

**Opportunity Title:** Space Science: Origin and Evolution of Stars and Planetary Systems

**Opportunity Reference Code:** 0015-NPP-NOV23-ARC-PlanetSci

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

**Reference Code:** 0015-NPP-NOV23-ARC-PlanetSci

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

**Description:** Theoretical studies are being pursued on the formation and evolution of stars and planetary systems in conjunction with observationally oriented investigations of young stellar objects. Research is being conducted on the following topics: (1) disk formation, chemistry and evolution, (2) the initial formation of primitive bodies (asteroids and comets) (3) the dynamics of the growth of terrestrial planets, both around single stars and within binary star systems, (4) accretion of solids and gas by giant planets, (5) the spectral signatures of young extrasolar planets, (6) interpretation of meteoritic data, and (7) the interaction of young stellar objects with their environments. The stage of nebula evolution prior to planet formation in which the first planetesimals (analogous to comets and primitive asteroids) formed is under intensive study using advanced two-phase (particle-gas) fluid dynamics codes running on Ames massively parallel computers. In all areas, close attention is paid to meteoritic evidence and a variety of outside collaborations are under way. We are studying the possible effects on primitive solar system material of episodic stellar accretion or outbursts using observationally constrained models.

**Location:**

Ames Research Center  
Moffet Field, California

**Field of Science:** Planetary Science

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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/oijr/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

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