

9th UK MARITIME TECHNOLOGY POSTGRADUATE CONFERENCE

16-17 June 2026

Learning and Teaching Building, University of Strathclyde
49 Richmond Street, Glasgow, G1 1XU

MarRI-UK
Research & Innovation

University of
Strathclyde
Glasgow



Day 1 – Next-Generation Marine System Design, Optimisation and Performance Analysis

- 08:30-09:30 **Registration**
- 09:30-09:50 **Welcome address by Prof. Campbell Booth**
Maritime Research at University of Strathclyde by Prof. Evangelos Boulougouris
- 09:50-10:10 **Keynote by Philip Woods, Head of Technology, BAE Systems**
- 10:10-11:30 **Session 1 – AI-Driven Ship Design & Performance Optimisation**
- *An Integrated AI-Based Framework for System-Level Hull–Propeller Optimization under Practical Data* – **Feng Zhao, Newcastle University**
 - *A Parametric Design Framework for Toroidal Propellers: Multi-Objective Optimisation for Efficiency, Cavitation, and Underwater Radiated Noise* – **Ahmed Ibrahim, University of Strathclyde**
 - *AI-Driven Generation of Ship Hull Forms and Internal Structures from Principal Design Inputs* – **Nay Min Htein, University of Strathclyde**
 - *AI-Driven Prediction of Biofouling-Induced Resistance for Sustainable Hull Management* – **Hasan Ozturk, University of Southampton**
- 11:30-11:50 **Break**
- 11:50-12:50 **Session 2 – Advanced Marine Hydrodynamics & Structural Integrity**
- *End-to-End Modelling of Wave Drift Forces and Vessel Manoeuvring Using a BEM–MMG Approach* – **Najmeh Saleemizadeh, Newcastle University**
 - *Design and Hydrodynamic Analysis of a New Web-type Mooring System* – **Kaiming Yang, University of Strathclyde**
 - *A Nonlinear Multibody Finite-Element Framework for Container-Stack Response under Roll Excitation* – **Elnaz Zare, Newcastle University**
- 12:50-13:50 **Lunch**
- 13:50-14:10 **Keynote by Eugene Bari, CEO, Ecomar Propulsion**
- 14:10-14:50 **Session 3 – Marine Renewable Energy Systems**
- *Non-causal Model Predictive Control for Rigid-body Wave Energy Converters Based on Physics-Informed Neural Networks* – **Vincentius Versandy Wijaya, University College London**
 - *Non-causal Economic Model Predictive Control for Wave Energy Converter Systems* – **Teng Gao, University College London**
- 14:50-16:00 **Session 4 – Three Minutes Thesis**
- 16:00-17:30 **Poster Session with drinks and snacks**
- 19:00 **Conference Dinner at The Italian Kitchen, 64 Ingram Street, G1 1EX**

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Day 2 – Next-Generation Maritime Operations: Autonomy, Decarbonisation and Ocean Data

08:30-09:00 **Registration**

09:00-09:20 **Keynote by Claudene Sharp-Patel, Global Technical Director, Lloyds' Register**

09:20-10:40 **Session 5 – MASS & Autonomous Navigation Systems**

- *LLM-empowered technology evolution analysis of remote operation centres of MASS – Jiale Xiang, Liverpool John Moores University*
- *Hierarchical Environment-Assisted MPC for USV Fault Recovery – Yang Hu, University College London*
- *From Reactive to Anticipatory Autonomy: Wave-Predictive Multi-Agent Control of Unmanned Surface Vehicles – Yutong Song, University College London*
- *End-to-End Underwater Odometry Using Long Short-Term Memory Networks for Robust Autonomous Navigation – Yuanbo Xue, University College London*

10:40-11:00 **Break**

11:00-12:20 **Session 6 – Maritime Decarbonisation, Engines & Green Ports**

- *A Reproducible AIS-Driven Architecture for Modelling and Optimising Electric Vessel Charging Network in the UK – Olamide Olagunju, University of Plymouth*
- *Intelligent Energy Management for Decarbonised Port Operations: A Deep Reinforcement Learning Framework – Yulia Qu, University College London*
- *Decarbonising the Inland Waterways – A strategic Approach to Sustainable Transportation – Paul Simavari, Newcastle University*
- *Selective catalytic reduction systems for ammonia dual-fuel combustion in heavy-duty engines – Madhumitha Rajendran, University of Sheffield*

12:20-13:20 **Lunch**

13:20-13:40 **Keynote by Prof. Alan J Murphy, University of Southampton**

13:40-14:40 **Session 7 – Ocean Environment & Sensing**

- *Shipborne Wave Measurements Using Ultrasound Technology Onboard RV 'The Princess Royal' – Gabriela Grasu, Newcastle University*
- *2D Ocean Wave Field Prediction by Wave Attention Method – Jiani Chen, University College London*
- *A Multi-Factor Machine Learning Framework for Accurate and Efficient Sea Surface Temperature Forecasting in the Equatorial Ocean – Rikha Widiarath, University of Strathclyde*

14:40-15:10 **Break**

15:10-15:40 **Closing address and prizes**

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Three Minutes Thesis (3MT) session talks

- 1 Energy Transition in Ports: A Structured Approach to Identifying Emerging Risks
– **Rojin Moradi, University of Southampton**
- 2 Green Shipping Corridors: A Systematic Review and Similarity-Based Benchmarking Framework
– **Xinyuan Li, Liverpool John Moores University**
- 3 Alternative Fuels for a Short Sea RoPax Ferry Using the Analytic Hierarchy Process: A Comparison of Retrofit and Newbuild Scenarios
– **Abhay Prashar, University College London**
- 4 Assessing green fuel credibility for green maritime port operations: a case study of Nigerian Ports – **Shettima Mohammed, Newcastle University**
- 5 Alternative Energy Transition Strategy of International Shipping
– **Dika Devintasari, University of Strathclyde**
- 6 Dynamic Digital Scheduling for Optimal Outfitting of Naval Ships
– **Tom Peter, University of Strathclyde**
- 7 Multi Condition Seakeeping Tests from Single Towing Tank Runs Utilising Transient Wave Packets
– **Sebastian Fox, University of Southampton**
- 8 Ship-induced drawdown and its environmental consequence
– **Naiyu Kang, University of Strathclyde**
- 9 Towards a Theoretically Grounded Safety Climate Measurement Framework for the Maritime Industry: Insights from a Systematic Literature Review
– **Mevlut Berber, University of Strathclyde**
- 10 Human-Centric Integration of Emerging Shipboard Technologies
– **Sanem Deniz, University of Strathclyde**
- 11 Site Selection for Offshore Renewable Energy in Southern Java, Indonesia
– **Audia Azizah Azani, University of Southampton**
- 12 Multi-Criteria Decision-Making Framework for Biofluid-Based Organic Rankine Cycle Systems in Offshore Vessels
– **Emmanuel Ogbe, Newcastle University**
- 13 AI-Driven Control Systems for Hydrogen-Electric Maritime Energy Infrastructure
– **Oluwaseyi Aladekomo, University of Plymouth**
- 14 Assessing the impact of modelling fidelity and degrees of freedom for performance prediction of wind-assisted ships
– **Charles Alcock, University of Southampton**

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Poster session

- 1 Thermal-based methods for structural defect detection in the marine environment
– **Majid Rashidi, Newcastle University**
- 2 Assessing green fuel credibility for green maritime port operations: a case study of Nigerian Ports
– **Shettima Mohammed, Newcastle University**
- 3 Multi-Criteria Decision-Making Framework for Biofluid-Based Organic Rankine Cycle Systems in Offshore Vessels – **Emmanuel Ogbe, Newcastle University**
- 4 Decarbonising the Inland Waterways – A strategic Approach to Sustainable Transportation
– **Paul Simavari, Newcastle University**
- 5 Utilizing AI for Pollution Prediction in the Mersey River: Exploring the Impact of Environmental Factors on Maritime Ecosystems
– **Niki Simaei, Liverpool John Moores University**
- 6 A Multiphysics Modelling Framework for OWC Wave Energy Converters with Dielectric Elastomer Generators: A Fatigue-Aware Approach
– **Ziheng Wu, University College London**
- 7 A Data-Driven Method for Risk Identification of Offshore Platform Equipment and Operations
– **Keyang Liu, University College London**
- 8 Crank Angle Resolved In Cylinder Sampling for Renewable Fuel Combustion Diagnostics in Heavy Duty Marine Relevant Diesel Engines
– **Hameed Alshammari, University College London**
- 9 Decarbonising the UK Fleet: A Life Cycle Assessment Software Tool for Alternative Marine Fuels
– **Nana Kutin, University College London**
- 10 Intelligent Energy Management for Decarbonised Port Operations: A Deep Reinforcement Learning Framework Integrating Renewables, Battery Storage, and Stochastic Loads
– **Yulia Qu, University College London**
- 11 Memory-based deep reinforcement learning for COLREGs-compliant obstacle avoidance in USV with limited environmental knowledge – **Zhenhong Fan, University of Strathclyde**
- 12 Coupled aero-hydro-servo-elastic analysis of advanced wet-towing schemes for the IEA 15MW floating wind turbine – **Yichang Tang, University of Strathclyde**
- 13 A memory-safe approach for edge deployed digital twins for the maritime sector using Rust
– **Mieszko Kaminski, University of Strathclyde**
- 14 Dynamic Digital Scheduling for Optimal Outfitting of Naval Ships
– **Tom Peter, University of Strathclyde**
- 15 Analysing the Effects of Varying Weight Loads on a Barge's Optimal Loading Conditions Using the Hydroelasticity Method – **Ocid Mersid, University of Strathclyde**
- 16 Energy Transition in Ports: A Structured Approach to Identifying Emerging Risks
– **Rojin Moradi, University of Southampton**
- 17 Multi Condition Seakeeping Tests from Single Towing Tank Runs Utilising Transient Wave Packets
– **Sebastian Fox, University of Southampton**
- 18 Artificial Intelligence in Naval Architecture Design: A Review of Tools, Efficiency Enhancement, and Industrial Applications – **Moein Mousavi, BYD Naval Architects**