Opportunity Title: ICAR - Virtual Planetary Laboratory
Opportunity Reference Code: 0026-NPP-MAR26-ABProg-Astrobio

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0026-NPP-MAR26-ABProg-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:

To advance NASA's search for life on exoplanets, the Virtual Planetary Laboratory (VPL) focuses on a compelling scientific question: "How can we best assess whether an exoplanet supports life?" Powerful NASA telescopes place humanity on the brink of studying terrestrial exoplanet environments and searching for life, but many foundational scientific steps are needed before we can discriminate living and lifeless worlds. VPL will advance interdisciplinary biosignature science by identifying new potential biosignatures for exoplanets, developing an improved understanding of abiotic mimics and the statistical framework needed to interpret biosignatures in the context of their environment, determining the detectability of biosignatures and environmental context for multiple observing platforms, and undertaking biosignature assessment activities that will support and enhance the science return from NASA's JWST and the HabWorlds Large Infrared Optical UV space-based direct imaging telescope. We will focus our efforts on tasks to identify, interpret, detect and assess biosignatures for exoplanet observations. The first three tasks provide the scientific foundation needed to identify the biosignatures that are most likely to be detectable, and the environmental context needed to interpret them. The fourth task integrates the tools and knowledge developed in the first three tasks to perform experiments that will assess our ability to detect and interpret biosignatures using existing data and

upcoming missions. Assessing the change in life detection confidence with new measurements and theory will inform mission development. The proposed work is directly relevant to the scientific goals of both the Nexus for Exoplanet System Science (NExSS) and the Network for Life Detection (NfoLD), and it synthesizes research from the LIFE Early Cells to Multicellularity, Prebiotic Chemistry and Early Earth Environments (PCE3) and the Network for Ocean Worlds (NOW) Research Coordination Network teams to produce a pioneering all-RCN research activity that informs NASA missions, and realizes the full scientific and community potential of the RCN framework.

Field of Science: Astrobiology

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(808) 292-9088

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.