

IAF MICROGRAVITY SCIENCES AND PROCESSES SYMPOSIUM (A2)
Microgravity Experiments from Sub-Orbital to Orbital Platforms (3)

Author: Mr. Jorge Del Rio Vera

United Nations Office for Outer Space Affairs, Austria, jorge.delriovera@un.org

Ms. Hazuki Mori

United Nations Office for Outer Space Affairs, Austria, hazuki.mori@un.org

Mr. Wenbin Zhang

United Nations Office for Outer Space Affairs, Austria, Wenbin.zhang@un.org

Mr. Martin Staško

United Nations Office for Outer Space Affairs, Austria, martin.stasko@un.org

Mr. Luc St-Pierre

United Nations Office for Outer Space Affairs, Austria, luc.st-pierre@unoosa.org

Mr. Niklas Hedman

United Nations Office for Outer Space Affairs, Austria, niklas.hedman@unoosa.org

OPPORTUNITIES FOR MICROGRAVITY AND HYPERGRAVITY EXPERIMENTS UNDER THE
UNITED NATIONS ACCESS TO SPACE FOR ALL INITIATIVE: ACHIEVEMENTS IN 2021-2022

Abstract

The United Nations Office for Outer Space Affairs (UNOOSA) works to promote international cooperation in the peaceful use and exploration of space and in the use of space science and technology for sustainable economic and social development. As part of its work and under the Access to Space 4 All Initiative, UNOOSA provides tracks that provide gradual learning steps that help participants develop capabilities in a sustainable and responsible manner. Each track contains a variable number of hands-on opportunities under a theme and currently there are three tracks:

- Hypergravity/Microgravity Track: designed with the end goal of developing the capacity of running space experiments onboard orbital vehicles or space stations.
- Satellite Development Track: aiming at building the capacity to design, implement, verify, operate and decommission a satellite in a responsible and sustainable manner.
- Exploration Track: designed to cover aspects related to space exploration beyond the geostationary orbit.

The Initiative is supported by governmental, intergovernmental and private sector entities, which are providing access to world-class facilities and infrastructure to support the development of technical and scientific capabilities in the different tracks. Partnership is a distinctive feature of the Initiative. UNOOSA is working on establishing new partnerships to cover some of the gaps identified in the Initiative and expand its portfolio. New contributions to the Initiative are possible and encouraged. The Hypergravity and Microgravity track is delivered in partnership with Airbus S.A.S, the Center of Applied Space Technologies and Microgravity (ZARM), China Manned Space Agency, the European Space Agency, the German Aerospace Center Space Administration and Sierra Nevada Corporation. This track contains both ground based and orbital opportunities with the aim to initially develop capabilities on ground and eventually attain capabilities for more complex experiments for orbital opportunities. This paper will provide an update of the activities and experiments carried out under the Hypergravity/Microgravity Track during 2021-2022 together with information on the new opportunities available and future prospects.