

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Space Education Outreach and Workforce Development for Emerging Communities (IPB)

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DEVELOPMENT OF A HIGH-REACH AND REAL-WORLD PRACTICAL EXERCISE TO INSPIRE
STUDENTS INTO THE STEM FIELD.

Abstract

In the area of STEM (Science, Technology, Engineering, and Mathematics) education, our focus lies in the development of immersive online learning experiences, with a specific emphasis on space science. Our goal is to increase the number of hands-on practical experiences available to students in the field of space science.

The focus of our research is to provide a real-life experience wherein users can operate a ground station to receive signals from satellites, download weather satellite imagery, and use these images for climate science. During our session, participants will gain exclusive access to our educational platform, allowing them to actively track satellites in real time and capture images utilizing our ground station network. Participation only requires access to the internet and a laptop to access our web-based application.

Our primary aim is the development of a concise yet comprehensive exercise adaptable across various age groups, with a particular focus on 14-18-year-old participants. Throughout the session, we will present findings from our focus groups with users who have engaged with our platform. Our ongoing research initially suggests that regardless of age or skill level, participants can invest no more than four hours in the activity. Interviews with professionals responsible for public outreach initiatives at Space Agencies worldwide highlight their demand for scalable educational experiences tailored to students within this age range.

The innovative aspect of our educational exercise lies in its scalability, designed to reach thousands of enthusiastic students and allow them to apply their skills to a real-world space-based exercise. By bridging the gap between theoretical knowledge and practical application, our exercise seeks to inspire the next generation of space enthusiasts.