



# CPAD Workshop 2022

## Tuesday, 29 November 2022

### WG1: Solid State Detectors and ASICs - Lecture Hall 1 (16:00 - 18:00)

-Conveners: Gabriella Carini; Xuan Li; Ulrich Heintz

time	[id] title	presenter
16:00	[59] Signal Processing for SiPM timing applications in the presence of High Dark Count Rate.	WHITE, Sebastian
16:20	[3] Fast Timing With Silicon Carbide Low Gain Avalanche Detectors	HABER, Carl
16:40	[73] TCAD simulation studies for the development of LGADs and AC-LGADs	ZHAO, Yuzhan
17:00	[139] AC-LGAD detectors for Spatial and Timing Measurements at the Electron-Ion Collider	HARTBRICH, Oskar
17:20	[147] Development and testing of AC-LGAD sensors for future 4D-trackers	APRESYAN, Artur
17:40	[62] Fast MAPS for Timing Capabilities at Future Colliders	HABIB, Alexandre Dr VERNIERI, Caterina

# Wednesday, 30 November 2022

## **WG1: Solid State Detectors and ASICs - Theater (10:35 - 12:35)**

-Conveners: Ulrich Heintz; Xuan Li; Gabriella Carini

time	[id] title	presenter
10:35	[61] The GAPS Instrument: An Antarctic Balloon Search for Cosmic Antinuclei	XIAO, Mengjiao
10:55	[53] The Array of Saturated-Gain Avalanche Diode (ASGAD) concept	RETIERE, Fabrice
11:15	[57] Hadron damage investigation of FBK and HPK Low Gain Avalanche Detectors	SI, Jiahe
11:35	[127] Experience and results of the ATLAS ITK pre-production staves at Brookhaven National Laboratory	CAPOCASA, Francesca
11:55	[144] Radiation damage investigation of epitaxial p-type silicon using Schottky and pn-junction diodes	KLEIN, Christoph Thomas

## **WG1: Solid State Detectors and ASICs - Theater (13:35 - 15:35)**

-Conveners: Xuan Li; Ulrich Heintz; Gabriella Carini

time	[id] title	presenter
13:35	[60] Characterization Measurements of Small-Pitch 3D Silicon Sensors for Particle Physics Applications	GENTRY, Andrew Donald
13:55	[44] Design of a skipper CCD-in-CMOS active pixel sensor	PARPILLON, Benjamin Dr ROTA, Lorenzo
14:15	[33] Searching for Light Dark Matter with Narrow-Gap Semiconductors: The SPLENDOR Project	Dr FINK, Caleb
14:35	[143] Charge sharing in pixelated semiconductor sensors	Dr KOTOV, Ivan
14:55	[1] Nano-CMOS photon imager	GARCIA-SCIVERES, Maurice
15:15	[42] Front-End Evaluation for Pixelated Liquid-Argon Particle Detectors	WOODWORTH, Kyle

# Thursday, 1 December 2022

## **WG1: Solid State Detectors and ASICs - Lecture Hall 1 (08:30 - 10:10)**

-Conveners: Xuan Li; Gabriella Carini; Ulrich Heintz

time	[id] title	presenter
08:30	[24] A 3ps Cryogenic Time-to-Digital Converter for Time-Correlated Single Photon Counting	QUINN, Adam
08:50	[26] A Cryogenic Readout IC with 100 KSPS in-Pixel ADC for Skipper CCD-in-CMOS Sensors	QUINN, Adam
09:10	[35] Cryogenic SOC for reconfigurable machine learning in 22nm using ESP and HLS4ML	BLANCO VALENTIN, Manuel
09:30	[146] Sub-electron skipper-CCD readout with multi-channel cryogenic low-noise readout ASICs	BRAGA, Davide
09:50	[148] Chip Development Toward 12 bit 10 GSPS Cryogenic ADC for Multiplexed Quantum Readout	ENGLAND, Troy WANG, Xiaoran

## **WG1: Solid State Detectors and ASICs - Lecture Hall 1 (10:35 - 12:35)**

-Conveners: Gabriella Carini; Ulrich Heintz; Xuan Li

time	[id] title	presenter
10:35	[43] In-Pixel AI: From Algorithm to Accelerator	DILIP, Priyanka
10:55	[48] An On-Chip Low-Power Low-Noise Arbitrary Waveform Generator for Portable Optical Trapped-Ion Atomic Clocks	SUN, Hongzhi
11:15	[92] PSD_CHIP_V2: An Improved Highly Programmable SiPM Readout ASIC For Neutron Imaging	GODFREY, Benjamin
11:35	[93] The ETROC project: Precision Timing ASIC Development for LGAD-based CMS Endcap Timing Layer (ETL) upgrade	LIU, Ted
11:55	[118] Proposal to Develop an Economical Low-Power Sub-psec Resolution ASIC	PARK, Jinseo
12:15	[131] Automated Circuit Skeleton for All-Digital Implementation of Configuration-Testability-Readout Functionalities in Front-End ASICs	GORNI, Dominik