Opportunity Title: Advanced Technology Development for Future UV Missions
Opportunity Reference Code: 0091-NPP-MAR26-JPL-TechDev

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:

Major advances in technology are required to enable the next generation of UV instruments for discoveries beyond HST, GALEX, and Cassini. Two elements with high impact on UV instruments performance are high efficiency detectors and improved optical coatings. For example, solid-state photon counting detectors developed in our laboratory can dramatically increase the QE (>x 5) and significantly enhance both fabrication yield and reliability compared to flight-ready microchannel plate (MCP) sealed tubes. Similar gains are possible by improving optical coatings. Nanoscale control and manipulation of materials and device surface and interfaces are required to overcome challenges associated with UV technology. Advances in nanotechnology and materials tools make it possible to overcome these challenges. Powerful new techniques e.g., atomic layer deposition (ALD) can be used to form ultrathin, high quality layers suitable for antireflection coatings to improve detector QE and high performance optical coatings to improve optics efficiency. Furthermore, ALD can be used for detector passivation technique as noise reduction measure.
Successful candidate will develop chemistry and physics necessary for ALD to improve detectors and optics. Will interact with collaborators at JPL, Caltech, U of Colorado, Columbia, and other institutions. Will work in a team environment and will contribute to team's expansion into new directions. Will publish results in technical refereed journals and present

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results in technical conferences.

Location:
Jet Propulsion Laboratory
Pasadena, California

Field of Science: Technology Development

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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

- **Degree:** Doctoral Degree.