

Opportunity Title: Strong Lensing Constraints on Galaxy Evolution Problems

Opportunity Reference Code: 0046-NPP-NOV23-JPL-Astrophys

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0046-NPP-NOV23-JPL-Astrophys

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

Description Strong gravitational lensing is emerging as an extraordinary tool for probing the internal structure of massive galaxies, studying the nature and properties of dark matter on entire decades of mass and size scale, and potentially in providing new precise cosmographic measurements of the scale of the Universe. These applications have been helped by the hundreds of new lenses discovered the past few years, particularly from the Sloan Lens ACS Survey (SLACS; Bolton et al. 2006), the Strong Lensing Legacy Survey (SL2S; Gavazzi et al. 2012) and the Boss Emission Line Lens Survey (BELLS; Brownstein et al. 2011).

This progress comes at a time when the importance of the interplay between astrophysical processes, such as star formation and quasar activity, and cosmological processes, as embodied in the hierarchical paradigm, in determining galaxy evolution and structure is just starting to be understood. Moreover, upcoming surveys such as Euclid and LSST are forecast to image over 100,000 strong lenses (Collett et. al. 2015), which will both transform the statistical power of existing techniques and demand their further development.

The NPP postdoctoral fellow working with me at JPL will concentrate on characterizing the internal structure of large numbers of strong lenses, starting with existing datasets and obtaining further data as required, with a view to improving observational constraints on the evolution of these systems.

Location:

Jet Propulsion Laboratory
Pasadena, California

Field of Science: Astrophysics

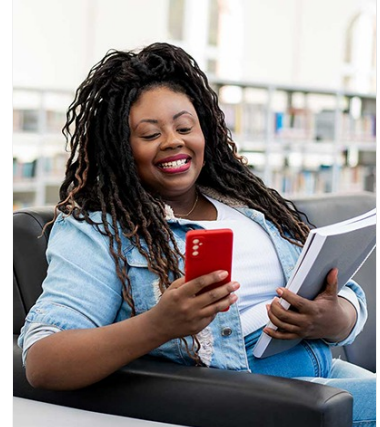
Advisors:

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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/oiiir/export-control>.

Eligibility is currently open to:

- U.S. Citizens;



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- 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.