Opportunity Title: Orbital Debris In-Situ Sensor Mission Support
Opportunity Reference Code: 0018-NPP-NOV25-JSC-TechDev

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0018-NPP-NOV25-JSC-TechDev

How to Apply All applications must be submitted in Zintellect

Please visit the NASA Postdoctoral Program website for application instructions and requirements: How to Apply | NASA Postdoctoral Program (orau.org)

A complete application to the NASA Postdoctoral Program includes:

1. Research proposal
2. Three letters of recommendation
3. Official doctoral transcript documents

Application Deadline 11/1/2025 6:00:59 PM Eastern Time Zone

Description **About the NASA Postdoctoral Program**

The NASA Postdoctoral Program (NPP) offers unique research opportunities to highly-talented scientists to engage in ongoing NASA research projects at a NASA Center, NASA Headquarters, or at a NASA-affiliated research institute. These one- to three-year fellowships are competitive and are designed to advance NASA's missions in space science, Earth science, aeronautics, space operations, exploration systems, and astrobiology.

Description:

The growth of objects in Earth orbit continues to increase with an estimated 1 billion pieces of debris too small to be tracked, but large enough to present a serious risk to spacecraft missions. This opportunity involves working with NASA Orbital Debris Program Office (ODPO) at NASA/JSC to develop technologies to characterize the small (millimeter-sized) orbital debris environment in low-Earth orbit. This size regime represents the highest mission-ending risk to spacecraft operating in the region between the altitudes of 600 to 1000 km where there is a lack of direct measurement data.

The ODPO, sponsored by NASA's Office of Safety and Mission Assurance and in collaboration with JAXA and NASA's Science Mission Directorate, have developed the Multilayer Acoustic Conductive-Grid Sensor (MACS). Opportunities are available to support the development of an in situ sensor and provide oversight and analyses that directly support the mission. Investigations include (but are not limited to) design and development of a flight-like simulator on thin film hypervelocity impact perforations, hypervelocity impact-induced acoustic signal generation/propagation on thin films and syntactic foams to support pre-flight ground-based testing and data collection/calibration during mission operations, and other MACS-related engineering mission support.

Field of Science: Technology Development

Advisors:

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Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.