

# SERESSA 2022

## Radiation Hardness Assurance

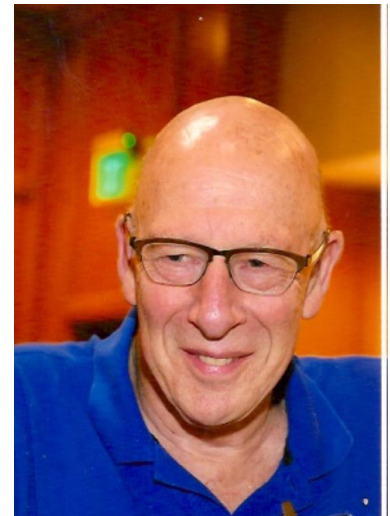
Stephen Buchner, Consultant

### Abstract:

This presentation will describe the RHA steps required to ensure that the parts selected for a space project will be able to perform their function when exposed to the ionizing radiation present in space. The talk will present two examples illustrating why RHA is necessary. The steps involved in RHA begin with mission objectives that determine orbit and duration. That information is used to establish the radiation environment that leads to various radiation phenomena, such as TID, DDD and SEEs. Parts must be assessed for their performance in a radiation environment and, if necessary, mitigated, or the part must be replaced.

### Short Bio:

Stephen Buchner received the BA degree from Princeton University and the PhD from the University of Pennsylvania, both in Physics. His initial work was directed at using pulsed-laser light to simulate ion-induced SEEs. He has worked at Martin Marietta (now Lockheed Martin), NASA and the US Naval Research Laboratory, where he vetted parts for several programs. He has been an associate editor for IEEE Transactions on Nuclear Science, has presented two short courses at NSREC, and has co-authored over 200 papers, receiving several Best Paper awards at NSREC. He is currently retired and works as a consultant for NRL.



### Organizers:

