

# ASCE Newsletter

## Central Ohio Section

May 2016  
Volume 20, Issue 9

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### MAY LUNCH MEETING

**DATE:** Thurs. May 19, 2016,  
11:30 AM - Registration  
12:00 PM - Lunch

**LOCATION:** Schmidt's Sausage Haus, 240 E. Kossuth St.,  
Columbus, OH 43206

#### TOPICS: ASCE Strategic Initiatives & Society Update

Brian Meluch, PE, Region 3 Governor will address how the ASCE National board monitors key issues facing the civil engineering profession, addressing those that most demand civil engineers' attention through "strategic initiatives." Currently, ASCE pursues three strategic initiatives - Sustainable Infrastructure, the ASCE Grand Challenge, and Raise the Bar. An update on the current happenings at the national level will also be given.

The Central Ohio Section will also present the annual "Section Member of the Year", "Engineer of the Year", and Life Member awards.

**SPEAKER:** Brian Meluch, PE, ASCE Region 3 Governor - Brian's roles as Governor include assisting with student chapter activities and transition to full membership upon graduation, as well as assisting with ASCE's Infrastructure Initiative by finding local organizational partners to determine new funding sources for infrastructure projects. Brian is a Project Engineer at CT Consultants and received his engineering degree from Cleveland State University.

**MENU:** Traditional German Buffet: bratwurst, Bahama Mam, knockwurst, sauerkraut, green beans, apple-sauce, salad, rolls, cream puffs, coffee, tea.

**CPD Hours:** A certificate for one (1) Continuing Professional Development (CPD) hour will be issued at the conclusion of the program.

**COST:** \$20 ASCE Members and Guests, \$15 ASCE Life Members, \$10 Students.

**REGISTER:** Registration is due by 5:00 PM on Friday, May 13, 2016. Late registrations and walk-ins may not be accepted. Registration fees may apply for no-shows and registrants canceling after the deadline. Contact A.J. Smith at 614-793-8777, or [2016register@centralohioasce.com](mailto:2016register@centralohioasce.com) to register.

**PAYMENT:** The preferred method of payment is online (click [HERE](#)) before the registration deadline. Payment on the day of the event is available by cash or check payable to Central Ohio ASCE.



### 2015-2016 BOARD OF DIRECTORS

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## LETTER FROM THE PRESIDENT

Central Ohio Section Members:

The leadership of the student chapter of ASCE at Ohio University hosted April's dinner meeting. The events included presentations from Andy Stone, P.E., City of Athens Engineer, and Scott Stearns, P.E., Strand and Associates. Earlier in the afternoon Andy and Scott gave us an excellent tour of Athens new wastewater treatment plant. The meeting concluded with presentations by Ohio University and Ohio State University student chapters on their activities this year.

Speaking of busy students, The Ohio Valley Student Competition (OVR) will be hosted by The Ohio State University student chapter in the spring of 2017. Ohio University student chapter will host the event in the spring of 2018. We will be reaching out to you for sponsorships, volunteers, and judges for these events.

May marks the end of my term as President of the Board of the Central Ohio Section of ASCE. I still remember the day Kevin Carpenter tapped me in the shoulder and mentioned that the Central Ohio ASCE Board was looking for a board member. That brief conversation was five years ago. I am glad that I decided to join in. The people that I have met and the skills that I have obtained are invaluable to me. In addition to my fellow board members these past few years, I

want to acknowledge Peter Narsavage, Bob Redfield, and David Pritchard for their guidance. Thanks for your dedication and patience.

Please support A.J. Smith as he will embark on the Presidency adventure. He will lead the efforts as President of the Board of Directors for the 2016-2017 term.

Join our awards luncheon in May. We will be inducting our new Central Ohio ASCE leadership. We will also be recognizing achievements in our section and recognizing our life members for their continuous support to the society.

Don't forget our 20<sup>th</sup> annual ASCE Golf Outing on Darby Creek Golf Course. For registration and sponsoring information on this popular outing visit our website (<http://centralohioasce.com/node/686>). Stay tuned for some summer events we are planning.

It has been a pleasure to serve these last few years. Looking forward to meeting you at one of ASCE's many events.

Sincerely,

Carlos Vazquez, PE, M. ASCE

President

ASCE Central Ohio Section

[president@centralohioasce.com](mailto:president@centralohioasce.com)



## 20th ANNUAL GOLF OUTING

With spring trying to get in full swing, that means Golf Season is upon us. Don't forget to mark your calendars and sign up for the 20<sup>th</sup> Annual ASCE Central Ohio Section Golf Outing to be held Friday, June 17, 11:00 A.M. at Darby Creek Golf Course. The format is the ever popular 2 person mixed format. For a low entry fee of \$70 you get greens fees, cart, driving range, drink tickets, lunch, steak and chicken dinner, beverages, tons of hole and place prizes, lots of "those" pies at the end, and a special gift in commemoration of 20 years of the event.

This outing has raised over \$30,000 over the years to support the Younger Member Group (our annual chefs at the outing), Civil Engineering Career Day and numerous other programs. This is made possible with the generous sponsorships from many Central Ohio firms and businesses. Please consider being a hole sponsor for \$100

or a lunch/dinner/beverage cart sponsor for \$250 which includes hole recognition as well.

For any questions in regards to sponsorship and/or registering to play, please contact Jim Pajk

at 614-525-3021 or email at [jpajk@franklincountyengineer.org](mailto:jpajk@franklincountyengineer.org). Go to the [ASCE Central Ohio website](http://centralohioasce.com) to download a flyer.



## MOTORCYCLE RALLY & DINNER

ASCE is offering a motorcycle tour for non-golfers in coordination with the ASCE Golf Outing on June 17. The cost will be \$25 for dinner at the Darby Creek



Golf Course, located between Plain City and Marysville. We typically start the ride from the McDonalds at SR 161 and

Avery-Muirfield Drive in Dublin around noon, and finish at the golf course between 4:00 and 5:00 PM. The tour will navigate the back roads northwest of Columbus with stops at some notable (or not so notable) sites in the area of Union, Logan, Madison, and/or Champaign Counties. It is a scenic ride, the food at the golf course is great (prepared by the Younger Member Group), and it is a time to renew acquaintances in the business at dinner. To sign up or for more information contact Dave Pritchard at 614-519-4819 or [davepritchard@sbcglobal.net](mailto:davepritchard@sbcglobal.net).



## FREE WEBINAR - DRILLED SHAFT FOUNDATIONS

**What:** Free Webinar - 1.5 PDH

**When:** Mon., May 23, 2016  
11:30 AM - 1:00 PM

**Where:** E.L. Robinson Engineering  
1801 Watermark Dr., Suite 310  
Columbus, OH 43215

**Topic:** Geotechnical Analysis for Rock-Socketed Drilled Shafts

**RSVP:** To [newsletter@centralohioasce.com](mailto:newsletter@centralohioasce.com) by Thurs. May 17, 2016.

\*Open only to Central Ohio ASCE Section Members.

\*Seating is limited to the first 25 people.

\*Bring your own lunch.

### Purpose and Background

Drilled shafts are a common foundation selection for all types of structures. When the soil is relatively poor quality and the structure loads are relatively large, the shafts are often drilled through the poor soils into underlying rock mass is present. These shafts could be founded or seated on the rock mass surface, or they could be drilled into the rock mass to form a rock socket. This webinar concentrates on the geotechnical analysis for drilled shafts that derive their axial and lateral resistance from rock sockets. The webinar is based upon Load and Resistance Factor Design (LRFD) methodology as per the specifications of the American Association of State Highway and Transportation Officials (AASHTO). It discusses load transfer models for axial and lateral behavior of rock sockets. It also discusses selection of appropriate rock parameters and methods of axial and lateral load analysis.

### Primary Topics of Discussion

- Concept of drilled shafts in soils versus rock
- Side resistance
- Tip (base) resistance
- Lateral resistance
- Strain compatibility between overburden and rock socket



- Definition of rock strength – intact versus rock mass
- Effect of relative strength of concrete and rock mass

### Learning Outcomes

- Become familiar with issues in evaluating capacity of rock socket foundations
- Understand strain compatibility aspects between side and tip resistance
- Understand resistance-mobilization models
- Be able to choose and apply appropriate rock capacity models

### Webinar Benefits

- Be able to properly characterize properties of rock for drilled shaft designs
- Understand the models of side, tip, and lateral resistance of rock sockets
- Learn about the AASHTO requirements for rock socket designs in context of Load and Resistance Factor Designs
- Generate recommendations for rock socket designs

### Webinar Outline

- Introduction and definition of variables
- Definition of rock and site characterization
- Axial loading
- Lateral Loading
- Construction
- Conclusions
- References
- Questions

The Central Ohio Section sponsors free continuing education webinars as a service to our members. These webinars are produced by ASCE and normally cost \$250 or \$300 for ASCE members. However, the Section is paying the registration fee and inviting any interested section members to attend for free. You can see [the complete list of webinars available from ASCE National on their website](#). If you see one you like, let us know. If you and your company would like to host one, let us know that too. If you open it up to any interested Central Ohio ASCE section members to come, we will pay the registration fee.

## LEGISLATIVE ACTIVITIES

ASCE's Ohio Council sent a letter of support to State Representative John Rogers (D- Mentor-on-the-Lake) for his sponsorship of HB 492 also known as "Restore Ohio". This bill



will use \$1 billion of the State's rainy-day fund to accelerate and increase Ohio's ability to maintain, restore, and expand infrastructure throughout the state. The program and funding would essentially be administered via an expansion of the Ohio Public Works Commission (OPWC) program. It is expected that this investment will lead to improved industrial competitiveness, reduce costs for drivers and enhance services for all Ohio residents that are served by water, sewer, drainage, power, and other utility systems. The letter was co-signed by President of the Ohio Council, Keith Aschemeier, P.E., and Federal Advocacy Captain, Jim Pajk, P.E. Additionally, ASCE State Advocacy Captain Brooks Vogel, P.E. participated in a press conference to help frame the importance of infrastructure investment in the context of grades given in both the National and Ohio Report Cards.

## FREE WEBINAR - JET GROUTING

What: Free Webinar - 1.5 PDH

When: Thurs., June 2, 2016  
11:30 AM - 1:00 PM

Where: E.L. Robinson Engineering, Inc.  
1801 Watermark Drive, Ste 310  
Columbus, OH 43215

Topic: Introduction to Jet Grouting and its Applications

RSVP: To [newsletter@centralohioasce.com](mailto:newsletter@centralohioasce.com) by Tues.  
May 31, 2016.

\*Open only to Central Ohio ASCE Section Members.

\*Seating is limited to the first 25 people.

\*Bring your own lunch.

### Purpose and Background

Jet grouting is defined as the injection of a fluid grout at high pressure to erode the soil partially replacing it and creating a soil-crete. This method is often used to for structural support, creating low permeability barriers, shoring, and underpinning. Applications are many, including liquefaction mitigation, controlling structure settlement, roof support for tunnels, mitigating karst subsidence, slope reinforcement, structural support, and more.

This webinar includes an introduction to jet grouting and the critical factors associated with its application. It includes an overview of materials and equipment for grout injections and considerations for applying the method. This webinar discusses behavior of the grout in the subsurface and provides understanding of the various factors affecting the



control, verification, and effectiveness of jet grouting. It presents examples of some of the key applications.

### Primary Topics of Discussion

- Terminology of grouting
- Jet grouting methodology
- Jet grouting materials
- Jet grouting equipment
- Jet grouting applications

### Learning Outcomes

- Learn grouting terminology to properly specify methods
- Understand the key factors and limitations of jet grouting
- Develop an understanding of the mechanics involved in jet grouting and how they can be used

### Webinar Benefits

- Learn the latest information on jet grouting
- Discuss how the method works to understand its limitations for more effective use
- Avoid costly errors from misapplication and improper specification of methods
- Learn new solutions for ground improvement applications
- Examine the possibilities for using this flexible and economical method for ground improvement

### Webinar Outline

- Introduction to grouting terminology
- Jet grouting definition
- Low mobility grouting methodology
- Jet grouting materials
- Jet grouting equipment
- Jet grouting applications
- Example cases

## INFRASTRUCTURE WEEK



Infrastructure Week is a national week of events; media coverage; and education and advocacy efforts to elevate infrastructure as a critical issue impacting all Americans.

Our theme in 2016 – “Infrastructure Matters” – tells the story of what infrastructure means to Americans. It matters, in big ways and in small, to our country, our economy, our quality of life, our safety, and our communities. Roads, bridges, rails, ports, airports, pipes, the power grid, broadband... infrastructure matters to the goods we ship and the companies that make and sell them; it matters to our daily commutes and our summer vacations, to drinking water from our faucets, to the lights in our homes, and ultimately to every aspect of our daily lives.

Coordinated by our Steering Committee, representing America's business, labor, and policy-making leadership, and comprised of more than 100 Affiliate organizations from all sectors of America's economy and civil society, Infrastructure Week is the largest, most diverse, non-partisan coalition of organizations dedicated to strengthening America by rebuilding our infrastructure. Critically, Infrastructure Week unites both traditional stakeholders with those whose lives, livelihoods and businesses run on infrastructure: manufacturers, retailers, passengers, travel and tourism companies, and the towns, counties, and cities home to them.

As a supporting sponsor, ASCE invites you to spread the word and participate in this week long event. ASCE has made it easy to reach out to your legislators with just a few easy steps - click [HERE](#). Additional information, templates, etc. are provided in the links below.

- [Plan an Event](#)
- [Host an Infrastructure Field Trip](#)
- [Participate on Social Media](#)
- [Encourage a press release or proclamation from your Elected Officials](#)
- [Infrastructure Advocacy Day - Wednesday, May 18](#)
- [Write to Congress](#)



## FREE WEBINAR - ROCK MECHANICS

What: Free Webinar - 1.0 PDH

When: Wed., June 15, 2016  
12:00 PM - 1:00 PM

Where: S&ME Inc.  
6190 Enterprise Court  
Dublin, OH 43016

Topic: Introduction to Rock Mechanics

RSVP: To [cnye@smeinc.com](mailto:cnye@smeinc.com) by Mon., June 13, 2016.

\*Open only to Central Ohio ASCE Section Members.

\*Seating is limited to the first 25 people.

\*Bring your own lunch.

### Purpose and Background

Civil engineers frequently encounter rock as an engineering material; however, rock mechanics are almost never taught at the undergraduate level, and it is rarely taught at the graduate level. This webinar is a very first orientation to the field of rock mechanics and engineering that civil engineering professionals may use as a stepping stone in furthering their education in the field. It discusses the mechanical and hydraulic properties of intact rock, rock



fractures and rock masses. It also discusses the difficulties in rock mass characterization and modeling.

### Primary Topics of Discussion

- Mechanical/hydraulic properties of the intact rock
- Mechanical/hydraulic properties of rock fractures
- Mechanical/hydraulic properties of rock masses

### Learning Outcomes

- Gain a base knowledge of what rock mechanics entails
- Understand the main mechanical/hydraulic behavior of the intact rock, rock fractures, and rock masses
- Appreciate the continuum/discontinuum approaches to rock mass modeling

### Webinar Benefits

- Learn some key components of rock mechanics
- Expand your nomenclature to start a more fruitful dialogue with an applied geologist
- Understand rock mass characterization and modeling

### Webinar Outline

- Introduction
- Intact rock
- Quantitative description of fractures
- Mechanical/hydraulic properties of fractures
- Rock masses
- Conclusions

## TRIVIA

It's been 60 years since the birth of the Interstate Highway System and passage of the Federal-Aid Highway Act of 1956, famously championed by President Dwight Eisenhower. The act authorized 41,000 miles of highway; today's system has close to 48,000 miles. We'll concede



you'll know the longest Interstate is I-90, between Boston and Seattle. **What is the second-longest highway in the U.S. Interstate system?** Click [HERE](#) to test your knowledge - good luck!

## FREE WEBINAR - GRS-IBS BRIDGE SYSTEM

What: Free Webinar - 1.5 PDH

When: Mon., June 27, 2016  
11:30 AM - 1:00 PM

Where: Korda/Nemeth Engineering, Inc.  
1650 Watermark Drive, Ste 200  
Columbus, OH 43215

Topic: Geosynthetic Reinforced Soil Integrated Bridge System

RSVP: To [brooks.vogel@korda.com](mailto:brooks.vogel@korda.com) by Thurs. June 23, 2016.

\*Open only to Central Ohio ASCE Section Members.

\*Seating is limited to the first 25 people.

\*Bring your own lunch.

### Purpose and Background

By combining GRS into an integrated bridge system (IBS), bridges can be built faster with lower costs compared to conventional foundation alternatives. This webinar presents an overview of geosynthetic reinforced soil (GRS) as an accelerated construction technology for single span bridges. It discusses the benefits and limitations of GRS-IBS in highway applications. Through presentation by FHWA engineers, participants will gain a better understanding of



the fundamentals of GRS technology, its benefits, design and construction considerations, and performance.

### Primary Topics of Discussion

- GRS overview
- History
- Design concepts
- Construction
- Performance
- Example projects

### Learning Outcomes

- Gain understanding of new reinforcement technology
- Learn about the design and construction of small bridges to save time and money on projects
- Discuss resources and tools for GRS abutments and IBS
- Understand the implementation of the GRS-IBS and FHWA Every Day Counts Initiative

### Webinar Outline

- GRS overview
- History
- GRS design concepts
- GRS construction techniques
- Performance of the GRS-IBS
- Overview of example projects
- Deployment status

## 2015-2016 CENTRAL OHIO ASCE MEETINGS

Meeting Date	Topic	Group(s)	Location	Coordinator
Thursday May 19, 2016 Lunch	Awards ASCE Region 3 Governor	ASCE	Schmidt's Sausage Haus	Carlos Vazquez/ AJ Smith
June, 2016 Dinner	2016-2017 Planning Meeting	All	Tommy's Pizza - Dublin, OH	Chris Nye
Friday June 17, 2016 Lunch & Dinner	Annual Golf Outing	ASCE	Darby Creek Golf Club	Jim Pajk

## CADD CLASS VOLUNTEERS



Starting again in 2016 the ASCE Younger Member Group (YMG) will be presenting instructional Autodesk Civil3D Computer Aided Design (CAD) seminars on the

campus of the Ohio State University. The seminars will introduce the students to drafting software and provide an

introductory level of instruction to familiarize students with the skills necessary of a typical entry-level engineering position. The YMG is seeking volunteers from the Central Ohio Section to supplement our teaching group. This is also a great way to see prospective interns in action learning valuable job skills. Please contact Tom Less ([Tom.Less@woolpert.com](mailto:Tom.Less@woolpert.com)) if you're interested in taking part.

The classes will occur once a week for a few hours on a day to be determined, running likely from the 2<sup>nd</sup> week in January through April. Volunteers can come to as many or few sessions to assist as they like, but the more instructors we have the better we can provide individual attention.

## CIVIL ENGINEERING REFERENCE BOOKS

The Central Ohio Section bought a number of civil engineering reference books and donated them to the Columbus Main Library for public use. The titles are as follows:

- Minimum Design Loads (7-10)
- Design of Marine Facilities for Berthing, Mooring
- FRP Composite Connections
- Foundation Engineering Handbook
- Trenchless Technology Piping
- Civil Engineer's Handbook of Professional Practice

- Building Code Requirements and Specification for Masonry Structures (5-11 & 6-11)
- Urban Stormwater Controls
- Municipal Wastewater Plants
- Structural Steel Designer's Handbook



The books are for reference and can't be checked out. They are located on the 3<sup>rd</sup> floor in a special collection area of the main library (north side of building in the half-height stacks).

## KEEP UP TO DATE

### Join Our E-Mail List!

Stay up to date with current news - go to <http://centralohioasce.com/e-mail>.

Web: [www.centralohioasce.com](http://www.centralohioasce.com)

E-Mail: [asce@centralohioasce.com](mailto:asce@centralohioasce.com)

## BOARD MEETING

Our Next Board Meeting  
Will Be 11:30 A.M.  
May 26, 2016  
At T.B.D.



## DREAM BIG! IMAX MOVIE



All around the world, engineers are pushing the limits of ingenuity and innovation in unexpected, imaginative and amazing ways. Dream Big will take viewers on a journey of discovery from the world's tallest building to a bridge higher than the clouds and a tunnel deep below the earth. Along the way the audience will witness how today's engineers are shaping the world of tomorrow.

Dream Big recently moved into full production thanks to the Bechtel Corporation, which has signed on as the film's presenting sponsor. The film will take advantage of the awe-inspiring scope of giant-screen theaters including IMAX to show how engineers have made civilization possible, and to encourage youth to make it a career. ASCE is working with award-winning documentary filmmakers MacGillivray Freeman on the production and associated educational materials. Dream Big will have its world premiere during Engineers Week in February 2017. Click [HERE](#) for a preview.

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## EMPLOYMENT OPPORTUNITIES

As a service to our members and colleagues who may be seeking employment opportunities, we have provided links directly to *Human Resources* or *Careers* pages on the company website below. Please click any of the company logos to visit the site. We thank the companies below for their support of the Central Ohio Section of ASCE.

The ASCE National website also provides employment assistance with hundreds of job postings and additional resources. Please click the image to the right to visit the webpage.



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