zintellect
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Opportunity Title: Atmospheric Molecular Spectroscopy in support of Earth and Planetary Science
Opportunity Reference Code: 0236-NPP-MAR26-JPL-PlanetSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0236-NPP-MAR26-JPL-PlanetSci

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 4/2/2026 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:

Our primary research interest is high-resolution molecular spectroscopy of atmospheric species in support of Earth and (Exo)Planetary Science. It includes, but not limited to, (1) spectral data acquisition and analysis of rotational and vibrational molecular transitions in the infrared and near-visible region using a state-of-the-art Fourier transform spectrometer (FTS) stationed at JPL, as well as the existing spectral data archive from the McMath-Pierce FTS at the Kitt Peak National Solar Observatory, (2) characterization of the spectroscopic line parameters and/or their cross-sections for atmospheric molecules, such as CH_4, NH_3, hydrocarbons (CxHy), and nitriles(CxHyNz), in a wide temperature range (80 - 1000K), (3) measurements of collision-induced absorption as additional atmospheric opacity source, and (4) precision-modeling of telluric absorption features to enable the extreme precision radial velocity (EPRV) measurements in search of Earth-analogs in the habitable zone (HZ). We produce spectral references and calibration data for Earth atmospheric trace gases and for elusive molecules for Titan and cold giant planets. Measurements from our group are currently used by various NASA missions (e.g. Orbiting Carbon Observatory (OCO), Cassini/CIRS, IRTF/NIRSPEC) as well as the HITRAN molecular spectroscopy database.

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Location:
Jet Propulsion Laboratory
Pasadena, California

Field of Science: Planetary Science

Advisors:
Keeyoon Sung
Keeyoon.Sung@jpl.nasa.gov
(818) 354-5144

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

This opportunity may require the following: 1- Mandatory drug testing; 2-Random drug testing; 3- Testing prior to initiation of fellowship appointment.

Questions about this opportunity? Please email npp@orau.org

Point of Contact Mikeala

Eligibility Requirements
- **Degree:** Doctoral Degree.