Opportunity Title: Exobiology: Early Evolution of Life and the Biosphere
Opportunity Reference Code: 0001-NPP-MAR23-ABProg-Astrobio

NPP
NASA Postdoctoral Program

Organization
National Aeronautics and Space Administration (NASA)

Reference Code
0001-NPP-MAR23-ABProg-Astrobio

Application Deadline
3/1/2023 6:00:00 PM Eastern Time Zone

Description
The goal of research into the early evolution of life is to determine the nature of the most primitive organisms and the environment in which they evolved. The opportunity is taken to investigate two natural repositories of evolutionary history available on Earth: the molecular record in living organisms and the geological record. These paired records are used to: i) determine when and in what setting life first appeared and the characteristics of the first successful living organisms; ii) understand the phylogeny and physiology of microorganisms, including extremophiles, whose characteristics may reflect the nature of primitive environments; iii) determine the original nature of biological energy transduction, membrane function, and information processing, including the construction of artificial chemical systems to test hypotheses regarding the original nature of key biological processes; iv) investigate the development of key biological processes and their environmental impact; v) examine the response of Earth's biosphere to extraterrestrial events; vi) investigate the evolution of genes, pathways, and microbial species subject to long-term environmental change relevant to the origin of life on Earth and the search for life elsewhere; and vii) study the coevolution of microbial communities, and the interactions within such communities, that drive major geochemical cycles, including the processes through which new species are added to extant communities.

Applicants who apply for this research opportunity and are subsequently selected for an NPP award are expected to attend the Astrobiology Graduate Conference (AbGradCon) and/or the Astrobiology Science Conference (AbSciCon) using the travel funds that are conferred as part of the NPP award.

Field of Science: Astrobiology

Advisors

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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

Eligibility Requirements

- **Degree:** Doctoral Degree.