

# NJSPE CONTINUING EDUCATION

Offering 6 PDH credits for Professional Engineers in NJ, NY, PA and other states that accept NJ or NJSPE accredited programs.



**POSTPONED MARCH 18  
SEMINAR IN MORRISTOWN  
WILL NOW BE HELD ON  
APRIL 30, 2020 AS A  
WEBINAR!**

**Registration cut off:  
April 27th at 5 PM**

- NJSPE EARLY Full day Member Rate: **\$275**
- Non-Member EARLY Full day Rate: **\$325**

## REGISTRATION INCLUDES:

Zoom Webinar with moderator. Participants will be sent the webinar link one to two days before so they can log on and be sure they are compatible.

**NJSPE members from States other than NJ may take the member rate. Membership will be verified.**

NOTE: Contributions and payments to 501(c)(6) organizations are not deductible as charitable contributions on federal income tax returns although they may be deductible as trade or business expenses. Substitutions are permitted if you are unable to attend. Registrant must email to: [jlombardi@njpsi.com](mailto:jlombardi@njpsi.com) 48 hours prior to the event with the name, address, phone and email of the person taking your place.

NJSPE will accept cancellations with refund up to one week prior to the date of the program. A cancellation fee of \$50 will apply. Refunds cannot be issued after that time but registration substitutions are permitted.

Questions: [jlombardi@njpsi.com](mailto:jlombardi@njpsi.com);  
609-393-0099

## JOIN NJSPE TODAY

and use the member rate today! Call NJSPE at (609)393-0099 and speak to Membership Director, Kelly Biddle, or

**CLICK HERE**

## REGISTRATION IS ONLINE: REGISTER HERE

Review the Program and Schedule, below.

# APRIL 30, 2020

## Webinar Schedule

**8:30 - 10:30 AM**

### **Bridge Resistance Barrier Gates**

*Accreditation:* 2 PDH credits, NJ, PA, & NY

*Speakers:* Steve Esposito, P.E., and George Zimmer, P.E., WSP

This presentation focuses on the analysis, 3D simulation, crash testing and commissioning of the resistance barrier gates on the Rt. 37 Eastbound Mathis Bridge over the Barnegat Bay. This structure is an approximately mile long viaduct connecting Seaside Heights, NJ to the mainland and carries three lanes of traffic. There are 66 approach spans and the main span is a double leaf bascule. The resistance barrier gates were designed to comply for the MASH TL-2 crash test level, resist 125 mph wind speed and provide an infinite fatigue life. These design parameters, the combination of which was a first of its kind design, required a 3D simulation analysis and design to verify the gate performance, and then full-scale crash tests were mandated prior to construction. In order to reduce the number of expensive crash tests required, and to provide confidence that the combination of the design parameters could be achieved, NJDOT sponsored an in-depth

3D Finite Element Modelling (FEM) analysis prior to advertisement to prove the theoretical capacity of the gates. Ultimately, following full scale crash tests, the new gates were accepted and successfully installed on the bridge.

**10:50 AM - 12:50 PM**

### **Why do we use Drones for Engineering**

*Accreditation:* 2 PDH credits NJ, PA, & NY

*Speakers:* Joseph Mancini, PE, PP, CFM - President / Owner of TSE and Jason Moore, P.E.- sUAS 107 Pilot, Survey Division Leader and Lead Pilot at TSE, Lead Pilot at DroneForce, LLC.

This course will review the ways drones are being used in the construction industry, mainly in the engineering and surveying fields. This course will show examples of how drones are being utilized in various different situations to assist Engineers. You will learn the safety benefits of using drones in compromising health situations. You will learn some of the legal requirements for use of drone, applications of drones for specific Engineers needs, benefits of using drones, and you will see some of what the future can hold for drone technology in the engineering field.

**12:50 - 1:30 PM**

### **Break for Lunch**

**1:30 - 3:30 PM**

### **Ethics for Professional Engineers**

*Accreditation:* 2 PDH credits, NJ, PA, & NY

*Speaker:* Jim Purcell, P.E.

"Engineering is an important and learned profession. As members of this profession, engineers are expected to exhibit the highest standards of honesty and integrity. Engineering has a direct and vital impact on the quality of life for all people. Accordingly, the services provided by engineers require honesty, impartiality, fairness, and equity, and must be dedicated to the protection of the public health, safety, and welfare. Engineers must perform under a standard of professional behavior that requires adherence to the highest principles of ethical conduct." NSPE Code of Ethics Preamble.

The presentation will provide an overview of the need for ethics in professional engineering; what the NSPE Code of Ethics, through the Fundamental Canons, Rules of Practice, and Professional Obligations, requires of professional engineers; and what steps can be taken to practice ethical decision making. This will be compared to legal obligations as promulgated in New Jersey regulations, with a comparison to the NCEES Model Rules. Discussion of some example cases from the NSPE Board of Ethical Review will be included.

Attendees will participate in the presentation by taking an ethics exam to gauge their understanding of the NSPE Code of Ethics before and after the presentation.

# SPEAKER BIOS

**Steve Esposito, P.E.** is a Supervising Structural Engineer and Senior Technical Principal with WSP. Steve is licensed in NJ and completed his BS and MS at Rutgers, with more than 13 years of professional experience. He has a wide range of experience performing design, inspection, and construction services for structures. Steve was the recipient of the 2016 ASCE NJ young engineer award and the 2017 PESMC young engineer award. He is published in the Bridge Structures Journal and has presented several technical papers for IBC, ABC, NYC Bridge Conference, Ocean County PE Society, Roads and Bridges, and ASHE.

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**Joseph Mancini, P.E.** is the President/Owner of Tri-State Engineering, a civil land development/surveying firm based in South Jersey. Mr. Mancini has over 20 years of experience in the fields of land development engineering and land planning. Mr. Mancini's experience includes a variety of projects ranging in size from small site plans, such as building and parking lot expansions, to large planned unit subdivisions and 1 million plus sq. ft. warehousing/industrial facilities. Mr. Mancini has appeared before numerous Planning Boards and Zoning Boards of Adjustment as an expert in the fields of land planning and civil engineering. He is a member of the Executive Board for the New Jersey Society of Professional Engineers (NJPE-NJ) American Society Civil Engineers (ASCE), New Jersey Planning Officials (NJPO), and National Association of Realtors (NAR).

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**Jason Moore** is the Survey Division Manager at TSE. He is responsible for all the field data Collection and processing by CAD technicians. He coordinates scheduling, details logistics and the appropriate techniques used for all land surveying projects and is responsible for equipment calibration. Mr. Moore is also licensed as an FAA sUas 107 Drone Pilot and supervises all flights for photogrammetry, orthometrics, site progression photos and thermal inspections. Mr. Moore has over 15 years experience as a field surveyor and party chief. Mr. Moore's experience has included almost every aspect of surveying and its various techniques. Mr. Moore has performed as-built surveys and construction layout for many miles of roadway work, including the drainage, utilities, curbs, easements, grading for basins, bridge work, stormwater management areas, roadway stabilization, etc. He has been a part of massive demolition projects, including demolition requiring controlled implosions.

Due to Mr. Moore's professionalism and exceptional skill in survey reports, he has been an expert witness on several occasions for companies and their interests.

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**Jim Purcell, P.E.** has over 40 years of engineering experience in civil engineering design, construction, and inspection. After 35 years in the consulting community, Jim served as technical director of the New Jersey Asphalt Pavement Association from 2013 to 2019 and is currently providing professional services to multiple firms. Jim also serves The College of New Jersey as a member of the Industry Advisory Council and as an Adjunct Professor, teaching the next generation of engineers the fundamentals of engineering design, the importance of licensure, and the importance of ethics. Jim is a licensed professional engineer in New Jersey, Connecticut, New York, Pennsylvania, Delaware, and North Dakota. Jim serves on the New Jersey State Board of Professional Engineers and Land Surveyors, having been appointed in 2005, holding the position of Board President twice. He is currently the Immediate President of the National Council of Examiners for Engineering and Surveying and has served NCEES in numerous capacities over the past 10 years.

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**George Zimmer, P.E.** is a structural engineer and has worked at WSP for 3 years. He has a BS and MS in Civil (Structural) Engineering from Villanova University. He has worked on fixed and movable bridge rehabilitations for NJDOT and other clients and was a key team member during the Construction Phase of the Mathis bridge. George has been published in the ACI Materials Journal, Bridge Design and Engineering and has presented technical papers for IBC, ASCE and ASHE.