Opportunity Title: X-ray Studies of Galaxy Clusters, Active Galaxies and Diffuse Background
Opportunity Reference Code: 0024-NPP-NOV26-GSFC-Astrophys

Organization National Aeronautics and Space Administration (NASA)

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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 11/1/2026 6:00:59 PM Eastern Time Zone

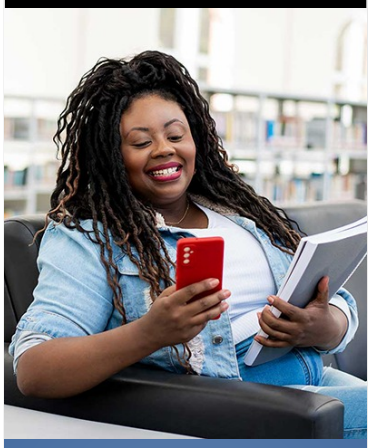
Description **About the NASA Postdoctoral Program**

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:

Clusters of Galaxies. The distribution of galaxy clusters as a function of mass and redshift probes the growth of the Large-Scale Structure of the Universe and can constrain cosmological models. Because cluster cosmological constraints are only as good as our understanding of the cluster astrophysics, we are conducting detailed observational and theoretical studies of the X-ray-emitting intergalactic medium across the mass scales from galaxies to superclusters. We study dynamic phenomena such as shock fronts, cold fronts, gas velocities and other nonthermal pressure components to determine how clusters work and how to make their mass estimates more accurate. We are using X-ray, optical, Sunyaev-Zeldovich and radio frequency data, with the X-ray data coming primarily from the Chandra, XMM-Newton, NuSTAR, and XRISM X-ray observatories. Our lab built the mirrors and the microcalorimeter detectors for Hitomi and its successor XRISM and is building a microcalorimeter for NewAthena. We take full advantage of this hardware expertise and involvement in those missions. We are also performing numerical simulations of galaxy clusters to compare with the X-ray and radio observations and to prepare for the future X-ray missions.

Active Galaxies. Our ongoing program investigates Active Galactic Nuclei (AGN) by analyzing a rich suite of multiwavelength data, prominently featuring X-ray observations from Chandra, XMM-Newton, and NuSTAR. This research encompasses a wide variety of topics, such as fitting the broadband (0.6 keV to > 30 keV) spectra of both obscured and unobscured active galaxies, determining their X-ray spectral properties, searching for correlated temporal and

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spectral variations, and the connection with the host galaxy properties (aka feedback). To build a comprehensive picture of these sources, our extensive correlative studies integrate space-based X-ray, infrared, optical data with the complementary use of ground-based facilities. Ultimately, this work is crucial for resolving and fully characterizing the sources that contribute to the Cosmic X-ray Background and informing population synthesis models.

Location:
Goddard Space Flight Center
Greenbelt, Maryland

Field of Science: Astrophysics

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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 pending status

Questions about this opportunity? Please email npp@orau.org

Point of Contact Mikeala

Eligibility Requirements

- **Degree:** Doctoral Degree.