

We are proud to announce the NEPP-ETW distinguished keynote speaker:

Steve McClure

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Steve has worked in the Radiation Hardness field for 35 years. He has worked on missions with both Nuclear and Natural Space radiation. He currently serves as the Radiation Control manager for the Europa Clipper Mission.



NASA’s Europa Clipper Mission: Drawing from the NEPP Knowledge Base

The Europa Clipper Mission will conduct detailed reconnaissance of Jupiter's moon Europa and investigate whether the icy moon could harbor conditions suitable for life. The mission will place a spacecraft in orbit around Jupiter in order to perform a detailed investigation of the giant planet's moon Europa -- a world that shows strong evidence for an ocean of liquid water beneath its icy crust and which could host conditions favorable for life. The mission will send a highly capable, radiation-tolerant spacecraft into a long, looping orbit around Jupiter to perform repeated close flybys of Europa.

Trapped by Jupiter’s strong magnetic field, the high energy electron and proton environment poses a significant challenge, with a mission dose of about 3 Mrad behind 100 mils of Aluminum. The design of the Europa Clipper mission addresses this challenge through, minimizing encounters with the radiation field, system and subsystem shielding, maximum use of radiation hardened parts and materials, and mitigation of effects in electronic design.

The knowledge base provided by the NASA Electronic Parts and Packaging Program provided a significant benefit to the approach to electronic parts taken for this project. This presentation will summarize the approach taken and the challenges encountered thus far in the efforts to assure operation and survival of the spacecraft and its instruments in the radiation environment at Jupiter.

