Opportunity Title: Astrobiology of Ocean Worlds
Opportunity Reference Code: 0117-NPP-MAR26-ARC-Astrobio

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0117-NPP-MAR26-ARC-Astrobio

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 3/1/2026 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:

This opportunity is to address gaps in understanding biological and biosignature potential in Ocean Worlds such as Enceladus and Europa. The proposed work leverages Ames' historical strengths in characterizing organism/environment interactions in planetary analog environments at scales ranging from cellular to ecosystem to planetary. Activities include characterizing the influence of environmental factors on biological and biosignature potential at a physiological level, collecting and analyzing data from planetary analog environments, and developing metabolic and physiological models that allow to constrain rates of metabolisms, metabolic energy production, growth rates, and biosignature production rates. Empirical and numerical data will be used test specific hypotheses regarding the biotic (e.g., genetic adaptations) and abiotic (e.g., pH, temperature, energy flux, humidity, nutrients) factors that might promote or limit life on Ocean Worlds, to aid in prioritizing targets and help define measurement and instrument requirements for future life detection missions.

Field of Science: Astrobiology

Advisors:

Alfonso Davila

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Alfonso.davila@nasa.gov
(650) 604-0695

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

Questions about this opportunity? Please email npp@orau.org

Point of Contact Mikeala

Eligibility Requirements

- **Degree:** Doctoral Degree.