Opportunity Title: VOLATILES: FROM GIANT IMPACTS TO ICY SHADOWS
Opportunity Reference Code: 0021-NPP-MAR26-JSC-PlanetSci

Organization National Aeronautics and Space Administration (NASA)

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How to Apply All applications must be submitted in Zintellect

Please visit the NASA Postdoctoral Program website for application instructions and requirements: How to Apply | NASA Postdoctoral Program (orau.org)

A complete application to the NASA Postdoctoral Program includes:

1. Research proposal
2. Three letters of recommendation
3. Official doctoral transcript documents

Application Deadline 4/2/2026 6:00:59 PM Eastern Time Zone

Description **About the NASA Postdoctoral Program**

The NASA Postdoctoral Program (NPP) offers unique research opportunities to highly-talented scientists to engage in ongoing NASA research projects at a NASA Center, NASA Headquarters, or at a NASA-affiliated research institute. These one- to three-year fellowships are competitive and are designed to advance NASA's missions in space science, Earth science, aeronautics, space operations, exploration systems, and astrobiology.

Description:

Understanding the processes responsible for the formation and evolution different planetary bodies requires a variety of tools as well as an ability to think outside the box.

Our team (consisting of planetary scientists, chemists, and engineers) is currently focused on the record of highly volatile elements (e.g. H, C, N, S, Cl) in planetary materials and their synthetic analogs, especially:

- the formation and evolution of rocky bodies such as the Moon and Mars;

- projects where the worlds of "research" and "curation" overlap.

We are soliciting projects involving analysis of astromaterials (e.g. Apollo samples, meteorites) and synthetic analog samples (e.g. experimentally generated rocks, regolith, ices), via:

- Secondary ion mass spectrometry (SIMS) of C, H, Cl and their isotopes;

- Cavity Ring Down Spectroscopy (CRDS) isotopic analysis of volatile gas species;

- Accelerator mass spectrometry (AMS) of Cl stable isotope ratios;

- Fourier Transform Infrared (FTIR) spectroscopy of volatile gases and solids;

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- Gas-Chromatography Mass Spectrometry (GC-MS) and Quadrupole Mass Spectrometry (QMS) of volatile gas species.

Candidates are also sought for projects related to:

- Thermochemical modeling and experimental exploration of ice/rock interactions relevant to Artemis sample return from the Moon;

- The development of robotic sample-handling at ambient and cryogenic temperatures for Artemis sample return curation activities.

Applications welcomed from all candidates with doctoral degrees in geoscience, chemistry, planetary science, or related fields, who are interested in pursuing cutting┐edge planetary science problems in a supportive, inclusive atmosphere. You are encouraged to reach out to the PI to discuss proposal opportunities on the aforementioned projects, or related topics that might fit within our scope of work and expertise.

Field of Science: Planetary Science

Advisors:

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Questions about this opportunity? Please email npp@orau.org

Point of Contact Mikeala

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.