

**Fellowship Programme for
“Drop Tower Experiment
Series (DropTES)”**



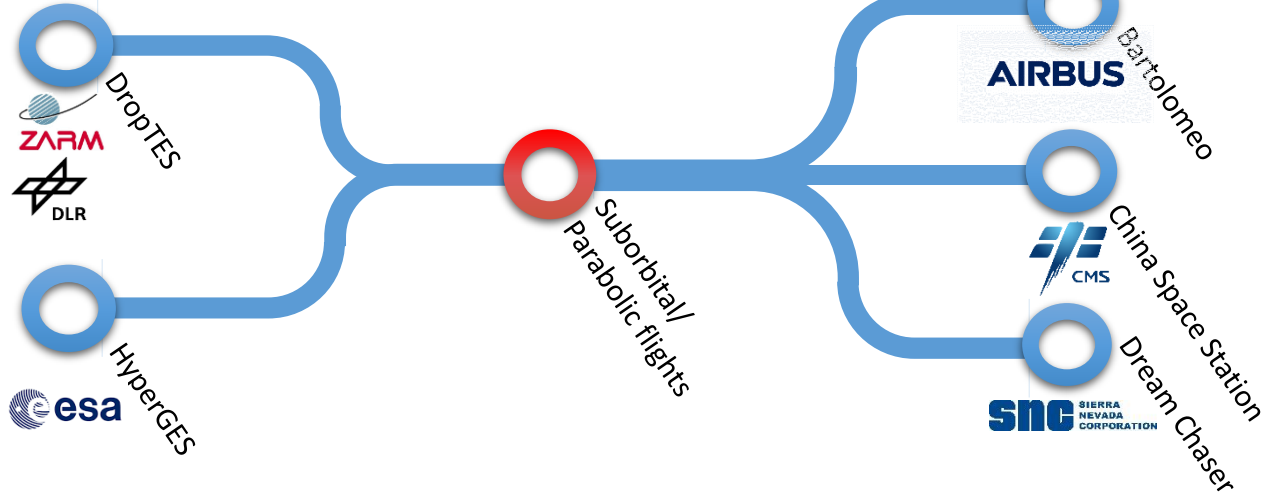


Access to Space for All

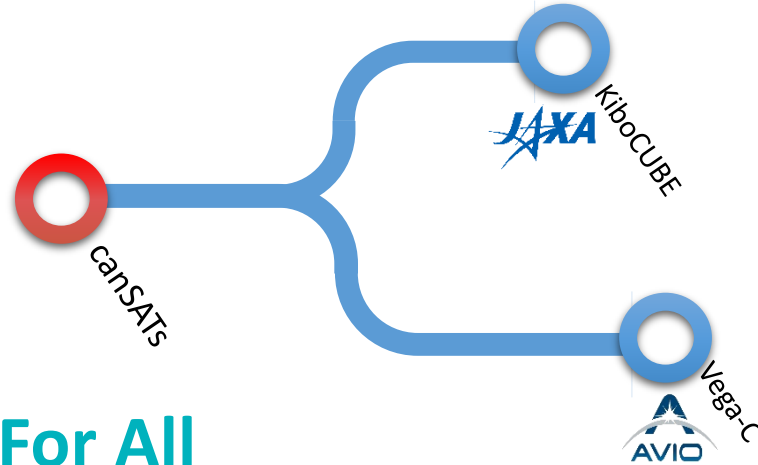
“The goal of Access to Space is to provide research and orbital opportunities for UN Member States to access space and to ensure that the benefits of space, in particular for sustainable development, are truly accessible to all”



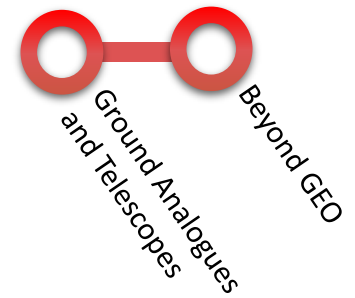
HYPERGRAVITY/MICROGRAVITY TRACK



SATELLITE DEVELOPMENT TRACK



EXPLORATION TRACK



#AccSpace4All

■ Active opportunities

■ Identified gaps

Access to Space For All



Series of Webinars on Access to Space for All

COMMON WEBINARS TO ALL OPPORTUNITIES	Webinar Title	Learners will be able to	Date
	Access to Space 4 All	<ul style="list-style-type: none"> - describe the Access to Space 4 All Initiative and why it is important - describe the objectives of the Access to Space 4 All Initiative - list the tracks - list the opportunities - list the partners of the Access to Space 4 All Initiative 	30 September 2020
	How to raise awareness and engage the audience about your project	<ul style="list-style-type: none"> - prepare a successful communications plan - approach media and permanent missions to raise awareness 	28 October
	Space Law and Regulations	<ul style="list-style-type: none"> - to enhance understanding of fundamental principles of space law - to understand the importance of space object registration - describe the steps for frequency registration 	11 November
	Ask a winner	<ul style="list-style-type: none"> - incorporate lessons learned from previous winners for example solutions and difficulties when undertaking their projects 	25 November
	Artificial Intelligence and Access to Space	<ul style="list-style-type: none"> - Describe some of the tools that have been made possible by artificial intelligence and how they can be used in the context of Access to Space 4 All 	02 December
	Space Engineering Basics	<ul style="list-style-type: none"> - describe the different phases of the space engineering process at high level - describe the different reviews at high level - apply to the development of a system 	Date TBC

Webinars dedicated to each programme is under preparation

KiboCUBE: December 2020 TBD



#AccSpace4All #SpaceScience & #SpaceTechnology

UNOOSA @UNOOSA · 23 oct.
Next week #UNOOSA is continuing our series of #webinars for prospective applicants to our #AccSpace4All Initiative, which offers opportunities for all countries to access & benefit from #space & its applications. unoosa.org/oosa/en/ourwor...
(1/4)
[Mostrar este hilo](#)

宇宙飛行士を経て #国連宇宙部 @UNOOSA に勤務、現在 #京都大学 で教鞭をとる #土井隆雄 さんインタビュー(2016年) 🌟。あらゆる国や人に宇宙利用へのアクセスを、という気概に満ちたお話。10月4-10日は、#国連宇宙週間 #WorldSpaceWeek #AccSpace4All #SDGs Photo:NASA
blog.unic.or.jp/entry/2016/08/...



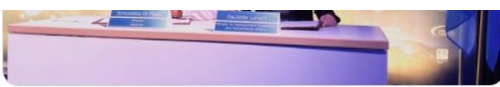
USE THE TAG #AccSpace4All to spread the voice

En respuesta a @UNOOSA
Someday C

Today @MFA_Luxembourg
law for new space
#AccSpace4All
40% of the 169 #SDGs
global approach for
#LuxAid #Space4SDGs

Loving the initiative #AccSpace4All by @UNOOSA & @Avio_Group (#VEGA) providing FREE satellite slots for 1U cubesats to ensure the benefits of Space, especially #AI4EO for #SustainableDevelopmentGoals. ACCESSIBLE TO ALL 🌐🌍🌎
Program and applications open soon #SDGs

En respuesta a @UNOOSA y @Avio_Group
👍👉
#AccSpace4All



What is DropTES?

- A fellowship programme between United Nations Office for Outer Space Affairs (UNOOSA), ZARM (Center of Applied Space Technology and Microgravity) and DLR (German Aerospace Center) which started from 2014, implemented under the Access to Space for All Initiative.
- 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 4 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



Why DropTES?

- The Bremen Drop Tower is one of the tallest drop towers in Europe and the experiment duration has been extended to 9.3 seconds which is unmatched by any other drop facility worldwide.
- Testing in a microgravity environment represents an achievable entry point to acquire new knowledge and conduct various tests in many different research fields such as astrophysics, biology, chemistry, combustion, fluid dynamics, fundamental physics, and material sciences.
- The Space Administration section of DLR will bear the cost to conduct the series of experiments. ZARM will provide technical support during the campaign along with on-site apartment for student accommodation. UNOOSA will provide financial support for the travel of the selected team.



Photo credit: ESA



DropTES for Sustainable Development Goals (SDGs)








DropTES may contribute to the SDGs below by fostering innovation and supporting education and training on skillsets for developing cutting-edge technology.

SDG 4 "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all";

SDG 9 "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation



Previous Winners

	Winner		Objective
1 st round 2014	German Jordanian University JORDAN		to investigate the stability of tether dynamics for satellites with electromagnetic tether systems using a Tilger, a mass damper
2 nd round 2015	Universidad Católica Boliviana "San Pablo" BOLIVIA		to examine and evaluate the property of an alloy of Nickel and Titanium "Nitinol" under the microgravity environment
3 rd round 2016	Instituto Tecnológico de Costa Rica Universidad de Costa Rica COSTA RICA		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
4 th round 2017	Warsaw University of Technology POLAND		to verify, in vacuum and microgravity conditions, the deployment of the deorbit sail system on their two unit CubeSat called "PW-Sat2"
5 th round 2018	University of Bucharest Politehnica University of Bucharest ROMANIA		to expose medicine droplets containing aqueous chlorpromazine (CPZ) solution to both laser radiation and microgravity conditions
6 th round 2019	Politecnico de Milano (Polimi) ITALY		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.
7 th round 2020 *experiments delayed to 2021	Universidad Católica Boliviana "San Pablo" BOLIVIA		to determine the 3D printing feasibility under microgravity conditions, measure intra-structure 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))



Requirements for Participation

Opportunity:

An opportunity to conduct 4 drops or catapult launches at the Bremen Drop Tower

Eligibility Criteria:

- Open to research teams from entities located in Member States of the United Nations.
- Each team should consist of up to 4 Bachelor, Master and/or PhD students who must be endorsed by their academic supervisor (team leader)
- The proposed experiment is required to be an integral part of the student's syllabuses and part of the thesis or another form of research project associated with the applicant's studies at their respective universities.

Selection Criteria:

- Scientific and/or technological value of the proposal
- Relevance of microgravity in the proposal
- Relevance of the drop tower utilization in the proposal
- General feasibility of the experiment and procedure
- Involvement of the proposed experiment in the students' syllabuses
- Organization to realize the proposal
- Overall presentation of the proposal

THANK YOU!

**For any inquiries:
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<unoosa-access-to-
space@un.org>**



UNITED NATIONS
Office for Outer Space Affairs