

Opportunity Title: Planetary Geodesy and Geophysics

Opportunity Reference Code: 0249-NPP-NOV23-GSFC-PlanetSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0249-NPP-NOV23-GSFC-PlanetSci

How to Apply All applications must be submitted in [Zintellect](#)

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

Description Description:

This opportunity is to conduct research in planetary geodesy and geophysics using spacecraft data, in particular imagery, altimetry, and radiometric tracking data. Data from a number of missions were previously analyzed at NASA GSFC and can be further investigated for specific geophysical questions, with updated and improved modeling. These include: MESSENGER; GRAIL, Lunar Reconnaissance Orbiter; Mars Global Surveyor, Mars Odyssey, Mars Reconnaissance Orbiter; OSIRIS-REx. Geodetic data involving ground stations on other bodies, such as retro-reflectors (Lunar Laser Ranging), landers, and rovers (e.g., at Mars) are also of interest. Simulation studies to prepare future instrument and mission concepts for gravity field or topographic mapping are also important, particularly related to small bodies and icy satellites. The combination of various tracking measurements is especially relevant, as the NASA GSFC orbit determination software is capable of handling numerous data types simultaneously. For example, radio tracking, image landmarks, and altimetric crossovers were used for the OSIRIS-REx mission in order to accurately determine the shape, gravity field and orientation of Bennu. The advisor is the Team Leader of the Europa Clipper Gravity & Radio Science investigation and is the Co-Lead of the Gravity Science investigation of the newly-selected VERITAS mission to Venus. Projects related to these targets are of interest, though not required.

Candidates should have an engineering or science Ph.D. in a relevant field and have experience with orbit determination and tracking data analysis and/or with geophysical data analysis and modeling. The selected candidate will be fully integrated into the planetary geodesy group of the Solar System Exploration Division at NASA GSFC. Please contact advisor for further information.

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



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the United States. A complete list of Designated Countries can be found at: <https://www.nasa.gov/oiiir/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.