

Opportunity Title: Origin and evolution of lunar volatiles

Opportunity Reference Code: 0300-NPP-NOV26-GSFC-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 11/1/2026 6:00:59 PM Eastern Time Zone

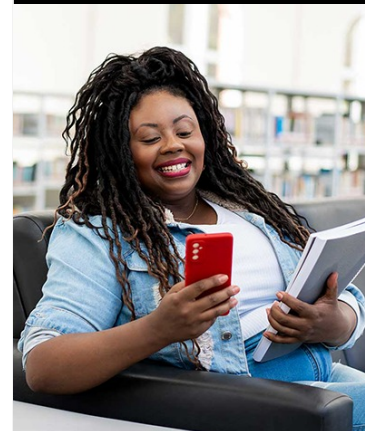
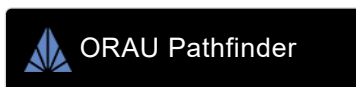
Description About the [NASA Postdoctoral Program](#)

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:

Studies of astromaterials, including meteorites and samples returned by missions, enable deeper understanding of the origin and evolution of the solar system. The physical and chemical makeup of these samples record properties and processes including the presolar environment, nebular reservoirs from which planetary bodies formed, accretion, impact events, differentiation, volcanism, and space weathering. All of these factors played a role in establishing the volatile composition of the Moon. Understanding the origin and evolution of these volatiles is fundamental to understanding the history of life on Earth and is critical for in situ resource utilization as humanity seeks to build a sustained presence beyond low Earth orbit. Volatiles are also central to the lunar and planetary science goals of NASA's Moon to Mars program.

Research projects to better understand lunar volatiles and their solar system origins can include mineralogic and petrologic studies, geochemistry (one or more of elements, isotopes, organics), experimental analogs, or modeling. Techniques may include but are not limited to electron microscopy, X-ray computed tomography, infrared spectroscopy, and mass spectrometry. Projects may also be conducted that align with the goals of sample return missions, such as Artemis, Mars Sample Return, or



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future comet/asteroid/moon sample return concepts; such projects would primarily focus on fundamental science questions and may or may not lead to direct connection to any given mission.

The interdisciplinary nature of this work provides opportunity for candidates with diverse scientific backgrounds. Similarly, developing a better understanding of the Moon's endogenous vs exogenous volatiles will require many threads of research, so candidates may address or have experience in broader questions of formation, accretion and transport of primitive materials such as asteroids and comets, or of volatiles in early lunar/planetary igneous processes.

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/oiir/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

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

Qualifications Broad experience working with meteorites, mission samples, or close analogs (terrestrial samples, experimental petrology). Independent user of at least one type of laboratory instrument, such as an electron microscope or mass spectrometer, is preferred. For candidates focused on modeling, hands-on lab experience is not required, but the candidate should be fully proficient in at least one programming language.

Point of Contact [Mikeala](#)

Eligibility • **Degree:** Doctoral Degree.

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Requirements