

ASCE Newsletter

Central Ohio Section

January, 2016
Volume 20, Issue 5

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JANUARY LUNCHEON

DATE: Thurs. Jan. 21, 2016, 11:30 A.M. Registration, 12:00 P.M. Lunch

LOCATION: Villa Milano, 1630 Schrock Rd., Columbus OH

TOPIC: ODOT 2015 Accomplishments and 2016 Initiatives

Ohio Department of Transportation (ODOT) Assistant Director of Transportation Policy and Chief Engineer Jim Barna will speak to the American Society of Civil Engineers on the department's accomplishments in 2015 and what ODOT's stakeholders can expect for 2016. Topics will include an update on ODOT's current initiatives including the Ohio Bridge Partnership Program and ODOT's new Asset Management Strategies as well as the impacts of the new federal Fixing America's Surface Transportation (the FAST Act) on ODOT's future programs.

SPEAKER: Jim Barna, ODOT Assistant Director of Transportation Policy and Chief Engineer

MENU: Chicken Marsala, Lasagna, or Vegetarian lasagna

CPD: A certificate for one 1 CPD hour will be issued.

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

REGISTER: Registration is due by 5:00 PM on Monday, Jan. 18, 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 register@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.



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LETTER FROM THE PRESIDENT

Central Ohio Section Members:

Arda Kurt, PhD led the December meeting with his presentation on autonomous vehicles. I was pleased with the interest this topic generated. Thanks to Dave Pritchard for coordinating Dr. Kurt's guest appearance.

Looking back to 2015, we were able to keep our goal of providing many technical, social gatherings, and outreach activities to our Central Ohio ASCE members. Your participation and dedication made 2015 a successful year.

2016 is going to be an interesting year as well. We have several activities planned. On Jan 21st we are having a joint outing for the Blue Jackets vs Calgary Flames hockey game with ASHE (American Society of Highway Engineers). As usual, the Younger Members will host a social before the game. The social will be at Brother's, just a short walk from Nationwide Arena.

The 3rd Annual Central Ohio STEM Expo will be held on Saturday, March 5, 2016 at Thomas Worthington High School from 9 AM to 1 PM. Last year, this popular outreach

event attracted about 375 kids (plus their parents). There is still time to sponsor this event, volunteer for an activity, or register your kids and enjoy the fun! Visit our [STEM Expo page](#) for details.

Mark your calendars! The 2016 Golf outing and Motorcycle rally will be held on June 17th at Darby Creek. We will share more details to follow.

In closing, did you know that ASCE has a mentoring program? If you would like more information on how to participate as a mentor or protégé, visit [ASCE's mentoring page](#) for details. For those of you that have participated, we would love to hear your feedback.

Happy and prosperous 2016!

Sincerely,

Carlos Vazquez, PE, M. ASCE

President

ASCE Central Ohio Section

president@centralohioasce.com



BLUE JACKETS HOCKEY GAME

What: Blue Jackets vs. Calgary Flames

When: Thursday, Jan. 21, 2016

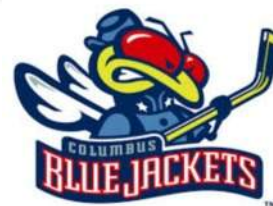
Where: Nationwide Arena

Cost: \$10 members, \$15 guests

Based on the popularity of our last Blue Jackets outing, we are planning a group outing to the Blue Jackets-Flames game. Tickets are \$10 per member and \$15 for non-ASCE guests. We're accepting pre-payment using Paypal (click [HERE](#)). As these tickets usually sell for \$50 face value, it's a great deal! Prior to the game, we'll have a social for put on

by the Younger Members group at Brother's, so even if you don't want to go to the hockey game, please come out for drinks, food and fellowship!

You can pick up the tickets from Matt Baxendell at Brother's before the game. If you would like to go, please email Matt at mbaxendell@primeeng.com. Contact Matt for more info or any questions.



2016 STEM EXPO

What: 2016 STEM Expo

When: Sat. March 5, 2016, 9:00 AM-1:00 PM

Where: Thomas Worthington High School

300 W. Dublin-Granville Road,
Worthington OH 43085

****See Flyer at the end of this newsletter****

After much success in 2014 and 2015, the ASCE Central Ohio Section Younger Member Group is hosting a STEM (Science, Technology, Engineering, Math) Expo to conclude Engineer's Week. The Younger Member Group is seeking local STEM



companies to sponsor hands-on, STEM related activities for the event. The goal is to expose K-8 students to the world of STEM

through fun, interactive activities.

Rather than seek monetary sponsorship, we invite local STEM professionals to organize an activity on behalf of their employer.

Sponsoring an activity is an easy and great way to get involved in this educational and outreach event. Activity sponsor responsibilities would include:

- Developing a fun, interactive STEM related activity
- Obtaining funding through your employer for the activity materials, if necessary
- Facilitating the activity at the STEM Expo event (typically 2-3 people are needed)

Information for the event, including a list of sponsors and the planned activities can be found at <http://www.centralohioasce.com/STEM-Expo>

Please help us make this a great community event.



CIVIL ENGINEERING ACHIEVEMENT AWARD

Ohio Outstanding Civil Engineering Achievement Award Criteria

The Ohio Council of ASCE is soliciting nominations for the 2016 Ohio Outstanding Civil Engineering Achievement Award (OCEA). Selection criteria for the Ohio OCEA Award parallels

national ASCE's criteria except that nominated projects must be located within Ohio's borders.

Projects nominated for but not winning the national ASCE OCEA competition are eligible. Ohio Council's OCEA winner will be selected by a committee of judges representing each Ohio Section. The award is given annually to a Civil Engineering project, not an individual or firm, to recognize the contribution of the many engineers who have worked on the project.

Selection is based on how the project demonstrates the application of civil engineering skills and its contribution to civil engineering progress and mankind. Judges will consider the following criteria: (1) contribution to the well-being of people and communities, (2) resourcefulness in planning and in the solution of design problems, (3) pioneering use of materials and methods, (4) innovations in construction, and (5) impact on the physical environment, unusual aspects, and aesthetic values. The judges will also



consider the project's potential adverse effects. The nomination should look frankly at the project's potential problems, technical and otherwise.

A bronze plaque will be awarded to the winning Ohio Project to be mounted in a prominent location at the project site. The presentation ceremony will provide an excellent opportunity for publicity and recognition.

Guidelines for Eligibility

Projects must generally be substantially completed and operating for their intended purpose to be considered for the award. Most any civil engineering project is open for consideration. Detailed guidelines are available on the website link below.

Submittals

The submittal deadline is 5:00 PM, Monday, March 7, 2016. For additional information please visit the Ohio Council of Section's website [HERE](#).



2016 OHIO CONSTRUCTION CONFERENCE

What: Ohio Construction Conference

When: Wed., March 16, 2016

Where: The Ohio Union - 1739 North High St.



Save the date for the 2016 Ohio Construction Conference, presented by McGraw Hill Construction and The Builders Exchange of Central Ohio. The conference will bring together a unique mix of industry leaders in the commercial construction community - representing owners and facility managers, architects and engineers, contractors and subcontractors, and industry suppliers in a constructive, collaborative conference aimed to benefit each component of a project team.

For additional information, click [HERE](#).

DREAM BIG CONTEST



ASCE wants to hear about your journey as a civil engineer. What big dreams have you

achieved? What aspirations do you have for the profession or your future as a steward of the built world? How has a career in civil engineering helped you pursue your personal dreams?

Share your dream by clicking [HERE](#) and you could win one of three dream experiences: A trip for 2 to an international location shoot for the filming of Dream Big; or, a trip to

attend an exclusive rough cut screening of Dream Big in Laguna Beach, California; or, a Dream Big premiere event in your local community

Tell us in 250 words or less how you dream big!

Contestants are encouraged to submit supplementary material, whether original work or previously published, that helps to tell their story. This may include, but is not limited to, video clips, news articles, drawings, and photos.

Only ASCE members in good standing are qualified to win. Entries must be received by 11:59 p.m. EST. Monday, February 1, 2016. See [contest rules](#) for full details.

FREE WEBINAR - HEC-RAS 5.0 COUPLED 1D/2D

What: Free Webinar - 1.0 PDH

When: Fri. Feb. 12, 2015
12:00 PM - 1:00 PM

Where: Stantec
1500 Lake Shore Dr.
Columbus, OH 43204

Topic: Using HEC-RAS 5.0 for a Coupled 1D/2D Analysis

RSVP: To Mark.Seidemann@stantec.com by Wed., Feb. 9, 2015.

*Open only to Central Ohio ASCE Section Members.

*Seating is limited to the first 25 people.

*Bring your own lunch.



Purpose and Background

HEC-RAS V5.0 has the ability to model runoff in a 2D environment coupled with traditional 1D modeling. There is also the ability to apply precipitation to the 2D surface and external hydrographs and other boundary conditions to the 2D surface. This ability allows the modeler to fully capture the nature of the runoff event flow patterns and depths.

Visualization of the hydraulic results is extremely useful in estimating flooding extents, determining key causes of flooding and developing mitigation strategies. The 2D component allows the modeler to fully account for overbank storage volume plus the diversion and return of the overbank flow to the channel. Visual depictions of the floodwave assist with presentation to the public, clients and for reports and submittals.

This webinar focuses on a more in-depth look at the use of HEC-RAS 5.0 1D/2D coupling ability. The webinar discusses briefly the use of RAS Mapper in the development of the 2D model, preparing and importing composite surfaces to include "proposed" conditions in the modeling, with an emphasis on the coupling of the 1D and 2D portions of the model in RAS 5.0. Participants who wish to attend this webinar must be well-versed in using previous software versions of unsteady HEC-RAS and GIS software.

Primary Discussion Topics

- Terrain importing and editing
- Setting and editing 2D grid size

- Defining boundary conditions
- Coupling 1D and 2D components
- Mapping output options

Learning Outcomes

- Learn how to add terrain, shapefiles and web imagery
- Learn to combine 2D modeling & 1D riverine components
- Learn how to add proposed conditions terrain
- Generate depth grids and flood elevations for use in various CADD software.
- Trouble shoot common HEC-RAS errors encountered in coupled 1D/2D modeling

Webinar Benefits

- Learn how to couple 1D and 2D modeling
- Efficiently map flooding depths, velocities and extents
- Insight to some "work arounds" to overcome some of the early version deficiencies of the software

Webinar Outline

- RAS mapper basics and data layers
- Terrain processing
- 2D model development
- Coupling of 1D and 2D components within the model
- Tips for working around some initial version limitations.
- Applying hydrology to the coupled model via direct precipitation on surface and external boundary conditions
- Common error messages encountered
- Generate CADD data for incorporation into exhibits

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.

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) 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 2nd 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.

FREE WEBINAR - GEOSYNTHETIC CLAY LINERS

What: Free Webinar - 1.5 PDH

When: Mon., Feb. 22, 2015
11:30 AM - 1:00 PM

Where: S&ME
6190 Enterprise Ct.
Dublin OH 43016

Topic: Selected Topics Regarding Geosynthetic Clay Liners

RSVP: To Jason Ross at JDRoss@smeinc.com by Wed. Feb 17, 2015.

*Open only to Central Ohio ASCE Section Members.

*Seating is limited to the first 25 people.

*Bring your own lunch.

Purpose and Background

Geosynthetic clay liners (GCLs) are very thin layers of bentonite sandwiched between two geotextiles and then needle-punched or stitch-bonded together to form a barrier to liquids and gases. They first appeared in 1986 to absorb leakage through overlying geomembranes in landfill liner systems. Currently, they are being used for both liner and cover systems in myriad environmental, transportation, hydraulic and private development applications. There are approximately twenty manufacturers and the worldwide annual usage is about 150 million square meters. That said, the acceptance and use of GCL's by geotechnical engineers has not progressed nearly as rapidly as it has with other geosynthetic materials like geomembranes, geogrids, etc. Perhaps the main reasons are that compacted clay liners (CCLs) are deeply entrenched in the academic backgrounds of geotechs and also subsequent field experience over the years. This is reflected in current environmental regulations, few of which allow for GCLs to replace or even augment CCLs. This webinar presents the most relevant topics/aspects involving GCLs, including cases of inadequacies in the areas of shear strength and hydraulic conductivity. The webinar also covers the most current GCL testing protocols. In that light, the webinar offers a point-and-counterpoint of GCLs vs. CCLs in both liners and covers. It describes a generic specification with not only suggested limiting test values but also recommendations on quality control and quality assurance.



Primary Topics of Discussion

- Brief History of GCLs
- Cases of Inadequate Shear Strength
- Shear Strength and Peak vs. Residual Decisions
- Tension Peel Strength
- GCL External Interfaces
- Cases of Inadequate Hydraulic Conductivity
- Flow Through GCL Overlaps
- GCL Panel Separation
- GCLs vs. CCLs in Liners and Covers
- The GRI-GCL3 Specification

Learning Outcomes

- Discover the history and manufacturing of GCLs
- Learn about field cases of inadequate shear strength
- Understand testing and critical details of shear testing
- Discuss field cases of inadequate hydraulic conductivity
- Explore critical details of hydraulic conductivity testing
- Become familiar with point-and-counterpoint of GCLs vs. CCLs in both liners and covers
- Emerging GCL opportunities
- Generic specification for GCLs

Webinar Benefits

- Understanding of GCL strengths and weaknesses
- Learn the distinctions of using GCL's as liners vs. covers
- Learn about current research and testing of GCLs
- Understand the distinctions between GCLs and CCLs in liner and cover systems
- Hear about new GCL uses and a generic specification

Webinar Outline

- GCL Overview
- Shear strength issues and testing
- Hydraulic conductivity issues and testing
- GCL's vs. CCL's in liner and cover systems
- Emerging GCL's opportunities
- GCL generic specification

FREE ON-DEMAND WEBINARS

As a benefit to members, in 2016 ASCE is offering five free, on-demand webinars good for one PDH each. You may choose up to 5 webinars from the 60 on-demand webinars



listed [HERE](#). Each one is a 1-hour webinar worth 1 PDH. That's 5 free PDHs from our comprehensive continuing education library – just for being a member!

Categories include *Environmental, Geotechnical, Hydraulics and Water Resources, Management and Practice, Structural, and Transportation*.

Not a member? Join online or call Customer Service at 800-548-ASCE (2723) or 703-295-6300, Monday-Friday, 9:00 a.m. – 6:00 p.m., ET to take advantage of this exclusive member benefit.

Webinars must be taken by December 31, 2016

2015-2016 CENTRAL OHIO ASCE MEETINGS

Meeting Date	Topic	Group(s)	Location	Coordinator
Thursday Jan. 21, 2016 Lunch	ODOT Planning and Projects	ASCE	Villa Milano	Mark Seidelmann
Thursday Feb. 25, 2016 Lunch	Engineers Week Topic	ALL	T.B.D.	E-week Committee
Thursday March 17, 2016 Lunch	Insight 2050 (MORPC)	ASCE	T.B.D.	Carlos Vazquez
Thursday April 21, 2016 Dinner	OU/OSU Student Chapter Presentations	ASCE	Athens, OH	OSU/OU Student Chapters
April/May, 2016 All Day	ASCE Spring Seminar - Water Quality	ASCE	T.B.D.	Firat Sever
Thursday May 19, 2016 Lunch	OARS/Awards President-Elect "Raise the Bar"	ASCE	T.B.D.	Greg Barden
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

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 3rd floor in a special collection area of the main library (north side of building in the half-height stacks).

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Web: www.centralohioasce.com

E-Mail: asce@centralohioasce.com

BOARD MEETING

Our Next Board Meeting
Will Be 11:30 A.M.
January 28, 2016
At W.D. Partners

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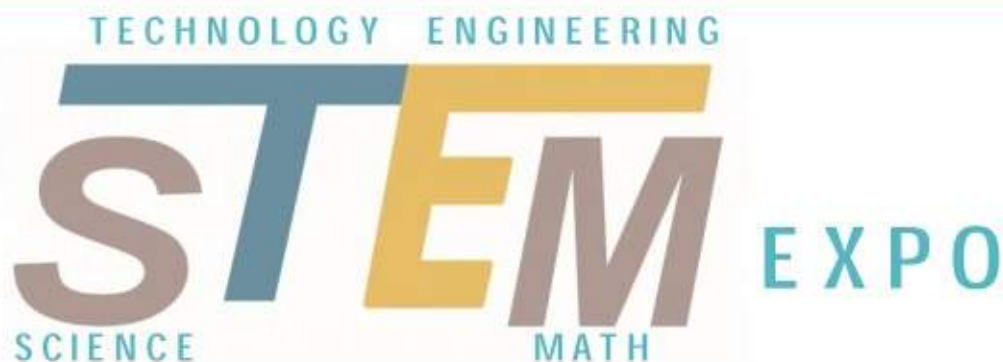
As a service to our members and colleagues who may be seeking employment opportunities, we have provided links directly to *Human Resources* or *Careers* pages on the company website below. Please click any of the company logos to visit the site. We thank the companies below for their support of the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

2016



2016 CENTRAL OHIO STEM EXPO

SATURDAY, MARCH 5, 2016 9 AM—1 PM

**THOMAS WORTHINGTON HIGH SCHOOL
300 W. GRANVILLE ROAD, WORTHINGTON, OHIO**

The Central Ohio STEM Expo is a free educational outreach event for students grades K through 8 that will feature fun, interactive activities and exhibits in the Science, Technology, Engineering and Math fields. Last year's student participants built truss bridges and straw towers, met a live tortoise, modeled buildings under earthquake loading, explored magnetism, looked at real blueprints, built race cars out of everyday food items, and interacted with numerous other activities and exhibits.

Pre-Registration

Please visit the event webpage at <http://centralohioasce.com/STEM-Expo> to RSVP for this event. Pre-registration is encouraged but registration will also be available the day of the event. The first 150 students through the door will receive a free take-home activity bag.

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