In recent decades, the world has witnessed an explosive progress of AI/ML. These new technologies offer a wealth of techniques to discover patterns in high-dimensional data, which provides a tangible solution to understand and control the complex nonlinear marine hydrodynamics and fluid-structure interaction (FSI) at a greater scale and a broader scope. However, most of the approaches so far are black boxes and their generalizability, interpretability and robustness remain an open challenge, and hence difficult to be implemented in the industry. Therefore, we invite your contribution in all aspects of data-driven/scientific/statistical learning for marine hydrodynamic to the inaugural special sessions.

**Topics** include, but are not limited to:

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**Machine-Learning Method and Application for Hydrodynamics:**
- Data-driven modelling
- Physics-informed ML
- New learning algorithms for turbulence modeling

**Sensing, Control and Optimization:**
- Flow control, sensing and optimization
- Reinforcement learning for active flow control

**Measurement and Visualization:**
- Uncertainty quantification
- ML-assisted flow visualization

**Smart System Development:**
- Cyber-physical system for fluid experiments
- AI/ML implementation in experiments and simulation

In parallel, a panel session on “Future of Intelligent Hydrodynamics” is being organized.

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Welcome to the sessions to present your own findings. Discuss with colleagues from academia, industry from around the world. All together we learn more about opportunities and challenges of AI/ML technology for the development in the field of hydrodynamic research in the future. The culture of this special sessions is to vigorously discuss all presentations and thus promote the scientific exchange as part of the annual ISOPE conference with more than 1,000 participants each year: www.isope.org.

We, ISOPE and the Special Session Organizing Committee invite colleagues to join this *Intelligent Hydrodynamics* sessions.

**Key Dates**

<table>
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<tr>
<th>Key Dates</th>
<th>Abstract Submission</th>
<th>Manuscript for Review</th>
<th>Final Manuscript due</th>
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<td>October 20, 2021</td>
<td>January 20, 2022</td>
<td>March 28, 2022</td>
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General topic: **Hydrodynamics**; Specific Topics; **Artificial Intelligence and Machine Learning**, . Key = 51

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