

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

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INSPIRING GENERATIONS THROUGH EMIRATES MARS MISSION'S (EMM) SCIENCE  
OUTREACH PROGRAMS

## Abstract

The Emirates Mars Mission (EMM) is a space exploration mission to study the Martian atmosphere with the aim of contributing to the development of the UAE's science and technology sector, developing UAE's scientific capabilities, and increasing UAE's contribution to the scientific community. The purpose of EMM's educational science outreach programs is to promote space science education and research within UAE schools and universities to build capabilities in Science, Technology, Engineering and Mathematics (STEM) fields and engage students, teachers, professors, researchers and the general public in the mission.

In line with EMM's goals, several science outreach programs are established: 1) The Research Experience for Undergraduates (REU) program which was launched in 2015, to expose students to a career in scientific research. The program was able to impact a total of 29 students, resulting in a total of 17 research projects presented in international scientific conferences or journals. 2) The EMM Research Grant program encourages professors and students to work on a research project tailored to Mars or space science. As of 2020, there is a total of 5 research projects, led by professors in UAE based universities. 3) The Annual EMM Science Workshop aims to provide an EMM overview, define Mars as a planet, its history and the science behind it. A wide range of topics are presented to university students, professors and researchers that have a background in science or engineering. The workshop highlights the prominence of Mars and illustrates the importance of EMM in enhancing the science community's knowledge about the Martian atmosphere.

Additionally, numerous educational programs are developed to target younger generations and motivate them to be a part of STEM. For example, the Generation Hope initiative provides students the opportunity to not only see the Hope Probe in its cleanrooms in the UAE, but also gives the students a chance to get to know the mission in more detail, and sit with various EMM team members and ask them about their experience throughout the mission. Additionally, school-based workshops and talks are conducted.

Throughout these programs, there was a significant increase in the base of UAE national students in science. This report will highlight how EMM engages the whole community to be part of the mission, mainly focusing on exposing students to research opportunities utilizing an ongoing mission at the backbone of their research, hence providing them with a link to a potential career option.