# KiboCUBE 6th Round

# Announcement of Awardees

# <Online Side Event>

**On the occasion of the 59th Session of the Scientific and Technical Subcommittee (STSC) of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS)**

Organized by the United Nations Office for Outer Space Affairs

and Japan Aerospace Exploration Agency

Date & Time: Wednesday 16 February 2022 1:00pm CET (12:00pm UTC)

Microsoft Teams meeting

**Join on your computer or mobile app** Click here to join the meeting

**Join with a video conferencing device** unitevc@m.webex.com

Video Conference ID: 122 567 205 5

Speaker list:

- Dr. Simonetta Di Pippo, Director, United Nations Office for Outer Space Affairs
- Mr. Shoji Yoshikazu, Director, International Relations and Research Department, Japan Aerospace Exploration Agency

- H.E. Mr. Hikihara Takeshi, Ambassador Extraordinary and Plenipotentiary, Permanent Representative of Japan
- H.E. Mr. Mohamed Mezghani, Ambassador Extraordinary and Plenipotentiary, Permanent Representative of Tunisia
- Mr. Alberto Ignacio Glender Rivas, Minister, Permanent Representative of Mexico

- Representatives of the selected teams

KiboCUBE is a corner stone programme under the Access to Space for All initiative and is a long-standing cooperation between the United Nations Office for Outer Space Affairs (UNOOSA) and Japan Aerospace Exploration Agency (JAXA) that offers developing countries with the opportunity to deploy a Cube Satellite (CubeSat) from the International Space Station Japanese Experiment Module "Kibo". The selected teams are required to develop their CubeSats and operate it after it has been deployed.

The 6th Round of applications was open from 10 December 2020 to 31 May 2021 and UNOOSA received very competitive applications from various institutions located in different regions.

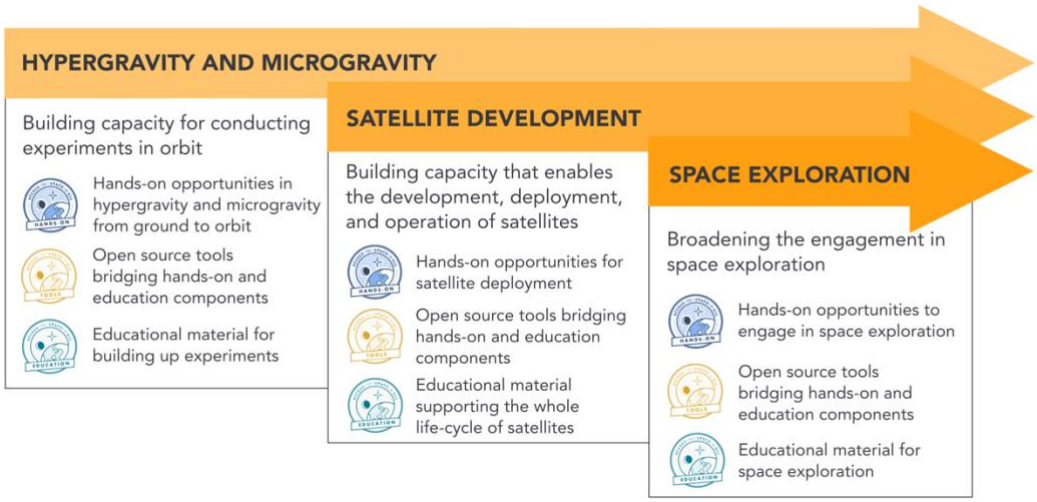
In this event, UNOOSA and JAXA will announce the 2 awardees for the 6th round of KiboCUBE and the awardees will explain the CubeSats they will develop.

For more on KiboCUBE see the next page →

UNITED NATIONS
Office for Outer Space Affairs

***WHAT IS THE ACCESS TO SPACE FOR ALL INITIATIVE?***

The Access to Space for All initiative is a joint initiative of UNOOSA and space agencies, research institutions and industry to offer access to space research facilities, infrastructure, and information with the aim of developing technical know-how, engineering processes and infrastructure in the areas of hypergravity and microgravity, satellite development and space exploration and promote international cooperation in the peaceful uses of outer space.




***WHAT IS THE SATTELITE DEVELOPMENT TRACK?***

The Satellite Development Track helps, in particular developing countries, to gradually acquiring the capability of designing, building, verifying, deploying, operating and decommissioning small satellites in orbit. It also inspires students and professionals to proceed further in Science, Technology, Engineering, and Mathematics (STEM) education.

***WHAT IS KIBOCUBE?***

KiboCUBE is a cooperation programme between United Nations Office for Outer Space Affairs (UNOOSA) and Japan Aerospace Exploration Agency (JAXA) which started from 2015. It aims to provide educational or research institutions from developing countries with opportunities to develop a cube satellite (CubeSat) and have it deployed from the International Space Station (ISS) Japanese Experiment Module (Kibo)

***WHY KIBOCUBE?***

- CubeSats are affordable to develop, represents an achievable entry point to space activities and can be the **first step for a country in acquisitions of the skills and know-how needed to develop a space programme**
- The CubeSat will be launched to the ISS as cargo. Therefore, **the vibration is lower and is a more friendly environment for the CubeSat during the launch**, compared to being directly integrated on to the launch vehicle as a payload.
- Through KiboCUBE, **JAXA will bear the cost of the launch of the CubeSat to the ISS and deployment from Kibo,** and during the development, the teams receive administrative support from UNOOSA and technical support from JAXA.

***IMPACT OF KIBOCUBE***

KiboCUBE has selected 6 teams in 5 rounds, of which 3 teams have already deployed their CubeSat into space.

| | Winner | Objective | Deployed | Launched | Selected |
|---|---|---|---|---|---|
| 1st round | KENYA: University of Nairobi "1KUNS-PF" | To monitor agriculture and coastal areas | 11.05.2018 | 04.2018 | 08.2016 |
| 2nd round | GUATEMALA: Universidad de Valle De Guatemala "Quetzal-1" | To acquire remote sensing data for natural resource management | 29.4.2020 | 03.2020 | 09.2017 |
| 3rd round | MAURITIUS: Mauritius Research Council "MIR-SAT 1" | To collect thermal infrared images and to test onboard communication | 22.6.2021 | 05.2020 | 06.2018 |
| 3rd round | INDONESIA: Surya University "SS-1" | To demonstrate remote communication | Currently under development | | 09.2018 |
| 4th round | MOLDOVA: Technical University of Moldova "TUMnanoSAT" | To demonstrate technology and test various components | Currently under development | | 06.2019 |
| 5th round | SISTEMA DE LA INTEGRACIÓN CENTROAMERICANA "MORAZAN-SAT" | To monitor weather variables in remote areas providing early warning during extreme weather events | Currently under development | | 12. 2020 |

- **KiboCUBE first round awardee**: **Kenya** has transformed its capacities through the initiative, starting with KiboCUBE. In 2018, the University of Nairobi deployed the first satellite of Kenya from the ISS, successfully completing its mission. The Kenya Space Agency was established in 2017 and KiboCUBE played a significant role in the establishment. The Kenya Space Agency went on to apply for other programmes under the initiative and last year, have been chosen for the Bartolomeo programme and the ISONscope programme.

The team, CubeSat and deployer ©JAXA

- **KiboCUBE second round awardee: Guatemala** deployed their first satellite in June 2020. They are also expanding their activities by applying to other programmes of the initiative as well, gaining valuable experience. The team at Universidad del Valle De Guatemala conducted a successful outreach program, working with the local media to deliver the information to the entire population, but also through educational workshops to inspire and connect with the youth.

(Left) Development of the CubeSat

(Right) Workshops at schools

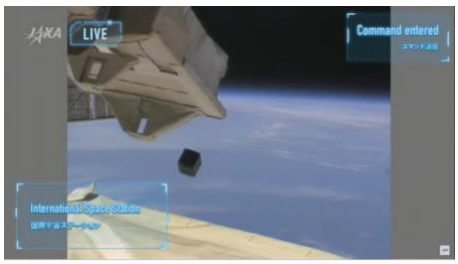
©Ivan Castro

- **KiboCUBE third round awardee: Mauritius** deployed their first satellite in June 2021. Several capacity-building activities were organized, like an antenna building workshop and a competition to recognize the first schools receiving data from the satellite. This competition was won by an all-female team at the Forest Side SSS Girls School. These

outreach activities are not only promoting education but empowerment of women and girls.

(Left) Deployment of the CubeSat ©JAXA

(Right) Team photo of Forest Side SSS Girls School and their antenna ©Mauritius Amateur Radio Society




***KIBOCUBE FOR THE SUSTAINABLE DEVELOPMENT GOALS***

All applicants to KiboCUBE are requested to connect their CubeSat's missions to the Sustainable Development Goals. In addition to the ones stated by the applicants, KiboCUBE contributes to the SDGs below:

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

**SDG 8** "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all"

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





***LEARN MORE ABOUT SATELLITE DEVELOPMENT THROUGH KIBOCUBE ACADEMY***

KiboCUBE Academy is part of the education component of the Satellite Development Track and aims at building theoretical knowledge of the lifecycle of satellite development, how to design, develop, operate, and utilize a satellite. The live webinars and on-demand pre-recorded lectures have been provided by UNOOSA and JAXA along with the support of the University Space Engineering Consortium (UNISEC).

There have been two seasons of KiboCUBE Academy, Season 1 from January- February 2021 and Season 2 that started from November 2021 which expanded the content of the first season. All the recordings and presentations are available here: https://www.unoosa.org/oosa/en/ourwork/access2space4all/SatDevTrack_Webinars.html#Tag1

**For more information on Access to Space for All: https://www.unoosa.org/oosa/en/ourwork/access2space4all/index.html**

**KiboCUBE: https://www.unoosa.org/oosa/en/ourwork/access2space4all/KiboCUBE/KiboCUBE_Index.html**

**Any questions? Contact unoosa-access-to-space@un.org**