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

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# INCREASING ACCESS AND OPPORTUNITIES FOR SPACE RESEARCH WITH DSI RESEARCH PROGRAMS

**Abstract**

People from around the world have been gaining interest in the space sector. However, there are only a fraction of opportunities in emerging countries for interested applicants willing to be part of the skilled workforce suitable for the space industry. The majority of exciting technical research opportunities found in the Western part of the world are often constrained by rules regarding government-funded spaceflight programs and projects that prohibit the hiring of talented 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, 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 for Research and Education. The main focus of DSI is to expose aspiring researchers from diverse backgrounds to real technical challenges and promote/teach skills in critical thinking, problem definition, and solution development in a multi-disciplinary collaborative environment. DSI offers two research programs: Milky Way  Andromeda. During the 3-month Milky Way research program, teams are given an opportunity to build a strong foundational understanding of the topic to define research questions by intensive literature review and identifying research gaps. Next, small sub-teams work on solving a specific research challenge within that topic for 6-12 months under the Andromeda research program. Research members are also offered courses and workshops throughout the year by DSI's Education Department. Each team is assigned an experienced supervisor to help with research methodologies and technical writing, and an advisor who is a subject matter expert to guide the teams. It is a goal of DSI to provide funding for hands-on experimental work through grants, fundraising, and donations. To assess the quality of work and impact of these programs on members, manuscripts will be submitted to peer-reviewed journals regularly 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. This paper aims to present the impact of these programs in the last two years and a roadmap to the future of the programs.