Opportunity Title: Developing novel biological assays for deep space exploration
Opportunity Reference Code: 0128-NPP-MAR24-ARC-BioSci

Organization
National Aeronautics and Space Administration (NASA)

Reference Code
0128-NPP-MAR24-ARC-BioSci

How to Apply
All applications must be submitted in Zintellect

Application Deadline
3/1/2024 6:00:59 PM Eastern Time Zone

Description
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The Lunar Explorer Instrument for Space Biology Applications (LEIA) project at Ames Research Center is investigating the effect of the lunar surface environment on biology. The LEIA project uses BioSensor hardware to quantify cell growth and metabolic activity of the model organism, budding yeast. The goal of this postdoctoral opportunity is to expand upon BioSensor's capabilities to analyze additional organisms and phenotypes in preparation for future spaceflight opportunities. The BioSensor uses microfluidics to support organism growth and metabolism and light emitting diode (LED) optical systems to measure phenotypes. Current mission concepts of operations require organisms to be maintained in ambient stasis for up to one year prior to spaceflight to enable integration with deep space missions. The postdoctoral scholar will develop new experimental approaches that are consistent with this concept of operations, which can include new organisms or new applications with yeast. The scholar will design and execute experiments together with the advisors to develop the necessary biological and hardware adaptations needed to investigate new aspects of deep space biology. Corresponding computational tools and data analysis methods will also need to be developed by the postdoctoral scholar. The future goal is to develop new flight experiments in alignment with the Space Biology Program's goals for beyond low Earth orbit studies.

Field of Science: Biological Sciences

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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Qualifications
A doctoral degree is required for this opportunity. The ideal applicant would have extensive experience working with one or more model organisms that would be compatible with growth in the BioSensor, interest in scientific questions related to spaceflight stressors, and/or skills applicable to designing or building custom biological instrumentation. Prior experience with spaceflight experimentation, microfluidics, or remote sensing phenotyping is desired.

Eligibility Requirements
- **Degree:** Doctoral Degree.

NPP NASA Postdoctoral Program

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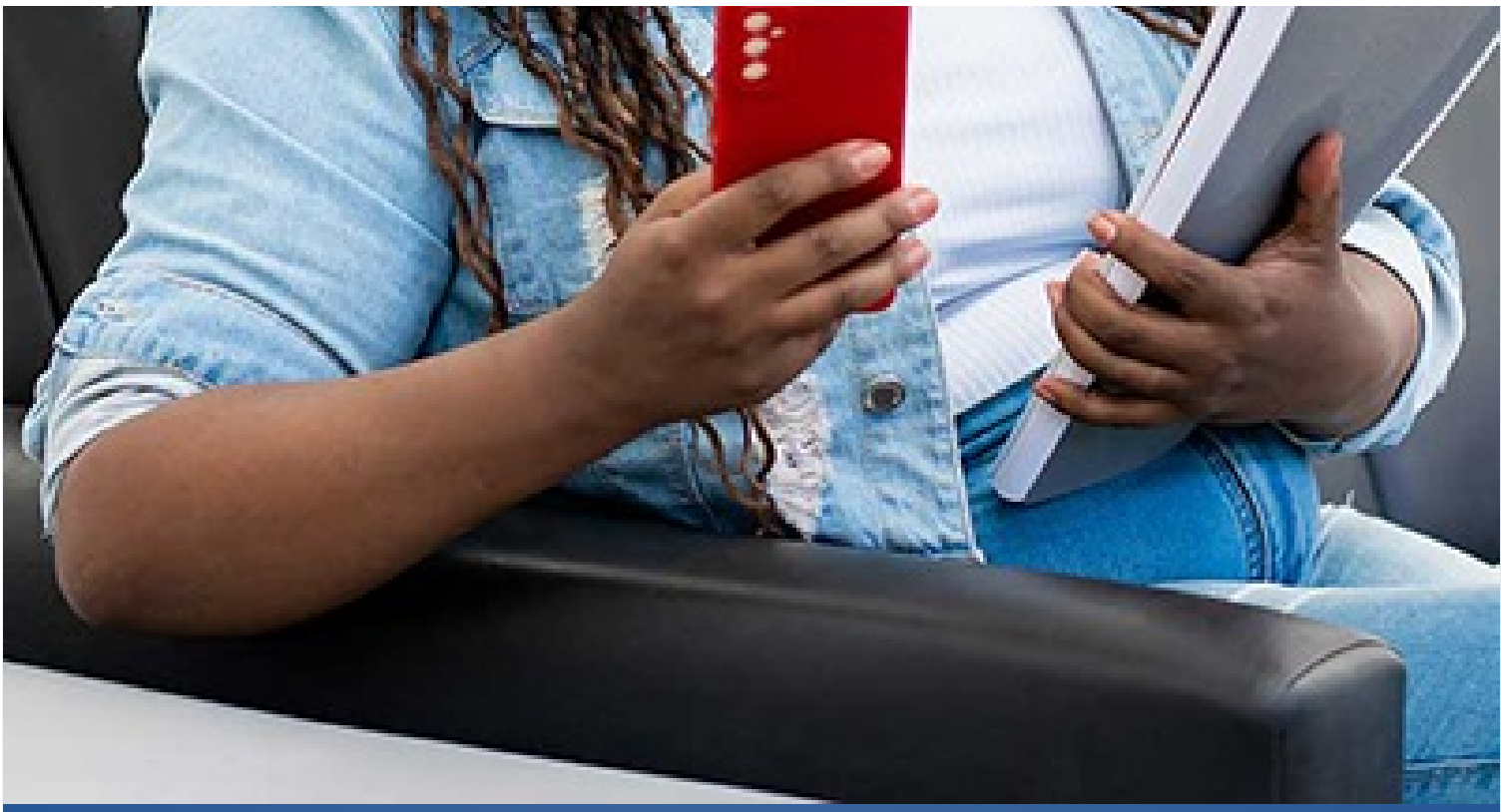

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