

NASA'S SPACE HEALTH IMPACTS FOR THE NASA EXPERIENCE (SHINE) TRAINING PROGRAM – SPACE RADIATION CURRICULUM

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In February 2023, the Space Radiation Element of the NASA Human Research Program initiated a virtual, annual space radiation curriculum. The **Space Health Impacts for the NASA Experience (SHINE)** Space Radiation Didactic Curriculum aims to educate participants not only in the scientific aspects of space radiation but also in the agency's risk management strategies. SHINE Space Radiation Didactic Curriculum combined weekly seminars by speakers from NASA, other government agencies, academia, and industry, with networking sessions designed to foster collaboration between the competitively selected participants as well as interactions with NASA scientists and HRP funded investigators. The inaugural course ran weekly from February 2023 to August 2023 and was comprised of lectures, less formal coffee hours, and office hours. Each two-hour seminar sessions hosted 1-3 presentations on topics which ranged from the space radiation environment to health effects and countermeasure to granting opportunities. All lectures were recorded and will be published on the THREE (The Health Risks of Extraterrestrial Environments) website for public access (<https://three.jsc.nasa.gov/>). As a course requirement, participants developed individual or collaborative beam time proposals for real, proposed, or potential experiments at the NASA Space Radiation Laboratory (NSRL) at the Brookhaven National Laboratory. For the 2023 course, 25 participants were selected from a total of 59 applicants. Selected participants were citizens from 8 countries and comprised 5 graduate students, 4 postdocs, 11 scientists and 5 professors/medical doctors. Participants had a wide range of expertise including molecular and cellular biology, microbiology, botany, physiology, engineering, physics, aerospace medicine, planetary science, biostatistics, and modeling. The second annual SHINE training program is scheduled from February to August 2024. In addition, a separate SHINE Space Radiation Practicum session will be held in Fall 2024 at the NSRL. The SHINE Space Radiation Practicum is a unique opportunity that has not been available to the public since the closure of the NASA Space Radiation Summer School in 2017 and will allow a small cohort of participants competitively selected in Fall 2023 to gain hands-on radiation experience.