MOSES 2021

3rd International Conference on Modelling and Optimisation of Ship Energy Systems

May 19-20, 2021, Espoo, Finland

Conference program

May 7, 2021

Organisation

Media partner

Aalto University
School of Engineering

Journal of *Marine Science and Engineering*

Day one – Wednesday May 19, 2021

Time: 10:00 – 14:30 pm (EEST, Helsinki)

10:00	Opening address
10:00	**Organiser welcome: Ship energy efficiency research** *Aalto University*
10:15	**University welcome: Aalto University School of Engineering** *Aalto University*
10:30	**Industrial keynote I: Technology for enabling green energy transition in shipping** *ABB*
10:50	*Coffee break*
11:20	Session 1: Modelling of novel power source and propulsion technologies
11:20	**Dynamic modelling of a solid oxide fuel cell system for maritime applications considering balance of plant components** *Delft University of Technology & Royal IHC*
11:40	**Medium voltage DC bus regulation in hybrid ships** *University of Malta & Damen*
12:00	**Parametric study of the influence of the wind assisted propulsion on ships** *University of Genoa & University of Strathclyde*
12:20	*Lunch break*
13:20	Session 2: Energy demand prediction and management
13:20	**Early design stage assessment of vessel drivetrains for fuel consumption, a dredging- and offshore vessel case** *Royal IHC*
13:40	**MPC framework for the energy management of hybrid ships with an energy storage system** *Delft University & Damen*
14:00	**Prediction of on-board energy usage combining physics-based modeling and machine learning** *Åbo Akademi University & Meyer Turku*
14:20	Closing remarks

Day two – Thursday May 20, 2021

Time: 10:00 – 13:20 pm (EEST, Helsinki)

10:00	Opening address
10:00	**Welcome** *Aalto University*
10:10	**Industrial keynote II: Solving shipping grand challenges** *Deltamarin*
10:30	Session 3: Strategic planning for low emission shipping
10:30	**Role of shipping in energy systems of small islands** *ENEA*
10:50	**Overview on decarbonization of port infrastructures in view of alternative fuels for shipping** *University of Trieste*
11:10	*Coffee break*
11:40	Session 4: Novel solutions for engine modelling
11:40	**Development of a zero-dimensional model and application on a medium-speed marine four-stroke diesel engine** *University of Strathclyde & University of Genoa*
12:00	**Numerical investigation of a marine dual fuel engine response during operating mode changes** *University of Strathclyde*
12:20	**Hybrid, real time engine modelling for the prediction and monitoring of marine power plant emissions and performance** *University of Strathclyde & Kongsberg Maritime*
12:40	**Towards the Development of an Engine Performance Digital Twin** *University of Applied Sciences and Arts Northwestern Switzerland & Winterthur Gas & Diesel*
13:00	Closing remarks