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

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INCREASING ACCESSIBILITY AND OPPORTUNITY FOR SPACE RESEARCH

Abstract

The space sector has gained increased interest all over the world. However, there are far less opportunities in emerging countries than there are interested applicants. In fact, the majority of exciting technical research opportunities found in the west are often constrained by rules regarding government-funded spaceflight programs and projects that prohibit hiring of foreign nationals. This in turn gravely limits experience in the space exploration sector and the career choices for excellent qualified international candidates. After surveying hundreds of students and young professionals at IAC 2021 and 2022, it became clear that the demand for space research opportunities remains a big issue for most. Deep Space Initiative (DSI), a non-profit company pending 501(c)(3) tax exempt status in Colorado USA, was formed to address this inequity. The goal of DSI is to increase accessibility in the space field by providing opportunities in Research and Education. The main focus of DSI is to expose members to real spaceflight challenges and promote/teach skills in critical thinking, problem definition, and solution development in a multi-disciplinary collaborative environment. Currently, three main fields are considered: Astronaut Health and Performance, Space Transportation Systems, and Space Architecture. During the Milky Way 3-month research program, teams are given the opportunity to build a strong foundational understanding of the topic in order to define research questions. Next, small sub-teams work on solving a specific research challenge within that topic for a duration of 12 months under the Andromeda research program. Research members are offered courses and workshops throughout the year by DSI's Education Department. Each team is assigned a supervisor to help with research and technical writing, and an advisor who is a subject matter expert. It is a goal of DSI to provide funding for hands-on experimental work through grants, fundraising, and donations, to enable teams to conduct experiments in institutional labs or ground analog stations with partner organizations around the world. To assess the quality of work and impact of these programs on members, manuscripts will be submitted to peer-reviewed journals on a regular basis to share knowledge and/or discoveries. Additionally, internal surveys will ensure there is continuous improvement and proper tracking of the management, operations, and progress of teams. Finally, DSI is expected to increase diversity and representation of minorities within the industry by providing more opportunities with less constraints as well as making space research more accessible to scientists all over the world.