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Microgravity Sciences Onboard the International Space Station and Beyond - Part 1 (6)

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ACCESS TO SPACE: A NEW APPROACH BY THE UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS

Abstract

In the context of UNISPACE+50, which will mark the 50^{th} anniversary of the first UNISPACE conference held in Vienna in 1968, the United Nations Office for Outer Space Affairs (UNOOSA) has defined four pillars to address the future of space activities and their role in development: **space economy, space society, space accessibility and space diplomacy**.

Under the **space accessibility pillar**, UNOOSA intends to enable all communities, particularly in developing countries, to use and benefit from space technologies and applications. Building on previous activities and new partnerships, UNOOSA facilitates and provides (i) **access to space data**, via various agreements of cooperation with data providers; (ii) **access to space education**, including through the work of the Regional Centres for Space Science and Technology Education affiliated to the United Nations, and through UNOOSA's capacity-building platforms; (iii) **access to space technology and research facilities**, with initiatives and fellowships such as the Drop Tower Experiment Series; and finally, for the first time, (iv) **direct access to space**.

This shift of paradigm from on-ground space education, applications, technology and simulation to on-orbit technology is directly linked to UNISPACE+50 thematic priority on Global partnerships in space exploration and innovation. At this stage, three programmes are incorporated in this novel strategy, and provide access to a wide spectrum of Low-Earth-Orbit opportunities.

In 2016, UNOOSA and the Japan Aerospace Exploration Agency (JAXA) jointly launched the United Nations/Japan Cooperation Programme on CubeSat Deployment from the International Space Station Japanese Experiment Module: "KiboCUBE". KiboCUBE offers institutions located in non-space fairing nations opportunities to deploy CubeSats of their own design and manufacture. The first selected proposal is a CubeSat by the University of Nairobi, Kenya, with an expected launch date at the end of 2017 or beginning of 2018.

Another agreement has been concluded with Sierra Nevada Corporation to define a mission opportunity utilizing the DreamChaser® reusable space vehicle. This partnership currently considers the provision of a two-week free-flyer space mission with multiple micro-gravity payloads from United Nations Member States, tentatively scheduled for 2021.

Finally, UNOOSA and the China Manned Space Agency will work together towards the development of space capabilities of Member States via opportunities on-board China's space station. This comprehensive agreement would initially include flying payloads and conducting experiments on the station, for example in space life sciences, biotechnology, micro-gravity fluid physics and combustion, and may in the future allow for flight opportunities for astronauts and payload engineers.