

Opportunity Title: Advanced Mirror Technology for Astrophysics Telescopes

Opportunity Reference Code: 0013-NPP-NOV23-MSFC-TechDev

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0013-NPP-NOV23-MSFC-TechDev

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

Description Marshall Space Flight Center (MSFC) leads and collaborates with other NASA Centers, universities and industry partners to implement NASA Astrophysics missions from X-Ray to Far-Infrared.

Free-Form and aspheric optical surfaces are revolutionizing telescope design by enabling wide field imaging in compact packages. The advantages for potential Astrophysics science missions are telescopes and instruments with smaller volume, fewer optical components and lower total mass. But, these new designs would be purely theoretical without precision fabrication and test technology.

This opportunity has two objectives:

1. Develop processes and technologies to manufacture free-form and aspheric optical surfaces for potential grazing incidence (X-Ray) and normal incidence ultraviolet, optical and infrared (UVOIR) to far-infrared (Far-IR) telescopes which could be manufactured using MSFC's precision machining infrastructure.
2. Develop processes and technologies to absolutely characterize the zero-gravity shape of large-aperture free-form and aspheric optical surfaces.

The prospective applicant should contact Dr. H. Philip Stahl (h.philip.stahl@nasa.gov) well in advance of developing the proposal to ensure alignment of the idea with opportunity objectives. Please include a Curriculum Vitae (CV) and a brief statement of interest that identifies the primary topic of interest from those listed above. Other related topics will also be considered. The candidate will then be put in touch with the appropriate research mentor who will coordinate with the candidate on the proposal concept.

Location:

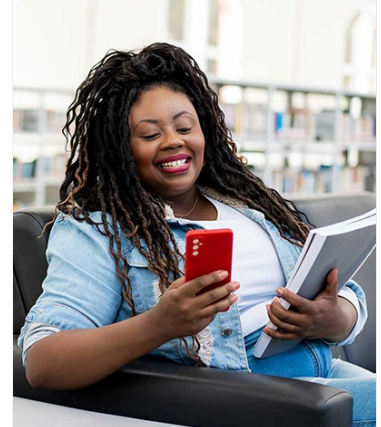
Marshall Space Flight Center
Huntsville, Alabama

Field of Science: Technology Development

Advisors:

Philip H. Stahl
h.philip.stahl@nasa.gov
256-544-0445

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/oiiir/export-control>.



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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

Eligibility Requirements

- **Degree:** Doctoral Degree.