

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
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AFFORDABLE ACCESS TO SUB-ORBITAL RESEARCH FOR LATIN AMERICAN COUNTRIES

Abstract

With the rise of affordable suborbital launch vehicles, new opportunities are arising for regions that otherwise struggle to access space and its micro gravity environment. In the case of the Latin American region, there are many institutions, both governmental and private, that seek space access to conduct scientific research and technology development.

We see a valuable opportunity to train the next generation of space researchers in our region through hands-on projects culminating in spaceflight research missions. To that end, the Ecuadorian Civil Space Agency (EXA) is working with Blue Origin to fly a dedicated Payload Locker of Latin American micro gravity research experiments in 2019. Through an international proposal process, we will select 12 organizations to build and fly NanoLabs on the New Shepard space vehicle. These small format payloads will experience three to four minutes of free fall within the New Shepard crew capsule, offering opportunities for life and micro gravity sciences, as well as multi-body interactions, fluid physics, and technology demonstrations. To help facilitate broad sharing of this experience across and beyond the region, we will encourage teams to submit and execute outreach plans with their science. Future opportunities for human-tended research will also be briefly discussed.

This paper will focus on the project plan and objectives, propose a draft mission plan for a model mission and discuss the implications for the region.