NASA Space Radiation Element Initiatives

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THE SPACE RADIATION ELEMENT

The Space Radiation Element (SRE) with the Human Research Program (HRP) and NASA is tasked with the mission of characterizing and facilitating the management of the human health outcomes associated with space radiation exposure to ultimately protect astronaut health as well as enable human space exploration. To facilitate our mission, we provide funding for space radiation research but also provide several unique opportunities discussed below to educate and disseminate space radiation knowledge.

UNIQUE INITIATIVES

SPACE HEALTH IMPACTS FOR THE NASA EXPERIENCE (SHINE)

The SRE is hosting an annual competitive virtual didactic curriculum and a practicum that offers hands-on experience at the NASA Space Radiation Laboratory (NSRL). The course is open to individuals that have a Bachelor's degree in science, technology, engineering, or math at the time of application. A call for 2025 will be released soon.

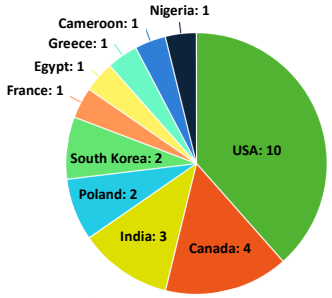


Figure 1. The 2nd annual SHINE course included 26 participants, who where citizens of 10 countries with a wide range of expertise including biology, engineering, physics, aerospace, botany, physiology medicine, and heliophysics.

INTERNSHIP OPPORTUNITIES

The element commonly has semester long internship opportunities (part or full time that can be remote or in person that spans from science communication to coding and is open to undergraduates and graduate students. Eight Interns have already worked with SRE from 2023 to present.



Vishnu Prasad
University of Florida



Anna Rankin
University of Central Florida



Harland Phillips
Bakersfield College



Angela Kubik
Rensselaer Polytechnical Institute

Figure 2. Past SRE Interns.

THE HEALTH RISK OF EXTRATERRESTRIAL ENVIRONMENTS

Did you know that SRE has an encyclopedic space radiation website (https://three.jsc.nasa.gov/) that is being updated to not only include space radiation-related educational materials but also insights into HRP, grant writing, job opportunities etc.? Stay tuned for more information.

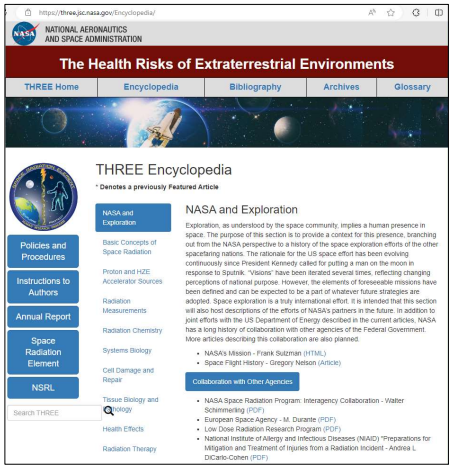
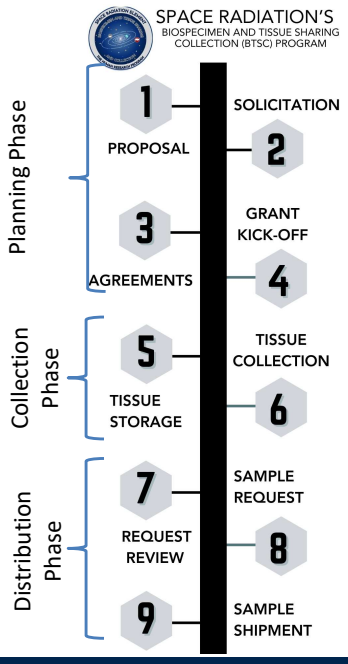


Figure 3. Landing page for THREE (https://three.jsc.nasa.gov/)

BIOSPECIMEN & TISSUE SHARING & COLLECTION PROGRAM

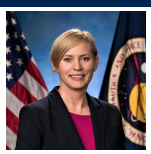


SRE has embarked on collecting unused samples from past and currently funded investigators. These samples will be made available to the public via the NASA Biological Institutional Scientific Collection (NBISC) at Ames Research Center (https://osdr.nasa.gov/bio/about/nbisc.html).

Figure 4. The NASA Space Radiation Element is actively developing new procedures to more effectively and efficiently manage the lifecycle of biospecimens that are expected to be ingested into the Biospecimen and Tissue Sharing Collection and subsequently redistributed for approved secondary science. Three phases are anticipated: Planning, Collection, and Distribution Phases

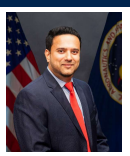
FUTURE DIRECTIONS

A mission of the space radiation element is to educate and spread space radiation knowledge as well as facilitate radiation research. If you are interested in any opportunities please visit NASA Space Radiation Element at their NASA table, contact **Janice. Zawaski@NASA.gov** or find me.



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or



Janapriya (JP) Saha