

**Opportunity Title:** Integrated photonic-electronic-quantum systems research for future space missions

**Opportunity Reference Code:** 0301-NPP-MAR26-JPL-TechDev

**Organization** National Aeronautics and Space Administration (NASA)

**Reference Code** 0301-NPP-MAR26-JPL-TechDev

**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** 3/1/2026 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:**

This opportunity involves research and development activities in the following technology areas: 1. Chip-scale stable laser systems using MEMS and nanophotonic technologies including but not limited to silicon nitride on-chip etalons and waveguides, lithium niobate modulators and waveguides, heterogeneous integration/packaging of photonic microdevices, on-chip precision atomic and molecular spectroscopy, physics and chemistry with chip-scale atomic and molecular vapor cells and photonic integration/packaging interfaces; 2. Supporting DC, RF, and microwave electronics and optoelectronics, including but not limited to cutting-edge GaN, GaAs, InGaAs, InP, AlN, diamond, etc semiconductor technologies that potentially can be heterogeneously integrated with stable laser systems.

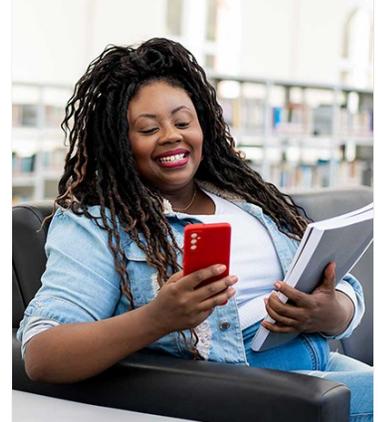
The goal is to develop integrated photonic-electronic-quantum systems for laser metrology in future large space telescopes, high-speed and secure space communications, sensing, power transfer, and similar missions.

**Field of Science:** Technology Development

**Advisors:**

Lin Yi

lin.yi@jpl.nasa.gov



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:** Integrated photonic-electronic-quantum systems research for future space missions

**Opportunity Reference Code:** 0301-NPP-MAR26-JPL-TechDev

(818) 393-6420

Mahmood Bagheri  
mahmood.bagheri@jpl.nasa.gov  
(818) 354-0413

**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](mailto:npp@orau.org)

**Qualifications** Successful candidates should hold a PhD in Physics, Photonics, Quantum, Electrical/Mechanical Engineering, or relevant to the above technological areas and should be familiar with a few or more of the following analytical and experimental tools and processes: UV/e-beam lithography, UV imprint, Thermal/E-beam evaporation, Vapor Deposition, Reactive ion/ICP etching, dry/wet etching, Annealing, Poling, SEM, AFM, Nanophotonic design software, Comsol, Ansys, Cadence/Siemens Rf/Microwave EDA, Zemax, Optical Spectrum Analyzer, fiber splicer, RF/DC instruments, laser spectroscopy, Fabry-Perot cavity/delay-line characterization, on-chip waveguide characterization, thermal-mechanical stress analysis, Rf/Microwave load-pull, monolithic-microwave IC design, analog-digital hybrid IC design, chip-bonding and packaging physics and chemistry processes, etc.

**Point of Contact** [Mikeala](#)

**Eligibility Requirements** • **Degree:** Doctoral Degree.