

Lower Saxony – Scotland Joint Forum 2022

Workshop Programme

22 November 2022, 10:30am CET – Session II

Autonomy and Decarbonisation for Sustainable Maritime Transportation

1. Workshop Organizers

Prof. Gerasimos Theotokatos, *University of Strathclyde*

Prof. Axel Hahn, *Carl von Ossietzky University of Oldenburg*

Professor Gerasimos Theotokatos (MEng, PhD, FIMarEST) is the DNV Professor of Safety of Marine Systems and the Director of the Maritime Safety Research Centre (MSRC) at the Department of Naval Architecture, Ocean & Marine Engineering (NAOME) of the University of Strathclyde. His research focuses on the development of scientific approaches to holistically capture the safety, energy and sustainability interplay of the complex marine systems including cyber-physical and autonomous systems.

<https://pureportal.strath.ac.uk/en/persons/gerasimos-theotokatos>

Professor Dr. Axel Hahn is full professor and leading the Working Group System Analysis and Optimization at the Carl von Ossietzky University Oldenburg. He is the director of the Institute Systems Engineering for Future Mobility of the German Aerospace Centre DLR. His research is in methods and tools for trustworthy highly automated and autonomous transportation systems.

2. Workshop Description

This workshop addresses the thematic areas of the maritime transportation sustainability and resilience by considering the recent developments and future outlook of decarbonisation and autonomy technologies. The workshop includes presentations and discussion panels from two world-leading research groups (MSRC/NAOME from University of Strathclyde, Scotland, UK and DLR, Lower Saxony, Germany) on the research and industrial progress on autonomous shipping, as well as the expectations, opportunities, and feasibility for the maritime transportation decarbonisation.

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3. Programme

Session 1: Autonomous Maritime Transportation

Moderator: Prof. Gerasimos Theotokatos, University of Strathclyde

- 10:30 am** **Opening and Scope**
Prof. Gerasimos Theotokatos, *University of Strathclyde*
- 10:35 am** **Digitalisation in Maritime Transportation**
Dr. André Bolles, *DLR Institute Systems Engineering for Future Mobility Oldenburg*
- 10:45 am** **Regulatory Framework Roadmap for Autonomous Shipping**
Dr. Yaseen Ahmed, *University of Strathclyde*
- 10:55 am** **Feasibility of Next-Generation Short-Sea Autonomous Ships**
Dr. Joao Dantas, *University of Strathclyde*
- 11:05 am** **Towards Intelligent Ship Systems – AI Applications**
Dr. Chaitanya Patil, *University of Strathclyde*
- 11:15 am** **Discussion Panel – Autonomy: A Vital Need for Sustainable Maritime Transportation**
Prof Gerasimos Theotokatos (Moderator)
Dr. André Bolles (Panellist)
Dr. Yaseen Ahmed (Panellist)
Dr. Joao Dantas (Panellist)
Dr. Chaitanya Patil (Panellist)
- 11:30 am** **Coffee Break**

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Session 2: Maritime Transportation Decarbonisation

Moderator: Prof Axel Hahn, University of Oldenburg

- 11:35 am Opening and Scope**
Prof. Dr. Axel Hahn, *DLR Institute Systems Engineering for Future Mobility Oldenburg*
- 11:40 am Next-Generation Zero-Emission Ships – Reality or Utopia**
Prof. Evangelos Boulougouris, *University of Strathclyde*
- 11:50 am Low-Carbon Fuel Requirements for Shipping Decarbonisation**
Prof Sören Ehlers, *DLR Institute for Maritime Energy Systems & Hamburg University of Technology*
- 12:00 pm Electrification and Battery Power Ships**
Dr. Suleyman Duman, *University of Strathclyde*
- 12:10 pm Panel Discussion – Decarbonisation as Pathway Towards Sustainable Maritime Transportation**
Prof Axel Hahn (Moderator)
Prof Evangelos Boulougouris (Panellist)
Prof Sören Ehlers (Panellist)
Dr. Suleyman Duman (Panellist)
- 12:30 pm Closure**

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