



SOLAR SYSTEM EXPLORATION RESEARCH
VIRTUAL INSTITUTE

SSSERVI.NASA.GOV

SSSERVI U.S. TEAMS

SSSERVI Team research covers the spectrum of fundamental and applied science to human space exploration. Teams were selected from peer-reviewed proposals and are supported for five years through Cooperative Agreements.



Center for Lunar and Asteroid Surface Science (CLASS)
Prof. Daniel Britt, University of Central Florida, Orlando, FL



Network for Exploration and Space Science (NESS)
Prof. Jack Burns, University of Colorado, Boulder, CO



Interdisciplinary Consortium for Evaluating Volatile Origins (ICE FIVE-0)
Dr. Jeffrey Gillis Davis, University of Hawai'i at Manoa, Honolulu, HI



Remote, In Situ, and Synchrotron Studies for Science and Exploration 2 (RISE2)
Prof. Timothy Glotch, Stony Brook University, Stony Brook, NY



Resource Exploration and Science of OUR Cosmic Environment (RESOURCE)
Dr. Jennifer L. Heldmann, NASA Ames Research Center, Moffett Field, CA



Toolbox for Research and Exploration (TREX)
Dr. Amanda Hendrix, Planetary Science Institute, Tucson, AZ



Institute for Modeling Plasma, Atmospheres and Cosmic Dust (IMPACT)
Prof. Mihaly Horanyi, University of Colorado, Boulder, CO



Lunar Environment And Dynamics for Exploration Research (LEADER)
Dr. Rosemary Killen, NASA Goddard Space Flight Center, Greenbelt, MD



Transformative Lunar Science and Exploration
Dr. David A. Kring, Lunar and Planetary Institute, Houston, TX



Radiation Effects on Volatiles and Exploration of Asteroids & Lunar Surfaces (REVEALS)
Prof. Thomas Orlando, Georgia Tech, Atlanta, GA



Exploration Science Pathfinder Research for Enhancing Solar System Observations (ESPRESSO)
Dr. Alex Parker, Southwest Research Institute, Boulder, CO



Geophysical Exploration Of the Dynamics and Evolution of the Solar System (GEODES)
Dr. Nicholas Schmerr, University of Maryland, College Park, MD

SSSERVI

SSSERVI was founded by NASA to advance the science of human space exploration. The institute is comprised of competitively selected teams across the U.S., international partners, and a central office at NASA Ames Research Center in Silicon Valley. As a virtual institute, SSSSERVI functions as a distributed organization with both U.S. and international teams working together to tackle the challenges of exploring the Moon and our solar system. SSSSERVI bridges the human exploration, planetary science and astrophysics communities, integrating science and technology developments to chart a clearer path for future space exploration.

SCIENCE

SSSERVI teams conduct innovative research programs addressing basic and applied scientific questions fundamental to understanding the nature of the solar system, the Moon, near-Earth asteroids, Phobos and Deimos, and the near-space environments of these target bodies.

MISSION

- Advance basic and applied research fundamental to lunar and planetary science, and advance human exploration of the solar system through scientific discovery
- Conduct and catalyze collaborative research in lunar and planetary science, enabling cross-disciplinary partnerships throughout the science and exploration communities
- Provide scientific, technical and mission-defining analyses for relevant NASA programs, planning and space missions as requested by NASA
- Explore innovative ways of using information technology for scientific collaboration and information dissemination across geographic boundaries
- Train and inspire the next generation of scientific explorers through research opportunities, and encourage global public engagement through informal programs, and participatory public events

Collaborative opportunities are available to the planetary science and exploration communities, through activities with SSSSERVI teams, participation in focus groups and other conferences and events, leveraging shared facilities, or by attending SSSSERVI's Exploration Science Forum virtually or in-person.



INTERNATIONAL PARTNERSHIPS

SSSERVI's International Partnerships Program provides opportunities for researchers worldwide to collaborate with SSERVI Teams on a no-exchange-of-funds basis. The current network of 11 International teams leverage government, academia, and industry to advance science and engineering technologies.

	AUSTRALIA	Prof. Phil Bland Curtin University
	CANADA	Dr. Gordon Osinski University of Western Ontario
	FRANCE	Dr. Patrick Pinet Astrophysics & Planetology Research Institute
	GERMANY	Prof. Ralf Jaumann German Aerospace Center
	ISRAEL	Prof. Shlomi Arnon Ben-Gurion University at the Negev
	ITALY	Dr. Simone Pirrotta Italian Space Agency
	JAPAN	Dr. Hitoshi Kuninaka Institute of Space and Astronautical Science, JAXA
	NETHERLANDS	Dr. Wim van Westrenen VU University Amsterdam
	SAUDI ARABIA	Dr. Abdulaziz O. Alothman King Abdulaziz City for Science & Technology
	SOUTH KOREA	Dr. Gwanghyeok Ju Korea Aerospace Research Institute
	UNITED KINGDOM	Dr. Mahesh Anand Open University

Our international partners have been a core part of the institute from its inception, and SSERVI is focused on growing our international partnerships. Proposals that demonstrate collaborative intentions and clear goals aligned with the U.S. teams can be accepted for Affiliate or Associate partnerships, which allow full participation in SSERVI programs. sservi.nasa.gov/international-partnership-guidelines/

SOLAR SYSTEM TREKS PROJECT (SSTP)

The SSERVI-managed SSTP is a free, web-based application that provides high-resolution visualizations of planetary bodies using downlinked spacecraft data. It provides mission planning data analyses to domestic and international lunar missions. SSTP includes visualizations for the Moon, Mars, Vesta, Ceres, Titan, Mercury, and Icy Moons, with other portals in development.

Tycho Central Peak



Explore all of NASA's Solar System Treks data visualization and analysis portals at:

TREK.NASA.GOV



TRAIN AND INSPIRE

SSSERVI emphasizes training the next generation through funded research, the NASA Postdoctoral Program and Next Generation researcher organizations and meetings. SSERVI also provides student travel support to key events.

SSSERVI has an extensive citizen science and public engagement program to inspire the next generation including creating books for the blind, touchable Moon rock displays, as well as assisting student robotics competitions and meteorite sample certification workshops. In addition, SSERVI supports our Australian partner's "Fireballs in the Sky" citizen science program and the International Observe the Moon Night with over 500 events in 52 countries.



FACILITIES

Shared Tools and Facilities Open to the Community
SSSERVI has developed and supports a wide array of cutting-edge facilities available not only to SSERVI researchers, but also to the broader community. These include a world-class dust accelerator, ultra-high vacuum gas and ice target chambers, regolith testbeds with a variety of planetary simulants, a reflectance experiment laboratory, vibrational spectroscopy and physical properties labs, a radiation facility, a microgravity drop tower, and more. Contact SSERVI to discuss facility scheduling and any associated costs.

SSSERVI's regolith testbed facility



COLLABORATIVE RESEARCH AND DATA SHARING

Information Technology and the delivery of digital content is a significant component to the Virtual Institute model. The SSERVI Central Office manages a wide array of communication and collaboration tools to assist SSERVI teams as well as the broader community. SSERVI uses virtual collaborative technologies to share scientific results through meetings in virtual space. We've made great strides in producing virtual seminars and workshops for relevant groups looking for video conferencing solutions, real-time meeting and communication platforms, websites, web applications, or shared databases.

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- facebook.com/moonandbeyond
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Visit us online to meet the rest of our Central Office Staff and Team Members
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