OST
Eastern Switzerland
University of Applied Sciences

IMES Lecture Microelectronics

Thursday, 29 February 2024, OST – Eastern Switzerland University of Applied Sciences, Oberseestrasse 10, 8640 Rapperswil-Jona

IMES | Institute for Microelectronics, Embedded Systems and Sensors

IMES Lecture Microelectronics

Abstract: Time-correlated photon counting

The Time-Correlated Single Photon-Counting (TCSPC) technique measures rapidly changing low-level light intensities by detecting and timing single photons in the picosecond range. Existing TCSPC devices face limitations such as dead time, restricted photon count rates, and bulky electronics. Dorian Amiet presents an innovative TCSPC hardware designed at IMES with cutting-edge technologies, offering unprecedented advantages that overcome the current limitations.

Abstract: Photon Counting CT Detectors for Medical Imaging

Computed Tomography (CT) has emerged as the foremost medical imaging technique in cancer screening, injury detection and cardiac scans. In the field of CT detector technology photon counting is one of the most promising future directions.
This talk introduces the photon counting detector technology and elaborates on the topology and design of a CMOS detector chip that serves as the main platform for next generation CT products at ams OSRAM.

Programme:

Thursday, 29 February 2024

17.10 pm	Intro **Prof. Dr. Paul Zbinden** Head of the Institute IMES Institute for Micro-electronics, Embedded Systems and Sensors
17.20 pm	Time-correlated photon counting **Dorian Amiet** Project Manager IMES Institute for Micro-electronics, Embedded Systems and Sensors
17.40 pm	Photon Counting CT Detectors for Medical Imaging **Dr. Fridolin Michel** Principal Engineer, technical lead ams OSRAM
18.30 pm	Aperitif