

Opportunity Title: Sensors and microelectromechanical systems for missions to hot planets

Opportunity Reference Code: 0178-NPP-NOV26-JPL-PlanetSci

Organization National Aeronautics and Space Administration (NASA)

Reference Code 0178-NPP-NOV26-JPL-PlanetSci

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](#)

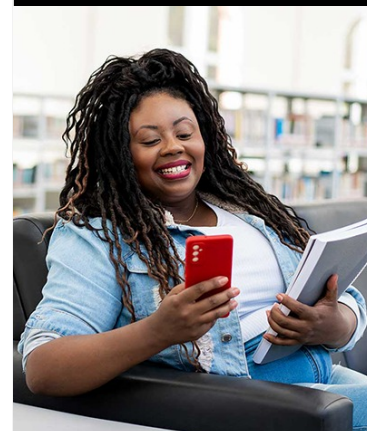
The [NASA Postdoctoral Program \(NPP\)](#) offers unique research opportunities to highly-talented scientists to engage in ongoing NASA research projects at a NASA Center, NASA Headquarters, or at a NASA-affiliated research institute. These one- to three-year fellowships are competitive and are designed to advance NASA's missions in space science, Earth science, aeronautics, space operations, exploration systems, and astrobiology.

Description:

In the last few years we have seen rapid growth of III-V semiconductors geared towards a variety of applications where silicon performance falls short. Gallium nitride (GaN), a III-V semiconductor, is proven to be the material of choice for high- frequency, high-power, and high-temperature applications. GaN also offers a number of excellent mechanical properties, making it a suitable material for MEMS. Particularly, GaN and its related material family are very interesting for harsh environment applications. Beyond earth, GaN based microsystems can enable low-cost and long-lasting planetary exploration missions to hot planets. Our research objective is to develop a sensor technology platform that is temperature and radiation tolerant using gallium nitride MEMS technology. In this specific project the postdoc will help with developing temperature stable sensors and micro-instruments working at 500C using GaN based acoustic and micromechanical components.

References:

M. Rais-Zadeh, D. Weinstein, Gallium Nitride for M/NEMS, Book chapter in Piezoelectric MEMS Resonators, pp. 73-98, 2017 M. Rais-Zadeh, et. al, Gallium Nitride as an electromechanical material, J. of Microelectromechanical Microsystems, vol. 23, issue 6, pp. 1252-1271, 2014



Whether you are just starting your career or already at a senior level, ORAU offers internships, fellowships, research opportunities, and contract positions that can provide you with invaluable experience. Download the ORAU Pathfinder mobile app and find the right opportunity to propel you along your career path!

Visit ORAU Pathfinder [↗](#)



Opportunity Title: Sensors and microelectromechanical systems for missions to hot planets

Opportunity Reference Code: 0178-NPP-NOV26-JPL-PlanetSci

Location:

Jet Propulsion Laboratory
Pasadena, California

Field of Science: Planetary Science

Advisors:

Mina Rais-Zadeh
mina.rais-zadeh@jpl.nasa.gov
626-460-9989

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.