2022 Chapter Achievement Award Application

Arizona Geo-Institute Chapter

January 26, 2022

Prepared for:

Geo-Institute of ASCE
ATTN: Krystina Scott
1801 Alexander Bell Dr.
Reston, VA 20191

Prepared by:

Mariah Paz, EIT
Chair – Arizona Geotechnical Institute

Table of Contents

Appendices

Introduction

The Arizona Geo-institute Chapter (AZ GI) was founded in 2012. Under normal circumstances, our monthly board meetings are hosted at the chair's engineering firm. Due to the ongoing COVID 19 pandemic, our meetings remained virtual for the first half of the 2021 year. However, half way through the year, the meetings were allowed to be offered through a hybrid format, both in-person and virtual. Throughout the past years, our member meetings have seen a robust number of attendees. Member meetings were held nearby Arizona State University (ASU) to draw geotechnical and geologist students and academic participation. Once a year, in the fall, our chapter hosts the Southwest Symposium which is our highest attended event of the year. We typically provide between six and eight presentations from speakers across the country. Arizona is a state that does not require Continuing Education Credits to renew a Professional Engineering license, yet even without the PDH requirement our member participation is consistent and at respectable levels.

Our 2021 board members are:

Secretary: Elizabeth Young

Treasurer: Austin Olaiz

Vice Chair: Rachelle Mason

Chair: Mariah Paz

Past Chair: Thomas Hull

Southern Arizona Chair: Alexia Acevedo Navarro

1. Communicating Effectively

Our board members strive to provide value to the geotechnical engineering community. We foster a close relationship with ASU through our ASU Student Liaison and in the past years we have even had ASU students serve as board members. The ASU student liaison attends our monthly board meeting to communicate events and to provide updates on ASU activities. Our member events are shared via email to every AZ GI member, posted to LinkedIn, and distributed through the ASU student liaison among students and ASU professors to draw a diverse group of attendees.

A few weeks prior to our member meetings, we start sending out invitation to announce the member event. As we near the date of the member meeting, we increase the number of emails sent out to draw in as many people to our presentations as we can. This year, the AZ Geo-Institute board has included the number of people signed up for the member meeting to increase attendance. The 2021 member meeting emails contained fun notes, statistics on how attendance compares to past meetings, and the goals we as the board had for attendance. Throughout the year, our AZ G-I members have expressed their support for the additional information and fun notes in our member meeting invitations. It cheered people up during the darker times of the pandemic.

Prior to the member meeting presentations, we give an update of what is going on in the geotechnical community. These updates include information on inter-disciplinary events the AZ GI co-host, information for our members on changes in legislation pertaining to the civil engineering community, updates from the board members from the Association of Environmental and Engineering Geologists (AEG) who promote their upcoming events, and information from practitioners regarding changes in local regulations, or other relevant news pertaining to geotechnical or civil engineering.

Examples of our 2021 communication are shown in Appendix A. These include a LinkedIn post, a member meeting invitation, and the end of year holiday season greeting email.

2. Meeting Attendance

Due to COVID 19, meetings were held exclusively online and the member meetings continued to see a successful turnout. As the organization switched over to a hybrid format, we began to see more of our member's in-person, while some members continued to access the meetings online.

In 2021, we started off the year with the Eric D. Elison, Professional Engineer from Ninyo and Moore. Our virtual meeting included 36 member attendees. Our joint September meeting with the SEAoA and ASCE Phoenix Chapter was our first hybrid meeting since pre-COVID 19 with a total of 22 Geo-Institute attendees. Attendance of our online member meetings for the first half of the year varied from 40 to 75 attendees, which is about 30 to 50 percent up comparable to our meetings the previous years.

The 2021 Southwest Symposium was held both online and in-person. Our symposium had a total of 105 attendees: 19 online and 86 in-person. The 2021 Southwest Symposium was the most successful in person symposium to date, we increased attendance by 28 percent from our last record symposium attendance in 2018.

We have received overwhelming support from our members that are not located in Phoenix when we announced to continue with the virtual format. The virtual format allows geotechnical engineers and geologists to be part of our member meetings from the comfort of their homes across the states. The Arizona Geo-Institute has purchased a top-quality lapel microphone to facilitate the best quality for our virtual attendees.

3. Providing Quality Presentations on Current Technical Subjects

Our chapter is selective in who we ask to present at our member meetings. We draw from a large pool of talented local speakers who are active in various disciplines within geotechnical engineering from construction, mining, government, academia, geotechnical consulting, to engineering geology. The majority of presentations are relevant to arid dessert climates. Presentations that are outside the day-to-day practice of Arizona Geotechnical Engineers are selected based on high profile projects and/or high-profile research developments. A summary of the 2021-chapter events is shown in Appendix B.

The AZ GI had the honor of hosting the Cross USA lecturer from the National GI board during the Southwest Symposium. The Chapter has had the honor of hosting the Cross USA lecturer for the past five years. Presentations of the Cross USA lecturer are always of a high technical standard. The interest of our members in highly technical presentation is reflected in the attendance for the Cross USA lecturer presentation.

Every year, the AZ GI hosts a Southwest symposium. We plan for a wide selection of speakers who can captivate the attention of our members for the day long symposium. For the first time, the 2021 symposium included a variety of topics. The speakers list was comprised of professors from Texas A&M, University of Washington, and UC Berkeley, a PhD Student from Arizona State University, the cross USA lecturer, and various Geotechnical engineers and geologists who practice in the geotechnical consulting industry.

4. Providing Relevant Ethics Presentations

The state of Arizona does not require PDH hours for professional engineering license renewal. Thus, our focus has historically been on providing technical presentations to our members.

5. Interaction with ASCE and Other Affiliated Organizations

The AZ GI chair attends and participates in the ASCE monthly section meetings. In 2021, the AZ Geo-Institute provided a platform to call our engineers into action against SB 1062 and SB 1304. These bills were introduced to diminish the engineering profession in the State of Arizona. The Arizona ASCE Section spearheaded this opposition campaign and the AZ Geo-Institute passed on the message to our community. Additionally, the AZ Geo-Institute was asked to promote the ASCE/ASHE State Conference in November of 2021. Our board has sent out multiple emails to our members to increase attendance for our parent Arizona ASCE organization. As a result of our efforts, the AZ ASCE board informed us that registration started picking up the week before the ASCE/ASHE State Conference.

Our board has close relationships with the local Association of Environmental & Engineering Geologists (AEG). In the springtime, the AZ GI and the AEG host student mixers/career fair at Arizona State University. The board members of the AEG attend the AZ GI member meetings on a regular basis, and vice versa. The AZ GI promotes AEG member meetings, and vice versa. This symbiotic relationship benefits both professional organizations and the overall geotechnical and engineering geologist communities.

On a yearly basis, the AZ GI and the Structural Engineer Association of Arizona (SEAoA) host a joint member meeting. This year it was also co-hosted with ASCE Phoenix Chapter. We alternate who selects the speaker and who selects the place of the member meeting. The goal of this member meeting is to have a presentation topic that is relevant to both industries and to provide a social event at which the local structural and geotechnical practitioners can continue and enhance their professional relationships.

6. Interacting with and Supporting G-I Graduate Student Organizations

The ASU Student liaison is present at the AZ GI board meetings and provides updates on geotechnical engineering activities at ASU. The AZ GI board works closely with the ASU GI organizing and supporting student events and provides speakers for these events. On multiple occasions, the AZ GI board members have spoken at ASU GI events. AZ GI provides support to the ASU GI and AEG to host, facilitate presenters, and locate sponsors for the ASU Student mixer/career fair.

When we host the Cross USA Lecturer, the AZ GI collaborates with Professor Kavazanjian from ASU to provide an additional presentation at ASU, if possible. Historically, the Cross USA Lecturer has taken advantage of this and given an additional presentation at ASU. Professor Kavazanjian promotes the AZ GI member meetings among students. Our industry members appreciate the large student turnout at our events as relationships between students and prospective employers are built while students are working on their degree.

7. Providing scholarships to geotechnical students

In three past years the AZ GI has gone through tremendous growth in the amount of scholarships we offer. In 2017 we started from offering one $500 scholarship to a student enrolled in geotechnical engineering/geosciences at a university in Arizona to two $1000 scholarships in 2020. In 2021, we continued this tradition, with awarding two $1000 scholarships. Our scholarship winners were awarded during the 2021 Southwest Symposium. It is our goal to award as many scholarships as is sustainable through the contributions of our geotechnical community and event sponsorships as our way to give back to the community.

8. Leading or participating in active K-12 outreach programs

This is a task where the AZ GI has historically not participated. The majority of our outreach has been to students who are enrolled in college. The AZ GI has not participated in K-12 outreach due to the ongoing pandemic. It was deemed not responsible to attend events with larger groups of students. During 2022, the AZ GI will continue to evaluate to participate in K-12 outreach. Considering current events, in person outreach is likely not occurring in the first half of 2022. It is the boards opinion that K-12 outreach is best done in person, so we look forward to attending in person outreach events after the pandemic has subsided.

9. Hosting or participating in regional geotechnical seminars

As stated above under bullets 2 and 3, the AZ GI hosts a yearly Southwest symposium. The symposium is hosted within the Phoenix metropolitan area. The day starts around 8 am with an introduction and a brief overview of the symposiums program. A total of seven presentations were given at the symposium spread out in a morning and afternoon session, the 2021 Southwest Symposium agenda is attached in Appendix C. This symposium was held in both a virtual and in-person format. Symposium attendance has historically been around 65 to 70 people and in 2021, our attendance increased to 105 registered attendees. The Southwest Symposium is well recognized in the region for its top-notch technical presentations. Our members have expressed that besides enjoying the technical presentations, the symposium gives them a valuable opportunity to meet face to face with fellow geotechnical and geological engineer practitioners.

10. Sponsoring Public Service/ Awareness Activities

We do not actively sponsor public service or awareness activities. We do provide a discount to government employees for all our chapter meetings. As we remain in a hybrid platform, we made our online platform free for government employees and students. At our in-person meetings, we ask for any updates on events in Arizona from our members. This is how we disseminate information about local issues, like any relevant legislative news or any activities going on at the local universities that are open to the public.

11. Championing Sustainability Principles and Awareness

Our connection to sustainability comes from our relationship with Arizona State University. This connection provides access to the National Science Foundation Engineering Research Center for Bio-mediated and Bio-inspired Geotechnics (CBBG). Professor Kavazanjian is the Director of the CBBG, and he and his fellow professors have provided us yearly presentations on their research projects, all of which have a sustainability focus. This year that update did not occur as the faculty were stretched during COVID, however, we will continue to leverage this relationship in 2022.

Based on the evaluation of the 2020 presentation, the AZ Geo-Institute board made it a priority to include a sustainability presentation for our Symposium. We had the honor of having Dr. Alena Raymond present on: "*A Life Cycle Sustainability Assessment Framework to Guide Geotechnical Engineering*" The presentation discussed an integrated life cycle sustainability assessment (LCSA) approach was developed to evaluate the impacts of geotechnical engineering technologies and inform decision making in academic research and professional practice toward more sustainable solutions.

12. Setting and Achieving Healthy Membership Goals

Our membership goal as a chapter is to continue to have enough members such that we can support our scholarship program, attract good speakers, attract sponsors, and continue our scholarship program. Our active membership has been enough to reach our goals, however, we do continue to promote our meetings through LinkedIn, word of mouth, and through the ASU-GI so that we can maintain the level of active participation we need to sustain our chapter's activities.

13. Providing Relevant Content and/or Programs to Achieve ASCE's Policy Around Promoting Diversity and Inclusion

Our chapter started promoting diversity on our board while Jeff Rodgers was the chair in 2018. When recruitment for our newest board member began that year, Jeff asked that when we recruit board members we seek someone that is different than ourselves. With this mentality, our board grew from having no women members in 2018 to having four women on the board in 2021 and in 2022. Additionally, the board has three members that are underrepresented minorities.

14. Providing Content and Value to the Geotechnical Community in the Face of the COVID-19 Pandemic

In 2021, the board was able to stay connected with our members through multiple formats. We were worried that our members would be hesitant remain in an online meeting format because a lot of the value of our meetings comes from the socializing that occurs prior to the technical presentation, our member attendance has grown during the pandemic and the continuously show up to support our chapter. We have found that, although it is not a perfect solution, it is nice to have our geotechnical community back together and bonded together in a virtual format. Further, based on the continued attendance during the year, the AZ Geo-Institute is still able to provide our members value and provide some semblance of normalcy during the pandemic.

Compared to 2020, the big event of the year, our annual Southwest Symposium, was held in both a virtual and in-person format for the first year. We felt that it was important to have multiple formats for the symposium and also providing social distancing measures to keep our members safe. Our Symposium was hosted at Arizona State University in Tempe Arizona to provide a central location for all our members. We received positive feedback on both formats. They were amazed with the calibre of the presenters and topics. We received positive feedback from presenters and attendees of the hybrid format. We were also able to get seventeen sponsors for the event, who were all given a few minutes to speak about their company during the symposium to provide some extra value for their sponsorship. Another new event offered at the 2021 symposium was a happy hour event hosted by one of our local sponsors. This happy hour event followed the symposium and allowed our members to network and spend time with some of the speakers. This happy hour was the perfect ending to our symposium with another moment to discuss the presentations and ask questions to our renowned speakers, all our members were thrilled to have a happy hour.

Despite the ongoing pandemic, we have continued to provide content and technical value to our members. We felt it was important for the AzGI to keep the energy around our chapter going in 2021, and we feel the participation by our members and sponsors shows that we were able to do that. Additionally, the continued efforts in 2021 means the chapter is well positioned as we enter 2022 to continue providing content to our geotechnical community and to continue our scholarship program.

Appendix A
2021 Chapter Communication

Call to Action
Oppose Senate Bill
SB 1062

Hull, Thomas

From: Hull, Thomas
Sent: February 26, 2021 10:01 AM
Subject: SB 1062 Call to Action
Attachments: House Commerce Committee Roster.xlsx

Importance: High

Hello,

Please find below a call to action regarding SB1062. This email contains information on why ASCE is opposing this bill and how you can help support our opposition.

Thank you in advance,

Thomas Hull, PE (AZ, TX)
Geotechnical Engineer
D +1-602-648-2321
M +1-916-346-9087

From: Gary Miller <gmiller@flagstaffaz.gov>
Sent: February 26, 2021 9:25 AM
To: ASCE Arizona Section <ascearizona@azsce.org>
Cc: Jose Aguilar <joseaguilar.asce@gmail.com>; Breanna Connolly <bre.connolly@gmail.com>; Laura Spencer <l.spencer@tencategeo.com>; Karl Rockwell <krockwell@rockwellcivil.com>; Eddy Ramirez <Eddy.Ramirez@terracon.com>; Sevier, Caroline <CSevier@asce.org>
Subject: [EXTERNAL] SB 1062 Call to Action

Many of you may have seen emails from ASCE and the AZ Board of Technical Registration regarding Senate Bill 1062. This proposed legislation seeks to redefine the definition of "Engineer", "Engineering Practice" and add a definition for "Professional Engineer". While on the surface these new definitions may seem appropriate or even strengthen the definition, this new language would allow an unregistered "Engineer" to practice Engineering in the state of Arizona.

I know that as an ASCE member you value the requirements of education, experience and certification that the current state laws require to practice Engineering. In short, this legislation puts the public at risk, and as member of ASCE it is our responsibility to "first and foremost, protect the health, safety, and welfare of the public" as defined in the ASCE Code of Ethics.

Senate Bill 1062 has been approved by the Senate and forwarded to the House for review and approval. The bill has been scheduled for the House Commerce for March 2nd at 2PM. You can view the meeting here.

How can you help?

1. Register for Request to Speak: https://docs.google.com/forms/d/e/1FAIpQLScdjBMoAJrjHD57GGegmdUCKAowcr93K4vQA6a7_AjyElBtrQ/viewform
    a. Request to speak is a system available to citizens to post their positions on bills and request to speak at meetings. By filling out the google doc above, a volunteer will register you for an account at the capital

which can be used for this and any future bills. Registration may not happen in time for the 2 March meeting but this account is extremely useful if future legislation comes up.

   b. Once you have an account go here and select “Request to Speak”, select “New Request” from the side bar, find “SB 1062” in the House Commerce Committee, Select “Add Request” and fill out the form provided. At this time we ask members only add their position and comment to leave the floor open for Gary Miller, ASCE President, to speak.

2. Call any of the members of the commerce committee (see attached roster) prior to the meeting on 2 March.
   a. If you cannot call all members of the committee, please try and select from the list randomly rather than from top to bottom. Our objective is to make sure all members are reached out to and not just the first two alphabetically.
3. Email the members of the commerce committee
   a. We have a Key Alert set up here. You can fill out the form to send an email to your specific representatives in the House who may not have seen this legislation yet OR use the letter as a template to email the members of the commerce committee in the attached roster.
4. Forward this call to action to anyone we may have missed

Thank you,

Gary Miller, P.E.
AZ Section President
ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS
Mobile: 928-863-8001

Covid Communication

Hull, Thomas

From: Hull, Thomas
Sent: April 28, 2021 11:05 AM
Subject: AZ Geo-Institute: Update on near future member events

Hello AZ GI member,

The last week the AZ GI board received inquiries from members regarding when the AZ GI will resume in-person member meetings. The board consulted with national ASCE GI and the AZ ASCE board members to get a sense of direction on what is going on in other states and within other ASCE affiliated organizations. Please find here below a summary of our findings.

The national ASCE website, www.asce.org/covid-19/, has the following statement regarding in-person events:
"All in-person ASCE events* scheduled before May 31, 2021 are cancelled, postponed or have a virtual offering."

The national ASCE GI board provided the following response, with clarification on IFCEE being held in-person:
"Local groups should follow guidance from their home jurisdictions, health conditions in the area, and above all, common sense."

"IFCEE is a partnered event – there are three other organizations running it with G-I . . . the G-I pushed hard to have a remote attendance option added. . . the majority of our members attending IFCEE will be participating from the comfort of their home or office . . . we weren't asking our members to travel across the country and spend a week in a situation they or we weren't comfortable with."

Arizona ASCE Affiliated Organizations:
In the April Arizona ASCE board meeting, some Arizona ASCE affiliated organizations shared that they are starting up in-person events in the upcoming months. These decisions depend on the level of comfort of those board members willing to have in person meetings.

Arizona GI:
In the April board meeting, the AZ GI board members discussed the option of holding in-person events. We came to the conclusion that member meetings will continue to be virtual in April and in May before taking a summer break.

Note that many of the AZ GI board members work for companies that still have restrictions in place for their employees attending in-person events. It is unclear when these company restrictions will be lifted. Over the summer, we will continue to monitor the ever changing guidelines and assess when the best time is to go back to in-person events.

We, as everyone else I am sure, are looking forward to meeting face-to-face with our members. It is our hopes that we can do that after the summer break.

Kind regards,

Thomas Hull, PE (AZ, TX)
Geotechnical Engineer,
Geo/Civil Department
Central Region
D +1-602-648-2321
M +1-916-346-9087
thomas.hull@aecom.com

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T +1-602-371-1615
aecom.com

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Support for Arizona ASCE State Conference

Hull, Thomas

From: Hull, Thomas
Sent: November 5, 2021 4:38 PM
Subject: ALMOST WEEKEND.. One more thing to do .. Register for the ASCE / ASHE State Conference

Hello AZ Geo-Institute Member,

Minutes to spare on this Friday afternoon … if you have not had a chance to register for out ASCE / ASHE State Conference, there is no time like the present!

Note: ASU Student Chantell Cornett, also an AZ G-I member, will present on: Construction Defects 101: Bridging the gap from design to construction – Leveling up to our trade partners.

Follow the link below to the program and conference registration!

ASCE/ASHE Conference Program: https://drive.google.com/file/d/17UpO8KoFZ8vQIsiEWfChQGq5fpqJ34u7/view
Register for conference:
https://events.r20.constantcontact.com/register/eventReg?oeidk=a07eiehhyikbcb91eb8&oseq=&c=&ch=

Thank you in advance for registering for our ASCE / ASHE Conference,

Thomas Hull, PE (AZ, TX)
Geotechnical Engineer,
Geo/Civil Department
Central Region
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M +1-916-346-9087
thomas.hull@aecom.com

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Phoenix, Arizona 85020, USA
aecom.com

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Hull, Thomas

From: Hull, Thomas
Sent: November 5, 2021 6:24 AM
Subject: THIS MONDAY! ASCE / ASHE State Conference

Hello AZ Geo-Institute Member,

This Monday is the ASCE / ASHE State Conference! We at the AZ G-I encourage you all to go. There are special rates / sponsored registrations available for students .. only $35 to attend! Off course our civil engineering students turn in to our future co-workers! For us working in the industry / government, your attendance will pay off dividends in the people you meet and the new connections you make here locally at our ASCE ASHE State Conference!

We hope you are having a great Friday and a few minutes to spare to register.

ASCE/ASHE Conference Program: https://drive.google.com/file/d/17UpO8KoFZ8vQIsiEWfChQGq5fpqJ34u7/view
Register for conference:
https://events.r20.constantcontact.com/register/eventReg?oeidk=a07eiehhyikbcb91eb8&oseq=&c=&ch=

Thank you in advance for registering for our ASCE / ASHE Conference,

Thomas Hull, PE (AZ, TX)
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M +1-916-346-9087
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Arizona Geo-Institute Symposium Email Samples

Hull, Thomas

From: Hull, Thomas
Sent: September 30, 2021 8:45 AM
Subject: LAST DAY EARLY BIRD REGISTRATION 2021 Southwest Symposium

Hello AZ Geo-Institute member,

It is a great day to sign up if you are still on the fence about attending because today is the last day for our early bird registration!

We have 50 registrants signed up for our Southwest Symposium! 22 people signed up for our Happy Hour! Thank you Keller for sponsoring our first Happy Hour! It is a great opportunity to talk with our sponsors and speakers. Since we added the happy hour feature to our registration after we opened the event, we are expecting more attendees!

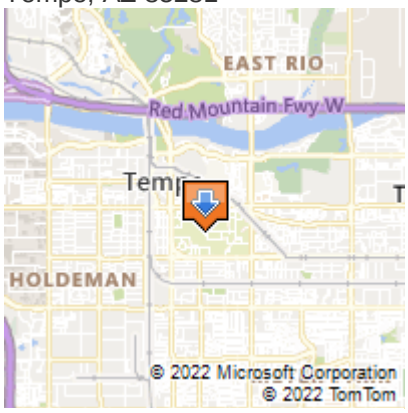
If you have not "signed up" for our happy hour, no worries, you can decide on the day of the event if you would like to attend.

We from the AZ G-I board are looking forward to the Symposium and seeing you all there!

Thank you in advance for attending,
AZ G-I Board

When
Monday, October 25, 2021 from 7:45 AM to 5:00 PM MST
Add to Calendar

Where
ASU - MU Building 241BC
Ventana BC
301 E Orange Street
Tempe, AZ 85281



Driving Directions

2021 Southwest Symposium

G-I
ASCE

GEO-INSTITUTE
Arizona Chapter

Special thanks to our Platinum Sponsors:

Hull, Thomas

From: Hull, Thomas
Sent: October 5, 2021 1:44 PM
Subject: [EXTERNAL] Attend 2021 Southwest Symposium

Hello AZ G-I Member,

We are 20 days away with 62 people registered! Today, our AZ G-I Board visited the venue to ensure all will be setup just right for our Hybrid symposium! The room will have a spacious setup with sponsor tables in the back and round tables near the podium for our attendees. Every one will have a great view of the presentation slides on one of the two large screens on both sides of the presenter. There will be multiple microphones that can be used by the speakers and the audience to ask questions. This will also ensure that our virtual audience gets the best experience possible of the Symposium in the comfort of their location of choice.

Just because I know everyone is curious about how this symposium already stacks up against our previous ones. Therefore, I pulled some data here with our registration stats. Note that these were the final registration numbers.

2016 Geo-Hazards Symposium – 60 people registered
2017 Ground Improvement Symposium – 56 people registered
2018 Slope Stability and Earth Retaining Structures – 67 people registered
2019 Forensic Case Studies in Geotechnical Engineering – 57 people registered
2020 Advancements in Geotechnical Engineering – 134 people registered (Virtual)
2021 Southwest Symposium – 62 people registered
First happy hour!

This year, you as AZ G-I Members have really pulled through! We at the AZ G-I Board all hope that we will have record breaking attendance and have our hopes set on a minimum of 75 attendees.

Thank you in advance for signing up!

Kind regards,
AZ G-I Board

When
Monday, October 25, 2021 from
7:45 AM to 5:00 PM MST
Add to Calendar

2021 Southwest Symposium

Where
ASU - MU Building 241BC
Ventana BC
301 E Orange Street
Tempe, AZ 85281

Hull, Thomas

From: Hull, Thomas
Sent: October 15, 2021 5:45 PM
Subject: FW: 2021 Southwest Symposium - AGENDA + IMORTANT INFO

Hello AZ G-I Member,

Amazing you all really pulled through for us and yourself and made the Symposium registration a grand success … We have a total of 78 people signed up 70 in person and 8 attending virtual! Thank you to our Arizona G-I community!

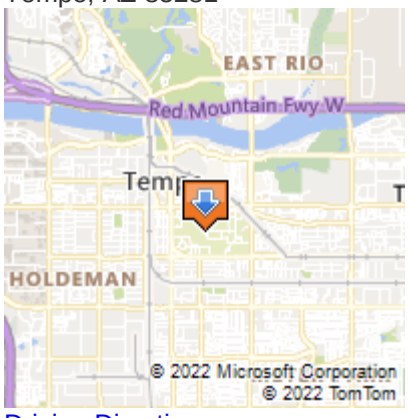
If you have not registered yet, you can still do so, just follow the link below!

What a fantastic way to start the weekend! We will see you in 10 days at our Symposium.

Kind regards,
AZ G-I Board

When
Monday, October 25, 2021 from 7:45 AM to 5:00 PM MST
Add to Calendar

Where
ASU - MU Building 241BC
Ventana BC
301 E Orange Street
Tempe, AZ 85281



Driving Directions

2021 Southwest Symposium

G-I
ASCE

GEO-INSTITUTE
Arizona Chapter

Special thanks to our Platinum Sponsors:

My ASU KELLER

Hull, Thomas

From: Hull, Thomas
Sent: October 22, 2021 7:47 AM
Subject: Attend 2021 Southwest Symposium

Hello Arizona Geo-Institute Member!

We are days away from our Southwest Symposium! There are still 4 in person registrations avaialble.

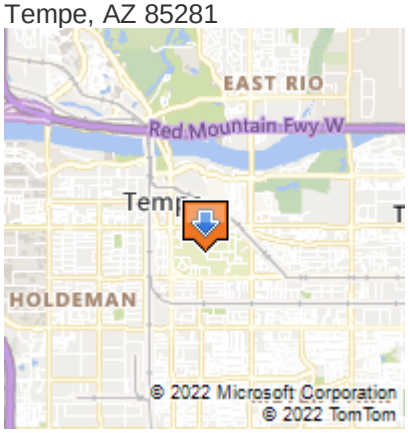
We all hope that this Friday there are some of our community members that had a long work week and would like to reward themselves Monday morning with 7 fantastic presentations on various geotechnical related topics! Signing up for the in person today will give you that ease of mind knowing you have one of the last avaialable spots at our Symposium.

The AZ G-I board is looking forward to our Southwest Symposium!

Hope to see you there,
AZ G-I Board

When
Monday, October 25, 2021 from 7:45 AM to 5:00 PM MST
Add to Calendar

Where
ASU - MU Building 241BC
Ventana BC
301 E Orange Street
Tempe, AZ 85281



Driving Directions

2021 Southwest Symposium

G-I
ASCE

GEO-INSTITUTE
Arizona Chapter

Special thanks to our Platinum and HAPPY HOUR Sponsor:

KELLER

Arizona Geo-Institute Member Meeting Email Samples

Hull, Thomas

From: Hull, Thomas
Sent: May 20, 2021 4:45 PM
Subject: Geo-Institute Arizona Chapter May Member Meeting - May 25, 2021 at Noon

Good afternoon,

Wow this week went by fast! Time for a friendly reminder that our May Member meeting is only a few (work) days away on May 25, 2021 at Noon! If you have not signed up yet and are thinking about it, please find the link to our registration here below.

As of today we have a grand total of 36 people signed up! This seems to be our HOTTEST event of the year! Don't miss it!

Thank you in advance for registering for our member meeting!

Regards,
AZ GI Board

G-I
ASCE
GEO-INSTITUTE
Arizona Chapter

Special thanks to our sponsor:

KELLER

Geo-Institute Arizona Chapter Event

Hull, Thomas

From: Hull, Thomas
Sent: August 26, 2021 10:31 AM
Subject: 1.5 HOURS AWAY Geo-Institute Arizona Chapter August Member Meeting

Hello all,

As of today, we have 40 people registered for our event! Thank you all for making our goal of 40 registrants happen! Great job team!

If you have not registered there is still time to do so. We will keep monitoring our registration page and send out the Zoom link to our last minute sign-ups!

Thank you in advance for registering!

Regards,
AZ GI Board

GEO-INSTITUTE
Arizona Chapter

Geo-Institute Arizona Chapter Event

When
Thursday, August 26, 2021 from 12:00 PM to 1:00 PM MST
Add to Calendar

Where
Online - Link to be sent to registered guests only

Please join us for our August Member Meeting (non-members welcome, too!). The Arizona Geo-Institute is honored to have Dr. John Kemeny, Professor in the Department of Mining and Geological Engineering at the University of Arizona, as our presenter!

Register Now!

A New Model for Geotechnical Asset Management in Rock Structures

Appendix B
2021 Chapter Events

2021 AZ G-I Chapter Events

February 10, 2021 – Attendees: 36

Eric D. Elison, PE from Ninyo & Moore presents on:

Project Neon Drilled Shaft Load Testing Program

In theory, deep foundation design depths can be economized by having a more detailed understanding of resistance capacity. To this end, a full-scale drilled shaft load testing program was performed for Project Neon, Nevada's largest public works project. In particular, one of the goals of the load testing program was to increase our understanding of the contribution of cemented soils or caliche to axial resistance of drilled shafts. This presentation will outline the design approaches and strategies developed relative to drilled shafts for the 29 bridges associated with Project Neon. Details regarding design and implementation of the load testing program, and the applicability of the load test results to the general body of knowledge regarding drilled shaft design will be discussed.

March 11, 2021 – Attendees: 39

Dr. John C. Lommler, Ph.D., P.E., D.GE from Wood Environment and Infrastructure, presents on:

MSE Wall Design for the I-25/University Avenue project in Las Cruces, NM

Use of Mechanically Stabilized Earth (MSE) walls to support bridge foundations can have cost and sustainability advantages. When designing a bridge foundation system that utilizes MSE walls for support, the walls need to be analyzed for the additional increase of loadings placed on them from the bridge foundations. Recently Dr. Lommler worked on bridge designs for the I-25/University Avenue project in Las Cruces, NM using FHWA LRFD procedures to design and analyze spread footings supported on MSE walls. Twenty years ago on the I-25/I-40 Interchange project, known as the Big I, in Albuquerque, NM Dr. Lommler worked on MSE walls supporting bridge spread footings using ASD design methods and MSE walls laterally supporting drilled shaft bridge foundations. Lessons learned from these projects will be presented.

April 6, 2021 – Attendees: 61

AEG / GI Career Fair

Phoenix Chapters of the Association of Environmental and Engineering Geologists (AEG) and ASCE Geo-Institute (G-I) at the 14th annual student night mixer.

Agenda:
4:00 pm - start event and announcements
4:15 pm - webinar Deirdre Gilmore: "What they don't teach you in college"
5:00 pm - Industry lightning talks
6:00 pm - Student- industry mixer and interviews
8:00 pm - End of the event

This will be an online event, with a webinar by **Deirdre Gilmore** about: "**What they don't teach you in college**".

April 29, 2021 – Attendees: 36

Mike Hughes P.E., Associate Vice President at AECOM, presents on:

Tunnel Collapse and Subsequent Landslide Restoration for Historic Railroad Line

This presentation will cover a tunnel collapse and landslide restoration project for a historical railroad located in Fort Bragg, California, approximately 130 miles north of San Francisco. The railroad was originally constructed between the mid-1850's and early 1900's to move red wood lumber from the heavily forested hills to sawmills located at the coast. In its final form, 40 miles of railroad was constructed to connect the towns of Fort Bragg on the coast and Willits inland. As part of the railroad system two hard rock tunnels were constructed, the longest of which, Tunnel #1, is approximately 1100 feet long.
In 2015, during tunnel maintenance work on Tunnel #1, there was a cave-in that completely blocked the tunnel approximately 250 feet in from the north portal. Following the collapse, the tunnel contractor started an open cut excavation above the north portal to expose the collapsed section of tunnel. During excavation a portion of the steep temporary cut slope collapsed, and the site was shut down for evaluation. AECOM were brought in to assess the hillside stability and make recommendations for restoring the hillside to a stable condition.
AECOM conducted a field investigation, performed slope stability analysis, and prepared a remediation design to reinstate the hillside. AECOM also provided engineering oversight during construction of the project. The presentation will go over these phases of the project and discuss future phases of work.

May 25, 2021 – Attendees: 72

Patrice P. Brun P.E., Bridge Group Geotechnical Services and Operations Manager at ADOT, presents on:

ADOT Geotechnical Project Development Manual

The Arizona Department of Transportation (ADOT) Geotechnical Services has completed the Geotechnical Project Development Manual (GPDM) in May 2021. The manual replaces all geotechnical guidance contained in the ADOT Preliminary Engineering and Design Manual (PEDM) from 1989. The GPDM covers a variety of topics in detail including: Planning; Field Exploration Methods and Procedures; Geotechnical Investigation Requirements; Analysis and Design; and Geotechnical Report Guidelines.

The introduction and utilization of the GPDM is in the interest of all practicing geotechnical engineers, geologists, and civil engineers in the State of Arizona. The GPDM will have an impact on all future exploration methods and design considerations for all projects with a geotechnical or geological component.

Many of the exploration and design guidelines in the GPDM follow FHWA procedures. However, there are several other guidelines that cater to specific local and state geotechnical and geological conditions needs. Notable additions to the GPDM are guidelines for the widening of existing structures, reporting guidelines, and references to the latest FHWA design guidelines.

The GPDM is available electronically through the ADOT website Bridge Group tab. The GPDM is expected to be a living document that will be updated on an annual basis or on an as-need basis.

August 26, 2021 – Attendees: 46

Dr. John Kemeny, Professor in the Department of Mining and Geological Engineering at the University of Arizona, presents on:

A New Model for Geotechnical Asset Management in Rock Structures

Asset Management of engineering structures in rock include highway and rail slopes, bridge and dam foundations, tunnels, and residential and commercial buildings in adverse locations to natural rock slopes. Rock mass characterization and monitoring are important aspects of geotechnical asset management. However, because of the required manpower and budgets associated with instrument installation, monitoring, maintenance, and data analysis, geotechnical asset management today is "selective" and only taking place in the areas of highest geotechnical risk. This is particularly problematic with the recent

fires and severe weather events associated with global warming. This talk will describe ongoing research by the author into new technologies that can bring the concept of the smart city to the geo-infrastructure, both in terms of spatial coverage of monitoring solutions, and also rapid response to hazards that occur. This research includes the integration of 3D remote sensing and point cloud processing, innovative IoT sensors, and data analytics and machine learning.

September 15, 2021 – AZ G-I Attendees: 22

Joint AZ GI, SEAoA, and ASCE Phoenix Chapter September Member Meeting

Fred M. Nelson, P.E., S.E., Vice President and Forensic Director at Gervasio & Associates, presents on:

Champlain Tower Building Collapse 2021

Fred has been a Structures Specialist with AZ-TF1, one of 28 FEMA Urban Search and Rescue teams since 1994, and a Structure's Specialist of FEMA's (National Leadership) Incident Support Team (IST) since 2010. He has been deployed as a Structures Specialist numerous times, including the Oklahoma Murrah Building (1995), Hurricane Rita (2005); the Oso, Washington mudslide (2013), Hurricane Harvey (2017 and, most recently, the Champlain Towers building collapse in south Florida where he was deployed as a Deputy IST Structures Specialist leading 20 plus structures specialists during the event. He will speak about the changing role of the Structures Specialist over the past quarter century and specifically the importance of the Structures Specialists during the Champlain Towers event, and will summarize the unfortunate events that led to the demise, and ultimate demolition of that building.

October 25, 2021 – Attendees: 105

AZ GI's 6th Annual Southwest Symposium!

Speakers:

Michael Robson - International Cybernetics
Emerging New ASTM Standard for Automated Distress

Liz Smith, PE, GE, D.GE - Terracon - Cross USA Lecturer
Lessons Learned from Failures

Dr. Holtz, PE, D.GE, Dist.M.ASCE - University of Washington
Geosynthetic Reinforced Soil: From the Experimental to the Familiar

Dr. Adda Zekkos - UC Berkley
Performance of Levees: Learning from the past - Looking to the future

Dr. Briaud, PE, D.GE, Dist.M.ASCE - Texas A&M (virtual)
Unsaturated soil behavior for the practicing engineer.

Includes an overview of ASCE activities and accomplishments

Dr. Raymond, EIT - Geosyntec
A life cycle sustainability assessment framework to guide geotechnical engineering innovation and practice

Pancho Garza, PE with Jeremy DeGeyter, PE - Ethos Engineering & City of Flagstaff
I-40/Fourth Street Bridge Slide

December 7, 2021 – Attendees: 32

Dr. Leon van Paassen, Associate Professor, Arizona State University, presents on:

How burping bacteria can mitigate earthquake induced liquefaction: Distribution and durability of entrapped gas in the subsurface

Biological processes are being considered for their potential as ground improvement method. In one of these processes nitrate-reducing bacteria that are ubiquitous in the subsurface are stimulated to produce nitrogen gas bubbles, which get stuck between the soil grains. The entrapped gas dampens pore pressure build up during cycling loading of loosely packed sands and silts and therefore delays earthquake induced liquefaction triggering. The proof of concept of so-called Microbial Induced Desaturation (MID) or Induced Partial Saturation (IPS) as ground improvement technology has been demonstrated in various laboratory conditions and recently field trials have been performed in Portland. Proposed advantages of the MID technology include the ability to treat both sandy and silty soils. Since the substrates that are used to stimulate nitrate reduction are easily soluble in water, substrate solutions can be injected at low pressure and soils can be treated with limited disturbance at relatively long distance from an injection well, which facilitates treatment underneath existing structures. Current R&D aims to determine how the distribution and durability of the entrapped gas, the resulting resistance to liquefaction triggering and consequent deformations depend on the treatment protocol, soil stratigraphy and environmental conditions. Theoretical analysis demonstrated that entrapped gas can remain stable for several decades, the post-treatment monitoring at the Portland test site shows that the soils remain desaturated at least for more than two years.

Appendix C
2021 Symposium Conference Program

GEO-INSTITUTE
Arizona Chapter

2021 Southwest Symposium

October 25, 2021

Learn – Share – Network

Photo supplied at http://www.sunlandasphalt.com/about/offices/phoenix/

Location:
Arizona State University (MU Building 241BC)
301 E. Orange Street
Tempe, AZ 85281

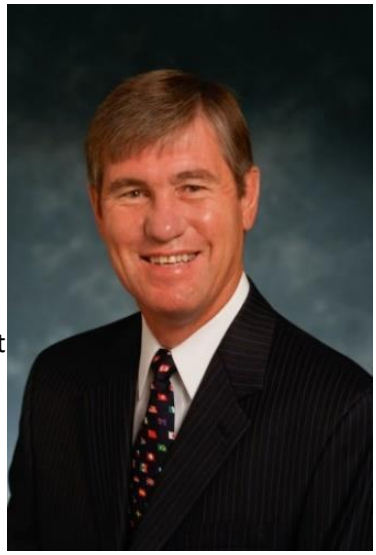
Conference Agenda

7:15 am to 7:45 am	Registration
7:45 am to 8:00 am	Introduction
8:00 am to 9:00 am	**Unsaturated Soil Behavior of the Practicing Engineer** Speaker: Dr. Briaud, PE, D.GE, Dist.M.ASCE – Texas A&M
9:00 am to 9:30 am	Sponsor Talks
9:30 am to 10:30 am	**A life cycle sustainability assessment framework to guide geotechnical engineering innovation and practice** Speaker: Dr. Alena Raymond, Ph.D., E.I.T. – Geosyntec
10:30 am to 10:45 am	Break
10:45 am to 11:45 am	**Performance of Levees: Learning from the Past – Looking to the Future** Speaker: Dr. Adda Zekkos, Ph.D. – University of California, Berkeley
11:45 am to 12:45 am	Lunch & Announcements
12:45 pm to 1:45 pm	**I-40/Fourth Street Bridge Slide** Speaker: Pancho Garza, PE – Ethos EngineeringSpeaker: Jeremy DeGeyter, PE – City of Flagstaff
1:45 pm to 2:45 pm	**Geosynthetic Reinforced Soil: From the Experimental to the Familiar** Speaker: Dr. Robert Holtz. PE, D.GE., Dist. M. ASCE – University of Washington
2:45 pm to 3:00 pm	Break
3:00 pm to 4:00 pm	**Emerging New ASTM Standard for Automated Distress** Speaker: Michael Robson – International Cybernetics
4:00 pm to 5:00 pm	**Lessons Learned from Failures** Speaker: Liz Smith, PE, GE, D.GE. – Terracon (Cross USA Lecturer)
5:00 pm	Happy Hour (Sponsored by Keller)

Presenter Information –Abstracts and Biographies

Unsaturated Soil Behavior for the Practicing Engineer - Dr. Jean-Louis Briaud, Distinguished Professor, Texas A&M University, USA

Biography:



Professor Jean-Louis Briaud is a Distinguished Professor and Holder of the Spencer J. Buchanan Chair in the Zachry Department of Civil Engineering at Texas A&M University, a Distinguished Member of the American Society of Civil Engineers, and a Professional Engineer. He received his Bachelor degree in France in 1972 and his Ph.D. degree from the University of Ottawa in Canada in 1979. His expertise is in foundation engineering and more generally geotechnical engineering. He has served as President of the Association of Geotechnical Engineering Professors, President of the Geo-Institute of the American Society of Civil Engineers, President of the International Society for Soil Mechanics and Geotechnical Engineering, President of the Federation of International Geoengineering Societies and President of the American Society of Civil Engineers. Among other awards, he has received the ASCE Ralph Peck Award from the USA, the CGS Geoffrey Meyerhof Foundation Engineering Award from Canada, the Honorable Aitalyev Medal from Kazakhstan, and is a member of the National Academy of Natural Sciences in Russia. Over the last 30 years, Dr. Briaud has conducted about 10 million dollars of research most of which was on foundations and retaining walls. He has supervised 50 PhD students and 90 Master students. He is the author of a book entitled Geotechnical Engineering and one entitled The Pressuremeter; he has published about 300 articles and reports. He enjoys tennis, played soccer and rugby, and plays jazz piano at the amateur level.

Abstract:

After an overview of ASCE activities and accomplishments, the topic of unsaturated soils is addressed. The lecture starts with a discussion of the fundamental concepts in unsaturated soils. It identifies the three zones in a soil deposit where the soil is saturated with water compression, saturated with water tension, and unsaturated with water tension. The phenomena associated with water tension and the magnitude of water tension are presented next including attraction between water and clay minerals, and attraction of water to higher salt concentrations. Then the influence of water stresses on the soil behavior is discussed including unsaturated soil strength and unsaturated soil deformability.

In a second part, applications of these fundamental concepts are covered including foundations on unsaturated soils (ultimate bearing capacity and movements), slabs on grade on shrink swell soils for smaller structures, elevated structural slabs on piles for taller structures, retaining wall pressures in unsaturated soils, slope stability in unsaturated soils. The goal of the lecture is to give an overview of some of the latest aspects of unsaturated soil mechanics and applications to everyday practice in geotechnical engineering.

A Life Cycle Sustainability Assessment Framework to Guide Geotechnical Engineering Innovation and Practice – Dr. Alena J. Raymond, Senior Staff Engineer, Geosyntec Consultants

Biography:

Alena Raymond is a Senior Staff Engineer at Geosyntec Consultants based in California. She received a Ph.D. (2020) and M.S. (2017) in Civil and Environmental Engineering from the University of California, Davis, and a B.S. (2015) in Civil Engineering from California Polytechnic State University, San Luis Obispo. Her doctoral research was part of the National Science Foundation Engineering Research Center for Bio-mediated and Bio-inspired Geotechnics (CBBG). Dr. Raymond's work helped to guide sustainability-oriented research, development, and deployment of CBBG technologies and to inform CBBG leadership funding decisions for continuing and proposed research projects. In addition, she developed decision making tools for industry to equip practicing engineers with the knowledge and resources needed to incorporate sustainability in their work.

Abstract:

The world is facing unprecedented challenges related to sustainability (e.g., from global climate change, depletion of natural resources, and other environmental and ecological hazards). Geotechnical engineers in industry and academia have an opportunity and responsibility to contribute to the solutions of these global problems given that geotechnicalinfrastructure projects consume large quantities of energy and resources and can have significant impacts on the environment. In this research, an integrated life cycle sustainability assessment (LCSA) approach was developed to evaluate the impacts of geotechnical engineering technologies and inform decision making in academic research and professional practice toward more sustainable solutions. LCSA quantitatively evaluates the environmental, economic, and social impacts and/or benefits of a product orsystem (or, in the case of geotechnical engineering, of a technology, design, or project) over its entire life cycle. The developed methodology provides a more holistic approach compared to current project decision making, which is driven primarily by minimizing cost while satisfying safety and performance criteria. Instead, the LCSA framework evaluates impacts and weighs the tradeoffs of viable alternatives for a given application, while avoiding shifting burdens (e.g., from one life cycle stage to another, from one region to another, from one generation to the next, or amongst different types of impacts). The utilityof the LCSA framework developed by this research has been demonstrated and improved through its application to both existing and emerging geotechnical technologies for site investigation, fugitive dust control, and liquefaction mitigation, among others. Ultimately, the insights gained from employing LCSA in geotechnical engineering will help practitionersand researchers better align geotechnical practices, technologies, and innovations with goals for sustainable development.

Performance of Levees: Learning from the Past – Looking to the Future – Dr. Adda Athanasopoulos-Zekkos, Associate Professor, University of California, Berkley

Biography:

Dr. Adda Athanasopoulos-Zekkos is an Associate Professor of Civil and Environmental Engineering (CEE) at the University of California, Berkeley, since January 2020. Prior to this appointment, she was a faculty member in the CEE department at the University of Michigan (2008-2019). She is also the President of the US Universities Council for Geotechnical Education and Research (USUCGER). She received her Ph.D. in Geotechnical Engineering from the University of California, Berkeley in 2008, her MSc. in Geotechnical Engineering from the University of California, Berkeley in 2004, and a joint BSc/MSc in Civil Engineering from the University of Patras, Greece in 2003. She has received the NSF Graduate Research Fellowship Award (2004), the NSF CAREER award (2013), the 2014 Faculty Excellence Award (UMichigan), the 2015 ASCE Arthur Casagrande Award and the 2015 ASCE Thomas Middlebrooks Award, the 2016 Chi Epsilon (XE) Outstanding Teaching Award, and the 2020 TC203 Young Research Award from the International Society of Soil Mechanics and Geotechnical Engineering. She also delivered the 30th Annual Mueser Rutledge Memorial Lecture in 2020. Her research focuses on soil liquefaction, seismic slope stability, and the response of flood protection systems and soil structures under extreme loading like hurricanes and earthquakes as well as new technologies and methodologies to design, monitor and reinforce them. Adda can be reached at adda.zekkos@berkeley.edu.

Abstract:

Most river cities, now growing at increasing rates, are protected from flooding by earthen levees. Natural disasters like Hurricane Katrina have provided warnings regarding the need to maintain and upgrade our aging and deteriorating flood protection systems. Furthermore,for seismic regions like California, the combined seismic and non-seismic risks are creatinga new class of engineering problems, with regard to safe levee design, that need to be addressed. This presentation will include key findings from the investigation of the levee failures in New Orleans, and ongoing efforts to improve flood management nationwide. Furthermore, insights from current work on using cementitious composites in cutoff walls will also be discussed. Finally, preliminary results from ongoing efforts to improve the healthmonitoring and inspection of levee systems. Specifically, work on data fusion of spatially resolved data of the surface and subsurface “signature” along the levee systems by leveraging UAVs equipped with optical cameras, LIDAR and infrared cameras for surface mapping and seismic geophysics and electromagnetic sensors for subsurface mapping, will be discussed.

I-40/Fourth Street Bridge Slide – Pancho Garza, Engineer, Ethos Engineering and Jeremy DeGeyter, Project Manager, City of Flagstaff

Biography:

Pancho Garza is a Geotechnical Engineer with over 18 years of experience in the geotechnical consulting field. His focus has been the desert southwest, but his experience includes numerous projects throughout the United States. His experience has included work on small-scale aqueducts in the Dominican Republic, OSHASuperfund and MSHA mine properties. His primary focushas been geotechnical investigations for transportation- related projects here in Arizona, and he has been involvedwith more than 180 roadway projects. He holds an undergraduate degree from the University of Michigan and master's degree with a geotechnical focus from Arizona State University. He has previously worked for the PeaceCorps, both small and large engineering firms locally, andjoined Tempe-based Ethos Engineering in 2018.

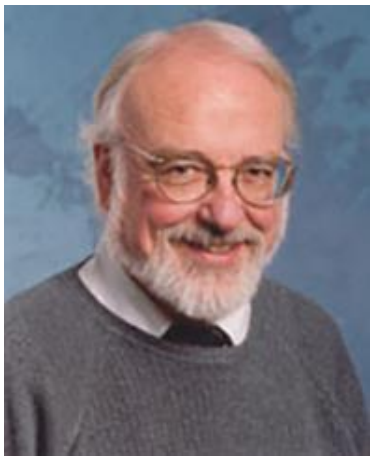
Jeremy DeGeyter, P.E. has been working as a Capital Improvements Project Manager for the City of Flagstaff since 2020. Prior to his current position, Jeremy worked as a Development Engineering Project Manager for the City of Flagstaff since 2017. Before joining the City of Flagstaff, Jeremy worked in geotechnical engineering for Speedie and Associates in Flagstaff, Arizona, performing site investigations and geotechnical analysis for projects and developments across Northern Arizona, with a particular interest in pavement design and geo-grid. Jeremy graduated from Northern Arizona University (NAU) in 2015 with a Bachelor of Science in Civil Engineering and in 2016 with a Master of Engineering in Civil Engineering.

Abstract:

The City of Flagstaff and ADOT partnered to replace the Fourth Street Bridges overInterstate 40 in Flagstaff, AZ. The project included shallow foundations on bedrock, rockfall analysis of slopes, and accelerated bridge construction involving a bridge slide. The project was designed by AECOM and constructed by FNF Construction. The new bridges include new increased traffic capacity and multi-modal paths on each side completing an important pedestrian connection across the interstate. Project details, design and construction of the Fourth Street bridge project will be discussed.

Geosynthetic Reinforced Soil, Professor, University of Washington – Dr. Robert Holtz, Professor, University of Washington

Biography:



Bob Holtz, PhD, PE, D.GE, has degrees from Minnesota and Northwestern, and he attended the Special Program in Soil Mechanics at Harvard under Professor A. Casagrande. Before coming to the UW in 1988, he was on the faculty at Purdue and Cal State-Sacramento. He has worked for the California Dept. of Water Resources, Swedish Geotechnical Institute, NRC-Canada, and as a consulting engineer in Chicago, Paris, and Milano. His research interests and publications are mostly on geosynthetics, soil improvement, foundations, and soil properties. He is author, co-author, or editor of 23 books and book chapters, including Introduction to Geotechnical
Engineering, 2nd Edition (with W. D. Kovacs and T.C. Sheahan, 2011), as well as more than 270 technical papers, discussions, reviews, and major reports.

Professor Holtz is a Distinguished Member of ASCE, was President of the ASCE Geo-Institute 2000-1, and currently serves as the International Secretary for the Geo-Institute. He is a Member Emeritus of TRB Committee on Soil and Rock Properties, a Past President of North American Geosynthetics Society, and a member of several other professional and technical organizations. He has taught numerous short courses and given many presentations at seminars and conferences, both in the U.S. and abroad. In 2010 he was named the 46th Karl Terzaghi Lecturer, which has been presented at several US venues and in Brazil, China, and Canada. In 2008, he was named the Puget Sound Academic Engineer of the Year.

Throughout his academic career, Professor Holtz has had an active consulting practice, involving geosynthetics, foundations, soil reinforcing, soil
improvement, properties and containment of nuclear wastes, slope stability and landslides, investigation of failures, and acting as an expert witness. His clients have included federal, state, and local public agencies, civil and geotechnical engineering consultants and contractors, attorneys, and manufacturers, both in North America and overseas.

Abstract:
The paper begins with a historical review of reinforced soil technology, beginning with nature and the ancients, the development of Terre Armée or Reinforced Earth by Vidal and Lee, and ending with the early uses of geotextiles for soil reinforcement in France, Sweden (Wager and Broms), and the United States (U.S. Forest Service, Federal Highway Administration, J. R. Bell, T. A. Haliburton, B. R. Christopher, and others). Then the advantages and basic behavior of geosynthetic reinforced soil (GRS) are described. An overview of current design procedures, modified with the results of analytical research conducted at the University of Washington, leads to practical suggestions for dealing with creep, pullout, and backfill drainage. Next the properties of reinforcement geosynthetics are discussed, and important conclusions of research on soil–geosynthetic interaction at the University of Washington are presented. Although GRS is quite a mature development, a few technical and several professional issues remain. The technical issues are relatively straightforward but the professional issues are not: they are costly, potentially tragic, and threaten a wonderful technology and our profession. Some suggestions as to what the profession can do about these issues are given.

Emerging New ASTM Standard for Automated Distress – Michael Robson, International Cybernetics

Biography:

Michael Robson is the Western Region Director of Business Development for International Cybernetics Company, focusing on aligning services and products for State DOT and Public Works transportation agencies. He brings over 40 years as a trusted advisor in providing expert solutions to manage their transportation assets. He utilizes his experience gained in highway performance data, asset inventories, and Transportation Asset Management Systems implementation to design and negotiate solutions to complex requirements. His goal and success rely on providing value and defensible benefits to his clients.

Abstract:

Generations of Pavement Engineers have relied upon the ability to compare one pavement to another pavement. These comparisons require having a defensible Pavement Condition Index metric (PCI) to rank the different pavement sections across a network. Historic challenges exist in the most widely practiced approach related to subjectivity, repeatability, and reproducibility. Further, leveraging the advances in technology and analytics provides a simple, straightforward, repeatable, and reproducible metric for pavement practitioners. The following presentation presents a new ASTM standard to relate automated pavement condition data to a Pavement Surface Cracking Index (PSCI).

Lessons Learned from Failures – Liz Smith, Senior Principal and National Transportation Project Manager, Terracon

Biography:

Liz Smith, P.E., G.E., D.GE, M. ASCE, 2021 Cross USA Lecturer is a Senior Principal and National Transportation Program Manager at Terracon Consultants Inc. She has over 35 years' experience, including significant expertise related to geotechnical engineering for design-build transportation projects and slope and retaining wall failure evaluations and remediation. She has successfully managed several complex geotechnical design-build projects with geotechnical fees up to $12 million and construction costs up to $2 billion. Ms. Smith has been involved in several other areas of transportation geotechnical engineering that include consulting for design-build teams to resolve geotechnical problems that arise on complex projects; owner oversight; and evaluation and repair of foundation, slope and retaining wall failures.

Liz's most recent design-build projects include Oak Hill Parkway, Austin, Texas; SH130 Forensic Studies, Austin, Texas; Transform 66 -Outside the Beltway Project, Segment 3, Fairfax County, Virginia; Loop 375 Border Highway, El Paso, Texas; US 183 South (Bergstrom Expressway) in Austin, Texas; and I-35E Managed Lanes Project in Dallas and Denton Counties, Texas. She has been geotechnical lead on major proposals and projects across the country including Hawaii, Washington, California, Arizona, New Mexico, Minnesota, Missouri, Texas, and Virginia. She has authored papers and given presentations at numerous professional and technical meetings.

Abstract:

The presenter will briefly review retaining wall design considerations, and then present several case histories of retaining wall and slope failures. From the histories, you will learn:

- Retaining wall basics
- Why construction sequence matters
- What happens when things go wrong
- Why failures happen
- How to prevent failure

G-I GEO-INSTITUTE Arizona Chapter

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