

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Enabling the Future - Developing the Space Workforce (5)

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TESTS IN ORBIT AND DREAMKIT PROGRAMS IN THE UNITED ARAB EMIRATES –  
INNOVATIVE DUAL APPROACH TO ENABLE AND INSPIRE LEARNERS TO REACH FOR THE  
STARS

**Abstract**

The United Arab Emirates is the base for the first ever Arabic and Islamic mission to Mars, and the home of the increasingly impactful UAE Space Agency. As the nation builds a robust, innovative space program, one important factor for success is the ample supply of inspired and engaged engineers. DreamUp is the first company bringing space into the classroom and the classroom into space, and is uniquely positioned to support the UAE as they engage learners globally with the most cutting-edge educational opportunities in microgravity. Through a partnership (that also includes Higher Colleges of Technology and NanoRacks), the UAE Space Agency and DreamUp are bringing the possibility of space research directly to Emirati students, and producing a science kit that will enable students around the globe to experience hands-on learning in association with the flight of the first Emirati astronaut. Both programs offer an inventive pathway to build the next generation workforce.

The payload challenge program, named Tests in Orbit, invites student groups in the UAE to develop experiments focused in two areas – Life in Space and Energy in Space. A record number of applications have been received, and a selection workshop is planned for March 2019. Once the two winners are chosen, they will begin work on their payloads that are scheduled to launch in 2020. Concurrently, an experiment is being designed for the Emirati astronaut to perform when he flies to the International Space Station later this year. DreamUp will be manufacturing a science kit, called a DreamKit with the support of the UAE Space Agency, to enable learners around the globe to mimic the Emirati astronaut's experiment and compare the results they find with those found by the astronaut. This innovative dual-program approach is the first of its kind – providing hands-on learning experiences not only to university students who have been selected to fly an experiment to the ISS, but also to thousands of learners in all parts of the globe, to inspire them to reach for the stars.