

Opportunity Title: Dragonfly Mass Spectrometer Analog Studies

Opportunity Reference Code: 0336-NPP-NOV26-GSFC-PlanetSci

Organization National Aeronautics and Space Administration (NASA)

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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 focus of this research opportunity is to prepare for the Dragonfly mission to Titan by developing a program to analyze analog samples using techniques that are relevant to the capabilities of the Dragonfly Mass Spectrometer (DraMS). Potential research projects will explore the range of available analogs, which could encompass a range of synthesized laboratory products, natural field samples, and materials from the spaceflight hardware that could confound in situ analysis. The goal of the research is to develop methodologies and a library that will inform organic molecule detection and interpretation of a range of in situ samples during surface operations on Titan in the 2030s. For example, research proposals that consider the sources and processes that would generate and modify components on Titan, and examine the connections between those processes and what can be inferred from the chemical analysis, are encouraged. This research may include collaboration with members of the DraMS and Dragonfly Science Teams to develop lists of appropriate analog samples and potential round-robin analyses.

Studies should take advantage of existing laboratory mass spectrometry instrumentation that allows for DraMS-like analysis, and should primarily be focused on gas chromatography mass spectrometry (GCMS). Studies may



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also leverage sample preparation facilities designed for trace-organic studies, radiation exposure, and other facilities available at Goddard Space Flight Center. The incumbent will be expected to present results at appropriate conferences, mission team meetings, and in peer-reviewed publications. Key skill sets include data analysis, statistical analysis, organic chemistry, clean sample handling, chemical derivatization, gas chromatography mass spectrometry, and interest in / familiarity with Titan organics and the goals of the Dragonfly mission.

Field of Science: Planetary Science

Advisors:

Melissa Trainer
melissa.trainer@nasa.gov
(240) 419-1558

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

Qualifications The candidate should have a Ph.D. in chemistry, planetary science, or a related field that can demonstrate the capability to complete the research successfully. Experience with gas chromatography mass spectrometry and chemical derivatization sample processing is strongly recommended. Other desirable skills of a successful candidate include data analysis, statistical analysis, mass spectrometry interpretation, clean sample handling, and interest in / familiarity with Titan organics and the goals of the Dragonfly mission.

Point of Contact [Mikeala](#)

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