



U.S. NATIONAL SCIENCE FOUNDATION  
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NSF 24-108

## Dear Colleague Letter: Announcing a New Track in the Postdoctoral Research Fellowships in Biology (PRFB) Program: Biological Research, Understanding and Solutions for a Resilient Planet

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July 19, 2024

Dear Colleagues:

With this Dear Colleague Letter (DCL) the Directorate for Biological Sciences (BIO) announces plans for modifying one of the competitive areas in the [Postdoctoral Research Fellowships in Biology](#) (PRFB) Program solicitation. This would be a replacement for Competitive Area 2: *Integrative Research Investigating the Rules of Life Governing Interactions Between Genomes, Environment and Phenotypes* that will have a final deadline on November 7, 2024. The new competitive area will support Fellows that leverage large data, such as those from the National Ecological Observation Network (NEON), and innovative approaches, including Artificial Intelligence (AI), Machine Learning (ML), and modeling to advance biological research and solutions for a Resilient Planet. The first deadline for proposals to be submitted to this new competitive area will be sometime in the Fall or Winter of 2025. This DCL is being released early to allow future proposers sufficient time to explore project ideas with prospective mentors.

The United States and the world are facing intertwined challenges of climatic change and increased energy requirements that represent grave threats to human health and wellness, national security, and economic well-being. The U.S. National Science Foundation's (NSF) investments in building a resilient planet will create knowledge that leads to innovative methods and tools to enable the country to predict, respond to, and mitigate the effects of these challenges through engineered or nature-based solutions and advance knowledge of humans as a component of Earth systems.

NEON is the world's first continental-scale observatory designed for standardized long-term observation of ecosystem response to global change. Supported by the NSF, NEON is a major facility producing long-term standardized ecological and environmental data at 81 sites

across the United States and territories. NEON data are expected to be collected for 30 years, thus enhancing the "Big Data" era in ecological research. NEON data include biosphere-atmosphere interactions, ecosystem structure and function, as well as organismal data and samples, all of which span aquatic and terrestrial ecosystems at a continental scale. NEON data can be integrated with other major datasets and community science efforts to research biological phenomena including ecosystem and biodiversity change.

There are numerous NEON resources available to aid proposers in developing project ideas, including [data](#), a [learning-hub](#), a [code-hub](#), and a [publication database](#). The NSF-funded Environmental Data Science Innovation & Inclusion Lab ([ESIIL](#)) is developing educational and other resources to support collaboration using NEON data. The [NSF AI institutes](#) comprise a nationwide infrastructure to promote AI approaches that may represent a valuable resource to applicants seeking to collaborate with experts in AI. The National Artificial Intelligence Research Resource ([NAIRR](#)) pilot represents another important resource as it brings together computational, data, software, models, training, and user support for innovation in AI.

Questions should be directed to Program Officers in the Human Resources Cluster of the Division of Biological Infrastructure: [bio-dbi-prfb@nsf.gov](mailto:bio-dbi-prfb@nsf.gov).

Sincerely,

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