



Engineers Joint Committee of Long Island

Anthony Cacioppo, P.E., Chair
Paul Lanzillotta, P.E., Vice-Chair

ENGINEERS WEEK SEMINAR SERIES

Wednesday, February 12, 2025

(Snow Date: Wednesday, February 26, 2025)

Place: *Holiday Inn Plainview - 215 Sunnyside Boulevard, Plainview, NY 11803*
516-349-7400 (Front Desk)

Program:

8:00 am – 9:00 am	Registration & Full Hot Breakfast
9:00 am – 10:00 am	Morning Seminars
10:00 am – 10:15 am	Break
10:15 am – 12:15 pm	Morning Seminars Cont'd.
12:15 pm – 1:15 pm	Lunch
1:15 pm – 3:15 pm	Afternoon Seminars
3:15pm – 3:30 pm	Break
3:30 pm – 4:30 pm	Afternoon Seminars Cont'd.

To Register On-Line, click

[Engineers Week Seminar Series 2025](#)

Seminars & Descriptions

“Water/Wastewater Pressure & Flow Instrumentation Advances” (1 PDH) 9:00 am – 10:00 am
Presented by: Wayne Martin, Neal Systems, Inc.

This presentation takes the attendee through the process of identifying various fluid flowmeter technologies in order to be able to select the best technology for one'e application. Topics covered include theory of various meter types: differential pressure, magnetic, coriolis, plus others; and mass flow vs. volumetric flow. Further, explanation of accuracy vs. repeatability and why the importance of recognizing the differences. Finally, data communication and standards organizations are discussed.

“Toxic & Combustible Gas Detection Practices in Water & Wastewater Industries” (2 PDH)

10:15 am – 12:15 pm

Presented by: Steve Slavutsky, Regional Sales Manager, Draeger, Inc.

This presentation starts off by explaining the difference between leak detection and gas analysis, then proceeds with an overview /discussion of the importance of toxic & combustible gas detection in water & wastewater treatment systems. The various technologies – electrochemical, catalytic bead and infrared sensors – are explained and how they work, as well as how these devices are integrated into a complete Leak Detection “System.” The presentation then teaches the practitioner how to select sensors based on physical location to be monitored, plus how to select Gas Leak Alarm Set Points. On-line resources on standards & regulations (CDC, NIST, etc.) are also mentioned.

“Exploring the Synergy & Distinctions in Sustainable Design: Perspectives from Architects and Mechanical Engineers” (2 PDH) 1:15 pm – 3:15 pm

Presented by: Eric Anderson, RA, AIA, Farmingdale State College

Sustainable Design of facilities is defined as the integration of environmental, social, and economic considerations into the design process to create buildings that minimize environmental impact and maximize user well-being. This seminar will cover both the Mechanical Engineer’s and Architect’s perspectives regarding key principles, including energy efficiency, resource conservation and indoor environmental quality. There is a plethora of resources on sustainable design concepts and best practices, from informative articles and guides to inspiring case studies showcasing successful sustainable design projects. This seminar will highlight the importance of collaboration, innovation and holistic approach of engineers and architects to create buildings that are not only environmentally responsible, but also aesthetically pleasing, functional and conducive to occupant well-being.

“Safeguards During Construction - NYS vs NYC Codes” (1 PDH) 3:30 pm – 4:30 pm

Presented by: Zohaib A. Alvi, M.Eng., P.E., ENV-SP, DFE, ZA Engineering

This presentation will compare and contrast the requirements within Chapter 33: Safeguards During Construction between both the 2020 New York State Building Code and 2022 New York City Building Code. The goal of the presentation is to show how vast this chapter is in the City code versus the State code, and to obtain a better understanding of the safety, protection, and liability requirements within this chapter.

“Free Cooling: Is it right for your Building” (1 PDH) 9:00 am -10:00 am

Presented by: Peter Krumdieck, PE

If a building has sufficient cooling load in cooler weather, it may be satisfied by using “Free Cooling,” i.e., cooling a building without use of chillers. Some engineers may already be familiar with air side economization, even actual enthalpy economization. This presentation will discuss Free Cooling or water side economization, why it’s worth discussing at this time, what is necessary and how you can gain from just reviewing best practices, even if actual free cooling is not practical. We will also present & discuss some actual cases.

“Desalination in Shipboard Vessels” (2 PDH) 10:15 am – 12:15 pm

Presented by: Yong Gu, Ph. D, PE, USMMA, NYIT

This presentation discusses the desalination aboard vessels. The purpose of the desalination on vessels is to provide freshwater for human consumption and industrial use. In general, there are two technologies of desalination on vessels: one is membrane separation and another is thermal distillation. The thermal source to evaporate seawater can be steam, hot water, electricity, renewable energy, or waste heat. In the presentation, a comparison of RO and distillation is shown and the basic design consideration of the distilling plants is introduced.

“Shocking Developments: The Story of Shock Waves (2 PDH) 1:15 pm – 3:15 pm

Presented by: Nick DiZinno, Ph. D., PE, New York University

The story of shockwaves and their analysis. Why shock waves arise in nature and the consequences of this phenomena in different industrial applications. A survey of the experimental and numerical tools used in shock wave research is presented in the context of the historical achievements that made their analysis possible. The challenges and pitfalls encountered in the numerical simulation of shockwaves using Computational Fluid Dynamics (CFD) will be shown and a survey of some shock mitigation tools will be presented.

“Steps to Setting Up A Hydrogen Testing Facility” (1 PDH).

3:30pm-4:30pm

Presented by: Devinder Mahajan, Ph. D., Stony Brook University

The presentation describes step-by-step the path from offshore wind to hydrogen production, storage, transport and end use. Hydrogen blending with natural gas steps, underway and planned, to identify the preparedness of the current natural gas delivery system. Data analysis will visualize structural changes (embrittlement, fatigue) to pipeline components using advanced spectroscopic techniques as well as establish the Wobb index for various blend percentages using high resolution gas chromatographs. The intention is to establish engineering risk assessments and protocols for various blend percentages being delivered through different materials currently installed in the US gas transmission, distribution and delivery systems.

“Artificial Intelligence: Professional Engineering Perspectives and Perceptions” (1 PDH) 9:00 am - 10:00 am.

Presented by: Marc Krieg, P.E., Esq. Krieg Associates, PC

This seminar will cover Artificial Intelligence (AI) in the context of the engineering professions. It will take the audience from onset history to current status. The AI evolution beginning with long language models (LLM’s) to modern applications that mimic human creativity and problem solving (Artificial General Intelligence) will be explored. AI concerns, both real and mythical, will be included. Recent breakthroughs memorialized in the 2024 Nobel Prizes in physics and chemistry will be examined. The promises of responsible use and the hazards of abuses will be compared in a balance of equities review. The professional responsibilities of engineers in the use of AI and AGI with enforcement strategies to protect the public will be evaluated.

“Artificial Intelligence; Enhanced Study of Language Models” (2 PDH)

10:15 am – 12:15 pm

Presented by. Gus Spathis, President, Xogito

In today’s rapidly evolving digital world, Large Language Models (LLMs) have become instrumental in reshaping diverse sectors, ranging from customer service to content creation, and from language translation to code generation. Their pervasive influence calls for a comprehensive understanding of how they work, what distinguishes one type from another, and where the technology headed. This presentation will embark on a deep dive into both open-source and closed-source LLMs, aiming to provide engineers with a holistic understanding of these powerful tools.

“Industrial Communications; Analog/Digital Signaling, FieldBus and Industrial Ethernet” (2 PDH)

1:15 pm – 3:15 pm

Presented by: John Piccinic, Regional Sales Mgr., Eaton Corp.

This presentation explores the evolution and application of analog signaling and digital communications in industrial settings, offering a comprehensive understanding of both traditional and modern communication protocols. Beginning with the fundamentals of analog signaling, it progresses to digital communication protocols such as HART (Highway Addressable Remote Transducer) and Fieldbus, illustrating their role in industrial automation and control.

The discussion then transitions to the basics of Ethernet as a networking technology, emphasizing its adaptability and scalability. Finally, the presentation delves into the intricacies of industrial Ethernet, highlighting its benefits for robust, high-speed, and reliable communication in demanding environments. Throughout, real-world examples and live demonstrations using test equipment will be presented, showcasing waveforms that visualize different signaling types and communication methods. These demonstrations will provide attendees with a clear, practical understanding of the technology, enabling them to apply this knowledge effectively in their own operations.

“Machine Learning in Mechanical Engineering” (1 PDH)

3:30 pm – 4:30 pm

Presented by: Wenhai Li, Ph. D. Farmingdale State College

This presentation explores the transformative impact of Machine Learning (ML) in Mechanical Engineering, bridging applications and education. It begins by introducing key ML concepts and showcasing applications in robotics, predictive maintenance, quality control, generative design, and process optimization. Through real-world case studies, the presentation demonstrates how ML enhances engineering problem-solving, accelerates innovation, and addresses complex challenges. Additionally, it highlights key strategies and tools, including physics-informed ML and accessible no-code platforms, enabling engineers to harness the power of ML in their work.

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	Room/Track A	Room/Track B	Room/Track C
9:00 - 10:00	Water/Wastewater Pressure & Flow Instrumentation Advances 1 PDH	Free Cooling: Is it Right for your Building 1 PDH	Artificial Intelligence: Professional Engineering Perspectives and Perceptions 1 PDH
10:00 – 10:15	BREAK		
10:15 - 12:15	Toxic & Combustible Gas Detection Practices in Water & Wastewater Industries 2 PDHs	Desalination Systems Aboard Vessels 2 PDHs	Artificial Intelligence, Enhanced Study of Large Language Models 2 PDHs
12:15 - 1:15	LUNCH		
1:15 - 3:15	Exploring the Synergy & Distinctions in Sustainable Design: Perspectives from Architects and Mechanical Engineers 2 PDHs	Shocking Developments: The Story of Shock Waves 2 PDHs	Industrial Communications; Analog/Digital Signaling, FieldBus and Industrial Ethernet 2 PDHs
3:15 – 3:30	BREAK		
3:30 - 4:30	Safeguards During Construction - NYS vs NYC Codes 1 PDH	Steps to Setting Up A Hydrogen Testing Facility 1 PDH	Machine Learning in Mechanical Engineering Technologies: From Applications to Education 1 PDH

To Register ON-Line [click here](#)
[Engineers Week Seminar Series 2025](#)

LI Engineers Week SEMINAR Series, Wednesday, February 12,
Register On-Line click [Engineers Week Seminar Series](#)
2025

To register by mail, complete and return this form.**

Email questions to: lpellizzi@nysspe-li.org

ALL FIELDS MUST BE COMPLETED. PLEASE PRINT NEATLY

CHECK ALL SEMINARS YOU WISH TO ATTEND (Up to a maximum of 6 pdhs)

Fee: _____ **\$180 for full day (4-6 PDH); includes breakfast & lunch**

 _____ **\$90 for half day (3 or fewer PDH); includes lunch**

STUDENTS WITH A VALID ID MAY ATTEND AT NO COST (must submit this form)

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|-------|--------------------|---|
| _____ | 9:00am – 10:00am | “Water/Wastewater Pressure & Flow Instrumentation Advances” (1 PDH) |
| _____ | 10:15am – 12:15pm” | “Toxic/Combustible Gas Detection in Water/Wastewater Industries (2 PDH) |
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| _____ | 3:30pm – 4:30pm | “Hydrogen Fuels Test Facility” (1 PDH) |
| _____ | 9:00am – 10:00am | “Artificial Intelligence: PE Perspectives and Perceptions” (1 PDH) |
| _____ | 10:15am – 12:15pm | “Artificial Intelligence, Enhanced Study of Language Models” (2 PDH) |
| _____ | 1:15pm – 3:15pm | “Industrial Communications & Ethernet (2 PDH) |
| _____ | 3:30pm – 4:30pm | “Machine Learning in Mechanical Engineering” (1 PDH) |

Total PDH _____

Total Amount Enclosed \$ _____

*** Make check payable to: Engineers Joint Committee of LI**

****To register by mail, complete and return this form with payment by February 8, 2025 to:
NYSSPE-Long Island Chapter, 477 Miller Place Rd., Miller Place, NY 11764.**

Name _____ Phone _____

Company _____

Mailing Address _____

E-mail Address _____

If using a credit card, fill out above & below and e-mail form to: lpellizzi@nysspe-li.org

Credit Card Number _____ Billing Zip Code _____

CC Type (Circle One): MC, Visa, AE, Disc. Exp. Date _____ CCV Code _____