Opportunity Title: Planetary Science: Martian Geochemistry with Curiosity's SAM Instrument Suite
Opportunity Reference Code: 0318-NPP-JUL25-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 7/1/2025 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 U.S. and non-U.S. 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:

The Sample Analysis at Mars (SAM) instrument suite is a miniaturized geochemical laboratory on the Mars Science Laboratory (MSL) Curiosity rover, which is currently exploring Mars' Gale crater. SAM includes a quadrupole mass spectrometer, a tunable laser spectrometer, and a gas chromatograph that analyze volatile compounds released through thermal decomposition of martian surface materials. SAM measurements allow assessment of volatile abundances and composition (chemical and/or isotopic) and inform interpretations of host rock mineralogy and history.

Research projects will utilize mass spectrometric data to better understand Gale crater geochemistry, particularly the deposition of salts and implications for aqueous alteration processes through time. Projects may use data acquired by the SAM mass spectrometer on Mars and/or by laboratory instruments processing terrestrial analog materials. Other laboratory analytical techniques that may be used include X-ray diffraction and electron microscopy. Prior experience with martian in situ data analysis is highly desirable.

Field of Science: Planetary Science

Advisors:

Heather Franz

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

Qualifications Doctoral degree in Planetary Science or related field.

Point of Contact Mikeala

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree.