could be, how was the refusal, hard, abrupt, soft? could they get a sample? Were there any fluids? etc. In the end, the obstruction could be absolutely nothing, or a rock, or an old foundation. That discussion will reveal substantial information to dictate how the project should proceed.

During construction, most of the interested parties are focused and eager to complete the project. However, very rarely do we get to work on a plot without our neighbors. There is a section that includes the potential effects on the neighboring structures and utilities. These effects are not just soil related, but also include other risks and potential effects. The immediate and obvious risk is undermining or affecting the neighbor's foundation. One might think "that's the neighbors' problem" but it really isn't. City regulations are very specific on what and how to proceed when this is noted as part of the report. This could lead to serious problems and delays in construction activities if missed during the design or bid phase.

There are many more treasures housed within a geotechnical report, but since you made it this far,
Continued on page 10)

Chicago River Day 2023

Written by Jerome McGovern, P.E.

For most of us, our interaction with the Chicago River and its tributaries is when we drive over a bridge that crosses the river. However, there is an annual event that allows people to get up close and personal with the river. Every spring the Friends of the Chicago River organize a volun-

Volunteers needed!

teer clean-up of trash and litter along the Chicago and Calumet Rivers. Think of it as a spring cleaning for the banks of the river system. This year the clean-up will be held on Saturday May 13, 2023 from 9:00 AM until noon. Volunteers sign up for various locations from Lake County to the Calumet Region to pick up litter, remove invasive plants and improve trails along the river system. Last year, close to 2,000 people took the time to volunteer and make a difference.

The water quality of the local river systems has improved dramatically since the 1980's with the reduction in combined sewer overflows and greater awareness of waterways as a recreational asset. Removal of trash, litter and invasive plant species helps to restore the ecosystem and improve the habitat for migratory birds, beavers, turtles and fish that can be found along the waterways.

For the past 10 years, the Illinois Section's Environmental and Water Resources Institute have provided volunteers at a specific location. For this year's Chicago River

Explore the river system while doing good.

Day we encourage all the members of the Section to consider volunteering at a location near you. For more information go to the Friends of Chicago River website: www.chicagoriver.org.

See how much the river system has improved.

Return of the Sustainability Committee! The Illinois Section is restarting the Sustainability Committee with Elizabeth Karlovics of Baxter & Woodman as Chair. For the next year, EWRI will partner with Sustainability to help get that group up and running. If you would like to be placed on their mailing list, send your contact information to ilasce.sustainability@gmail.com. We are planning a presentation about green roofs for early summer. More information to follow.

EWRI participates in Chicago River Day 2022

Encouraging the Youth, Creating the Future

Written by Joshua Starzyk, P.E.

Every year the Illinois Sections Student Outreach Committee gets a jumpstart on Spring by encouraging our young, budding engineers with events as soon as the new year begins. Grade schoolers get our focus at the Meadows Glen Elementary STEM night, while Middle Schoolers tend to do the inspiring when we judge the Regional Future Cities Competition in Chicago. During this same time, students at universities around Chicagoland impress us with their resumes and questions as we visit with them for the 2023 IS-ASCE Scholarships and connect with them through our Spring Mentorship Program. And as I sit here fondly remembering these student outreach events, I cannot help but think about the National Engineers Week theme 'Creating the Future' and how with everyone's help at IS-ASCE we are Creating a Great Future for Civil Engineering indeed.

I have always thought that 'Civil' is a very small word used to describe the very large, intertwining field that is civil engineering. Middle school students at the Regional Future Cities Competition in Chicago find this out firsthand as they get put on the impossible task of trying to develop a conceptual future city that can help address some of the important issues that come with developing a city in an era of Climate Change. The students consider everything from materials to construction processes, infrastructure maintenance, and even public health and safety while modeling their cities. Being able to look at these modeled cities with their young creators and pick-apart how different pieces of it might work together is a privilege that always leaves us with inspiration for a future city of our own. This trend continues at the Meadows Glen Elementary School STEM night where the Committee has to fight for the attention of the many young, active attendees. And though the promise of marshmallow bridges tends to draw in a crowd, the students tend to stick around not because they are literally sticky from marshmallows, but because they have so much fun problem solving with us and said sticky hands.

Knowing sugary treats do not quite entice college students like they used to, the soft marshmallows get swapped for cold-hard scholarship checks while visiting the Illinois Institute of Technology (IIT), University of Illinois-Chicago (UIC), and Northwestern University (NU). Students are encouraged to bring their resumes to these events; however, it is often us professionals who feel like we need to update our resume after reviewing them. These students have a lot of big decisions to make as they prepare to enter the professional world with

IS-ASCE Student Outreach and Institute Panelist at NU 2023 Scholarship Session

(Continued on page 9)

IS-ASCE Annual Membership Committee Update

Written by Tom Borges, P.E. & Matt Huffman, P.E.

While the world recovers and adjusts from the COVID-19 pandemic, we have all had to make many changes and are dealing with the lasting effects it has placed on our lives at work and at home. While nearly all companies have established their new permanent policies around in-office and remote work, professional organizations like ASCE have had to, and will continue to, adjust to represent and serve the Civil Engineering community within the Illinois Section. Membership levels across the board for many volunteer and professional organizations decreased significantly during the pandemic with in-person activities being nearly non-existent. Over the past year, the ASCE-Illinois Section has rebounded to our pre-pandemic membership levels, with membership levels increasing nearly 11 percent from this time last year. In 2022, we were able to hold numerous in-person events, with the highlight being a gathering of nearly 400 of our members and guests at our Annual Awards Dinner in October 2022. You could feel the energy and excitement in the room as many attendees were able to re-connect with colleagues and friends face-to-face, and celebrate our collective industry accomplishments. There is no question the adjustment to a hybrid work schedule, combined with lack of in-person events for several years, has created challenges on a personal level forming working relationships with new employees, mentoring and teaching our recent college graduates, and forming new relationships with colleagues outside of our companies. The same goes for volunteer organizations like ASCE, and we understand that our lives and behaviors have likely permanently changed as a result of the pandemic. As the ASCE Illinois Section adjusts to our new industry landscape, we will continue to adapt in representing the Civil Engineering community within the Illinois Section and provide meaningful value to your membership on the local level.

The 2023 Membership Committee will focus on The Local Membership Champion Initiative, aiming to strengthen our membership network within the Illinois Section to allow for more efficient communication with our members by identifying one ASCE member at each company or agency.

ASCE Region 3 Governors, who represent the midwestern states and supports the local Sections and Branches, embarked on updating our Region 3 Strategic Plan. The #1 Item on their list is focusing on Membership with several of the key focus areas including supporting Section/Branches with local programs, strengthening collaboration amongst the Sections/Branches, and increase support for the Student Chapters. Locally, one of the Illinois Section initiatives for the 2023 Membership Committee will focus on is *The Local Membership Champion Initiative*. This initiative aims to strengthen our membership network within the Illinois Section to allow for more efficient communication with our members by identifying one ASCE member at each company or agency. This member would act as the main point of contact within their respective workplace and will help communicate various efforts of the Illinois Section while also ensuring their colleagues are up-to-date on membership benefits and volunteer opportunities. The initial list of Local Membership Champions is currently being developed by the Membership Committee; ideal candidates are those that are current members and are already involved in some capacity at the Section or National level. Local Membership Champions will receive emails and materials directly from ASCE National and it is anticipated that the Illinois Section Membership Committee will hold optional quarterly conference calls to discuss the continued efforts of the initiative and best practices of communicating with their colleagues about ASCE. If you would

(Continued on page 10)

Looking Forward: The Impact of Technological Advancement on Structural Engineers

(Continued from 1)

invention of Portland cement, conversion of cast iron to steel, reinforced concrete, and so on.

MODERN COMPUTING: By the end of the 1950's, computers (and collaboration) had become advanced enough to establish a numerical method aimed at understanding the behavior of complex structural systems, thus the Finite Element Method (FEM) was born. The Information Age of the 1960's to 2000 made FEM commercially available and introduced Computer Aided Drafting (CAD), which significantly improved upon the slide ruler drafting techniques. This began the paradigm shift from pen and paper to the digital world.

The engineer will remain, even as computers evolve

As with our predecessors, the Structural Engineers of today are constantly seeking advancement. While there is an abundant amount of ongoing research in the field of structural engineering, most individuals are content with the modern-day theory of solid mechanics, presumably because current theories agree exceptionally well with experimental results and any differences are negligible from a macro perspective (i.e., the differences are well within the designed factors of safety). This ideology is also a contributing factor to the emphasis on practical and economical innovation of modern day structural engineering.

In general, the advent of the computer has profoundly changed the way structural engineers operate. Whether it's CAD production or design calculations, the day-to-day work of a structural engineer is primarily based around a computer and as engineers navigate this evolution, it's clear that computers will become increasingly important. However, even as more and more aspects of design move to the digital world, a role for humans will remain.

MODERN ADVANCMENTS: Much of the current development in the structural engineering community revolves around technological advancements for construction, inspection, and maintenance. The following examples provide a high-level overview of these technological developments.

Our first example is UAV drones which, in their short existence, have already revolutionized field surveys by collecting accurate data more quickly, easily, and safely than traditional ground-based methods. With traditional survey methods, the survey crew must strategically traverse the land to capture key data points (usually with GPS rover or rod and laser gun) whereas drone flights essentially perform the same function, but with a much higher density of points captured at a quicker rate. On bridge projects, drone survey is oftentimes supplemented by traditional survey mostly because both techniques have their own access limitations and different levels of accuracy; in tandem, the two methods serve as a nice backstop against each other. But as the technology and accuracy of drones improves, it may one day render traditional survey obsolete.

UAV Drones, Parametric Design, and Building Information Modelling (BIM)

Parametric design is another innovating trend which is enhancing the workflow of engineers. When an engineer sets out to design a structure, the variables to consider are practically endless. Designers do the best they can to find the optimal structural system, but it's sort of a trial-and-error type of approach (i.e., if 4 beams don't work, try increasing beam size, or try 5 beams, and so on). Parametric design offers a more structured approach by leveraging a computers framework to keep each of the design parameters bound together. This allows an engineer to easily manipulate variables to see the overall effects on the structural system, and ultimately, satisfy a chosen objective function (oftentimes minimizing cost). A well-constructed parametric design model can reveal high-performance or near-optimal structural solutions that may have otherwise been overlooked by traditional methods of analysis. As parametric design programs become more integrated with other popular design

(Continued on page 8)

Looking Forward: The Impact of Technological Advancement on Structural Engineers

(Continued from page 7)

software, achieving high-performance ratios becomes quicker and easier.

The third innovation is management of the information itself. 3D data collection via UAV coupled with 3D CAD development has revolutionized the design and construction process by creating a more immersive environment. With our increased capacity to store large amounts of data in the palm of our hands, the infrastructure industry at large is embracing digitalization to keep up with growing pressures of increasing costs, tight deadlines, and sustainable design. In high rise construction, Building Information Modeling (BIM) has become a popular tool for engineers and contractors to improve collaboration and streamline project delivery. Now, its sibling known as Bridge Information Modeling (BrIM) is paving a similar path for bridge construction. At its core, BIM/BrIM is the holistic process of creating and managing the physical aspects of a structure in the form of a 3D digital representation. Historically and presently, most bridge structures have been constructed from 2D plan deliverables, but as BrIM increases in popularity and efficiency, the days of 2D deliverables may be nearing an end.

CURRENT LIMITATIONS: Although BIM/BrIM has generated much attention, some forward thinkers contend that it too will be surpassed, or at least, re-imagined. We've established that complex physical systems can be solved using finite element (or similar) techniques to an accuracy within acceptable limits. So, why are structural engineers not extinct? What's preventing computer takeover? The primary reason boils down to computational power. Today, the structural engineer must build the finite model from scratch; that is, build the geometry, assign a suitable mesh size, materials, loading, and boundary conditions. Only then can the computer solve the model – and it can be computationally costly. The more complex the structure, generally the more complex the model will be. It's not unheard of for bridge truss models to take 10+ hours to solve, and that's only solving for forces and stresses in the main load-carrying members. Additional time is then spent in post-processing where the engineer must use the model-computed forces to design the structural components not included in the model, such as connections (which, if modeled, would drastically increase computational time). And this is just for a single model. Now, imagine trying to take the human out of the equation; the software would have to first somehow recognize the inherent boundaries, and it would then need to iterate through various geometric configurations, mesh densities, and support conditions. The computational cost would grow exponentially and simply is not currently practical.

Could a model be trained via machine learning or AI? Does topology optimization offer a promising outlook? Could quantum computing or microprocessor advancements (like Nvidia), help speed up solving times? The answer to each of these questions is unequivocally 'YES'. But at least for now, structural engineers remain vital because we serve our clients and the public better and more efficiently than a computer can.

LOOKING AHEAD: Now, extending the thought experiment, what if computational power wasn't a design consideration? Consider Moore's Law: the observation that the number of transistors in a dense integrated circuit doubles about every two years. If we hypothesize that computational power is of no consideration, what might the future of structural engineering look like? It appears that our society is trending towards more immersive experiences and while the infrastructure industry may lag in progress relative to technology-based industries, we are quick to follow themes that are cost beneficial. As previously mentioned, BIM offers a way to leap from 2D space to 3D space, but within BIM the objects are pseudo-solids. That is, the objects are rendered as solids tagged with the metadata of their properties. The ultimate goal, however, is creation of a digital twin - a near identical clone that mimics real world behavior. Instead of staring at a computer screen to dynamically adjust/rotate a 3D view within BIM, demonstrations have already been performed where designers

(Continued on page 9)

Looking Forward: The Impact of Technological Advancement on Structural Engineers

(Continued from 8)

are immersed in a virtual reality (via VR goggles), and forecasting even further, imagine if those virtual objects you were interacting with behaved identically to the real world; for example, a tree branch vibrates in the wind, or a beam deflects when you stand upon it. In the micro sense, these examples are certainly capable of being simulated, but in the macro sense, we are very limited by computational

Virtual Reality (VR)

power and cannot readily simulate the aggregate effects of large, complex systems (not in real-time, anyways). However, the idea of designing structures in virtual reality may not be that far off. Several programs exist that offer a way to view 3D geometry in Virtual Reality. Objects are still pseudo-solids, but the VR nature is a vast enhancement compared to traditional BIM. In this environment, however, there are many questions that still need to be explored, or rather, forced upon us! How do we do our checks and QCs in a 3D environment? How will shop drawing reviews evolve if there potentially are no shop drawings? Or even more fundamentally, what is a deliverable?

When computational power becomes a non-factor, the world of structural engineering will become fundamentally altered. Something that looks like Google Earth's data will inevitably be more refined, potentially rendering surveyors of little importance. There is the potential that civil engineers may be replaced by people playing VR video games and building structures or cities that can be seen, managed, and health-monitored (in real time) by stakeholders. With time, computers will become more powerful and cheaper, and the inevitable truth is that more tasks will be delegated to software. There does not appear to be a button to push that says "build bridge here" yet, so at least for the time being the human-engineering element will remain crucial in our planning, engineering, construction, and maintenance. Thus, combining both an ever expanding infrastructure and a depleting existing infrastructure, structural engineers and likewise the many other engineer disciplines alike are needed now, more than ever, to make the world we live in a safe and less hectic place for all.

Disclaimer

Much of the contents herein are the opinion of the author and are provided for discussion purposes only. This article should not be misconstrued for facts or policy.

Author Bio: Mark Converse, PE is a Railroad Bridge Engineer at Benesch in Chicago and currently serves as Vice President for the Structural Engineering Institute, Illinois Section.

Encouraging the Youth, Creating the Future

(Continued from 5)

very little experience to help decide with. The Mentorship Program and Panel Discussions really help to bridge this gap in knowledge, and seeing students walk confidently into a new job, internship, or year of school will keep you getting involved with students for years to come.

Programs and events that we put on all year require lots of volunteers to function smoothly, but the most valuable participants are the students themselves. With our deep involvement in the infrastructure, we see our friends and family using on a daily basis, we often forget how little people know about us and what we do. IS-ASCE Student Outreach events are a great way to engage students who are already aware and interested in Civil Engineering but do little to encourage students unaware of the industry. Any individual can contribute to student and community outreach just by talking about the little things you find interesting about your day-to-day job activities. Even telling some friends or family why interstate signs are numbered the way they are can go a long way

(Continued on page 10)

Encouraging the Youth, Creating the Future

(Continued from 9)

in providing a little knowledge and inspiration to somebody who might not even know civil engineering exists. That being said, volunteers for IS-ASCE and Student Outreach events are always needed. To stay up to date on all the Committee's outreach activities and events, check out the Illinois Section event calendar or visit our webpage at https://www.isasce.org/.

Author Bio: **Joshua Starzyk, P.E.** is a Senior Transportation Engineer with Gannett Fleming and serves as a member on the IS-ASCE Student Outreach Committee as well as Outreach and Scholarship Board Member for the IS-ASCE Transportation and Development Institute.

The Treasures in a Geotechnical Report

(Continued from 3)

I will share a little secret with you. No, geotechnical engineers do not plan on conquering the world, that's Pinky and the Brain. Remember when you were in school and the teacher told your parents "XXX is a great student and is doing great in class, but" that "but" right there was when the teacher told your parents all about your out of the ordinary behaviors. Well, geotechs do the same! We use the key word "However". If you see a "however" in your geotechnical report, read the sentence again. You might find additional details or concerns from the geotechnical team.

Obviously, there are many more secrets buried in a geotechnical report. I can't tell you all of them because they won't be secret anymore. However, you can discuss with your geotechnical engineer about what should be addressed in the report. After the report is submitted, ask any questions or concerns you may have. We are always happy to talk about soils! Now that you know some of our secrets, keep them *below grade*.

Author's Bio: Andrés's work includes site characterization, specialized testing and preliminary deep foundation designs. Matos is also a TEXAM Pressuremeter operator. He earned his BS in Civil Engineering in 2017 at the University of Puerto Rico, Recinto Universitario de Mayagüez, Mayagüez, Puerto Rico. At a local level, Andrés is the Chair of the ASCE-IL Geo Institute. Andrés looks forward to becoming a Professional Engineer and Project Manager for the Geotechnical Engineering Department.

IS-ASCE Annual Membership Committee Update

(Continued from page 6)

like to learn more or volunteer as your company or agency's Local Membership Champion, please contact Tom Borges at tborges@bloomcos.com.

The 2023 Membership Committee consists of current Membership Chair Tom Borges (Bloom Companies, LLC), former Membership Chair and current President-Elect Matt Huffman (Christopher B. Burke Engineering, Ltd.) and Director Steve Randolph (Horner & Shifrin, Inc.). The committee is always looking to identify new membership-related initiatives including ways to retain existing members and inform them of the various benefits that come with being a valuable part of our Illinois Section. One primary goal, however, remains: to attract new members! One way you, as a reader of this article, can help boost our membership base is by referring friends and colleagues through the *Member-Get-A- Member* program (https://info.asce.org/mgam). Simply refer individuals that are not currently ASCE members and receive a $50 Amazon gift card for every new professional member that joins due to your referral. ASCE will reach out to these mem-

(Continued on page 11)

IS-ASCE Annual Membership Committee Update

(Continued from 10)

bers on your behalf to outline the benefits of becoming a member and offer them a discount on their initial membership dues. A $500 Amazon gift card will also be awarded to the member with the most successful referrals nationwide throughout 2023.

The Member-Get-A-Member program is a great way to help increase our Section's membership and provides current members great incentives for successful referrals.

Please remember to keep your ASCE account up to date with your latest employment and contact information by logging into your online ASCE account and navigating to the *Manage My Account* page. It is also very important to remember to pay the Illinois Section dues ($30) when renewing your 2023 membership, as these dues account for a majority of our Section income which we rely on to fund outstanding programs and events such as the Illinois Infrastructure Report Card, Annual Awards Dinner, Legisla tive Lobby Days in Springfield and Washington DC, and various community service and student outreach activities. If you have not already renewed your membership, please note that the ASCE membership renewal grace period lasts through March 31st.

If you have not already renewed your membership, please note that the ASCE membership renewal grace period lasts through March 31st

The state of membership within the Illinois Section of ASCE begins 2023 with 2,919 active members. The makeup of our Section consists of 1,378 Members (47%), 617 Associate Members (21%), 681 Student Members (23%), 131 Affiliate Members (5%), 105 Fellows (4%) and 7 Distinguished Mem bers. The Illinois Section also has 529 Life Members (18%) who have made a lifetime commitment to ASCE and the profession by maintaining membership over the length of their career.

Please contact Tom Borges, the Illinois Section Membership Committee Chair, with any membership-related questions at tborges@bloomcos.com.

Author Bios: Tom Borges, P.E. is the Illinois Highways and Roads Design Manager at Bloom Companies, LLC.

Matt Huffman, P.E. is a Senior Project Manager at Christopher B. Burke Engineering, Ltd.

Illinois Section News & Secretary Report

Spring 2023

To inform Illinois Section members of the discussions at monthly Board meetings, the Section Secretary contributes this article to the newsletter covering January 2023, February 2023, and March 2023. The Illinois Section Board Meetings offer in-person and virtual attendance options. Access to historical IS Board Meeting Minutes, Constitution, and Bylaws can be found on ASCE Collaborate at https://collaborate.asce.org/home. Any questions or comments on the Board activities are welcome by contacting Secretary Monica Crinion at monica.crinion@aecom.com.

■ *Treasurer's Report & Meeting Minutes*

▲ A treasurer's report was presented and approved at the January 2023, February 2023, and March 2023 meetings. The December 2022 and January 2023 Board Meeting minutes were approved.

■ *Highlights from Illinois Section Activities and Institute/Group Reports.*

▲ ***Future Cities Competition*** – The Chicago area Future City Competition was held on January 21st, 2023. The theme was Climate Change Challenge – student teams designed a futuristic city that adapts to and mitigates the challenges of climate change. The Illinois Section and technical group institutes sponsored 8 different awards for the competition and 12 members participated as judges for the event.

▲ ***IL Section ASCE Scholarships*** – The Illinois Section and Technical Institutes are once again offering scholarship opportunities for local ASCE students. Undergraduate and graduate students from UIC, IIT and Northwestern are eligible to apply. The application and more information is available on https://www.isasce.org/scholarships/. The application deadline is March 20th, 2023.

▲ ***Spring Dinner*** – The Student Scholarship awards and recognition dinner will be held in-person on Wednesday, April 26th at Maggiano's Little Italy downtown Chicago location. President-Elect Marsia Geldert-Murphy will be in attendance. Online registration opens mid-March and the IS welcomes student scholarship winners, Illinois Section Mentorship Program participants and all other members to attend.

▲ ***2023 Legislative Fly-In*** – The legislative fly-in was held March 1st thru March 3rd in Washington D.C. Over 300 ASCE members attended including 9 members on behalf of the Illinois Section. ASCE members met with over 250 House and Senate offices from 47 states, D.C., and Puerto Rico. Key initiatives promoted by ASCE included prioritization of resilient infrastructure, FAA reauthorization, and National Dam Safety Program reauthorization.

▲ ***Student Chapter Interaction*** – The IIT ASCE Student Chapter joined the March IS Board Meeting to provide an update on their recent activities and plans for the year ahead. IIT will be participating in the Western Great Lakes ASCE Student Symposium being held at University of Minnesota Duluth April 13th – 15th, 2023. The students look forward to competing in the concrete canoe, steel bridge, quiz bowl, technical paper and concrete cornhole events.

▲ ***State Legislative Drive Down*** – IS members are encouraged to participate in the Transportation for Illinois Coalition (TFIC) Lobby Day in Springfield, IL on April 19th. The event includes a luncheon followed by Capital Meetings and an evening reception. Please register here and write "ASCE" in the sponsoring organization guest field.

▲ ***2023 ASCE Society Convention*** – The 2023 ASCE Convention will be held in Chicago from October 18th - 21st, 2023 at the Hilton Chicago. The Local Subcommittee, led by Karren Kabbes, will assist with formulating ideas for technical tours, planning a community service project, and volunteering during the event. To volunteer for the committee, please contact President Sandy Homola at Sandra.Homola@exp.com.

▲ ***Construction Institute (CI)*** – The CI held their Board meetings on January 4th, February 1st, and March 1st. On February 23rd, Mike

(Continued on page 13)

Secretary Report

(Continued from page 13)

Stirk gave a dinner presentation on IDOT's Innovative Project Delivery Program (IPDP). CI will be an "Industry Stakeholder" for the IDOT IPDP committee to provide comments and revisions on the IDOT program manual currently under development. For more information or if interested in joining this institute, please contact CI Chair Michael Kowalski at mkowalski@ciorba.com.

▲ ***Environmental & Water Resources Institute (EWRI)*** – The EWRI held their Board meetings on January 10th, February 7th, and March 1st. A HEC-RAS Training Basics course was held on February 15th & 16th at the IDOT District One Material Laboratory in Schaumburg, IL with 21 seminar attendees. Based on the success of the training, EWRI is considering offering an advanced HEC-RAS course in Fall 2023. Please contact EWRI Chair Joe Wilk with any questions or for information about EWRI activities at jwilk@cbbel.com.

▲ ***Geo-Institute (GI)*** – The GI dinner meeting on January 17th featured speaker Dr. Brando Curry of the Illinois State Geological Survey presenting an overflow history of glacial Chicago Outlet "Kankakee Torrent". Please contact GI Chair Andrés Matos with any questions or for information about GI activities at andres.matos@shanwil.com.

▲ ***Structural Engineering Institute (SEI)*** – The SEI held their Board meetings on January 18th , February 8th and March 7th. The chapter institute held a successful field trip to visit the new UIC Structure High-Bar Lab and tour the facility on January 26th. At the tour, several UIC PhD students presented their ongoing research. Please contact SEI Chair Chris Knipp with any questions or for information about SEI activities at Christopher.Knipp@parsons.com.

▲ ***Transportation & Development Institute (T&DI)*** – The T&DI held their Board meeting on January 10th and February 21st. A luncheon was held on January 26th featuring keynote speaker James Harper, the CTA – Chief Engineer, Infrastructure. Please contact T&DI Chair Michal Miczek with any questions or for more information at michal.miczek@hdrinc.com.

▲ ***Utility Engineering and Surveying Institute (UESI)*** – The UEI held their Board meeting on January 9th and February 13th. For more information or if interested in joining this institute, please contact UESI Chair Steve Rienks at s.rienks@AmericanSurvey.com.

▲ ***Younger Member Group (YMG)*** – The YMG hosted a trivia night at Jefferson Tap on January 31st. On February 25th, seven (7) YMG members volunteered at the Chicago Architecture Center Engineering Week E-Fest. For more information about YMG activities or if interested in joining this group, please contact YMG Chair Matt Gazdziak at matt.gazdziak@strand.com.

The Illinois Section Board Meetings are held the first Monday of the month, except for holidays. The next board meeting is scheduled for April 3, 2023 and will be in-person at EXP (205 N. Michigan Avenue). For any guests or Board Members that cannot attend in-person, a virtual option will be provided via MS Teams. If you are interested in attending these meetings, please contact President Sandra Homola at sandra.homola@exp.com.

By Monica Crinion, PE
ASCE Illinois Section Secretary 2022-2024
monica.crinion@aecom.com

Illinois Section Activities

IL Section ASCE T&DI March Luncheon

Date: Wednesday, March 15
Time: 11:30 AM to 1:15 PM
Place: Maggiano's Schaumburg, 1901 Woodfield Rd., Schaumburg, IL 60173
RSVP: IS-ASCE T&DI March 2023 Luncheon - IDOT Region 1 (constantcontact.com)
Contact: Muhammad Ali
IS-ASCE T&DI Vice Chair for Programs
352-328-8713
programs.tdi@isasce.org

Sponsorship opportunities are available for this event.

Final Date to RSVP is Friday, March 10th, 2023.

IL Section ASCE Student Scholarship Applications Due

Date: Monday, March 20
The Illinois Section & Technical Institutes provide scholarships to undergraduate and graduate students. The scholarship application is available on this webpage in the winter and the scholarships are awarded at the President-Elect / Student Scholarship Dinner each April.

2023 IL Section ASCE Scholarship Instructions & Application
ASCE Commendation Scholarship
Construction Institute (CI)
Environmental and Water Resources Institute (EWRI)
Geo-Institute Scholarship (GI)
Structural Engineering Institute Illinois Chapter (SEI)
Transportation & Development Institute (T&DI)

TFIC Lobby Day - Springfield, IL

Date: Wednesday, April 19
Speaker: Illinois House, Senate, and Executive Leaders
Time: 11:00am Speakers and Lunch followed by Capitol Meetings; 5:00-7:00pm Reception
Cost: $50
Location: Merchant House, 625 E Monroe St, Springfield, IL
RSVP: Please register **here**. Write "ASCE" in the sponsoring organization guest field.

IS-ASCE will again sponsor and support the Transportation for Illinois Coalition's Lobby Day as our State Legislative Drive Down event. We look forward to seeing you there as we continue to advocate for funding for infrastructure needs and the needs of our profession.

TFIC Lobby Day Flyer

IL Section ASCE President-Elect/ Student Scholarship Spring Dinner (SAVE THE DATE)

Date: Wednesday, April 26
Time: 5:00pm to 7:30pm
Place: Maggiano's Little Italy (Chicago Banquet Rooms)
111 W. Grand Ave, Chicago, IL 60654

The Illinois Section of ASCE is pleased to host its annual President-Elect/Student Scholarship Spring Dinner. The event will recognize the Illinois Section's 2023 student scholarship award winners and our mentorship program participants.

We are excited to have 2023 ASCE President-Elect Marsia Geldert-Murphey, P.E., F.ASCE joining us as the keynote speaker.

ASCE's CI Student Days 2023 - Denver, CO

Date: Friday – Tuesday, August 4-8, 2023
Apply Today!

CI Student Days will be hosted in Downtown Denver, August 4-8, 2023. We are looking forward to our annual student competition program and hope that you will join us! Our website is now live and we are accepting applications, and encourage students to apply. For program details, please visit our website.

Missed the CI Student Days 2022 program? Read about our student competition in ASCE's Civil Engineering Source.