



UNIVERSITÀ
DI TRENTO

Dipartimento di
Fisica



PhD Program in Space Science and Technology - SST

DLR's Robotic Space Exploration: Past, Present, and Future Specific Seminar – Curriculum 6 2024, June 4, 10 a.m.

Speakers:

Dr. Armin Wedler, Head of Planetary Exploration – DLR Institute of Robotics and Mechatronics

Dr. Martin Görner, researcher – DLR Institute of Robotics and Mechatronics

Abstract:

The talk gives an overview of past, present and future DLR activities towards highly autonomous systems for scientific missions to the Moon and other planets and shows how developments in space can be used successfully in the service of humanity on Earth.

The legacy of the Mobile Asteroid Scout (MASCOT), jointly developed by DLR and CNES and deployed by the JAXA spacecraft Hayabusa2 on the asteroid Ryugu on 3 October 2018, inspired the development of novel core technologies for higher efficiency in planetary exploration.

Together with the findings from the ROBEX (2012-2017) and ARCHES project (2018-2022), these experiences will shape future steps towards more complex space missions. These include the development of a mobile rover for JAXA's Martian Moons eXploration (MMX) in 2024.

Furthermore, details on the new wheeled/legged mobile TRP Rover system for LUNA exploration will be shared and explained in detail.

Short Bio:

Armin Wedler

Dr. Armin Wedler is Head of Planetary Exploration at DLR Institute of Robotics and Mechatronics, studied mechanical engineering and robotics and has a doctorate on "Adaptive passive compliant systems for use in robotics" from the University of Hannover. He works at DLR since 2008. Within his work, Mr. Wedler aims to support sustainable technologies for humanity, including the use of robots in crisis regions, food supply chains and agriculture to combat climate change and improve food production. With the coordination of the AHEAD (autonomous humanitarian emergency aid devices) Project within (DLR). At the HGF funded iFOODis project (2023-2027), he will focus the work on intelligent robotic systems to increase sustainability of food cycles.

Martin Görner

Dr. Martin Görner works as researcher at the DLR Institute of Robotics and Mechatronics. He studied Mechatronics Engineering at the Otto-von-Guericke University Magdeburg and holds a doctoral degree in Mechanical Engineering from the University of Ilmenau. His research is focused on the development and control of legged and wheeled mobile robots within the context of planetary exploration as well as the factory of the future. Apart from his research work, he was responsible for the design and realization of the DLR Moon-Mars test site.

Online attendance:

https://teams.microsoft.com/j/meetup-join/19%3ameeting_NTgxNTEyODItMDdiNy00YWQwLTgzZTMtMGZjYWQ0ODAwOTEz%40thread.v2/0?context=%7b%22id%22%3a%22a54b3635-128c-460f-b967-6ded8df82e75%22%2c%22oid%22%3a%2293ee05e7-70eb-4800-aead-5384cbe1a206%22%7d