

# **Workshop on picosecond photon sensors for physics and medical applications**

## **Report of Contributions**

Contribution ID: 0

Type: **not specified**

## Welcome

*Wednesday 12 March 2014 13:30 (15 minutes)*

**Presenters:** ROYON, Christophe (CEA/IRFU,Centre d'etude de Saclay Gif-sur-Yvette (FR)); MON-TAROU, Gerard (Universite Blaise Pascal de Clermont-Ferrand II); LE DU, Patrick (IPN Lyon)

**Session Classification:** Introduction session

Contribution ID: 1

Type: **not specified**

## **Fast timing recent development and overview - Highlights from the 2013 NSS-MIC conference**

*Wednesday 12 March 2014 13:45 (15 minutes)*

**Presenter:** LE DU, Patrick (IPN Lyon)

**Session Classification:** Introduction session

Contribution ID: 2

Type: **not specified**

## **LAPPD status**

*Wednesday 12 March 2014 14:00 (25 minutes)*

**Presenter:** SIEGMUND, Oswald (University of California, Berkeley)

**Session Classification:** Photodetector session I

Contribution ID: 3

Type: **not specified**

## **PPS/Timing with Si (vidyo)**

*Wednesday 12 March 2014 14:25 (25 minutes)*

**Presenter:** Mr CARTIGLIA, Nicolo (INFN)

**Session Classification:** Photodetector session I

Contribution ID: 4

Type: **not specified**

## **Application of atomic layer deposited microchannel plates to fast timing, imaging detectors**

*Wednesday 12 March 2014 14:50 (25 minutes)*

**Presenter:** SIEGMUND, Oswald (University of California, Berkeley)

**Session Classification:** Photodetector session I

Contribution ID: 5

Type: **not specified**

## **The TORCH PMT, a close packing, multi-anode, long life MCP-PMT for Cherenkov applications**

*Wednesday 12 March 2014 16:00 (25 minutes)*

**Presenter:** MILNES, James

**Session Classification:** Photodetector session II

Contribution ID: 6

Type: **not specified**

## **Diamond detector (vidyo)**

*Wednesday 12 March 2014 16:25 (25 minutes)*

**Presenter:** Dr CHIODINI, Gabriele (Universita del Salento (IT))

**Session Classification:** Photodetector session II



Contribution ID: 7

Type: **not specified**

## **Fundamental limits on the time resolution of the scintillation detectors: timing**

*Wednesday 12 March 2014 16:50 (25 minutes)*

**Presenter:** Dr SCHAART, Dennis (Delft University of Technology)

**Session Classification:** Photodetector session II

Contribution ID: 8

Type: **not specified**

## **PSEC4 electronics (vidyo)**

*Wednesday 12 March 2014 17:15 (25 minutes)*

**Presenter:** OBERLA, eric (uchicago)

**Session Classification:** Photodetector session II

Contribution ID: 9

Type: **not specified**

## **Measuring time with a 5-ps precision at the system level with the WaveCatcher family of SCA-based fast digitizers**

*Thursday 13 March 2014 09:00 (25 minutes)*

**Presenter:** BRETON, Dominique Robert (Universite de Paris-Sud 11 (FR))

**Session Classification:** Electronics and readout session I

Contribution ID: **10**

Type: **not specified**

## **A new timing calibration method for Switched Capacitor Array chips to achieve sub-picosecond resolutions**

*Thursday 13 March 2014 09:25 (25 minutes)*

**Presenter:** Dr RITT, Stefan (Paul Scherrer Institute)

**Session Classification:** Electronics and readout session I

Contribution ID: 11

Type: **not specified**

## **SAMPIC: a 16-channel self-triggered waveform-based TDC chip with ps timing capabilities**

*Thursday 13 March 2014 09:50 (25 minutes)*

**Presenter:** DELAGNES, Eric (CEA/IRFU,Centre d'etude de Saclay Gif-sur-Yvette (FR))

**Session Classification:** Electronics and readout session I

Contribution ID: 12

Type: **not specified**

## **Signal Processing for Fast Photo-detectors**

*Thursday 13 March 2014 11:00 (25 minutes)*

**Presenter:** GENAT, Jean-Francois (CNRS/IN2P3)

**Session Classification:** Electronics and readout session II

Contribution ID: 13

Type: **not specified**

## **An application of the DRS4 chip : the ASM Board**

*Thursday 13 March 2014 11:25 (25 minutes)*

**Presenter:** MAGNE, Magali (Univ. Blaise Pascal Clermont-Fe. II (FR))

**Session Classification:** Electronics and readout session II

Contribution ID: 14

Type: **not specified**

## **The use of ASM board for dose control in hadrontherapy**

*Thursday 13 March 2014 11:50 (25 minutes)*

**Presenter:** LESTAND, Loic

**Session Classification:** Electronics and readout session II



Contribution ID: 15

Type: **not specified**

## **Advanced technique for high accuracy tunable ring oscillator vernier TDC in FPGAs and ASICs**

*Thursday 13 March 2014 12:15 (25 minutes)*

**Presenter:** GIRERD, Claude

**Session Classification:** Electronics and readout session II

Contribution ID: **16**

Type: **not specified**

## **Mordicus software and sampic tests**

*Thursday 13 March 2014 12:40 (25 minutes)*

**Presenter:** STELMAKH, Georgiy

**Session Classification:** Electronics and readout session II

Contribution ID: 17

Type: **not specified**

## **Lifetime of Microchannel-Plate**

*Thursday 13 March 2014 14:00 (25 minutes)*

**Presenter:** BRITTING, Alexander Wolfgang (Friedrich-Alexander-Univ. Erlangen (DE))

**Session Classification:** Application session I

Contribution ID: **18**

Type: **not specified**

## **Development of fast frontend electronics for single-photon timing in RICH counters**

*Thursday 13 March 2014 14:25 (25 minutes)*

**Presenter:** HOEK, Matthias (University of Glasgow)

**Session Classification:** Application session I

Contribution ID: **19**

Type: **not specified**

## **LHCb Torch**

*Thursday 13 March 2014 14:50 (25 minutes)*

**Presenter:** VAN DIJK, Maarten (University of Bristol (GB))

**Session Classification:** Application session I

Contribution ID: 20

Type: **not specified**

## Plans for a Picosecond HPTDC

*Thursday 13 March 2014 15:15 (25 minutes)*

**Presenter:** PINFOLD, James (University of Alberta (CA))

**Session Classification:** Application session I

Contribution ID: **21**

Type: **not specified**

## **Picosecond gas Cerenkov detectors**

*Thursday 13 March 2014 15:40 (25 minutes)*

**Presenter:** PIOTRZKOWSKI, Krzysztof (Universite Catholique de Louvain (UCL) (BE))

**Session Classification:** Application session I

Contribution ID: 22

Type: **not specified**

## QUARTIC (vidyo)

*Thursday 13 March 2014 16:30 (25 minutes)*

**Presenter:** ALBROW, Michael (Fermi National Accelerator Lab. (US))

**Session Classification:** Application session II



Contribution ID: 23

Type: **not specified**

## **Fundamental Limits of Timing Resolution for Scintillation Detectors**

*Thursday 13 March 2014 16:55 (25 minutes)*

**Presenter:** MOSES, William (Lawrence Berkeley National Laboratory)

**Session Classification:** Application session II

Contribution ID: 24

Type: **not specified**

# Ultimate Time Resolution in Calorimetry and Time-of-Flight PET

*Thursday 13 March 2014 17:20 (25 minutes)*

**Presenter:** LECOQ, Paul (CERN)

**Session Classification:** Application session II

Contribution ID: 25

Type: **not specified**

## **Particle therapy : need for fast timing**

*Thursday 13 March 2014 17:45 (25 minutes)*

**Presenter:** RINALDI, Ilaria

**Session Classification:** Application session II

Contribution ID: 26

Type: **not specified**

## **TOF-PET concept with axial geometry and digital SiPM readout**

*Thursday 13 March 2014 18:10 (25 minutes)*

**Presenter:** CASELLA, Chiara (Eidgenoessische Tech. Hochschule Zuerich (CH))

**Session Classification:** Application session II

Contribution ID: 27

Type: **not specified**

## Timing detectors for proton tagging at the LHC

*Friday 14 March 2014 09:00 (25 minutes)*

**Presenter:** ROYON, Christophe (CEA/IRFU,Centre d'etude de Saclay Gif-sur-Yvette (FR))

**Session Classification:** Application session III: Forward Physics

Contribution ID: 28

Type: **not specified**

## Timing detectors for Totem (vidyo)

*Friday 14 March 2014 09:25 (25 minutes)*

**Presenter:** BAECHLER, Joachim (CERN)

**Session Classification:** Application session III: Forward Physics

Contribution ID: 29

Type: **not specified**

## **Role of timing in pileup mitigation for CMS Phase II upgrades**

*Friday 14 March 2014 09:50 (25 minutes)*

**Presenter:** Prof. WHITE, Sebastian (Rockefeller University (US))

**Session Classification:** Application session III: Forward Physics

Contribution ID: **30**

Type: **not specified**

## **Fast timing system for LHC time-of-flight detector**

*Friday 14 March 2014 10:15 (25 minutes)*

**Presenter:** BRANDT, Andrew Gerhart (University of Texas at Arlington (US))

**Session Classification:** Application session III: Forward Physics



Contribution ID: **31**

Type: **not specified**

## **Fast timing electronics**

*Friday 14 March 2014 11:00 (25 minutes)*

**Presenter:** RIJSSENBEEK, Michael (State University of New York (US))

**Session Classification:** Application session IV: Forward Physics

Contribution ID: 32

Type: **not specified**

## **Picosecond Photon Detectors for the LHC - Radio Frequency Streak Camera**

*Friday 14 March 2014 11:25 (25 minutes)*

**Presenter:** MARGARYAN, Amur (Alikhanian National Science Laboratory)

**Session Classification:** Application session IV: Forward Physics

Contribution ID: 33

Type: **not specified**

## Discussion and conclusion

*Friday 14 March 2014 11:50 (40 minutes)*

**Session Classification:** Application session IV: Forward Physics