

Eleventh International Workshop on Semiconductor Pixel Detectors for Particles and Imaging



Monday, November 18, 2024 - Friday, November 22, 2024

Collège Doctoral Européen

Scientific Program

Invited speakers

Gzregorz Deptuch (BNL Upton)

Enhancing Sensor Readout Efficiency: Innovations and Challenges

Claire Juramy (LPNHE Paris)

Pixel sensors used in telescopes for space observation

Marco Mandurrino (INFN Torino)

Realistic Monte Carlo simulation of silicon particle detectors for timing and tracking with Garfield++

Andrei Nomerotski (Florida International University and Czech TU Prague)

Time-stamping photons with sub-nanosecond resolution for quantum-enhanced imaging and telescoping

Alexandre Oh (Manchester University)

Wide band-gap material sensors for applications in high energy physics experiments

Renato Turchetta (IMASENIC Barcelona)

Scientific imaging sensors for medical and life science applications

Anabela Veloso (IMEC Leuven)

Entering a New Era of Innovation in Semiconductor Technologies with Increased Interdisciplinary Synergies for

Advanced Compute Scaling

High energy and nuclear physics experiments

Operation and performances of running pixel detectors, R&D on upgrade or future pixel detectors

Astrophysics applications

Application of pixel sensors in astronomy, astrophysics and/or in-space (balloons, satellite)

Applications in biology, medical imaging

Photon science applications

Radiation tolerance

Studies of radiation damage of running pixel detectors, R&D to reach higher radiation tolerance

Timing with pixels

Performance of running pixel detectors dedicated to 4D tracking or particle identification, R&D to improve time resolution of pixel sensors

Monolithic sensors

R&D on various monolithic technologies like: CMOS pixel sensors (MAPS), Silicon On Insulator (SOI), Depleted field effect transistors (DEPFET)

Sensing materials development

The topic includes a broad range of materials such as solid-state (diamond, SiC, organic, ...) or gaseous (liquid nobles, ...)

Electronics

Read-out ASICs, powering, data acquisition system, monitoring system

Integration in detection modules and structures

Mechanics, cooling, interconnection and assembly techniques