



CALL FOR PAPERS

ICASR 2020
Sep 16-17, 2020
Zurich, Switzerland

The International Research Conference is a federated organization dedicated to bringing together a significant number of diverse scholarly events for presentation within the conference program. Events will run over a span of time during the conference depending on the number and length of the presentations.

ICASR 2020 : International Conference on Advances in Space Robotics is the premier interdisciplinary forum for the presentation of new advances and research results in the fields of Advances in Space Robotics. The conference will bring together leading academic scientists, researchers and scholars in the domain of interest from around the world. Topics of interest for submission include, but are not limited to:

Space robotics
Advances in space robotics
Current problems and challenges in space robotics
Space robotics and applications
Orbit robotic path planning and control
Operational modes of robots in microgravity
Methods and hardware for robotic capture of non-cooperative targets
Computer vision for pose estimation and inspection
Interaction of the robotic control with the GNC of the spacecraft
Hardware-in-the-loop facilities for testing space robotics
Design of distributed hardware and software for heterogeneous robotic systems, robot operating systems, reconfigurable robot teams
Tele-operation, tele-presence and latency handling in space robotics
Artificial intelligence, learning, and autonomy concepts for space robotics

Microgravity and planetary robotics
Manipulation and mobility
Electromechanical design and control
Microgravity locomotion
Vision for inspection and assembly, including compensation for stark lighting, glare, glint, and deep shadows
Command and control interfaces, including teleoperated modes
Power sources and consumable recharging techniques
Radiation hardening and effects on processing throughput
Thermal considerations in space robot design
Sensing and perception for planetary exploration, including terrain-relative precision position estimation
Above-surface, surface, and sub-surface planetary mobility, possibly from novel vehicle design concepts
Command and control with limited bandwidth, often precluding teleoperation and requiring autonomous surface operations, with natural terrain navigation and manipulation
Planetary rovers systems engineering

