Access to Space for All Initiative
The goal of the Access to Space 4 All Initiative is to provide research and orbital opportunities for UN Member States to access space and to ensure that the benefits of space, in particular for sustainable development, are truly accessible to all.
Access to Space for All Initiative

Hands-on Capacity from A-Z
Responsible & Sustainable Way

Social Impact: To your country, region and young generations

Fosters international cooperation

Provides cutting edge skills for jobs and other opportunities
Access to Space for All Initiative

Space is relevant to the SDGs!

To learn more about the SDGs go to [https://sdgs.un.org/goals](https://sdgs.un.org/goals)
UNOOSA SDGs page
### Access to Space for All Initiative

#### Goal 4
**Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**

<table>
<thead>
<tr>
<th>Target</th>
<th>4.4</th>
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<tbody>
<tr>
<td>By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship</td>
<td></td>
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</table>

#### Indicators

<table>
<thead>
<tr>
<th>4.4.1</th>
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<tbody>
<tr>
<td>Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill</td>
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</tbody>
</table>

#### Goal 9
**Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**

<table>
<thead>
<tr>
<th>Target</th>
<th>9.1</th>
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<tbody>
<tr>
<td>Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Target</th>
<th>9.5</th>
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<tbody>
<tr>
<td>Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending</td>
<td></td>
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</tbody>
</table>
Access to Space for All Initiative

3. Good Health and Well-being

6. Clean Water and Sanitation

9. Industry, Innovation and Infrastructure

5. Gender Equality

TUMORS IN SPACE
NORWAY-CHINA
Dr. Tricia L. Larose

SPACE4SDGS
Access to Space for All Initiative

Z-GIP (Zero-Gravity Instrument Project)

https://www.unoosa.org/oosa/oosadoc/data/documents/2013/stspace/stspace63_0.html
Access to Space for All Initiative

HYPERGRAVITY/MICROGRAVITY TRACK
- DropTES
- HyperGES

SATELLITE DEVELOPMENT TRACK
- CanSATS
- Vega
- KiboCUBE

EXPLORATION TRACK
- Ground Analogues
- Beyond GEO

Opportunities are OPEN!
ISONscope: 1 May 2021
KiboCUBE: 31 May 2021
DropTES: 30 June 2021

#AccSpace4All
Identified gaps

Access the Full Report: www.unoosa.org
Hypergravity/Microgravity Track

DropTES - Applications Open until 30 June 2021!

- Partners: ZARM (Center of Applied Science Technology and Microgravity) and DLR (German Aerospace Center)
- Established: 2014
- Aims to provide educational or research institutions with opportunities to conduct a series of microgravity experiments at the Bremen Drop Tower in Germany.
- The drop tower experiment series consists of 5 drops or catapult launches to be conducted within one week. Each experiment series is accompanied by an on-site experiment integrations taking place one week prior to the campaign.

Photo credit: ZARM
<table>
<thead>
<tr>
<th>Round</th>
<th>Year</th>
<th>Winner</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; round</td>
<td>2014</td>
<td>German Jordanian University JORDAN</td>
<td>to investigate the stability of tether dynamics for satellites with electromagnetic tether systems using a Tilger, a mass damper</td>
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<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; round</td>
<td>2015</td>
<td>Universidad Católica Boliviana “San Pablo” BOLIVIA</td>
<td>to examine and evaluate the property of an alloy of Nickel and Titanium &quot;Nitinol&quot; under the microgravity environment</td>
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<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; round</td>
<td>2016</td>
<td>Instituto Tecnológico de Costa Rica Universidad de Costa Rica COSTA RICA</td>
<td>to expand the technical knowledge and information on the behaviour of a reduced-scale robotic arm manipulator such as dynamics, motion, and control under microgravity conditions</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; round</td>
<td>2017</td>
<td>Warsaw University of Technology POLAND</td>
<td>to verify, in vacuum and microgravity conditions, the deployment of the deorbit sail system on their two unit CubeSat called &quot;PW-Sat2&quot;</td>
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<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt; round</td>
<td>2018</td>
<td>University of Bucharest Politehnica University of Bucharest ROMANIA</td>
<td>to expose medicine droplets containing aqueous chlorpromazine (CPZ) solution to both laser radiation and microgravity conditions</td>
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<tr>
<td>6&lt;sup&gt;th&lt;/sup&gt; round</td>
<td>2019</td>
<td>Politecnico de Milano (Polimi) ITALY</td>
<td>to analyze the lateral sloshing of a ferrofluid solution in low-gravity with the aim of measuring its oscillation frequency while subjected to different magnetic field intensities.</td>
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<tr>
<td>7&lt;sup&gt;th&lt;/sup&gt; round</td>
<td>2020</td>
<td>Universidad Católica Boliviana “San Pablo” BOLIVIA</td>
<td>to determine the 3D printing feasibility under microgravity conditions, measure infrastructure remaining liquid resin after light exposure and compare manufacturing time, amount of used material, while processing the same piece between 2 different approaches (Fused Deposition Modeling (FDM) and Digital Light Processing (DLP)) <em>experiments delayed to 2021</em></td>
</tr>
</tbody>
</table>

* DropTES: Winners Hypergravity/Microgravity Track*
Hypergravity/Microgravity Track

HyperGES - Applications for the next round will open this year!

- Partner: ESA (European Space Agency)
- 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.
- First round winner is a team from Thailand that will study the effect of hypergravity on watermeal, the future food source for space exploration.

Photo credit: ESA
Bartolomeo

- Partner: Airbus S.A.S.
- Established: 2018
- Aims to provide institutions with opportunities to accommodate a payload on the Airbus Bartolomeo external platform on the International Space Station.
- The opportunity is for a 3U CubeSat payload which will get an “All in One” Space mission service (integrated, launched, installed as a part of the Bartolomeo for a mission operation span of a year)
- The first round winner will be announced soon!

Photo credit: Airbus
Hypergravity/Microgravity Track

China Space Station

- Partner: CMSA (China Manned Space Agency)
- Established: 2018
- Aims to provide scientist from around the world with opportunities to conduct their own experiments on board the China Space Station (CSS) either inside or outside the CSS.
- 9 projects involving 23 institutions from 17 UN Member States has been selected for the first round. The research areas vary from life science, biotechnology, fluid physics, combustion, astronomy to space technologies.
Dream Chaser

- Partner: Sierra Nevada Corporation
- Established: 2018
- Aims to provide institutions with opportunities to participate in an orbital space mission utilizing the Dream Chaser® space vehicle.
- A technical briefing of the capabilities of the vehicle was conducted in 2018 and a call for interest for a landing site was conducted in 2019. Currently in discussion of opening a round for applications.
Webinar Series

April 21
Introduction to Hypergravity/Microgravity

Life Science R&D
- Biology   April 28
- Physiology  May 5
- Pharmacology  May 12

Physical Science R&D
- Material Science  May 19
- Fluid Dynamics  May 26

June 2
Technology Demonstration

June 9
Available Opportunities/Regional Activities

June 16
Webinar Series

Updates to the agenda, recordings and presentations will be uploaded to our Access to Space for All Initiative Website: 
https://www.unoosa.org/oosa/en/ourwork/access2space4all/index.html

Recordings can be found on our YouTube channel @UN Office for Outer Space Affairs
https://www.youtube.com/c/UNOfficeforOuterSpaceAffairs/featured

Make sure to come visit our website and check it out!
Thank you!

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unoosa-access-to-space@un.org