

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Interactive Presentations - IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (IP)

Author: Mrs. Adi Saada Orzach
Ben-Gurion University of the Negev, Israel

Ms. Danielle Oryan
Ben-Gurion University of the Negev, Israel

Mrs. Lior Ron
Ben-Gurion University of the Negev, Israel

Mr. Gil Doron
Ben-Gurion University of the Negev, Israel

Dr. Shimrit Maman
Ben-Gurion University of the Negev, Israel

RISE UP TO THE SPACE CHALLENGE

Abstract

How can one cultivate the next space enthusiasts who are not only passionate about aerospace and science but also committed to fostering responsible space practices for a sustainable future? The Ramon SpaceStartups initiative is dedicated to achieving just that. This two-year program, targeting elementary school students (5th and 6th grades), is centered around space exploration and innovation. It provides students with the opportunity to develop their own space projects, leveraging the captivating realm of space and entrepreneurial skills to inspire them to unlock their full potential. In 2023, forty-three classes across Israel took part in the program, nearly 1500 students actively participating. With the aim of equipping students with 21st-century skills necessary for navigating a rapidly evolving world, our program engages them in STEAM challenges and short-term missions from the outset. These activities foster teamwork, creative and critical thinking, problem-solving in uncertain contexts, and the capacity to receive and act upon constructive feedback. Employing Project-Based Learning (PBL) and Social and Emotional Learning (SEL), our program actively promotes student-driven learning experiences. During their first year, students embark on a space and environment mission, delving into research on the climate crisis and exploring Israeli startup ventures in the space and environmental sectors. Moreover, they are entrusted with launching environmental initiatives within their schools or local communities, mimicking the dynamics of a startup environment. The program reaches its peak in the second year with the 'Ramon mission' during the finals. Here, students are tasked with conceiving a space-centric project, which they present to a panel of space professionals from academic and industrial realms (referred to as judges). This process entails identifying challenges within the realm of space, collaborating in teams to devise solutions, seeking guidance from specialists, and showcasing their proposals during the semi-finals. The solution deemed most promising by the judges advances to the finals, representing the class. Victorious classes earn the opportunity to partake in a space entrepreneurship workshop organized by the Ramon Foundation and the Israel Aerospace Industries (IAI). As technology continues to rapidly evolve, the uncertainty of future professions will require individuals to possess a unique set of skills and knowledge to succeed in the emerging industries. By integrating sustainability principles, 21st-century skills, and meaningful interactions with the space industry, the program not only fosters self-belief and resilience among students but also instills awareness of the vast opportunities in the evolving field of space startups.