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Opportunity Title: Bridging Pre-Fire Risk and Post-Fire Resilience: Integrating GEDI Lidar, ECOSTRESS, and Multispectral Time-Series for Next-Generation Wildfire Assessment
Opportunity Reference Code: 0354-NPP-NOV26-JPL-EarthSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0354-NPP-NOV26-JPL-EarthSci

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 11/1/2026 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.

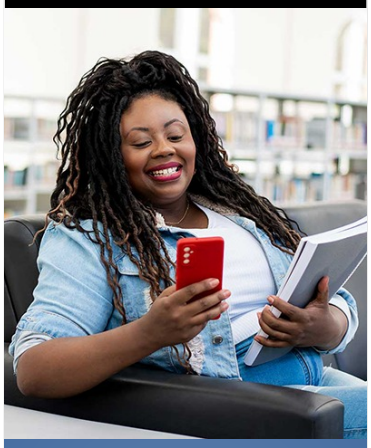
Description:

The participant will engage in a research and training project focused on advancing the use of NASA Earth observations for understanding wildfire impacts and post-fire ecosystem recovery in the western United States. The project will provide hands-on experience in satellite remote sensing, geospatial analysis, wildfire science, and multi-sensor Earth observation, complementing the participant's educational and professional background while expanding knowledge relevant to NASA's Earth science mission.

The participant will research approaches for integrating observations from NASA's Global Ecosystem Dynamics Investigation (GEDI) and ECOSTRESS instruments with Sentinel and Landsat time series to characterize vegetation structure, ecosystem water stress, wildfire severity, and post-fire recovery. Research activities will include collecting, processing, and analyzing geospatial datasets for major western U.S. wildfire events, such as the Dixie and Caldor fires. The participant will gain experience evaluating three-dimensional canopy structure derived from GEDI, thermal and evapotranspiration information from ECOSTRESS, spectral indicators from optical satellite observations, and complementary information related to vegetation and fuel conditions.

Through this research, the participant will investigate how pre-fire vegetation structure influences spatial variations in burn severity and

NPP NASA Postdoctoral Program
ORAU Pathfinder



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whether combinations of post-fire structural change and evapotranspiration anomalies can provide early indications of delayed forest recovery or potential vegetation-type conversion. The participant will gain practical experience developing and evaluating reproducible geospatial analysis methods using platforms such as Google Earth Engine and GIS, comparing multi-sensor indicators, creating maps of pre-fire vegetation conditions and post-fire recovery trajectories, and assessing the scientific strengths and limitations of different remote-sensing approaches.

The participant will also collaborate with researchers to interpret results in the context of wildfire ecology and NASA Earth system science. Educational activities may include participating in scientific discussions, reviewing relevant literature, documenting research methods, contributing to an open-source research code repository, preparing scientific figures and analyses, and participating in the preparation of research presentations and peer-reviewed publications.

Through these activities, the participant will gain knowledge of how complementary structural, thermal, and spectral observations can be combined to study interactions among vegetation structure, ecosystem water stress, wildfire impacts, and ecosystem resilience. The research experience will provide transferable skills in multi-sensor Earth observation, geospatial data analysis, scientific computing, and interdisciplinary environmental research while contributing to the development of approaches relevant to future NASA Earth system monitoring and wildfire applications.

Field of Science: Earth Science

Advisors:

Hugo Lee
huikyo.lee@jpl.nasa.gov
(626) 864-0557

Olga Kalashnikova
Olga.Kalashnikova@jpl.nasa.gov
(818) 393-0469

Nicholas LaHaye
nicholas.j.lahaye@jpl.nasa.gov
9253246087

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

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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.