

Opportunity Title: Technology Development: Space Optics Design and Analysis

Opportunity Reference Code: 0072-NPP-NOV23-GSFC-TechDev

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0072-NPP-NOV23-GSFC-TechDev

Application Deadline 11/1/2023 6:00:59 PM Eastern Time Zone

Description Research and development opportunities exist at NASA in the optical design and modeling of advanced space flight instrumentation for astrophysics, planetary, solar, and Earth science missions from wavelengths in the x-ray region through visible to the far infra-red. Mission support involves performing optical design trades, detailed optical system and component design, tolerancing, performance analyses and modeling, and specifying optical components for fabrication. Current interests include the design and modeling of unobscured wide field-of-view all-reflective and catadioptric optical systems, freeform optics, lens system design, spectroscopic instrumentation design and analysis, wavefront sensing and control, stellar interferometry, glancing incidence optical design and analysis, and polarization ray tracing including birefringent materials. Additional research topics consist of gradient index optics, holograms and holographic optical elements design, wave propagation, optomechanical design, stray light design and analysis, and in-process optical testing. Extensive computer and metrology test facilities are available for post-doc work here at NASA's Goddard Space Flight Center.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science: Technology Development

Advisors:

Joseph Howard
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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



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pending status

Eligibility Requirements

- **Degree:** Doctoral Degree.