

Special Joint Detector Seminar at the occasion of Gunnar Lindström's 80-th Birthday

Friday June 10. 15:00
FLASH-Seminar Room (Bldg. 28c)

Mara Bruzzi, Firenze;

Title: Radiation Hardness of Silicon Detectors for High-energy Physics: From past Searches to Future Perspectives

Abstract:

The talk gives a perspective overview on the development of silicon detectors for HEP and related radiation damage problems, highlighting the contributions of Gunnar Lindström and his group on this subject for the last twenty years.

Henning Feick, Infineon, Dresden;

Title: From Fundamental Detector Research to Industrial Embedded Power Device Technology Development

Abstract:

Following the "More than Moore" paradigm, restructuring of parts of the semiconductor industry is currently taking place: Added value generation is being sought in the chip-level integration of devices offering unique functionality with dense CMOS logic, as opposed to the former shrink approach towards ever smaller structure sizes (Moore's Law).

An example is presented in the area of embedded power devices that are capable of handling voltages up to several times 10 Volts in an 1.5 Volt core voltage analog/mixed-signal logic platform. Key aspects to be considered in the technology development are device performance factors like specific on-resistance, robustness (e.g. safe operating area and electrostatic discharge), reliability, latch-up, and substrate noise effects. Results from TCAD process and device simulation, device characterization, and statistical data analysis are presented.

The speaker gives account of the knowledge and qualifications acquired during his diploma and PhD time in Prof. Gunnar Lindström's group on "Detector Research & Development" (formerly "Gruppe Nukleare Messtechnik") whenever useful reference to his current field of work can be made. An industry perspective is thus provided on the value of fundamental research and the qualifications required for a successful career in the semiconductor industry.