



UNITED NATIONS  
Office for Outer Space Affairs



# HyperGES 3<sup>rd</sup> round Announcement of Opportunity Webinar

26 June 2023  
10:30 & 16:30 CEST



# Access to Space for All

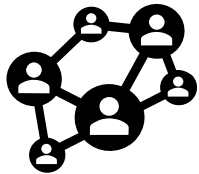
## Welcome! Before we begin...



- 1) **USE THE chat box** to ask questions and do not raise your hand



- 2) Please **ANSWER OUR QUESTIONNAIRE** that we will put in the chat box later on



- 3) Please use the hashtag **#AccSpace4All #HyperGES** and follow, like, and share **@UNOOSA** to help us promote this event!





# Access to Space for All

## Hypergravity/Microgravity Track



### HyperGES



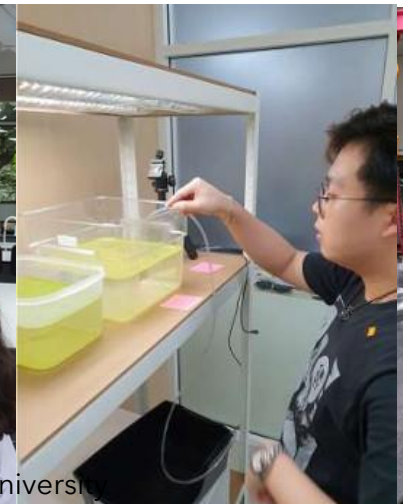
- Partner: European Space Agency (ESA)
- Established: 2019
- Aims to provide educational or research institutions with opportunities to conduct a series of **hypergravity experiments** at the Large Diameter Centrifuge (LDC) facility at the European Space Research and Technology Centre (ESTEC) in the Netherlands.
- The LDC allows samples to be exposed to acceleration forces of 1-20 times Earth's gravity. The experiment series consists of 1-2 weeks for on-site experiment integration/preparation and actual experiment campaign.
- The first round awardee from Thailand will test the effect of hypergravity on watermeal, as a **possible food source for space exploration**. The second round awardees from Macao that will analyse the medical and biotechnological potential of fungi for future space exploration and from Bolivia will examine the break-up of human red blood cells to get a better understanding of anaemia in space



©ESA



©Mahidol University





# Access to Space for All

## Hypergravity/Microgravity Track



## Learn from the Past Awardees!

UNITED NATIONS  
Office for Outer Space Affairs

About Us ▾ Our Work ▾ Space4SDGs ▾ Information for... ▾ Events ▾ Space Object Register ▾

Our Work > Access to Space for All

**ACCESS TO SPACE FOR ALL**  
A joint initiative to offer access to space facilities, infrastructure and information to promote international cooperation and the peaceful use of outer space.

For Member States ▸ Partnerships ▸ **Awardees ▸** Contribution to the SDGs ▸ Brochure ▸

Hypergravity/Microgravity Track ▸ Satellite Development Track ▸ Space Exploration Track ▸

Workshops and Expert Meetings ▸

### Access to Space for All Latest Information

**EVENT** Access to Space for All will hold a hybrid side event at the 66th session of COPUOS on 31 May 2023, [read more ▸](#) (26 May 2023)

**EVENT** KiboCUBE will hold a hybrid side event at the 66th session of COPUOS on 2 June 2023, [read more ▸](#) (26 May 2023)

**EVENT** 1st Access to Space for All Expert Meeting has been held on 15-17 May 2023 online, [read more ▸](#) (17 May 2023)

**NEWS** UNOOSA and ESA announced the 2nd round HyperGES awardees on 8 May, [watch here ▸](#) (8 May 2023)

## Access to Space for All Awardees

Through the various programmes under the initiative, UNOOSA has awarded opportunities to 30 awardees from all regions. The awardees conduct various activities, not only for the development of science and technology, but also outreach, education, and other impactful actions. Learn more about the teams and their space/related activities.



## ACCESS TO SPACE FOR ALL AWARDEE PAGE

[Our awardees ▸](#)

## Access to Space for All Awardees News

- Hypergravity/Microgravity track awardees
- Satellite development track awardees
- Space exploration track awardees

### HYPERGRAVITY/MICROGRAVITY TRACK AWARDEES

- ▶ Bartolomeo Awardees
- ▶ China Space Station Awardees
- ▶ Dream Chaser Awardees
- ▶ DropTES Awardees
- ▶ HyperGES Awardees

### SATELLITE DEVELOPMENT TRACK AWARDEES



Our Current Partners

**SPACE AGENCIES**

**RESEARCH INSTITUTIONS AND UNIVERSITIES**

**PRIVATE SECTOR**

Partnership is a distinctive Initiative. The Access to Space Initiative is only possible through partnerships with various public and private actors, who are contributing in various manners. New contributions to the Initiative are encouraged. Contact us at [access-to-space \(at\) un.org](#)

[read more ▸](#)



# Access to Space for All

## Education Component



UNITED NATIONS  
Office for Outer Space Affairs



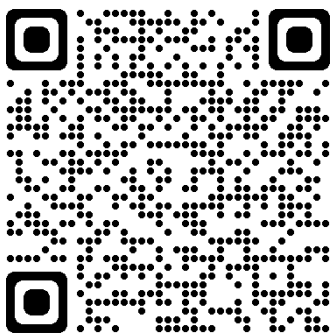
## Conducting R&D in Hypergravity/Microgravity Webinar Series

### **9 webinars with 45 speakers from 40 entities in 13 nations**

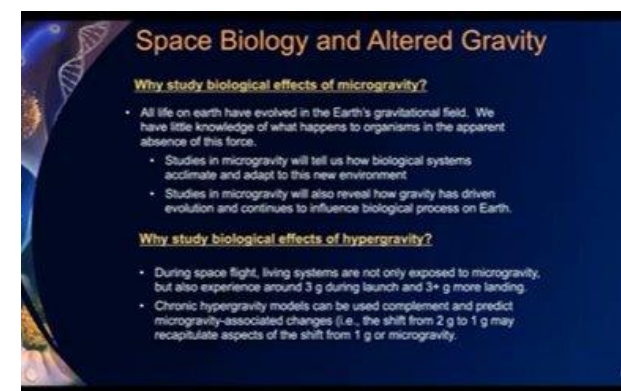
Covered technical and fundamental knowledge on:

- Benefits of conducting R&D in Hypergravity/Microgravity environment
- What type of R&D can be done (with examples from life science, physical science, and technology demonstration)
- Existing available platforms, opportunities, and networks

[https://www.unoosa.org/oosa/en/ourwork/access2space4all/HMT\\_rack\\_Webinars.html#Tag6](https://www.unoosa.org/oosa/en/ourwork/access2space4all/HMT_rack_Webinars.html#Tag6)



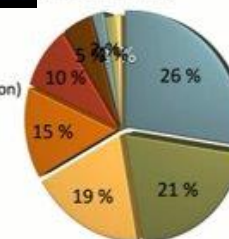
No.	Contents
1	Introduction to Hypergravity/Microgravity
2	Life Science Part 1: Biology
3	Life Science Part 2: Physiology
4	Life Science Part 3: Pharmacology
5	Physical Science Part 1: Material Science
6	Physical Science Part 2: Fluid Dynamics
7	Technology Demonstration
8	UNOOSA Hypergravity/Microgravity Track Opportunities
9	Regional Hypergravity/Microgravity Activities



### Gravity has (mainly) impact on:

- Weight
- Hydrostatic Pressure
- Convection
- Buoyancy
- Sedimentation

NB: Spaceflight holds more variables: e.g. isolation, radiation, (pressure, gas composition), stress, training, ...



**Any questions?**

**Contact us**



**[unoosa-access-to-space@un.org](mailto:unoosa-access-to-space@un.org)**

**Help us help  
#AccSpace4All**



**For more stats and information,  
check out the brochure!**



**UNITED NATIONS**  
Office for Outer Space Affairs