

"Barrieren reduzieren - gemeinsame Stärken nutzen" / „Redukować bariery – wspólnie wykorzystywać silne strony“

4th Conference on Aerospace Robotics, CARO⁴ is devoted to presenting and discussing ongoing international activities related to aerospace robotics. Robots, operating in a remote and hostile environment such as Earth's orbit or surface of another planet, bring many interesting scientific and technical challenges. The conference will create an opportunity to discuss main issues related to robotics, unmanned aerial vehicles, control systems, mechatronics, etc. It will also provide a chance to exchange information with researchers involved in orbital mechanics, planetology and material sciences. Poland is a member of the European Space Agency (ESA) and many Polish space activities are synchronized with broader European programs. This may create new possibilities for international cooperation and development.

In 2022 the conference's format will be slightly changed in comparison with previous editions. Space Robot Dynamics Laboratory that forms a branch of CBK PAN in Zielona Góra has started a cooperation with Institute of Microelectronics in Frankfurt/Oder (Germany) in the framework of transboundary Interreg project named "SpaceRegion: Cross-border integration of the space sector". An important part of this project is dedicated to the development of space robot/manipulator controllers and their implementation in hardware (FPGAs, SoCs). The results of this activity as well as of several project case studies dedicated to AI methods in autonomous navigation will be presented at the Workshop on Space Microelectronics taking place in the last day of the conference.

Topics:

- * Space robotics,
- * Space manipulators,
- * Control systems,
- * Satellite formation flying,
- * Flying robots and quadrotors,
- * UAVs,
- * Mobile and autonomous robots,
- * Robotic space exploration,
- * Sensor fusion,
- * Signal processing,
- * Space electronics,
- * Communication systems,
- * Artificial Intelligence,
- * ISRU on Moon and asteroids,
- * Social aspects of space robotics.

Key dates:

Paper submission: **31 March 2022**
(extended to **30 April 2022**)
Notification of acceptance: **29 May 2022**
Camera-ready paper: **19 June 2022**
The Conference: **06-08 July 2022**

Language:

English will be the working language of the conference.

Venue:

Qubus Hotel
Ceglana 14A, 65-211 Zielona Góra, Poland

Key elements:

Due to COVID-19 Pandemic, the CARO⁴ conference in 2022 will be adapted to safety regulations. The conference will be held in a "hybrid" mode with possible in person and online presentations.

Selected papers will be published after the CARO⁴ conference in journals: e.g., *PAR - Measurement Automation Robotics (Pomiary Automatyka Robotyka)*, ISSN: 1427-9126; *Artificial Satellites*, ISSN: 2083-6104, or in *GeoPlanet: Earth and Planetary Sciences* series.

The registration fee is covered by organizers.

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