

Opportunity Title: Modeling the surface emissions of natural and anthropogenic trace gases important for atmospheric composition and climate

Opportunity Reference Code: 0291-NPP-NOV26-GSFC-EarthSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0291-NPP-NOV26-GSFC-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:

This opportunity is closed to applicants who are Senior Fellows (5-years or more past PhD).

The rapidly growing remote sensing data record have provided an extensive collection of observations to improve the emissions and transport of key trace gases, both natural and manmade, that are important for atmospheric composition and climate. This research project seeks to develop innovative approaches to combine satellite measurements from a variety of space-borne instruments, e.g., OMI, TROPOMI, GEMS, TEMPO, PACE, SMAP, with state-of-the-art GEOS chemistry climate model (GEOSCCM) to advance the understanding of emissions of important trace gases for ozone and aerosol photochemistry and their transport in the atmosphere. The targeted trace gases include, but not limited to, CH₄ emissions, HCHO and volatile organic compounds (VOCs) from biogenic emissions over land, VOCs emissions from human activities, halogen compounds from both oceanic and manmade sources,

Research proposals are encouraged in the following areas:

(1) data analysis of remote sensing measurements of the targeted trace gases to understand the distribution and variability of these trace gases, as



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well as the atmospheric budget of these gases,

(2) utilize remote sensing measurements to improve the emission estimates of these trace gases,

(3) use 3-D global chemistry model to investigate the impact of these gases on atmospheric ozone and aerosols and the interaction between atmospheric composition and climate.

Applicants should have previous experience in running global 3-D chemistry models and data analysis software. Preferences will be given to candidates that have inverse modeling experiences, familiarity with IDL, Fortran, and/or Machine Learning/Artificial Intelligence. Additional experience with airborne campaign measurements is welcome.

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

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

Point of Contact [Mikeala](#)

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree.