Opportunity Title: Space Radiation Biophysical and Risk Modeling
Opportunity Reference Code: 0027-NPP-MAR26-LRC-Interdisc

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 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:

NASA models the risk of space radiation-induced health decrements including cancer, cardiovascular disease, and central nervous system damage to inform human exploration missions including International Space Station missions, future lunar missions (Artemis), and future missions to mars. Space radiation, in the context of human exploration, consists of the high energy particles loosely grouped into galactic cosmic rays and solar energetic particle events. An accurate understanding of the health risks associated with space radiation exposure are required to inform mission planning and post-mission health care. Risk models rely on understanding radiation-induced disease through epidemiological studies which quantify the risk in human cohorts. The epidemiological evidence is supplemented with knowledge gained through ground-based radiobiology experiments and limited spaceflight experiments. Due to the small number of astronauts with appreciable space radiation exposures, risks are scaled from terrestrial radiation exposure using models to account for the fundamental differences between terrestrial and space radiation exposures.

The primary focus of this work is the development of these scaling models along with the associated computational framework used to determine the risk and associated uncertainties. Currently, NASA has an existing space radiation-induced cancer risk model with active research in all components of that model. Work is currently ongoing to develop a space radiation-

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induced cardiovascular risk model and to understand the basic risks of space radiation to the central nervous system. There is also interest in ensemble modeling of risk for use in the space radiation problem.

Opportunities exist to participate in all aspects of this computational modeling effort. Successful applicants should have a PhD in an appropriate field of study and have experience developing computational models.

A successful proposal will contain work that shows clear translatability to human risk from space radiation and **must be computational in nature**.

The primary point of contact for this opportunity is Dr. Ryan Norman, whose contact information is included in the list of advisors. Please contact Dr. Norman for details about this opportunity.

Location:
Langley Research Center
Hampton, Virginia

Field of Science: Interdisciplinary/Other

Advisors:
Ryan Norman
ryan.b.norman@nasa.gov

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

Point of Contact Mikeala

Eligibility Requirements
- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Doctoral Degree.