



**ENGINEERS  
FOUNDATION OF OHIO**  
*Advancing Engineering Education in Ohio*

Engineers Foundation of Ohio  
400 South Fifth Street, Suite 300  
Columbus, Ohio 43215-5430

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**PAID**  
Columbus, Ohio  
Permit No. 1340

Dated Registration Materials Enclosed

# 2019 Continuing Professional Development Conference

## Recent Testimonials

*"Trusted credits. Good content. Professionally executed."*

*"Information can be used in my work."*

*"Interesting topics & convenient CPD hours at a reasonable price."*

*"Presenters were very dynamic!"*

*"I always find these programs diverse & informative."*

*"This conference has become my preferred source for CPD credit."*

## Who Should Attend?

All design professionals, including:

- PEs and PSs
- engineer interns & surveyor interns
- architects & landscape architects
- government engineers
- industry engineers
- engineering professors

**15 CPD  
hours in one  
conference!**



**ENGINEERS  
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*Advancing Engineering Education in Ohio*

# Continuing Professional Development Conference

**15 CPD  
hours!**

**3.5 hours  
of ethics/rules  
training**

**Thursday & Friday, November 7 & 8, 2019**  
**Bridgewater Conference Center | Powell, Ohio**

Major Support Provided by:

**NSPE-OH**

OHIO SOCIETY OF  
PROFESSIONAL ENGINEERS

**2019**

# CPD Conference

Day 1 | Thursday, November 7, 2019 | Powell, Ohio



ENGINEERS  
FOUNDATION OF OHIO

7:00 a.m.-8:00 a.m.

Registration & Continental Breakfast

8:00 a.m.-9:00 a.m.

(1.0 CPD Hour, Ethical)

## The Ohio Ethics Law is Every Engineer's Business!

*Susan Willeke, Education & Communications Manager, Ohio Ethics Commission*

Learn to identify and avoid potential conflicts of interest as a public employee or when working with government.

Participants will learn:

- Ethics prohibitions related to public contracts and potential post-employment requirements
- About general assistance available from the Ohio Ethics Commission to assist both the public and private sectors in understanding and complying with the ethics laws

**Susan Willeke** is an accomplished government-relations professional with more than 27 years' experience in public affairs, communication and public speaking. Willeke joined the Ohio Ethics Commission in 2005. She presents approximately 200 speeches annually, develops information strategies regarding agency programs and represents the Ethics Commission to Ohio citizens, the media and the Ohio legislature.



9:15 a.m.-10:15 a.m.

(1.0 CPD Hour, Ethical & Technical)

## Ohio's Ethics Laws & Engineering Work with Autonomous Vehicles

*Thomas Pannett, PE, MBA, Administrator, Office of Contract Sales, Ohio Department of Transportation*

This presentation will challenge the audience to consider the ethical implications of how artificial intelligence (AI) and autonomous vehicles will make decisions for engineers and drivers often involving life and death determinations.

Participants will learn:

- How the specific ethics requirements found in the Ohio Revised Code and the Ohio Administrative Code inform engineering work associated with AI and autonomous vehicles that make decisions for drivers

**Thomas Pannett**, a member of the Columbus Bar Association's Construction Law Committee and past Secretary of the Professionalism and Ethics Committee, has worked in and around ODOT for nearly 30 years. He has also served as an engineer, an Assistant Attorney General representing the Department, and now manages Contract Sales and Estimating.



10:30 a.m.-11:30 a.m.

(1.0 CPD Hour, Technical)

## Remote Sensing in Agricultural & Ecosystem Monitoring

*Sami Khanal, PhD, Department of Food, Agricultural & Biological Engineering, The Ohio State University*

Get an introduction to the fundamentals of remote sensing and their applications in agriculture and environmental management.

Participants will learn:

- The basic principles of remote sensing technology
- The components, types, applications and advantages of remote sensing technology

**Dr. Sami Khanal** is an assistant professor of agricultural sensing for sustainability indicators. She specializes in the application of remote sensing technologies, geographic information system and big data analytics in agricultural systems. Her PhD in environment and resources is from the University of Wisconsin-Madison.



11:30 a.m.-12:00 p.m.

Break: Box Lunch Pick Up

12:00 p.m.-1:30 p.m.

(1.5 CPD Hours, Technical & Managerial)

## Environmental Infrastructure in Rural China

*Karen Mancl, PhD, Professor, Food, Agricultural and Biological Engineering and Water Quality Specialist, The Ohio State University*

Only 22 percent of China's 2.8 million villages are served with environmental infrastructure. Transferring technology from one country to another can be tricky. Learn how China plans for and regulates the countryside.

Participants will learn:

- Infrastructure priorities for the Chinese countryside
- How local governments finance infrastructure development
- How to work in rural China

**Dr. Karen Mancl** is a nationally known expert in onsite wastewater treatment. She has been extensively published on rural infrastructure and outreach initiatives. Dr. Mancl has a PhD in water resources and master's degrees in environmental science and East Asian studies.



1:45 p.m.-2:45 p.m.

(1.0 CPD Hour, Technical)

## Environmental Concerns Associated with Unconventional Oil & Gas Production

*Jeffrey Dick, PhD, Chief Geologist, JD Geological & Environmental Services*



Take a look at the perceived versus the actual environmental problems and issues associated with unconventional drilling (fracking) and production.

Participants will learn:

- Environmental issues related to unconventional well drilling and completion, waste water recycling and disposal, and pipeline construction

**Dr. Jeffrey Dick** is a consulting geologist specializing in legal challenges associated with oil and gas drilling and production. He is also chair of the Department of Geological and Environmental Sciences at Youngstown State University.



3:00 p.m.-4:00 p.m.

(1.0 CPD Hour, Technical & Managerial)

## XR Technology: Changing the Landscape of Training & Field Services in Engineering

*Vinod Dega, PE, PMP, Founder & CEO, HoloPundits*

Participants will learn:

- Engineering market trends associated with augmented reality (AR) and virtual reality (VR) technologies
- How to use AR / VR in training and field services

**Vinod Dega** is working to make HoloPundits a global leader in extended reality (XR). With more than 30 years of engineering experience, he leads his team in developing applications in AR, VR and mixed reality (MR).



4:00 p.m.-5:00 p.m.

(1.0 CPD Hour, Technical & Managerial)

## Integrated Design & Construction of Transmission Stations

*Ronald Wellman, Jr., PE, Planning & Engineering Supervisor, American Electric Power*

As utility companies undergo rapid change and growth, AEP Transmission is leveraging existing resources and new tools and technologies to streamline engineering, construction, operation and maintenance.

Participants will learn:

- The use of LIDAR and ground penetrating radar scanning, intelligent 3D/4D/5D modeling, prefab construction and constructability analysis
- How technology can improve the overall station deliverable
- How scoping and design affect construction

**Ronald Wellman** is a supervisor in the Station Engineering Design Standards group. He oversees the implementation of new station processes and advanced engineering studies.

5:00 p.m.-5:15 p.m. Evaluations (One-Day Registrants) & CPD Certificates



7:00 a.m.–8:00 a.m. Registration & Continental Breakfast

8:00 a.m.–9:00 a.m. (1.0 CPD Hour, Technical)

### Station Surge Arresters & Insulation Coordination

*Xuan Wu, PhD, PE, Senior Engineer, Station Design Standards, American Electric Power*



Surge arresters are important devices that protect major equipment from insulation failures due to lightning or switching surges. This session will explain how to appropriately apply station surge arresters in order to afford the best surge protection.

Participants will learn:

- The basic functions of station surge arresters
- Characteristics, types and application considerations with emphasis of temporary overvoltage and separation distance
- The fundamentals of insulation coordinations

**Dr. Xuan Wu** researches optimization techniques in transmission and distribution system planning, operation and market designs, electromagnetic and electrostatic coupling effects, substation fault analysis and grounding design, and transient analysis and surge arrester applications. Dr. Wu is chair of IEEE Power & Energy Society, Columbus Chapter.

9:15 a.m.–10:15 a.m. (1.0 CPD Hour, Technical & Managerial)

### SMARTCenter Testing

*Brett Roubinek, President & CEO, Transportation Research Center Inc.*



In 2018, Transportation Research Center Inc., the largest independent automotive proving ground in North America, broke ground on the SMARTCenter – a state-of-the-art automated and connected vehicle testing facility.

Participants will learn:

- How advanced automotive and mobility technologies are tested in a safe, secure and repeatable real-world environment before the vehicles are deployed on public roads and highways

**Brett Roubinek** brought more than 25 years of automotive ecosystem experience to TRC when he started in 2016. At that time, he was responsible for overseeing research efforts and day-to-day operations. Today, Roubinek serves on the board of the Smart Belt Coalition and as chairman of DriveOhio Expert Advisory Board. He is also a member of the steering committee for the International Committee for Proving Ground Safety.

10:30 a.m.–11:30 a.m. (1.0 CPD Hour, Technical)

### Hey, Ohio Engineers: “Call Before You Dig”

*George Gillespie, Jr., Public Awareness / Services Coordinator, Ohio Utilities Protection Service-OHIO811*



Learn about the “Call Before You Dig” process in Ohio.

Participants will learn:

- Why you need to call OHIO811
- Senate Bill 378, an update to the dig law
- An overview of the Ohio universal marking standards
- The 10-day design ticket

**George Gillespie** is responsible for educating and promoting safety and utility damage prevention across Ohio and other states. He has over 49 years of utility experience. Before joining OHIO811, Gillespie worked at AT&T for more than 31 years. He also worked and managed several outside plant positions including cable placement, cable splicing, cable repair, conduit design and placement and design engineering. Gillespie is treasurer of the Central Ohio Damage Prevention Council and a regional representative to the Common Ground Alliance. He participates on the Statewide Safety Committees for the Ohio Contractors Association and the Associated General Contractors as well as on the Builders Exchange Safety Advisory Council.

11:30 a.m.–12:00 p.m. Break: Box Lunch Pick Up

12:00 p.m.–1:30 p.m. (1.5 CPD Hours, Ethical)

### Laws & Rules: Common Ethical Violations of the Registration Act

*John Greenhalge, Executive Director, Ohio State Board of Registration for Professional Engineers & Surveyors*



Join this discussion on the laws and rules governing the practice of engineering and surveying.

Participants will learn:

- The laws and rules (Ohio Revised Code 4733 and Ohio Administrative Code 4733)
- Common ethical violations and how to avoid them

**John Greenhalge** is responsible for the daily operations of the State Board of Registration. Prior to his appointment as executive director, he was the State Board of Registration enforcement supervisor and assistant executive director. Greenhalge is a past recipient of the NCEES Distinguished Service Award and the NCEES Meritorious Service Award.



1:45 p.m.–2:45 p.m. (1.0 CPD Hour, Managerial & Technical)

### Challenges & Opportunities of Disaster Relief Supply Chains

*Felipe Aros-Vera, PhD, Assistant Professor, Ohio University*



Learn the fundamentals of emergency management and key challenges and opportunities for disaster relief supply chains. The discussion will include lessons from significant events, including Hurricane Maria in Puerto Rico (2017).

Participants will learn how to:

- Identify the most salient characteristics of humanitarian logistics, disaster response logistics and the cycle of emergency management
- Identify the most salient challenges of recent disasters

**Dr. Aros-Vera** researches humanitarian and disaster response logistics, operations research and transportation and urban logistics. He holds a PhD in transportation engineering from the Rensselaer Polytechnic Institute.

3:00 p.m.–4:00 p.m. (1.0 CPD Hour, Managerial)

### Quantifying Risk

*Aurea Rivera, PE, PMP, Senior Technical Project Manager, Riverside Research Institute*



Sound project management requires the quantification of risk.

Participants will learn:

- The risk management function (i.e., project management principles)
- The mathematical discovery that permits the quantification of risk and its influence in our engineering work

**Aurea Rivera, PE, PMP**, a retired defense intelligence senior leader, is dedicated to the advancement of data analytics and technologies. She is a nationally-recognized expert in ballistic missiles technical collection.



4:00 p.m.–5:00 p.m. (1.0 CPD Hour, Technical)

### ORITE's Capabilities & SOLVER

*Dr. Issam Khoury, PhD, PE, Assistant Professor, Department of Civil Engineering, and Associate Director of ORITE, Ohio University*



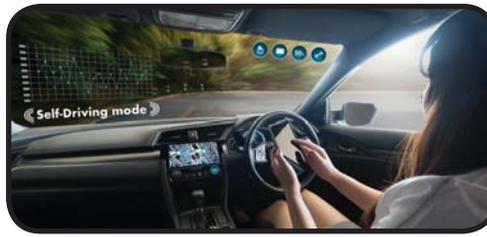
Discover the capabilities of the Ohio Research Institute for Transportation and the Environment (ORITE).

Participants will learn:

- Innovative solutions to infrastructure challenges while mitigating environmental effects
- The research associated with the Southern Ohio Low Volume Experimental Road (SOLVER) in Vinton County

**Dr. Issam Khoury** has been involved in instrumentation and research projects for Ohio DOT, New York DOT, Federal Highway Administration and private companies in the U.S. and abroad.

5:00 p.m.–5:30 p.m. Evaluations, CPD Certificates & Adjournment



**Continuing Professional Development Conference**  
 Bridgewater Conference Center | Powell, Ohio  
 Thursday, November 7 & Friday, November 8, 2019

**REGISTRATION**

**DEADLINE: October 25, 2019**

Name: \_\_\_\_\_ Title: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Day Phone: \_\_\_\_\_ Evening Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 E-mail: (for communication purposes) \_\_\_\_\_  
 Emergency Contact & Phone Number \_\_\_\_\_  
 Speaker Handouts Format Option (choose one)  Dropbox download (link provided in advance)  
 Photocopies (available onsite)

**SCHEDULING AND FEES**

CHOOSE YOUR CONFERENCE PACKAGE, THEN MARK THE APPROPRIATE FEE:	Regular	OSPE member 30% Off
<input type="checkbox"/> Entire 2-day Conference (includes morning coffee/continental breakfast, seminars, breaks and box lunch each day)	<input type="checkbox"/> \$470	<input type="checkbox"/> \$329
<input type="checkbox"/> Thursday Only (includes morning coffee/continental breakfast, seminars, breaks and box lunch)	<input type="checkbox"/> \$249	<input type="checkbox"/> \$174
<input type="checkbox"/> Friday Only (includes morning coffee/continental breakfast, seminars, breaks and box lunch)	<input type="checkbox"/> \$249	<input type="checkbox"/> \$174

For OSPE Member Discounts, provide your NSPE or OSPE member number: \_\_\_\_\_

**PLEASE PHOTOCOPY FORM FOR ADDITIONAL REGISTRATIONS**

**PAYMENT OPTIONS**

**PAYMENT IN FULL IS REQUIRED WITH REGISTRATION**

Check enclosed made payable to "Engineers Foundation of Ohio"  
 Charge to:  MasterCard  Visa  AMEX  
 Account Number: - - - Exp. Date: / Security Code (3-4 digits): \_\_\_\_\_  
 Cardholder Name: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Card Billing Address: \_\_\_\_\_ Zip: \_\_\_\_\_



Major Support Provided By:



**HOW TO REGISTER:**

**Limited to first 250 registrants.**

Simply register by one of the three convenient methods below. Payment in full is required with registration.

- Online: [www.OhioEngineer.com](http://www.OhioEngineer.com)
- By Phone: 1-800-654-9481 or (614) 223-1177
- By Mail: Engineers Foundation of Ohio  
400 South Fifth Street, Suite 300  
Columbus, Ohio 43215-5430

How You Will Benefit

To get the maximum educational benefit and 15 CPD hours, simply attend the entire two-day program. Do you only have one day out of the office? Then register for one day and earn 7.5 CPD hours. Materials, continental breakfast, breaks and box lunch each day are included in the registration fee.

State Employees – Great News!

State of Ohio exempt employees are eligible for reimbursement on conference, seminar and training events through the Employee Development Fund. For more information, please call 614-466-7832 or e-mail [edfunds@das.ohio.gov](mailto:edfunds@das.ohio.gov).

Continuing Professional Development Hours

EFO programs are designed to meet the requirements for Ohio's continuing professional development (CPD) law and State Board of Registration for Professional Engineers and Surveyors (State Board of Registration) rules. For Ohio licensees, the State Board of Registration determines the acceptance of individual courses for CPD credit. The State Board of Registration does not preapprove courses or course providers. EFO programs are also designed to comply with the law in KY, NC and WV. Be sure to consult those states' licensing authorities. The program also meets CPD requirements in many additional states. There are 15 CPD hours associated with this program. Professionals should only claim credit commensurate with the extent of their participation in the activity. Be sure to sign your attendance card each day so your attendance may be verified in case you are audited by the state.

Schedule & Substitutions

Schedule and faculty are subject to change without notice. Attendee substitutions may be made at any time although nonmember differential rates will apply if a nonmember replaces a member.

Seminar Handouts (Format Option)

The handouts for this conference will be available to you in one of two formats: Dropbox download or paper copy. Please indicate your preferred format via the registration form.

Local Overnight Accommodations

Call EFO or visit [www.OhioEngineer.com](http://www.OhioEngineer.com) for a list of hotels.

Special Needs?

Please notify EFO no later than three days prior.

**EXHIBIT AT THIS CONFERENCE!**

Call EFO for a list of sponsorship opportunities.

Cancellation Policy

Registrants may withdraw from the conference with full refund less a \$75 processing fee provided EFO is notified in writing at least 72 hours prior to the start of the conference. After that time, registrants are responsible for the full registration fee.

By registering for this program you acknowledge that your photographic image may be taken for publication purposes, and your contact information may appear on an attendee networking list.

Business-casual attire is recommended.

Your Satisfaction Is 100% Guaranteed!