Opportunity Title: Optical Plasma Diagnostics for Inductively Coupled Plasma (ICP) Material Testing and MHD Jet Stability
Opportunity Reference Code: 0150-NPP-MAR26-ARC-Interdisc

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 3/1/2026 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:

A new inductively coupled plasma (ICP) jet experiment has been developed for studying spacecraft material catalycity under reentry-relevant conditions and basic physics relevant to arcjet facilities. The primary project is to design and implement several optical diagnostics to characterize plasma flow, plasma–material interactions, and the stability of the magnetized plasma jet. Applicants should be familiar with at least one of the following methods: Argon laser-induced fluorescence (LIF), O* laser absorption spectroscopy (LAS), optical emission spectroscopy (OES), and/or collisional-radiative (CR) modeling. The selected postdoctoral fellow will integrate these diagnostics into ongoing material testing campaigns and provide benchmark data for both material response modeling and plasma flow validation.

Field of Science: Interdisciplinary/Other

Advisors:

Magnus Haw
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(650) 604-6109

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

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Qualifications Applicants should hold a Ph.D. in plasma physics, aerospace engineering, mechanical engineering, or a related field. Prior experience with laser-based plasma diagnostics is required. Additional expertise with inductively coupled plasmas, arcjets, Python, or CAD design for hardware integration is desirable.

Point of Contact Mikeala

Eligibility Requirements

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