Opportunity Title: Asteroid Threat Assessment
Opportunity Reference Code: 0060-NPP-JUL25-ARC-Interdisc

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0060-NPP-JUL25-ARC-Interdisc

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 7/1/2025 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:

Understanding the potential threat to earth due to asteroid impact is an interdisciplinary pursuit which requires studying the population of near earth asteroids and their properties, how an asteroid behaves as it passes through the earth's atmosphere and the damage caused by airbursts, ground impacts and tsunamis. In addition, assessing this threat can require probabilistic models of the effects of impact and possible mitigation options in order fully understand the range of possible outcomes.

Opportunities exist to participate in all areas of the asteroid threat assessment. Some of the active areas of research in planetary science include observational studies of near earth asteroids, modeling their thermal emission, inferring asteroid properties from meteorites, and developing representations of the distribution of physical parameters of the entire population. Areas of research in atmospheric entry include experiments and models to elucidate the behavior of asteroid material during atmospheric entry, modeling of fragmentation during entry, aerothermodynamics of asteroid entry, and the aerodynamics of multi-body flight. Impact hazard research involves the creation of reduced order models that are based on detailed simulations but are computationally efficient enough to run inside a Monte Carlo framework requiring millions of evaluations. Particular hazards of interest are ground winds, overpressure, and thermal radiation produced by airburst and impact cratering events,

tsunami produced by ocean impacts, and regional/global climatic changes due to large impacts. Research related to risk modeling includes incorporation of improved reduced-order hazard models into the Monte Carlo framework. In addition, inclusion of mitigation options into the probabilistic asteroid impact risk model is an ongoing area of research.

Location:
Ames Research Center
Moffet Field, California

Field of Science: Interdisciplinary/Other

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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,

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- 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.