

Opportunity Title: Planetary Analog Samples Study for Instrument Development
by Laser Mass Spectrometry

Opportunity Reference Code: 0253-NPP-NOV23-GSFC-PlanetSci

Organization National Aeronautics and Space Administration (NASA)

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How to Apply All applications must be submitted in [Zintellect](#)

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

Description Description:

Proposals are invited to focus on planetary analog samples analysis by using various laser mass spectrometry methods, in support of instrument development in Planetary Environments Laboratory for current or future space missions to Mars, Ocean Worlds, and other airless bodies. Studies should take advantage of existing mass spectrometry and related laboratory facilities (e.g., commercial and prototype ion trap and TOF mass spectrometers, facility GC-MS and LC-MS, cryo-sample testing stage, and fs-laser system) for the instrument protocol development and sample analysis. The targeted analog samples could be from a wide range (various minerals, complex organic biosignatures, organics spiked minerals, natural collected terrestrial analogs, and beyond), and the research goal should match the science objectives of NASA's current and future missions, such as method development analyzing planetary surface samples.

Field of Science: Planetary Science

Advisors:

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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

Qualifications Preferred Qualifications for the Ideal Applicant

The ideal candidate is required hold a Ph.D. in science, with a strong background in analytical or physical chemistry, by the start date of the postdoctoral research appointment. Additional requirements for the position include experience in instrument development and operation, pulsed lasers, high vacuum systems, mass spectrometry, laboratory instrument controls



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and programming, hands-on chemical handling and sample preparation,
and basic knowledge of geochemistry and terrestrial analog environments.

Eligibility Requirements • **Degree:** Doctoral Degree.