

Opportunity Title: Modernize the Kepler Planet Detection and Vetting Pipeline to Compute an Improved eta-Earth Estimate

Opportunity Reference Code: 0119-NPP-NOV23-ARC-Astrophys

Organization National Aeronautics and Space Administration (NASA)

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How to Apply All applications must be submitted in [Zintellect](#)

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

Description Description:

Join us to measure eta-Earth, the occurrence of Earth-size habitable planets orbiting Sun-like stars! We are seeking two postdoctoral scholars to join key members of the original Kepler team to modernize the Kepler pipeline. We will start by porting the Kepler pipeline MATLAB code to python, then research ways to improve the pipeline detection and vetting algorithms. Combined with new stellar catalogs based on Gaia and ground-based imaging data, we will produce a more complete, more reliable exoplanet catalog that will lead to more accurate and more precise measurements of eta-Earth. This is a five-year project. The postdoctoral positions are for one-year terms, renewable for up to a total three years with an option to convert to a full-time position at the SETI Institute for years four and five. We are seeking highly motivated recent PhDs in exoplanet science who can take leadership roles on the development and implementation of new algorithms in a large development project, including leading publications. 80% of each postdoc's time will be spent on the Kepler project, and 20% will be spent on personal research related to exoplanets.

Applicants are encouraged to contact the PI Steve Bryson with any questions.

References:

[Kepler Data Processing Handbook](#), describing the algorithms in the Kepler pipeline

[Kepler Pipeline codebase](#)

[Kepler's final planet catalog Data Release 25](#)

[The Kepler team's eta-Earth estimate based on Kepler Data Release 25](#)

Field of Science: Astrophysics

Advisors:

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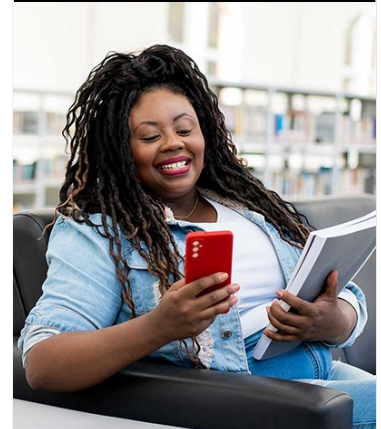
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Applications with citizens from Designated Countries will not be accepted at this time, unless they are Legal Permanent Residents of the United States. A complete list of Designated Countries can be found at:

<https://www.nasa.gov/oiir/export-control>.

Eligibility is currently open to:



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- 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.