


## INTERNATIONAL PARTNERSHIPS

SSERVI has an international partnership program that provides collaborative opportunities for the global science community. Proposals that demonstrate collaborative intentions and clear goals aligned with the U.S. teams can be accepted for Affiliate or Associate partnerships, allowing participation in SSERVI programs on a no-exchange-of-funds basis. Contact the Central Office for additional information.


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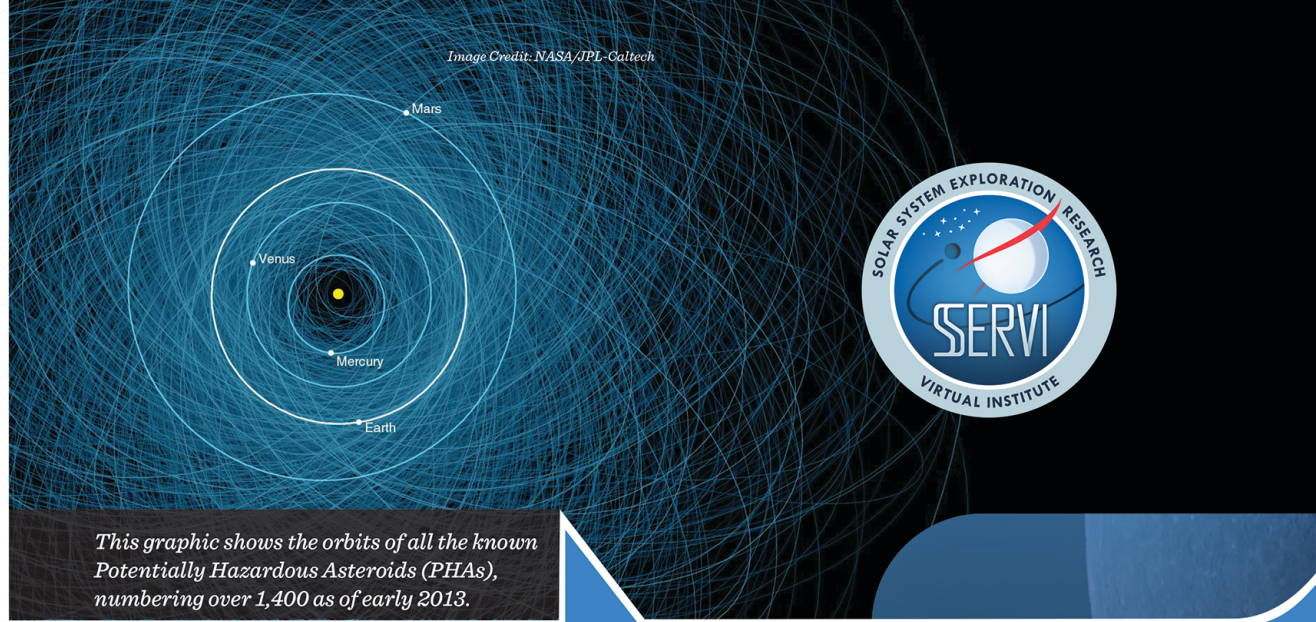
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Image Credit: NASA/JPL-Caltech



*This graphic shows the orbits of all the known Potentially Hazardous Asteroids (PHAs), numbering over 1,400 as of early 2013.*

*These documented tumbling boulders of rock and ice are over 140 meters across and will pass within 7.5 million kilometers of Earth—about 20 times the distance to the Moon. Although none of them will strike the Earth in the next 100 years—not all PHAs have been discovered. Many orbits become hard to predict beyond 100 years. By continuing to observe and track these asteroids, their orbits can be refined and more precise predictions made of their future close approaches and impact probabilities.*

**SOLAR SYSTEM EXPLORATION RESEARCH**  
VIRTUAL INSTITUTE

National Aeronautics and  
Space Administration



# SOLAR SYSTEM EXPLORATION RESEARCH VIRTUAL INSTITUTE

## TEAMS



**Evolution and Environment of Exploration Destinations: Science and Engineering Synergism (SEED)**  
Prof. Carlé Pieters  
Brown University, Providence, RI



**Center for Lunar Science and Exploration (CLSE)**  
Dr. David A. Kring  
Lunar and Planetary Institute, Houston, TX



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



**Field Investigations to Enable Solar System Science and Exploration (FINESSE)**  
Dr. Jennifer L. Heldmann  
NASA Ames Research Center, Moffett Field, CA



**Remote, In Situ and Synchrotron Studies for Science and Exploration (RIS<sup>2</sup>E)**  
Prof. Timothy Glotch  
Stony Brook University, Stony Brook, NY



**Dynamic Response of Environments at Asteroids, the Moon, and moons of Mars (DREAM2)**  
Dr. William Farrell  
NASA Goddard Space Flight Center, Greenbelt, MD



**Volatiles, Regolith and Thermal Investigations Consortium for Exploration and Science (VORTICES)**  
Dr. Ben Bussey  
Johns Hopkins Univ. Applied Physics Laboratory, Laurel, MD



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



**Institute for the Science of Exploration Targets: Origin, Evolution and Discovery (ISET)**  
Dr. William Bottke  
Southwest Research Institute, Boulder, CO

## SCIENCE

SSERVI teams conduct innovative, broadly based 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, to enable human exploration of these destinations.

*"The true spirit of this endeavor is that exploration enables science, and science enables exploration."  
In memory of Dr. Michael Wargo (1951-2013), Former NASA Chief Exploration Scientist.*

## 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 the next generation of scientific explorers through research opportunities, and encourage global public engagement through informal programs, and participatory public events

## GOALS

The Solar System Exploration Research Virtual Institute is a virtual institute comprised of competitively selected teams across the U.S., a growing number of international partnerships around the world, and a small central office located at NASA Ames Research Center, Moffett Field, California. SSERVI is jointly funded through the NASA Science Mission Directorate and the NASA Human Exploration and Operations Mission Directorate with the goal of bridging science and exploration.

As a predecessor to SSERVI, the NASA Lunar Science Institute developed a wide, diverse program for scientific engagement that will continue to grow under the SSERVI banner.



## COLLABORATION

SSERVI uses collaborative technologies to share scientific results through meetings in virtual space. To engage the exploration and science community, SSERVI Central sponsors focus groups and hosts the annual Science Forum. Reaching out, SSERVI partners engage their local communities through frequent public events, such as the International Observe the Moon Night with over 500 events in 52 countries.

