# AGENDA

## MONDAY 9 NOVEMBER

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|---|---|
| 1200-1600 | **Industry visit, Babcock, Rosyth** *(Fully booked)* |

## TUESDAY 10 NOVEMBER

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|---|---|
| 0615 | Becky's run club – *5k run around Arthurs Seat* |
| 0830 | **Registration and coffee** |
| 0915 | Introduction from the Conference Chairs: **Captain (Rtd) Neil McCallum, MIMarEST.** *Royal Navy* and **Captain Rinze Geertsma, FIMarEST.** *Netherlands Defence Academy* |
| 0930 | Keynote: **Rear-Admiral Brian Metcalf.** Deputy Portfolio Acquisition Executive Maritime for Combatants, *US Navy* |
| 0945 | Keynote: **Rear-Admiral Rachel Durbin, FIMarEST.** Head of Navy Engineering, *Royal Australian Navy* |
| 1000 | Keynote: **Rear-Admiral Steve McCarthy, FIMarEST.** CNEO, *Royal Navy* |
| 1015 | Keynote: **Vice Admiral Sanjay Sadhu, AVSM, NM.** Controller of Warship Acquisition and Production, *Indian Navy* |
| 1030 | Keynote Discussion |
| 1100 | **Coffee Break** |

### *Morning Parallel Sessions*

| SESSION | FUTURE CAPABILITIES | POWER AND PROPULSION SYSTEM CONTROL | DIGITAL SUPPORT | *Interactive Sessions* | |
|---|---|---|---|---|---|
| | | | | THE INTERNAL BATTLE AND SURVIVABILITY | SURVIVABILITY |
| *Room* | *Pentland* | *Prestonfield* | *Holyrood* | *Salisbury* | |
| **Chair** | **Rob Skada, FIMarEST.** Director, *Fawks Systems Ltd* | **Prof Mehdi Zadeh.** *NTNU* | **Philipp Schmelzer.** Naval Architect, *NVL, B.V & Co. KG* | **Prof Yuanchang Liu.** *UCL* | |
| 1130 | Autonomous Mine Hunting Capability Data Exploitation: Charting a Course Through the Digital Minefield.<br>Speaker: **Cdr Stephen Taylor, FIMarEST.** *Royal Navy* | Multi-Objective Optimisation of Diesel Engine Dynamics for Variable-Speed Naval Generators.<br>Speaker: **Lars Mulder.** *TU Delft* | Pirate Maths, Data Lions and Robot Birds: Emergent behaviour and misaligned incentives in the digital transformation of RN Support.<br>Speaker: **Cdre Suzanna Seagrave, MIMarEST.** *Royal Navy* | 3D Naval Visualizations for increased Situation Awareness within the Internal Battle for Future Ready Navies.<br>Speakers: **Bart-Peter Smit and Jasper Wieringa.** *CGI Netherlands BV* | Non-Causal Multi-Agent Control for Proactive and Smart Maritime Search and Rescue in Stochastic Wave Environments.<br>Speaker: **Yutong Song.** *University College London* |
| 1155 | Naval Engineering Collaboration to deliver Capability in a world of ever-growing Competition.<br>Speaker: **Simon McCowan. FIMarEST.** *Royal Australian Navy* | Dynamic Programming Analysis of Optimal Mode Selection in a Series-Parallel Hybrid Boat: A basis for Rule-based EMS Design.<br>Speaker: **Luca Di Biase.** *Politecnico di Torino* | Designing Future Naval Support: A Requirements Led Digital Architecture Shaped by IPS, HFI, and Enterprise Data.<br>Speaker: **Steve Wilding.** *Babcock International Group* | Improving the contribution that centre fed hose reels can make to firefighting response on ships and submarines.<br>Speakers: **James Glockling and Richard Alker.** *BAE Systems Maritime Submarines* | Design and automation of an ROV docking system for an XLUUV.<br>Speaker: **Martin Gülland.** *University of Rostock, Institute of Automation* |

# AGENDA

## TUESDAY 10 NOVEMBER - *CONTINUED*

| SESSION *Continued* | FUTURE CAPABILITIES | POWER AND PROPULSION SYSTEM CONTROL | DIGITAL SUPPORT | *Interactive Sessions* | |
|---|---|---|---|---|---|
| | | | | THE INTERNAL BATTLE AND SURVIVABILITY | SURVIVABILITY |
| 1220 | **Arctic: the Next Generation of Naval Platform.** Speakers: **Robert Taylor and Pilar Morales.** *Babcock* | **Analytical Derivation of an ECMS Based Energy Management Strategy for Hybrid Powertrains.** Speaker: **Francesco Novello.** *Politecnico di Torino* | **Development of a Health Risk Assessment Screening Tool for Shipboard Indoor Air Exposure.** Speaker: **Dr Nur Sarah Fatihah Tamsi.** *MZ Services & Consultancy Sdn Bhd and International Islamic University Malaysia* | **Sick Boat Syndrome (SBoS) among Naval Ship Crews: The Importance of Indoor Air Quality (IAQ) Monitoring and Standard Compliance.** Speaker: **Amirul Faiz Kamaruddin.** *Royal Malaysian Navy* | |
| 1245 | Session discussions | | | | |
| 1300 | **Lunch Break** | | | | |
| *Room* | *Pentland* | | | | |
| 1310-1330 | **Information session on IMarEST Membership.** **Naomi Taylor.** *Membership and Professional Services Director, IMarEST* | | | | |

## *Afternoon Parallel Sessions*

| SESSION | NUCLEAR | AUTONOMOUS AND UNCREWED VESSEL CONTROL | CLIMATE AND EMISSIONS | *Interactive Sessions* | |
|---|---|---|---|---|---|
| | | | | SMART MAINTENANCE | SMART MAINTENANCE |
| *Room* | *Pentland* | *Prestonfield* | *Holyrood* | *Salisbury* | |
| **Chair** | **Olly Simmonds, MIMarEST.** Principal Engineer Manager, *BAE* | **Dr Yogang Singh** Assistant Prof in Maritime Technology, *University of Plymouth* | **Commodore (Dr) R K Rana.** *Indian Navy Veteran* | **Dr Angelo Odetti.** Researcher, *CNR-INM* | |
| 1400 | **Energy System Design for a Nuclear-Powered Refuelling Vessel Supporting Unmanned Maritime Vehicles.** Speaker: **Ismar Klomp.** *TU Delft* | **Control strategies for multi-vessel formation control; escorting a vessel in fixed, flexible, or changing formations.** Speaker: **Bas de Kruif.** *Marin* | **Beyond Decarbonisation: An Active Rudder Retrofit Solution for Enhanced Manoeuvrability and Redundancy.** Speaker: **Dr Carsten Hermann.** *ANDRITZ HYDRO GmbH* | **Unlocking Autonomy Through Tribological Condition Monitoring.** Speaker: **Matthew Knight.** *BMT* | **A Generalizable Unsupervised Health-Monitoring Framework across Heterogeneous Time-Series Data.** Speakers: **Nicolò Faggioni, Alessandro Caviglia, Marco Antonelli and Giovanni Orrù.** *Fincantieri NexTech* |
| 1425 | **The Consideration of Working Fluids for Naval Micro Nuclear Reactors.** Speaker: **John Buckingham.** *BMT* | **Traceable Virtual Sea Trials in the Marine Robotics Unity Simulator for Manoeuvring Assessment of Unmanned Surface Vehicles.** Speaker: **Paria Rezayan.** *Sheffield Hallam University* | **An integrated analysis on energy, economic and environmental performances for an ammonia-fuelled large passenger vessel.** Speaker: **Simone Piccardo.** *University of Genova - Thermochemical Power Group* | **Strategic autonomy for naval structures: Approach to and economic feasibility of the remanufacturing of reclaimed stiffened panels.** Speaker: **Massimo Coppola.** *TNO* | **Exhaust-Gas Fault Detection in a Multi-Cylinder Natural Gas Engine Using Gas-Wise Autoencoder Residuals.** Speaker: **Youri Linden.** *Delft University of Technology* |
| 1450 | **Considerations for commercial nuclear reactor types on medium sized ships.** Speaker: **Gert-Jan Meijn.** *Damen Naval* | **Allocation of Function (AoF) for Human Autonomy Teaming (HAT).** Speakers: **Luca Gallo and Eshan Rajabally.** *BMT* | **Lifecycle Assessment to Minimise Emissions in Ships.** Speaker: **Stewart Downie.** *Babcock International* | **Towards Net-Zero Shipbuilding: A Mathematical Model for Emissions from Construction and Maintenance Phases.** Speaker: **Ahmed Balata.** *University of Liverpool* | ***Student pitch:*** **Retrofitting Marine Vessels with Alternative Fuels and Hybrid Technologies: A Lifecycle Engineering Design Framework for Maritime Decarbonisation.** Speaker: **Aisha Khalil** |
| 1515 | Session discussions | | | | |

# AGENDA

## TUESDAY 10 NOVEMBER - *CONTINUED*

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|---|---|---|---|---|---|---|
| **1530** | **Coffee Break** | | | | | |
| **SESSION** | **MODERN NAVAL POWER AND PROPULSION** | **AUTONOMOUS NAVIGATION** | **SYSTEM INTEGRATION AND ASSESSMENT** | ***Interactive Sessions*** | | |
| | | | | **METHANOL ON WARSHIPS** | **ENVIRONMENTAL IMPACT REDUCTION** | **ENVIRONMENTAL IMPACT REDUCTION** |
| *Room* | *Pentland* | *Prestonfield* | *Holyrood* | *Salisbury* | | |
| **Chair** | **Cdre (Rtd) John Voyce OBE FIMarEST.** Halo Programme Director, *GE Vernova* | **Dr Michele Martelli, FIMarEST.** Associate Professor, *University of Genova* | **Capt, Sean Feenan, FIMarEST.** Exec Director, Fleet Support *Royal Australian Navy,* | **John Buckingham, FIMarEST.** Chief Mechanical Engineer, *BMT.* | | |
| **1600** | **Novel Naval Power Generation: Utilising Modern Technology to Challenge Conventional Concept Design.**<br>Speaker: **Josiah Carron.** *Babcock International Group* | **Learning to Approach: Whole-Body Diffusion Policies for Underwater Vehicle-Manipulator Intervention.**<br>Speaker: **Sara Aldhaheri.** *University College London* | **Very Light Reading: The Next Phase of Ship-LDEW Integration.**<br>Speakers: **Hayden Cole and Fred Ogilvie.** *BAE Systems* | **Methanol on Warships: Quantifying the Risk of Vapour Cloud Explosions and Toxic Exposure.**<br>Speakers: **Marnix Rhijnsburger, Dorien Stroeve, Chris de Ron and Farah Bziker.** *TNO* | **Long-term environmental and economic assessment of cruise ships under Maritime regulations.**<br>Speaker: **Simone Piccardo.** *University of Genova - Thermochemical Power Group* | **Revisiting cathodic protection due to extensive electrification – The Aegis project.**<br>Speaker: **John Prousalidis.** *National Technical University of Athens* |
| **1625** | **Transform Shipboard Power and Propulsion Plant operational data at-the-edge to gain smart, optimized, and sustainable performance.**<br>Speakers: **Warren Johnson and Johnny Walker.** *Rockwell Automation* | **An Explainable Symbolic COLREG Classifier for Autonomous Ships.**<br>Speaker: **Nicola Sabatino.** *University of Genoa* | **Next-generation technology integration in naval vessel platforms through Product Line Engineering.**<br>Speakers: **Job Perdon, Micha Stam, Koen Droste and Austin Kana.** *Delft University of Technology* | **Benefits of two-stage turbocharging in static and dynamic operation for conventional diesel fueled and high-pressure direct injection methanol fueled medium speed generator sets.**<br>Speaker: **Jasper Kole.** *Dutch Ministry of Defence - COMMIT* | | **Improving hull corrosion protection and reducing related threat signatures for naval platforms.**<br>Speaker: **Paul Rawlins.** *ESCO Maritime Solutions* |
| **1650** | **Sustainable power plant for modern defence assets.**<br>Speaker: **Prof. Dr. Gerasimos Theotokatos.** *University of Strathclyde* | **High Resolution Flash Lidar for Short Range Underwater 3D Perception.**<br>Speaker: **Eleonoor Bosch.** *CSEM* | **The Importance of Radar Cross Section Prediction to the Survivability of Modern Surface Combatants in the Future Operating Environment.**<br>Speakers: **Kirrie Wallace and Malcolm Robb.** *BAE Systems* | | | |
| **1715** | **Session discussions** | | | | | |
| **1730** | **Closing keynote: Sir Simon Lister KCB OBE FREng.** Managing Director, Naval Ships, *BAE Systems* | | | | | |
| **1800** | **Welcome reception** | | | | | |

# AGENDA

## WEDNESDAY 11 NOVEMBER

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|---|---|
| 0800 | **Registration and coffee** |
| 0900 | Plenary – *Industry collaboration*<br>Opening remarks – *Conference chairs* |
| 0915 | Keynote: How Fast Can a Warship Absorb New Capability? **Jan Hedeman.** Managing Director, *SSI.* |
| 0930 | Keynote: **Roberto Chiti.** Product Manager Automation & Control, *Fincantieri NexTech* |
| 0945 | Keynote: **Claudia Hessen.** Manager Regulatory & Integrity Energy & Control, *Kongsberg* |
| 1000 | Keynote Discussion |
| 1030 | **Coffee Break** |
| 1100 | **Two-minute silence observed for Armistice Day** |

### *Morning Parallel Sessions*

| SESSION | CYBER SECURITY | RESILIENT NAVAL SHIP DESIGN | OPERATIONS AND RESILIENCE | *Interactive Sessions* | |
|---|---|---|---|---|---|
| | | | | ENERGY OPTIMISATION | POWER SYSTEMS HARDWARE THE LOOP |
| *Room* | *Pentland* | *Prestonfield* | *Holyrood* | *Salisbury* | |
| **Chair** | **Capt, David Goldsmith, DI CA Mar DH.** *MOD* | **Capt Derek Powles, FIMarEST.** Littoral Lift Programme Director, *Royal Navy* | **Lt Scott Chapman, MIMarEST.** Engineering Support Officer, *Royal Navy* | **Capt, Rinze Geertsma, FIMarEST.** Associate Professor, *Netherlands Defence Academy* | |
| 1100 | IA Preliminary Study of Cyber Attacks on Maritime LiDAR Situational Awareness.<br>Speaker: **Giacomo Longo.**<br>***Universita degli Studi di Genova*** | Assessing the Functional Vulnerability of Naval Combatants in early Ship Design.<br>Speaker: **Tom Philipson.**<br>*Hamburg University of Technology* | Admiralty Salvage at a Crossroads - Evolving Maritime Recovery for Next-Generation Naval Platforms.<br>Speaker: **Jake Guest, MIMarEST.**<br>*DE&S - Salvage & Marine Operations* | Time-Indexed Mixed-Integer Optimisation of Electric Harbour-Fleet Assignment, Routing and Shore-Power Charging.<br>Speaker: **Sankarshan Durgaprasad.**<br>*Delft University of Technology* | Modelling Extra-Propulsive Loads in Shipboard Power Systems.<br>Speaker: **Federico Graffione.**<br>*University of Genoa* |
| 1125 | The Combat Network as the Weapon.<br>Speaker: **Morgan Colbeck.** *Royal Navy* | An early concept-stage resilience network tool for identification of vulnerable connectivity in distributed engineering systems.<br>Speakers: **Giota Paparistodimou, Philip Knight and Malcolm Robb.** *BAE* | Enhancing Operational Availability of Surfaced Submarines in Waves using an Adaptive Controller.<br>Speaker: **Mathieu Courdier.**<br>*MARIN* | A Short-Term, AI-based Electric Load Forecaster for a High Responsive Shipboard Energy Management.<br>Speaker: **Massimo Figari.** *Italian Navy* | Closed-loop back-to-back testing for replacing obsolete naval gas-turbine control systems.<br>Speaker: **George Tucker.**<br>*Rolls Royce Plc* |
| 1150 | Electronic Warfare: The Invisible Enemy of Maritime Autonomy.<br>Speaker: **Peter Macaulay.** *Royal Navy* | Battle Barges and Mega Modules – possible applications for multi-part vessels.<br>Speaker: **Dr Rachel Pawling.** *UCL* | Enhancing maritime Search and Rescue operations through LiDAR and thermal imaging fusion.<br>Speaker: **Filippo Ponzini.** *University of Genoa* | Physics-based Multidomain Energy Model for a Cruise Vessel: Development, Validation & Operational Application.<br>Speaker: **Dr Giovanni Vaccarini.**<br>*Fincantieri Spa* | |
| 1215 | Session discussions | | | | |

# AGENDA

## WEDNESDAY 11 NOVEMBER - *CONTINUED*

| | | | | | |
|---|---|---|---|---|---|
| **1230** | **Lunch Break** | | | | |
| *Room* | *Pentland* | | | | |
| **1310-1330** | Information session on IMarEST Membership. **Naomi Taylor.** *Membership and Professional Services Director, IMarEST* | | | | |
| | ***Afternoon Parallel Sessions*** | | | | |
| **SESSION** | **INCREASING AUTONOMY AND REDUCED CREWS** | **DIGITAL TWINS** | **RESILIENT NAVAL SHIP DESIGN** | ***Special Interactive Sessions*** **DECISION SUPPORT SYSTEM TOWARDS AUTONOMOUS NAVIGATION: THE PROJECT MOST** | |
| *Room* | *Pentland* | *Prestonfield* | *Holyrood* | *Salisbury* | |
| **Chair** | **Capt Jules Lowe, MIMarEST.** *Royal Navy (Rtd)* | **Kirsty Mills.** Chief Project Engineer, *Rolls Royce* | **Jeff Cohen.** Chief Engineer, *US Navy* | **Dr Michele Martelli, FIMarEST.** Associate Professor. *University of Genova* | |
| **1330** | Temporal Assurance in Autonomous Systems: The Problem of Justifying Decision-Making Under Uncertainty in Open-Environments.<br>Speaker: **Liam Talbot, MIMarEST.** *Price Waterhouse Coopers* | Digital Twins for Naval Gearboxes.<br>Speaker: **Nikolas Albrecht.** *RENK GmbH* | Time-domain simulation tool for propulsion performance assessment of a nuclear-powered naval vessel.<br>Speaker: **Eleonora Zanaboni.** *University of Genoa* | Improving Maritime Situational Awareness: A Spectral Filtering Method for Weak Target Detection.<br>Speaker: **Giovanni Ludeno.** *Institute of Electromagnetic Sensing of the Environment, National Research Council of Italy* | A Framework for the development of a decision support system for ship underwater radiated noise.<br>Speakers: **Fabio Colotto.** *University of Genoa* |
| **1355** | Use of a Commercial Crew for Sea Trials.<br>Speaker: **Cdre John Newell MBE RN (Rtd), FIMarEST.** *Babcock International* | From Siloed Systems to Connected Decisions: Systems Elements Analysis in Early-Stage Naval Ship Design.<br>Speaker: **Zacharias Oikonomou.** *TU Delft* | Developing a suite of Hull, Mechanical, and Electrical (HM&E) Control Systems.<br>Speakers: **Vincent Piesetzkie, Graig Jolley and Peter Grech.** *NAVSEA Philadelphia* | A Real-Time GNC Architecture for Marine Autonomous Surface Ships.<br>Speakers: **Raphael Zaccone and Dr Michele Martelli.** *Università degli Studi di Genova* | Quantitative Evaluation of Marine Vehicle Cooperative Control in Harbour-Like Experiments.<br>Speaker: **Dr Angelo Odetti.** *CNR-INM* |
| **1420** | Aligning Naval Electrical Systems and Minimum Crewing: Challenges, Implications, and Design Principles for Future Platforms.<br>Speaker: **Bill Moseley.** *BMT* | Digital Twins: Foundation of connected naval autonomous operations.<br>Speaker: **Ivan Pena.** *Navantia* | Design and automation of an ROV docking system for an XLUUV.<br>Speaker: **Martin Gülland.** *University of Rostock, Institute of Automation* | | |
| **1445** | Session discussions | | | | |
| **1500** | **Coffee Break** | | | | |

# AGENDA

## WEDNESDAY 11 NOVEMBER - *CONTINUED*

| SESSION | MISSION MODULARITY | TECHNOLOGY DEVELOPMENT AND SAFETY | THE INTERNAL BATTLE | *Interactive Sessions* | |
|---|---|---|---|---|---|
| | | | | DECISION SUPPORT AND AUTONOMY | AUTONOMY AND CYBER SECURITY |
| *Room* | *Pentland* | *Prestonfield* | *Holyrood* | *Salisbury* | |
| **Chair** | **Capt Neil McCallum, MIMarEST.** *Royal Navy (Rtd)* | **Dr Rose Norman.** Reader in Marine Electrical Systems. *Newcastle University* | **John Buckingham, FIMarEST.** Chief Mechanical Engineer, *BMT* | **Prof Alistair Greig, FIMarEST.** *UCL* | |
| **1530** | **Evaluation and validation of the added value of modularity for specialized ships during concept exploration: A critical systematic review.**<br>Speaker: **Micha Stam.** *Delft University of Technology* | **Let's Not Tie Ourselves in Knots: Adapting Safety Case Regimes for Spiral Development Programmes.**<br>Speakers: **Alexander Barker and Jessica Morris.** *Safeguard Engineering Ltd* | **Structural Damage Detection in Ships Using a TCN Autoencoder and Motion Response Anomaly Scoring.**<br>Speaker: **Ieza Souza Ramos.** *NHL Stenden* | **Modern Technology and the Redistribution of Human Autonomy.**<br>Speaker: **Dr Peter Spayne.** *Cranfield University* | **A Preliminary Study of Cyber Attacks on Maritime LiDAR Situational Awareness.**<br>Speaker: **Giacomo Longo.** *Universita degli Studi di Genova* |
| **1555** | **Thinking inside the box. Deployable capability for the future navy.**<br>Speakers: **Steven Howick and Jessica Scott.** *BAE Systems* | **Towards the Certification of Naval Systems Employing Artificial Intelligence.**<br>Speakers: **Thomas Howe and Stephen Perry.** *BMT* | **Optimising Agent-Based Fault Diagnosis for Naval Machinery Breakdown Drills: Closing the Cognitive Gap in Decision Support Architecture.**<br>Speaker: **Youri Linden.** *Dutch Navy* | **Port Vessel Traffic Control for Multi-Type Ships: A Proposed Methodology for Decision Support System Considering Marine Conditions.**<br>Speaker: **Dr Michele Martelli, FIMarEST.** *Associate Professor, University of Genova* | **Securing Shared Accounts in Naval Operational Technology: IAM and Zero Trust Implementation Aligned with ISA/IEC 62443, NIST SP 800-82, and the EU Cyber Resilience Act.**<br>Speaker: **Patric Dove.** *Siemens Government Technologies* |
| **1620** | **Beyond the Blueprint: Mission Modularity's Impact on Modern Naval Design, Assurance, and Operations.**<br>Speaker: **Kaya Nightingale.** *Lloyd's Register EMEA* | **When Looking to Win the Race of Technological Advantage, Do Royal Navy Leaders Need to Change?**<br>Speaker: **Alexandra Ward.** *Royal Navy* | **Supporting Naval Damage Control Cognition with AI.**<br>Speaker: **Igor Lapin.** *L3 Harris* | **Allocation of Function (AoF) for Human Autonomy Teaming (HAT).**<br>Speakers: **Luca Gallo and Eshan Rajabally.** *BMT* | |
| **1645** | **Session discussions** | | | | |
| **1900** | **Industry Dinner**<br>*Edinburgh Suite*<br>*Sheraton Grand, Hotel & Spa, Edinburgh* | | | | |

# AGENDA

## THURSDAY 12 NOVEMBER

| | |
|---|---|
| 0800 | **Registration and coffee** |
| 0900 | Introduction from the Chairs |
| 0915 | Keynote: **Capt Mo Magzoub, FIMarEST.** Head of Force Development, *Royal Navy* |
| 0930 | Keynote: **Dr Bas Buchner.** Program Director of Maritime Uncrewed, *Royal Netherlands Navy* |
| 0945 | Keynote Discussion |
| 1000 | **Coffee Break** |

### *Morning Parallel Sessions*

| SESSION | AUTONOMOUS SHIPS AND SYSTEMS | POWER AND PROPULSION | DIESEL ENGINE MAINTENANCE | *Interactive Sessions* SHIP DESIGN AND BUILD | BMT/RN WORKSHOP |
|---|---|---|---|---|---|
| *Room* | *Pentland* | *Prestonfield* | *Holyrood* | *Salisbury* | *Duddingston* |
| **Chair** | **Lt Cdr Rob Manson, MIMarEST.** SUR-FLOT Carriers and Destroyers Deputy Chief Engineer, *Royal Navy* | **Pete Deverill.** | **Commodore (Dr) R K Rana.** *Indian Navy Veteran* | **Prof Yuanchang Liu.** *UCL* | |
| 1030 | Design and Development of a Large USV Series.<br>Speaker: **Jelle W. Moerdijk.** *Daman Naval.* | Fuel cells operating on methanol as power supply for naval ships.<br>Speaker: **Carsten Cremers.** *Fraunhofer Institute for Chemical Technology (ICT)* | Reducing Maintenance Burden and building resilience for naval engineering systems.<br>Speakers: **Tamsyn Hills and James Fawcett.** *BMT* | Design and Development of an Advanced Robotic Fish.<br>Speaker: **Dr Angelo Odetti** *CNR-INM* | *BMT/RN Workshop One*<br>**Hybrid Navy: What Could Stop Us Getting There?** |
| 1055 | The Challenge of Crewing Future Surface Combatants.<br>Speaker: **Ewen MacIntyre.** *BAE Systems Maritime* | Modelling Extra-Propulsive Loads in Shipboard Power Systems.<br>Speaker: **Federico Graffione.** *University of Genoa* | Memory-safe physics-based modelling of marine diesel engines using Rust.<br>Speaker: **Mieszko Kaminski.** *University of Strathclyde* | Beyond the Business Case: Structured Evaluation of Digital Transformation Projects in a Naval Shipyard.<br>Speaker: **Jeroen Pruyn.** *Delft University of Technology* | |
| 1120 | Progressing the understanding of Engineering Maturity for left shifting risk in complex programmes.<br>Speaker: **Matthew Cook and Martin Douglass.** *BAE Systems* | Autonomous Vessels – Don't forget to bring the brainpower. Thoughts on how to feed the 'crew' on an unmanned warship.<br>Speaker: **Nick Smith.** *GE Vernova* | Exploring the Added Value of In-cylinder Pressure for Anomaly-Based Fault Detection in Marine Diesel Engines.<br>Speaker: **Youri Linden.** *Delft University of Technology* | Integrating Risk-Based Design into Model-Based Systems Engineering for Naval Ship Design.<br>Speaker: **Niek Verhoeven.** *Delft University of Technology* | |
| 1145 | Session discussions | | | | |

# AGENDA

## THURSDAY 12 NOVEMBER - *CONTINUED*

| | | | | |
|---|---|---|---|---|
| **1200** | **Lunch Break** | | | |
| | ***Afternoon Parallel Sessions*** | | | |
| **SESSION** | **AUTONOMOUS SHIPS AND SYSTEMS** | **DC POWER SYSTEMS** | **HUMAN MACHINE INTERFACE** | **BMT/RN WORKSHOP** |
| *Room* | *Pentland* | *Prestonfield* | *Holyrood* | *Duddingston* |
| **Chair** | **Cdr Alex Davies, MIMarEST.** Royal Navy | **Dr David Wetz.** Professor, *UT Arlington* | **Toby Drywood, FIMarEST.** Business Development Manager for Ships Support. *BMT* | |
| **1300** | **Synthesis of an Architecture for the Integration of Controllable Autonomous Behaviour in Naval Ship Design.**<br>Speaker: **Moritz Luckey.** *Helmut Schmidt University* | **Investigation of harmonic distortion in electric propulsion ships with On-shore Power Supply and high integration of power electronic converters.**<br>Speaker: **Panos Kotsampopoulos.** *National Technical University of Athens* | **From Theory to Practice: Implementing CRM Principles in Safety-Critical Systems (2011-2026).**<br>Speakers: **Daniel Kelly and Robert Sgroi.** *Naval Surface Warfare Center, Philadelphia Division* | ***BMT/RN Workshop Two***<br>**Hybrid Navy: What Could Stop Us Getting There?** |
| **1325** | **Conceptual Architecture and operational design considerations for a large unmanned surface vessel in anti-submarine warfare escort roles.**<br>Speaker: **Wytse Hogeveen.** *Ministry of Defence (NL)* | **Hybrid Shipboard Thermal Pulse Management: Passive Thermal Energy Storage Burst Cooling with Chiller Recharge.**<br>Speakers: **Isaac Mahderekal and Rasik Patel.** *Honeywell Aerospace and NAVSEA* | **Human-in-the-Loop AI for Safe and Intelligent Ship Control Systems.**<br>Speaker: **Dr Sajid Hussain FIMarEST.** *Bangladesh Marine Academy* | |
| **1350** | **Designing the Future Fleet: An Immersive Mixed Methods Approach to Evaluating Operational Management Concepts.**<br>Speaker: **Nikki Okkels.** *Marin* | **Added value of supercapacitors in the dynamics of a variable speed genset in a maritime DC architecture; an experimental study.**<br>Speaker: **Menno Merts.** *Marin* | **The Critical Role of the Graphical User Interface in Modern Shipboard Control Systems.**<br>Speaker: **Chetan Vajapey.** *KAI Solutions Inc* | |
| **1415** | **Session discussions** | | | |
| **1435** | **Closing Plenary Session** | | | |
| **1440** | **Closing Keynote: Sarah Kenny OBE.** CEO, *BMT* | | | |
| **1500** | **Presentation of the Sir Donald Gosling Award**<br>**Presentation of the Patron Awards** | | | |
| **1515** | **Closing remarks** | | | |
| **1530** | **Close of conference** | | | |