

Opportunity Title: Remote Sensing Analysis of Bioclimatic Controls on Ecosystem Productivity

Opportunity Reference Code: 0188-NPP-NOV23-JPL-EarthSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0188-NPP-NOV23-JPL-EarthSci

Application Deadline 11/1/2023 6:00:59 PM Eastern Time Zone

Description This research opportunity seeks innovative work to identify biochemical and environmental controls on ecosystem productivity. The approach is to combine observations of solar induced chlorophyll fluorescence (SIF) from a growing network of tower, airborne, and spaceborne sensors, with ancillary biometeorological data, to explore the functioning of photosynthesis under different light, temperature, and moisture conditions and canopy structures. Analysis of ecosystem productivity in the context of a carbon cycle data assimilation system, in which model equations are confronted with a suite of vegetation, carbon, and water cycle observations and weighted by their respective uncertainties, is highly desired. Incorporation of observations from OCO-2, TROPOMI, and ground sensors (e.g., Grossman et al., 2018) are likely to provide significant advances.

References:

Grossmann, K., Frankenberg, C., Magney, T. S., Hurlock, S. C., Seibt, U., & Stutz, J. (2018). PhotoSpec: A new instrument to measure spatially distributed red and far-red Solar-Induced Chlorophyll Fluorescence. *Remote sensing of environment*, 216, 311-327.

Location:

Jet Propulsion Laboratory
Pasadena, California

Field of Science:Earth Science

Advisors:

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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



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Eligibility Requirements • **Degree:** Doctoral Degree.