Opportunity Title: Imaging the Outer Planets in the Voyager Grand Tour
Opportunity Reference Code: 0329-NPP-NOV26-GSFC-PlanetSci

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:

The 'Grand Tour' to the outer solar system of the twin Voyager spacecraft made the first detailed investigations of the giant planets from Jupiter to Neptune in a brief decade from 1979 to 1989. The photographs returned by these spacecraft were not only inspirational, but a scientific goldmine, revealing diverse features from Jupiters Great Red Spot to cracks on Europa, and from cliffs on Miranda to geysers on Triton. These images have been used countless times over the past three decades to conduct scientific analyses in planetary geology and atmospheric science, to inspire new generations of scientists and explorers, and to formulate new missions. At the time, technological limitations resulted in color RBG images - made by combining images at monochromatic filters - being shown in incorrect colors relative to human eyesight. This resulted for example in Uranus and Neptune appearing in different colors, when in reality their colors are almost identical. Such distortions have historically led to misapprehensions about the outer planets and moons. In addition, many images were never processed in to full color and remain monochromatic. Digital image processing has now advanced significantly, permitting new attempts to reprocess the Voyager Grand Tour images into new RBG composites. The resulting true-color images will enable scientists to perform new investigations, especially through artificial intelligence and machine learning, and for the public to see the worlds of the outer solar as they would appear to our eyes for the first time. The envisaged project includes: image selection, cleaning and preprocessing; image remapping, color adjustment and combining; comparison to data from other telescopes; and subsequent investigations of reprocessed images which can focus on one or multiple scientific areas: Jovian clouds,

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Callisto craters, Europa chaos blocks, Triton plumes, or other topics.

Field of Science: Planetary Science

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

Qualifications The applicant should have a background in astronomy, planetary science, or Earth science, especially including astronomical image analysis from telescope or remote sensing data. Experience with image manipulation software such as photoshop, imageJ, FITSview is desirable. The applicant must be able to code in python, IDL or similar language for numerical image processing and adjustment. Resume should show publication experience in a relevant field and scientific ability. The candidate should be to work independently including problem solving, time management and have good written and oral communication skills to enable writing of paper and presenting of results.

Point of Contact Mikeala

Eligibility Requirements

- **Degree:** Doctoral Degree.