

**Opportunity Title:** Orbital Debris In-Situ Sensor Mission Support

**Opportunity Reference Code:** 0018-NPP-NOV23-JSC-AeroEng

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

**Reference Code** 0018-NPP-NOV23-JSC-AeroEng

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

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

**Description Description:**

The NASA Orbital Debris Program Office (ODPO) at NASA/JSC is currently developing an in-situ sensor 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 the sensor and provide oversight and analyses that directly support future flight missions. Investigations include (but not limited to) design and develop a flight-like simulator on (1) thin film hypervelocity impact perforations, (2) 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:** Aeronautics, Aeronautical or Other Engineering

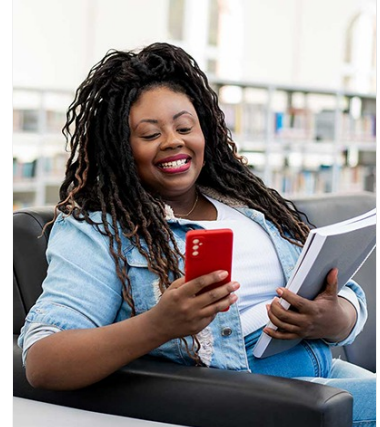
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- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
  - **Degree:** Doctoral Degree.



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