

Opportunity Title: Isotopic and Chemical Studies of Meteorites and Rocks to Probe the Origin and Early History of the Solar System and Formation of the Rocky Planets

Opportunity Reference Code: 0006-NPP-NOV23-JSC-PlanetSci

Organization: National Aeronautics and Space Administration (NASA)

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

Description: In my research group we develop and employ state-of-the-art analytical methods to address research in isotope cosmochemistry and geochemistry. Our research links sample studies to astrophysics, the evolution of the early solar system, and terrestrial planet formation. Our team measures a wide variety of elements and their isotopes to understand the origin of our Solar System, the processes that transformed nebular dust and gas into the building blocks of planets, and planet formation (accretion & differentiation).

Investigations include the measurement of: (1) Short- and long-lived radionuclides for chronology studies, (2) Fractionation of stable isotopes to study the formation mechanisms of these planetary materials, and (3) Isotopic analyses that utilize extinct radioactivity and traditional ways that radiogenic isotopic compositions can be used to study interaction among different reservoirs within the protoplanetary disk and terrestrial planets. We strive to integrate all of these isotopic measurements into a petrological context.

We perform both micro-analytical in situ approaches (LA-MC-ICPMS and ion microprobe) and bulk sample methods (e.g., chemical separation solution analyses by TIMS & MC-ICPMS) to achieve high spatial resolution and higher precision measurements, respectively.

This research is carried out in the mass spectrometry laboratories in the Center for Isotope Cosmochemistry and Geochronology at NASA Johnson Space Center and often in collaboration with other NPP principal investigators residing in the Astromaterials Research and Exploration Science (ARES) Division.

Location:

Johnson Space Center
Houston, Texas

Field of Science: Planetary Science

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,



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- Applicants for EAD, 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

Eligibility Requirements

- **Degree:** Doctoral Degree.