Exploration Science Opportunities for Students within Higher Education B.E.Bailey, G.K.Schmidt, B.Day, J.A.Minafra

Abstract 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 lunar 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.

Introduction: SSERVI was founded in 2013 to act as a virtual institute that provides interdisciplinary research centered on the goals of its supporting directorates: NASA Science Mission Directorate (SMD) and the Human Exploration & Operations Mission Directorate (HEOMD). SSERVI consists of a diverse set of domestic teams and (currently) nine international teams, ultimately represented by greater than 75 distinct research institutions and more than 350 individual lunar researchers and EPO specialists. Primary research goals of the Institute revolve around the integration of science and exploration to gain knowledge required for the future of human exploration beyond low Earth orbit.

As the Institute’s scientific goals are diverse, so are our opportunities for young researchers to participate in a variety of special programs designed to introduce them into the lunar research field and expose them to the larger planetary community.

Opportunities for Young Researchers: The decline in funding opportunities after the termination of the Apollo missions to the Moon in the early 1970’s produced a large gap in both the scientific knowledge and experience of the original lunar Apollo researchers and the resurgent group of young lunar/NEA researchers that have emerged within the last 15 years. One of SSERVI’s many goals is to bridge this gap through the many 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.

Summary: SSERVI provides opportunities for students to bridge the scientific and generational gap currently existing in the planetary exploration field. This bridge is essential to the continued international success of scientific, as well as human and robotic, exploration.