

**Opportunity Title:** Prebiotic Chemical Evolution in the Solar System

**Opportunity Reference Code:** 0010-NPP-NOV23-JSC-Astrobio

**Organization** National Aeronautics and Space Administration (NASA)

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

**Description** The analysis of organic molecules found in meteorites and other astromaterials has provided invaluable authentic samples with which we can study prebiotic chemistry. The discovery of biologically important classes of organic molecules including amino acids, nucleobases, and sugar acids provides concrete evidence of the types and diversity of molecules that were likely around during the origins of life on Earth. Our goal is to understand how these prebiotic molecules could have evolved under conditions relevant to early Earth (or other terrestrial bodies) and the role they could have played in the origins of life. This is accomplished through the study of meteorite organics and laboratory experiments simulating relevant chemical and physical processes. Research is carried out in the Soluble Organics in Astromaterials Laboratory (SOAL) within the Astromaterials Research and Exploration Science (ARES) directorate at the NASA Johnson Space Center. The SOAL contains a variety of gas and liquid-chromatography instrumentation with mass spectrometry, FID, fluorescence and absorbance detection. Also within ARES are a number of instruments for geochemical analysis that are also available for use.

**Location:**

Johnson Space Center  
Houston, Texas

**Field of Science:** Astrobiology

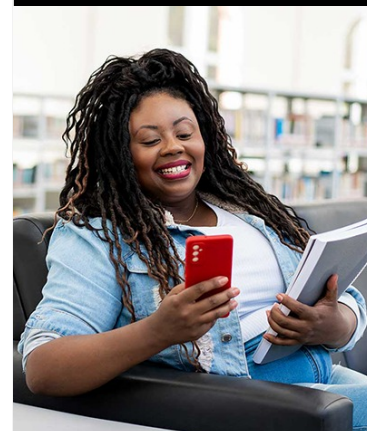
**Advisors:**

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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

**Eligibility Requirements** • **Degree:** Doctoral Degree.



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