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**Opportunity Title:** Control Electronic and Testing of Microsystems for Highly Mass-constrained Planetary Missions
**Opportunity Reference Code:** 0259-NPP-NOV23-JPL-TechDev

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

**Reference Code** 0259-NPP-NOV23-JPL-TechDev

**How to Apply** All applications must be submitted in Zintellect

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

**Description** **Description:**

*NASA missions are in need of low size, weight, and power (SWaP) instruments. For example, current Mössbauer and X-ray fluorescence (XRF) spectrometers provided for NASA missions are acquired from foreign entities or built in a custom architecture. Having flown by most of the Solar System's terrestrial targets, there is an observed shift to landed missions, which are inherently mass constrained. As NASA makes way for smaller scale missions, readily available, low SWAP instruments to deliver routine science will become more valuable.*

*JPL requires development and testing of highly miniature control electronics for instruments for highly mass-constrained planetary missions. In this project, the fellow should study the pathways to readying a miniature multi-functional instruments with high science value, with a focus on the development of flight-like electronics and mechanisms that make use of state-of-the-art components with an identifiable path to flight to support near-term needs. Goals for the entire instrument are <5W, <500g, ~0.5U. The NASA Fellow will work with a team or scientists and engineers, gain experience in instrument systems engineering, publish technical papers, and emerge a leader in instrument system miniaturization.*

**Field of Science:** Technology Development

**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

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**Eligibility Requirements**

- **Degree:** Doctoral Degree.