



The Institute of Marine Engineering, Science & Technology



Eastern USA Branch

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March 6, 2021

MEETING NOTICE

The next technical meeting of the IMarEST Eastern USA Branch will be a joint session with the Society of Naval Architects and Marine Engineers (SNAME), the Society of Marine Port Engineers (SMPE), and the American Society of Naval Engineers (ASNE). This meeting is being hosted by the IMarEST.

Date: Thursday, March 18, 2021

Location: This month's meeting will be an online-only webcast. To register, please visit <https://zoom.us/meeting/register/tJAvdu2orTMjHdRjDDVfyWfE18klfunnWqlj>. Once registered, you'll receive a confirmation with a link to join the event.

Topic: Perceptive Sensor Technologies

Presenters: **Earl J. Crochet, PE**
Director of Business Development Oil & Gas, Perceptive Sensor Technologies
Owner, Crochet Midstream Consulting

Jim Paladino
Director of Business Development, Perceptive Sensor Technologies

Time: 7:00 PM **Cost:** Free of charge

Additional details about this presentation and future meetings can be found on the following pages. Please also see the Eastern USA Branch's website for details on viewing a live webcast of this meeting and recordings of past meetings.

Please register for this meeting using the link above. The meeting is limited to the first 300 persons, so please register early. If you have any questions, please contact Bradley Golden, Chairman & Honorary Secretary (goldenmarineandoffshore@gmail.com).

Best regards,

Bradley D.M. Golden, Chairman & Honorary Secretary

Vice Chair – Technical
Paul Hormann
pmhormann@gmail.com

Honorary Chairman Emeritus
Prof. Alan L. Rowen

Honorary Secretary Emeritus
Robert J. Bazzini



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TECHNICAL PRESENTATION INFORMATION

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Topic: Perceptive Sensor Technologies

Presenters: **Earl J. Crochet, PE**
Director of Business Development Oil & Gas, Perceptive Sensor Technologies
Owner, Crochet Midstream Consulting

Earl Crochet has over 32 years' experience in pipelines and terminals with various roles in Engineering, Operations, Business Development, EH&S, and Management. Until November 2020, he was the Director of Engineering for Asset Regulatory Support for Kinder Morgan Terminals.

Previously, Mr. Crochet was General Manager of the largest liquid terminal complex in North America with approximately 300 tanks, over 30 pipelines, 5 ship docks, 9 barge docks, 8 bay truck racks, and dozens of rail racks. He also built a crude by rail and water facility that had 35 loading/unloading spots, multiple tanks, barge and ship docks, and the largest land based VRU in North America at the time.

He has been active in the API since 1994 serving on several different committees. He also served on the Board of Directors of the ILTA from 2009 to 2015, including a term as Chairman, and teaches Pipelines 101 and Terminals 101 at the EPA OSC academy.

Mr. Crochet has a B.S. in Mechanical Engineering and an MBA from Louisiana State University. He has been a Certified API 653 Aboveground Storage Tank Inspector since 1993 and is a Registered Professional Engineer in three states. His proudest achievement is being married to his wife Piper for over 37 years. They have 2 children and 6 grandkids ranging in ages from 15 to 3 years old.

Jim Paladino
Director of Business Development, Preceptive Sensor Technologies

Jim Paladino has been the Director of Business development for Perceptive Sensor Technologies for the past 3 years. His background consists of 25+ years on Wall Street working for large traditional banks such as Bank of America, US Trust, DLJ and other money management firms. He has a B.S. in Economics from St. Vincent College in Latrobe, PA and an MBA from Youngstown State University. Home is Fairfield, CT where he and his wife Rowan are raising three teenagers.



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Abstract: Perceptive Sensor Technologies (PST) provides non-destructive and non-intrusive inspection products and services to the O&G industry, chemical companies, and other industries that need to identify, and monitor liquids sealed inside tanks, pipes and/or containers. PST uses patented ultrasonic technology that was originally developed by the U.S. Government for detecting chemical weapons. During treaty negotiations with Russia, the Navy was responsible for testing munition shells and it was impractical to test thousands of shells with a lab sample.

The IP was developed by the Pacific Northwest National Laboratories utilizing ultrasonic pulses to identify liquids with an acoustic fingerprint. The technology was originally commercialized within the U.S. to be used at border crossings for customs inspections. PST has redirected the technology in the past 2 years and towards O&G and more specifically the midstream.

Using ultrasonic acoustic inspection products and services, real time information on material identification, quality and condition can be captured and the data can be provided to multiple parties directly or via secure cloud services. Safety issues are reduced as dangerous fluids are tested inside their container and pipe/tanks do not need to be opened or compromised by cutting their exterior walls.

In addition, the systems can also be used to monitor the quality and condition of a material that may have properties that can change such as with lubrication oils or something as simple as olive oil. Capturing these metrics with IIoT sensors can map and highlight degradation. This could be applied to ISO liquid containers, totes, or even fuels as they are being loaded onto ships. Real time data can facilitate better shipping/clearing procedure in ports and allow continuous digital documentation of flowing liquids if necessary.

This presentation is anticipated to be accredited for 1 PDH. To obtain PDH credit, participants must attend the meeting and submit a completed Learning Assessment and Application Form to the designated representative upon conclusion of the meeting.



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NEW YORK AREA JOINT SOCIETIES' MEETING SCHEDULE, 2020-2021

Date	Day	Event	Host	Location	Presentation
23 Sep 2020	Wed	SNAME Meeting Past Chairman's Night	SNAME	Online	Reducing Heat Exchanger Fouling and Metallic Corrosion with Vapor Infusion Technologies / Michael Radicone
29 Sep- 2 Oct 2020	Tue- Fri	SNAME Maritime Convention	SNAME	Online	Papers at Meeting
21 Oct 2020	Wed	SNAME/IMarEST/SMPE/ ASNE Joint Meeting	SNAME	Online	Practical Application of Rules, Codes, and Standards to Design / Peter Wallace
16-17 Nov 2020	Mon- Tue	TSS/ASNE Day 2020 (Part 2)	ASNE	Washington DC	Papers at Meeting
18 Nov 2020	Wed	SNAME/IMarEST/SMPE/ ASNE Joint Meeting	IMarEST	Online	Offshore Support Vessels – Ship Handling Skills in the Context of Dynamic Positioning Failures / Ivan Moriarity
16 Dec 2020	Wed	SNAME/IMarEST/SMPE/ ASNE Joint Meeting	SMPE	-	No meeting
20 Jan 2021	Wed	SNAME/IMarEST/SMPE/ ASNE Joint Meeting	SMPE	Online	Sandwich Plate System (STS) Technology / Ian Nash
26-28 Jan 2021	Tue- Thur	TSS/ASNE Day 2021	ASNE	Washington DC	Papers at Meeting
24 Feb 2021	Wed	SNAME Meeting	SNAME	Online	Bringing 'Mussel' to Marine Adhesives / George Boyajian
18 Mar 2021	Thur	SNAME/IMarEST/SMPE/ ASNE Joint Meeting	IMarEST	Online	Perceptive Sensor Technologies / Earl Crochet and Jim Paldino
21 Apr 2021	Wed	SNAME/IMarEST/SMPE/ ASNE Joint Meeting (Student Papers Night and SNAME Elections)	SNAME	Online	Student Papers
19 May 2021	Wed	SNAME/IMarEST/SMPE/ ASNE Joint Meeting	ASNE	Online	TBA
16 Jun 2021	Wed	SNAME/IMarEST/SMPE/ ASNE Joint Meeting	SNAME	Online	TBA