

Opportunity Title: High-Sensitivity Far-IR Detectors

Opportunity Reference Code: 0163-NPP-NOV26-JPL-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:

We are seeking one or more postdoctoral researchers with hands-on experience in low-temperature superconducting devices and far-IR to millimeter-wave instrumentation to join our team developing the world's most sensitive far-infrared detectors. We are pursuing detector arrays in which each pixel provides background-limited performance in a dispersive spectrometer on a cryogenic space telescopes; that is a per-pixel noise equivalent power of 10^{-19} W/sqrt(Hz) or lower. The researcher(s) will make use of a dilution-cooled sub-100mK cryostat to characterize devices built in the JPL micro devices lab (MDL). We are pursuing transition-edge-sensed (TES) bolometers, kinetic inductance detectors (KIDs), and quantum capacitance detectors (QCDs), with an initial emphasis on the bolometers in preparation for the SPICA mission. We will implement frequency-domain readout techniques developed by a range of US and international collaborators, and the candidate(s) should be willing to travel and interface with a diverse range of scientists and engineers in support of this activity. We envision that the thrust of the work will be in the low-NEP detector system demonstration, but opportunities also exist for collaboration on ongoing and proposed ground-based and balloon-borne instruments targeting the early Universe. Examples include SuperSpec (a millimeter-wave spectrometer on a chip slated for the large millimeter telescope targeting individual high-redshift galaxies), TIME (a mm-wave tomographic



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intensity mapper targeting ionized carbon from the Reionization epoch), and TIM ((formerly STARFIRE), a proposed balloon-borne far-IR imaging spectrometer targeting the history of star formation when the Universe was half its current age). Key people in the JPL detector group include Pierre Echternach and Matt Kenyon

References:

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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/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.