

Exploration Science Outreach and Opportunities for Students and Persons with Disabilities

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1. NASA Solar System Exploration Research Virtual Institute

Introduction

The NASA Solar System Exploration Research Virtual Institute (SSERVI) is a virtual institute focused on exploration science related to near-term human exploration targets, training the next generation of planetary scientists, and education and public outreach. As part of the SSERVI mission, we act as a hub for opportunities that engage the public through education and outreach efforts in addition to forming new interdisciplinary, scientific collaborations. In addition, we have opportunities for young researchers to participate in a variety of special programs designed to introduce them into the research field and expose them to the larger planetary community.

Outreach Activities

SSERVI actively visits classrooms to educate and inspire children to participate in STEM careers. On such program is Hawaii's annual Journey through the Universe program is a flagship Gemini public education and outreach event that engages the public, teachers, astronomers, engineers, thousands of local students and staff from all of the Mauna Kea Observatories. The program is also sponsored by SSERVI and Subaru to inspire, educate, and engage teachers, students, and their families as well as the community. Over 70 astronomy educators from observatories on Mauna Kea and across the world visit over 6,500 students in 310 classrooms at 18+ schools.

Increasing Access to Space Science

SSERVI also actively seeks the participation of persons with disabilities as STEM professionals is highly underrepresented. Very few classrooms, or schools, have adequate resources (i.e., tactile models and graphics) to accommodate students with disabilities. By increasing availability of accessible STEM related resources, particularly for those students who are Blind/Visually Impaired, and by improving the quality of teaching of these disciplines, it is likely that more students with disabilities will consider pursuing STEM careers in the future. Through two of our SSERVI teams, SEED and CLASS, we are supported this by producing three tactile guides over the last decade: A tactile guide to the Solar System, Getting a Feel for Lunar Craters and Mars Science Laboratory. Now, in coordination with SSERVI Central and NASA Headquarters, four new tactile guides are in development: Getting a Feel for Eclipses, Touch the Spectrum, Understanding Small Bodies in the Solar System and Ocean Worlds. Each of these includes an oral guide to help the user/viewer through background information and STEM content illustrated in the tactile graphics. Access to the digital text is provided via a QR code and link to SSERVI's web site: <http://sservi.nasa.gov/books/>. Kinesthetic and hands-on activities associated with each tactile help to further explain the content shared in the tactiles.

Opportunities for Young Researchers

One of SSERVI's many goals is to facilitate networking and scientific connections made between young researchers and established planetary principle investigators. To this end, SSERVI has supported the establishment of NextGen Lunar Scientists and Engineers group (NGLSE), a group of students and early-career professionals designed to build experience and provide networking opportunities to its members. SSERVI has also created the LunarGradCon, a scientific conference dedicated solely to

graduate and undergraduate students working in the lunar field. Additionally, SSERVI produces monthly seminars and bi-yearly virtual workshops that introduce students to the wide variety of exploration science being performed in today's research labs. SSERVI also brokers opportunities for domestic and international student exchange between collaborating laboratories as well as internships at our member institutions. SSERVI provides a bridge that is essential to the continued international success of scientific, as well as human and robotic, exploration.

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