



Special Session on Advances in Marine Power and Automation Sustainable Solutions

Special Session Organizers

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Abstract

Revolutionary advances in eco-friendly and electric marine solutions have taken the maritime industry by storm. These innovations, driven by the need for sustainability and powered by cutting-edge technology, represent a true paradigm shift in how we navigate our oceans. From electric motors and solar-powered engines to next-generation batteries and fuel cells, the possibilities for cleaner and more efficient seafaring are virtually endless. Furthermore, an improvement in the efficiency of ship propulsion systems can be achieved not only at the design stage, but also during their operational life through efficient automation solutions, as well as control and management techniques that can now benefit from the advances achieved in disciplines such as big data analytics, digital twin and machine learning.

Special Session Topics

- ✓ Fully electric vessels
- ✓ Hybrid ship propulsion systems
- ✓ Fuel cells and marine alternative fuels applications
- ✓ Ship energy efficiency
- ✓ Air pollutant emission reduction and onboard CO₂ capture and storage
- ✓ Ship automation and power control systems
- ✓ Numerical approaches to the management and maintenance of marine power systems
- ✓ Autonomous vessels