Opportunity Title: The Origin of Modified Optical Properties of Natural and Experimental Space-Weathered Materials
Opportunity Reference Code: 0005-NPP-MAR26-JSC-Interdisc

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0005-NPP-MAR26-JSC-Interdisc

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 3/1/2026 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:

Space weathering is a term used to include all of the processes that act on material exposed at the surface of a planetary or small body. In the case of the Moon, it includes a variety of processes that have formed the lunar regolith, caused the maturation of lunar soils, and formed patina on rock surfaces. The processes include micrometeorite impact and reworking, implantation of solar wind and flare particles, radiation damage and chemical effects from solar particles and cosmic rays, interactions with the lunar atmosphere, and sputtering erosion and deposition. Understanding these effects is critical in order to fully integrate the lunar sample collection with remotely sensed data from recent robotic missions (e.g., Lunar Prospector, Clementine, Galileo). A major objective of this research is to analyze lunar breccias for evidence of preserved space weathering effects in component grains and clasts. The main research techniques include optical and electron microscope analysis for chemical compositions, mineralogy, and petrography. In addition to the lunar breccia studies, parallel research will be undertaken on gas-rich meteorite breccias, interplanetary dust particles, and experimental analogues using the same suite of analytical techniques in order to understand space-weathering effects on chondritic materials.

Location:

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Johnson Space Center
Houston, Texas

Field of Science: Interdisciplinary/Other

Advisors:
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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

Point of Contact Mikeala

Eligibility Requirements

- **Degree:** Doctoral Degree.