

# 18th International School on the Effects of Radiation on Embedded Systems for Space Applications (SERESSA)

**SERESSA 2022**

Organizers:



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## **Fundamental Mechanisms of Non-Destructive SEEs in Devices and Circuits**

*Monday 5 December 2022 09:00 (50 minutes)*

This talk will present the basic mechanisms responsible for SEEs, starting with the interaction of a particle with a solid to excite electrons into mobile states. The next step is the movement of charge to a sensitive node, where it is collected by a junction electric field and causes a voltage disturbance in the circuit that ultimately corrupts data to form an SEE. Emphasis will be on non-destructive SEEs (SEUs and SETs) that appear as corrupted data or signals. Topics to be covered include the effects of bias, temperature, and operating frequency. Mitigation approaches to eliminate SEEs will be addressed.

**Presenter:** BUCHNER, Stephen (Naval Research Laboratory)