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

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CHALLENGES AND OPPORTUNITY IN NANOSATELLITE OUTREACH PROGRAM (NSOP) TO DEVELOP WORKFORCE IN SPACE

Abstract

The Mohammed Bin Rashid space center (MBRSC) located in United Arab Emirates (UAE) has stablished the Nano-satellite outreach program "NSOP" in collaboration with different universities across the country. NSOP is a sustainable program which targets students with science and engineering background to build a CubeSat as their senior design project. The first CubeSat in the project is a 1U CubeSat which trains 15 students from 5 different universities. The purpose of this CubeSat project is to involve the students in the process of designing, integrating and testing different subsystems in the CubeSat. This mission will adapt a wireless communication system for future satellites by having a Bluetooth board as the main payload. This project is led by MBRSC engineers who are mentoring the students in the entire phase of CubeSat development. Four of the mentors in NSOP program had the experience from working on Nayif-1, the first UAE Nano-Satellite, during their senior design project as undergraduate students at the American university of Sharjah in collaboration with Innovative Solution in Space (ISIS-Netherlands). The challenges and obstacles that faced the mentors during their work in Nayif-1 allowed them to improve the teaching methods and techniques to provide higher level of technical knowledge transfer to the NSOP students. This paper will focus on several aspects as follow: (1) the technical teaching method followed by engineers from MBRSC as they mentors the students through all the milestones, (2) the challenges faced by both students and the mentors and how the team tackled them, (3) the opportunities that the students and MBRSC get from educating the students.