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SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
New Worlds - Innovative Space Education and Outreach (7)

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ENGAGING SATELLITE EDUCATION AND OUTREACH THROUGH ECUADOR'S ASTERIA PROGRAM

Abstract

Initiated in August 2012, the Ecuadorian Civilian Space Agency (EXA) created the ASTERIA program for the purpose of educating students, the general public and the global community regarding its innovative advancements in recent satellite developments. While ASTERIA includes an agreement among three Ecuadorian schools, the focus of this paper is with specific regard to one of the schools in particular, Academia Cotopaxi (AC) in Quito, and initiatives completed by EXA's education consultant in conjunction with EXA. In this two year period, ASTERIA's objectives were met through innovative satellite presentations, participation in World Space Week, student Skype chats, online education, postings in student and educator blogs, published papers, award recognitions, a Ministry of Education observation, student participation in a unique satellite inauguration, two pilot programs, and information shared with the public through a wide variety of media outlets. These events involved individuals from all aspects of the local and global community including, but not limited to, the following: students from first grade through college level, educators, parents, administrators and other space agencies. These outreach enterprises aligned with the launching of Ecuador's first satellite (Pegasus), in April 2013, and its second satellite (Krysaor) in November 2013; both of which have live, onboard video cameras for educational purposes. As Pegasus was sideswiped by space debris a month after its launch, this unexpected event also provided a unique opportunity for the global community to learn about technological advancements which allowed its signal to be recovered eight months later with the assistance of Krysaor. Included in community education events was how, through two pilot programs at AC, elementary students have downloaded live satellite weather images by utilizing a virtual ground station in the classroom, thereby attaining educational objectives in an authentic manner. Sharing such engaging educational practices in science, technology, engineering and mathematics (STEM) with the community at large has contributed not only to increasing public awareness of satellite education in Ecuador and abroad, but in a fashion which also addresses the educational standards presented in the k-12 Framework for Science Education, Common Core and Next Generation Science Standards. In this paper we discuss the methods utilized in implementing a variety of engaging outreach events, the results obtained, and the lessons learned for future advancements in outreach with regard to satellite education.