Opportunity Title: Drill and Sample Handling Technology for Mars Research
Opportunity Reference Code: 0044-NPP-NOV23-ARC-PlanetSci

Organization
National Aeronautics and Space Administration (NASA)

Reference Code
0044-NPP-NOV23-ARC-PlanetSci

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

Description
Multidisciplinary studies are ongoing that involve the development and field testing of drilling and sample handling systems and automation technologies to operate these systems. NASA Ames, together with our industry partners, is the world‘s leading center for space drilling technology. Ames is also a NASA center of excellence in automation and robotics, so for the past decade a series of SMD-funded projects have advanced the technology readiness of both planetary drills and the automation needed to operate them at significant lightspeed communication distances from Earth. Drilling will be needed to access the Martian subsurface to access and sample ground ice and to search for life. It is the best means to retrieve samples from regions on Mars that could possibly harbor life now or in the past, and is a core technology for future missions. Drilling will also be needed to access volatiles on the Moon and determine their abundance and vertical distribution. Specific systems that we have under development include rotary and rotary percussive drills that can access depths up to 10 m, sample distribution systems that interface between a drill and instruments, percussive penetrometers, wireline drills with pneumatic cuttings removal. This opportunity is closely related to topic 17565 Mars Exploration

Location:
Ames Research Center
Moffet Field, California

Field of Science: Planetary Science

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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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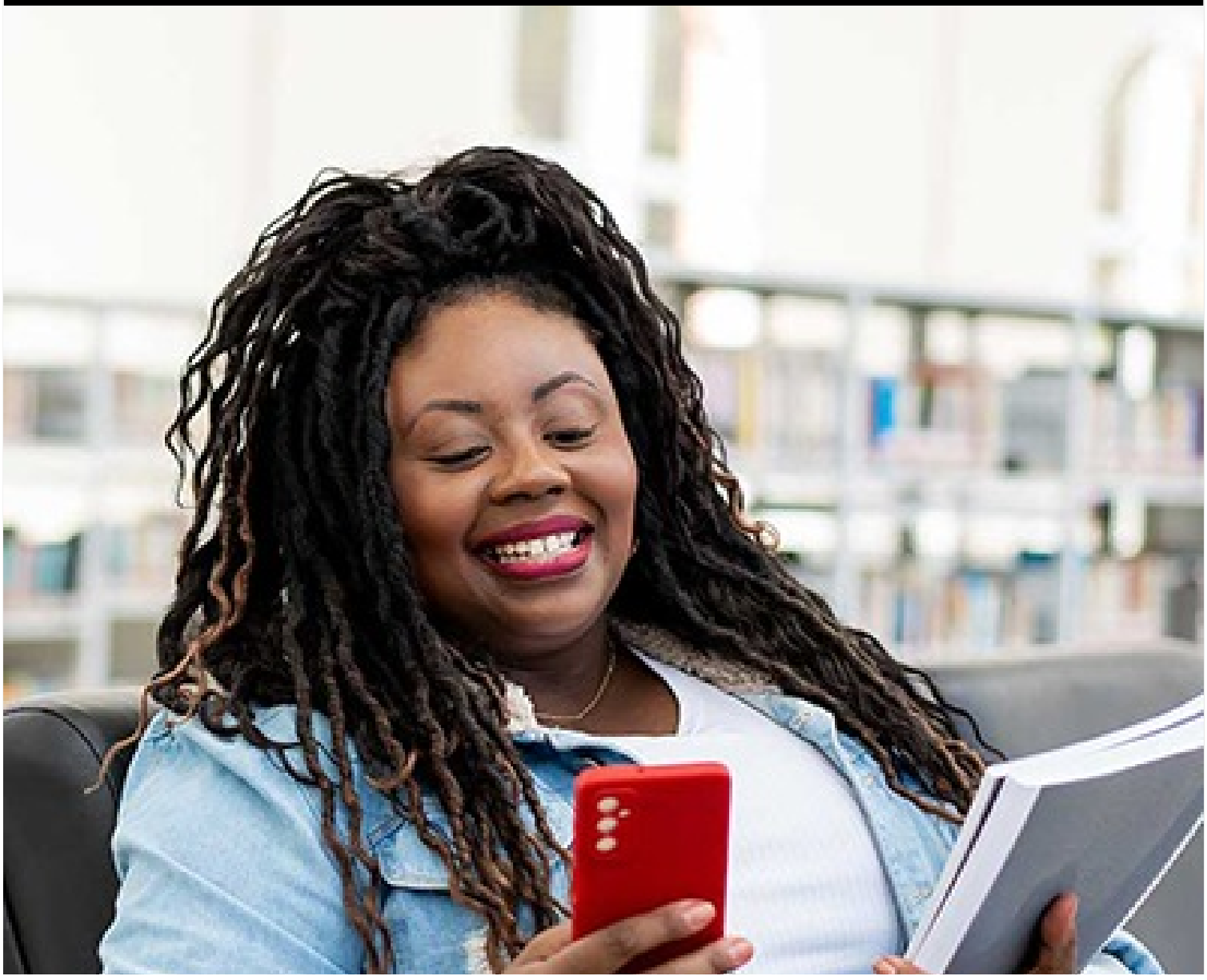
Eligibility Requirements

- **Degree:** Doctoral Degree.

NPP NASA Postdoctoral Program

ORAU Pathfinder



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