



# The Institute of Marine Engineering, Science & Technology



## Eastern USA Branch

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January 8, 2019

### 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 SMPE.

Date: Wednesday, January 16, 2019  
**\*\*\* PLEASE NOTE DATE CHANGE \*\*\***

Location: Iberia Peninsula Restaurant  
63-69 Ferry Street, Newark, NJ 07105

Topic: Vortex Propulsor Project

Presenter: Capt. Richard Hayman, Director, Vor-Prop LLC

|              |                   |           |              |                     |           |
|--------------|-------------------|-----------|--------------|---------------------|-----------|
| <u>Time:</u> | Social Hour       | – 5:00 PM | <u>Cost:</u> | Members             | – \$40.00 |
|              | Dinner            | – 6:00 PM |              | Non-Members         | – \$55.00 |
|              | Technical Session | – 7:00 PM |              | Student Members     | – \$15.00 |
|              |                   |           |              | Student Non-Members | – \$25.00 |

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 E-mail your plans to attend to Bradley Golden, Chairman & Honorary Secretary ([goldenmarineandoffshore@gmail.com](mailto:goldenmarineandoffshore@gmail.com)) by Monday, January 14, 2019. We encourage inviting prospective new members interested in joining the Institute to attend a technical meeting as a guest of the Eastern USA Branch of the IMarEST.

Best regards,

Bradley D.M. Golden, Chairman & Honorary Secretary

Vice Chair – Technical  
Paul Hormann  
pmhormann@gmail.com

Honorary Secretary Emeritus  
Robert J. Bazzini



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## **Eastern USA Branch**

### **TECHNICAL PRESENTATION INFORMATION**

Date: Wednesday, January 16, 2019  
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Presenter: **Capt. Richard Hayman, Director, Vor-Prop LLC**

A U.S. Coast Guard master with studies at NY Maritime and USMMA GMATS, Hayman has gone on to work and adventure in the seven seas and rivers in various vessels – from sea schooners in the Atlantic to kayaks in the Amazon to icebreakers in Antarctica. He has logged thousands of sea miles by sailing sea kayaks, while also working aboard ships of Lindblad Expeditions. He is currently an advisor to the research vessel Heraclitus, a sailing marine laboratory of the Institute of Eco-technics based in London, now in the Mediterranean.

His experience has led him to interest in ship design and propulsion. His first presentation to SNAME in New York was in 1998 to present designs for a Hudson River liner, working with Seaworthy Systems.

Ongoing years at sea made him wonder about the efficacy of the screw propeller, with its wash and cavitation. Study of marine biology, hydrodynamics, and propulsion technology has led to the development of the vortex propulsor, or vor-prop.

Abstract: A new hydraulic propulsion concept has been modeled and preliminary results show a possible alternative to the standard screw propeller. The Vortex Propulsor (Vor-Prop) utilizes hydro foil array in cylindrical helix form to induce and produce a hydraulic vortex for propulsive thrust.

The pressure gradients formed by the foils are similar to the Gorlov effect which can capture water flows into a spinning generator. The horizontal array in the Vor-Prop creates a low-pressure center which draws and expels water, providing inertial force forward. Computer models show this effect in visual contrasts, providing a basis for further research and prototype testing. If this hydraulic principle is proven and utilized, the Vor-Prop may have applications in marine propulsion in various sizes from small craft to large ships.

This presentation is expected to be accredited for 1 PDH. Please contact SNAME's Professional Engineer Continuing Education Program Evaluator, Professor Alan Rowen ([alanrowen@gmail.com](mailto:alanrowen@gmail.com)), for more details.



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## Eastern USA Branch

### NEW YORK AREA JOINT SOCIETIES' MEETING SCHEDULE, 2018-2019

| Date              | Day         | Event  | Host    | Location                                   | Presentation  |
|-------------------|-------------|--|---------|--|---|
| 10 Sep 2018       | Mon         | SMPE Golf Outing   | SMPE    | Forest Hill Field Club<br>Bloomfield, NJ   |   |
| 27 Sep 2018       | Thur        | SNAME Meeting<br>Past Chairman's Night                             | SNAME   | India House<br>1 Hanover Sq.               | What Might a 21st Century<br>Transition in Maritime Energy and<br>Technology look like? / James J.<br>Corbett |
| 18 Oct 2018       | Thur        | SNAME/IMarEST/SMPE/<br>ASNE Joint Meeting                          | SNAME   | India House<br>1 Hanover Sq.               | Building a Ferry Based Transit<br>System from the Ground Up /<br>Ethan Wiseman                                |
| 24-27<br>Oct 2018 | Wed-<br>Sat | SNAME Maritime<br>Convention                                       | SNAME   | Providence, RI                             | Papers at Meeting   |
| 15 Nov 2018       | Thur        | SNAME/IMarEST/SMPE/<br>ASNE Joint Meeting                          | IMarEST | India House<br>1 Hanover Sq.               | Marine Highway: Can We Make it<br>Work? / Bethann Rooney  |
| 18 Dec 2018       | Tues        | SNAME/IMarEST/SMPE/<br>ASNE Joint Meeting                          | SMPE    | Iberia Peninsula<br>Newark, NJ             | Replacing Fossil Fuels with Ocean<br>Wave Power / Rik van Hemmen &<br>Michael Raftery                         |
| 16 Jan 2019       | Wed         | SNAME/IMarEST/SMPE/<br>ASNE Joint Meeting<br>(SMPE Elections)      | SMPE    | Iberia Peninsula<br>Newark, NJ             | Vortex Propulsor Project /<br>Capt. Richard Hayman  |
| (TBA) Feb<br>2019 | Sun         | SMPE Valentine's Day/<br>Family Day                                | SMPE    | The Graycliff<br>Moonachie, NJ             |   |
| 13 Feb 2019       | Wed         | SNAME/IMarEST/SMPE/<br>ASNE Joint Meeting                          | SNAME   | India House<br>1 Hanover Sq.               | TBA   |
| 21 Mar 2019       | Thur        | SNAME/IMarEST/SMPE/<br>ASNE Joint Meeting<br>(SNAME Elections)     | IMarEST | India House<br>1 Hanover Sq.               | TBA   |
| 11 Apr 2019       | Thur        | SNAME/IMarEST/SMPE/<br>ASNE Joint Meeting<br>(Student Paper Night) | SNAME   | Riccardo's by<br>the Bridge<br>Astoria, NY | Student Papers  |
| 2 May 2019        | Thur        | SNAME/IMarEST/SMPE/<br>ASNE Joint Meeting                          | ASNE    | India House<br>1 Hanover Sq.               | TBA   |
| 6 Jun 2019        | Thur        | SNAME/IMarEST/SMPE/<br>ASNE Joint Meeting                          | SNAME   | India House<br>1 Hanover Sq.               | TBA   |
| (TBA)<br>Jun 2019 | Mon-<br>Wed | TSS/ASNE Day 2019  | ASNE    | Washington DC                              | Papers at Meeting   |