

Opportunity Title: Space Science: Planetary System Dynamics

Opportunity Reference Code: 0018-NPP-NOV23-ARC-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 The Sun, the planets, and the smaller bodies within our solar system influence each other's motion. In most cases, this motion is well-approximated by Newtonian gravitation. However, a force even as simple as Newtonian gravity can lead to complicated, chaotic trajectories when three or more bodies interact. Dynamical interactions among bodies in the solar system determine the orbits of planets, the locations where small bodies can survive for long periods, impact rates, tidal heating, and various other aspects of our planetary system. Our research program studies dynamical processes in planetary systems, especially chaos and the long-term stability of orbital configurations. We integrate systems based on our planetary system, the satellite systems of the giant planets, extrasolar planetary systems, and hypothetical configurations intended to model the late stages of planetary growth. Rapid advances in computer speed and numerical algorithms are making more realistic simulations possible. Our goal is to understand our own solar system and to predict the types of planetary and satellite systems which may stably orbit other stars.

Location:

Ames Research Center
Moffet Field, California

Field of Science: Planetary Science

Advisors:

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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/oiir/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.



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