



ICEM2020 – Gothenburg, Sweden, August 23-26, 2020

Special Session on

Advances in Electrical Machines and Drives for Green Maritime Applications

Organized and co-chaired by:

John Prousalidis, National Technical University of Athens, GR, jprousal@naval.ntua.gr
Jean-Frederic Charpentier, French Naval Academy, FR, jean-frederic.charpentier@ecole-navale.fr

Call for Papers

This special session is devoted to research work covering the development of electric machines and drives towards the target of creating more environmental friendly ships. This, for instance includes new trends in electric power systems contributing to reduced ship emissions and increased ship efficiency by incorporating new power generation units, electric propulsion units on board renewable energy sources along with storage systems, power electronic converters driving electric machinery, waste heat recovery units etc. Integration of these machine and drive systems in ship to shore applications, in smart grids and their contributions to power quality are equally of interest. Integration of electrical machines and drives to Direct Current systems as well as the use of machine and drives ship in global efficient energy management and control are within the scope of this special session.

Topics of interest include, but are not limited to:

- High efficiency and high reliability electric machine and drives for Propulsion applications and their integration with propellers (e.g. pods, thrusters, rim driven propellers and thrusters)
- Special electrical machines and drives dedicated for high efficiency and high reliability electrical Marine Propulsion (multiphase, multi star machines, Transverse Flux machines, axial flux machines)
- Efficient Electric Power Generators (e.g. shaft generators, MVDC generators, High-speed generators)
- On board Renewable Energy sources including electromechanical conversion systems (e.g. kites, Wind Power, Hydro generators for sailing vessels, etc.)
- Energy storages systems for naval applications (batteries, flywheels, SMES, supercapacitor systems, etc.) and their association with machine and drives systems.
- Integration of electrical machines and drives in Hybrid energy/propulsion configuration and their control for optimizing the global ship efficiency.
- Extensive electrification of ships and ports.
- Direct Current applications for increased efficiency in ships and offshore plants
- Waste heat recovery units
- Hybridization of marine propulsion systems

Submission of papers: deadline follows the deadline for the regular papers.

All the instructions for paper submission are included in the conference website:

<http://www.icem.cc/2020>