Opportunity Title: Radar Remote Sensing of Vegetation
Opportunity Reference Code: 0048-NPP-JUL23-JPL-EarthSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0048-NPP-JUL23-JPL-EarthSci

Application Deadline 7/1/2023 6:00:00 PM Eastern Time Zone

Description This research opportunity is for candidates with special interest in radar remote sensing of vegetation. The proposed project includes radar scattering and ecosystem modeling. The remote sensing data is used to estimate vegetation 3D structure parameters such as height. The radar data (Interferometric Synthetic Aperture Radar or inSAR) was collected by spaceborne ALOS/PALSAR and airborne UAVSAR systems. The candidate will be responsible for processing repeat pass inSAR data and implementing efficient data calibration algorithms based on heterogeneous spatial sampling of ground truth points. These points are extracted from existing Lidar (ICEsat/GLAS) and field data sets. The ecosystem models widely available in the literature will be driven using the derived vegetation parameters.

M. Simard, K. Zhang, V. H. Rivera-Monroy, M. Ross, P. Ruiz, E. Castañeda-Moya, E. Twilley, E. Rodriguez. , “Mapping Height and Biomass of Mangrove Forests in the Everglades National Park with SRTM Elevation Data”, Photogrammetric Engineering & Remote Sensing”, Vol. 72, No. 3, March 2006, pp. 299–311.

M. Simard, G. DeGrandi, S. Saatchi, P. Mayaux, “Mapping tropical coastal vegetation using JERS-1 and ERS-1 radar data with a decision tree classifier", International Journal of Remote Sensing, V.23, No.7, 2002, pp. 1461-1474

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,

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- 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.