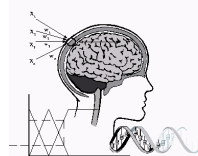




International

*Innovation in Knowledge Based and Intelligent
Engineering Systems*



INVITED SESSION SUMMARY

Title of Session: AI, Robotics, and Digital Technologies for Autonomous Systems

Name, Title and Affiliation of Chair:

Agnieszka Lazarowska, PhD, DSc Eng., Associate professor, Department of Autonomous Systems, Gdynia Maritime University

Monika Rybczak, PhD Eng., Assistant professor, Department of Autonomous Systems, Gdynia Maritime University

Details of Session (including aim and scope):

The aim of this invited session is to integrate the scientific community dedicated to the development of autonomous systems and to become a forum for exchange of thoughts, ideas and experiences related to the topic such as algorithms based on artificial intelligence techniques, in particular machine learning methods, intended for tasks related to environmental perception, navigation, and control of autonomous vehicles, such as unmanned surface and underwater vehicles, autonomous ships, mobile robots. The papers presenting research results at different stages of the project development are all welcomed, these include concept papers, presentation of on-going research, as well as works presenting the results of industrial implementation of solutions.

Topics of interest for submission include, but are NOT limited to:

- unmanned vehicles (including USV, UAV, UGV, UUV), along with devices, components, systems and software, including algorithms providing intelligence, enabling their effective use in dedicated environments;
- Smart Navigation Systems: advanced GPS and AI-based systems that provide real-time navigation data, collision avoidance, and route optimization;
- mobile and industrial robots: navigation, environment perception, environment mapping, Simultaneous Localization and Mapping (SLAM), direction and speed control, motion control methods, path planning and obstacle avoidance;
- human-robot collaboration;
- embedded systems and Industry 4.0: process and object control using microcontrollers, PLCs, and FPGAs, Industry 4.0 solutions, including Maritime 4.0 - Industry 4.0 solutions in the maritime industry, Industrial Internet of Things (IoT) and Digital Twin technology.

Important Dates:

Submission of Papers: April 1st, 2026

Notification of Acceptance: May 16th, 2026

Final Submission Receipt of Publication Files: June 1st 2026

Main Contributing Researchers / Research Centres (tentative, if known at this stage):

Universities and Research Centres

AI and Autonomous Systems Research Units from Academia and Industry Collaborators

Gdynia Maritime University

Gdańsk University of Technology

Delft University of Technology

Website URL of Call for Papers (if any):

Email & Contact Details:

a.lazarowska@wi.umg.edu.pl

m.rybczak@wi.umg.edu.pl