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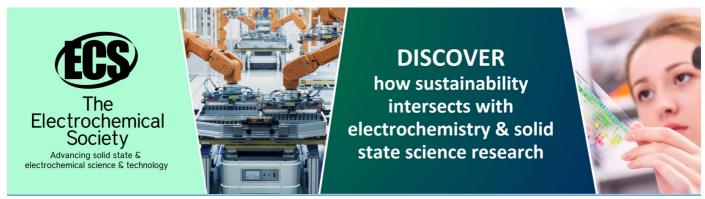# The International Conference on Maritime Autonomous Surface Ships (ICMASS 2020)

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The International Conference on Maritime Autonomous Surface Ships (ICMASS 2020)

Preface

This special Issue presents peer-reviewed papers presented the 3rd International Conference on Maritime Autonomous Surface Ships (ICMASS) held in Ulsan, R. O. Korea, 11 – 12 November 2020. The ICMASS is the conference which presents cutting edge works on autonomous ships to both academic and industry researchers. The first International Conference on Maritime Autonomous Surface Ships (ICMASS) was arranged in 2018 in Busan, Korea and in 2019 in Trondheim in Norway. Due to COVID-19 pandemic, the conference program this year is provided with online conference. ICMASS 2020 is organized by UIPA (Ulsan ICT Promotion Agency), KMOU (Korea Maritime and Ocean University) and KAUS (Korea Autonomous and Unmanned Ship Forum) and, and co-organized with the International Network for Autonomous Ships (INAS).

The main tracks of ICMASS 2020 include:

1- Maritime Digitalization:

   • Digitalization of shore-side decisions and manual processes, and digital integration with government/regulator portals or other relevant stakeholder for licenses, certifications etc.

   • Research gap analysis for future needs such as integrated system or development of digital twin

   • Digitalized and standardized data for the digital twin and intelligent navigation system

   • Safe and secure ship-to-shore communication

2- Autonomous Systems and Vessels:

   • Benefits and requirements for the safe operation of the autonomous ship

   • Intelligent navigation system for the control and monitoring of the autonomous ship

   • Design and operability for autonomous vessels – definition and the framework for the autonomous ship

   • Human control and interactions for the safe operation of autonomous ship

   • Cyber security and risk issues for the autonomous and automated operations including electronic failures

   • Situational awareness and collision avoidance system with intelligent object detection and environment recognition system

   • Ship-board enablers and systems for remote operations and management

   • Analysis and evaluation methods of the autonomous ships, equipment and services

based on simulation and sea-trial

• Developing new performance standards, skill requirements and assessments for the remote fleet operators

3- Green Shipping:

• Emerging technologies to support smart shipping with remote control

• Improving energy efficiency through technical operations and optimized logistics planning

• Vessel traffic service with the autonomous ship

• Test-beds and research activities for the efficient shipping

We wish to thank all that have contributed their time to making this event successful. In all, 62 technical presentations have been scheduled as well as 2 keynotes and 2 panel discussion. This proceedings include 35 full length papers. We would like to thank the reviewers and the different committees and boards that have been responsible for the overall management. We also extend thanks to those who have helped with the practical arrangements for the conference. All submissions were subjected to a peer review process, which included the review of an abstract followed by the review of the full paper.

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