

Opportunity Title: Geological fluid processes on other worlds

Opportunity Reference Code: 0078-NPP-NOV23-JPL-PlanetSci

Organization

National Aeronautics and Space Administration (NASA)

Reference Code

0078-NPP-NOV23-JPL-PlanetSci

Application Deadline

11/1/2023 6:00:59 PM Eastern Time Zone

Description

This program focuses on the analysis of fluid transport processes on the surface and near-surface of extraterrestrial worlds, using a combination of remote sensing techniques, terrestrial analog studies, geological interpretation, laboratory measurements and physical modeling. Topographic and structural remote sensing, using multiple techniques, yields 3-dimensional data critical to the study of nearly all geological processes, giving insight into the nature and evolution of planets and minor bodies. The research focuses on geological fluids in particular, and interactions with geology and environment on other worlds. Volcanic processes facilitate the removal of heat via mass transport from planetary interiors, and therefore the study of volcanic landforms and eruptions yield an insight into the state of the interior at the time of activity. Hydrologic processes buffer atmospheres against loss, forming an important part of environmental cycles, and therefore the study of hydrologic features yield an insight into the state of the surface and atmospheric environment at the time of activity.

Current opportunities exist to develop topographic and structural remote sensing techniques applied Cassini and Magellan SAR data; to investigate Titan hydrology and its interactions with geology and environment; to study the nature and origin of cryovolcanic and similar plumes, including Enceladus; and for the robotic exploration of solar system caves and volcanic vents.

Location:

Jet Propulsion Laboratory
Pasadena, California

Field of Science: Planetary Science

Advisors:

Karl Mitchell
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818-393-5519

Applications with citizens from Designated Countries will not be accepted at this time, unless they are Legal Permanent Residents of the United States. A complete list of Designated Countries can be found at: <https://www.nasa.gov/oiiir/export-control>.

Eligibility is currently open to:

- U.S. Citizens;
- U.S. Lawful Permanent Residents (LPR);
- Foreign Nationals eligible for an Exchange Visitor J-1 visa status; and,
- Applicants for LPR, asylees, or refugees in the U.S. at the time of application with 1) a valid EAD card and 2) I-485 or I-589 forms in pending status

Eligibility Requirements

- **Degree:** Doctoral Degree.

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NPP

NASA Postdoctoral Program

 ORAU Pathfinder



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