

**Workshop on picosecond  
timing detectors for physics  
and medical applications**

**Report of Contributions**

Contribution ID: 1

Type: **not specified**

# Welcome

*Thursday 15 September 2016 10:00 (30 minutes)*

**Presenter:** ROYON, Christophe (The University of Kansas (US))

Contribution ID: 2

Type: **not specified**

## **Photomultiplier Development over the last 25 years**

*Thursday 15 September 2016 10:30 (30 minutes)*

**Presenter:** HOWORTH, Jon

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects I

Contribution ID: 3

Type: **not specified**

## **PHOTONIS's new developments**

*Thursday 15 September 2016 11:00 (30 minutes)*

**Presenter:** ORTEGA, Requel

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects I

Contribution ID: 4

Type: **not specified**

## **Large Area Picosecond Photo-Detector (LAPPD): Status and Perspectives**

*Thursday 15 September 2016 11:30 (30 minutes)*

**Presenter:** LYASHENKO, Alexey

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects I

Contribution ID: 5

Type: **not specified**

## **High density Multi-anode MCP-PMT readout techniques and applications**

*Thursday 15 September 2016 13:30 (30 minutes)*

**Presenter:** CONNEELY, Thomas (Photek LTD)

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects II

Contribution ID: 6

Type: **not specified**

## **Fabrication and Characterization of Low-cost Microchannel Plate Photodetectors for Fast-timing Applications**

*Thursday 15 September 2016 14:00 (30 minutes)*

**Presenter:** WANG, Jingbo (Argonne National Laboratory)

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects II

Contribution ID: 7

Type: **not specified**

## **The new transmission dynode "tynode" and its application in the Topsy ultra fast soft photon detector**

*Thursday 15 September 2016 14:30 (30 minutes)*

**Presenter:** VAN DER GRAAF, Harry (Nikhef National institute for subatomic physics (NL))

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects II



Contribution ID: 8

Type: **not specified**

## **TORCH project (Time Of internally Reflected CHerenkov light)**

*Thursday 15 September 2016 15:30 (30 minutes)*

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

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects III

Contribution ID: 9

Type: **not specified**

## **Cherenkov TOF prototype for AFP - results of Test Beam measurements**

*Thursday 15 September 2016 16:00 (30 minutes)*

**Presenter:** NOZKA, Libor (Palacky University (CZ))

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects III

Contribution ID: **10**

Type: **not specified**

## **Discussion session: Time and Space Resolution with Photodetectors**

*Thursday 15 September 2016 17:00 (1 hour)*

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects III

Contribution ID: **11**

Type: **not specified**

## GasTof

*Friday 16 September 2016 09:00 (30 minutes)*

**Presenters:** PIOTRKOWSKI, Krzysztof (Universite Catholique de Louvain (UCL) (BE)); FORTHOMME, Laurent (The University of Kansas (US))

**Session Classification:** Timing in tracking/Gaseous Detectors

Contribution ID: 12

Type: **not specified**

## **Design Considerations for a precision timing vertex detector**

*Friday 16 September 2016 09:30 (30 minutes)*

**Presenter:** VARNER, Gary (University of Hawaii)

**Session Classification:** Timing in tracking/Gaseous Detectors

Contribution ID: 13

Type: **not specified**

## Timing with diamond detectors in TOTEM

*Friday 16 September 2016 10:00 (30 minutes)*

**Presenter:** MINAFRA, Nicola (The University of Kansas (US))

**Session Classification:** Timing in Solid State/diamond Detectors I

Contribution ID: 14

Type: **not specified**

## **Development of UFSD thin silicon sensors for timing applications**

*Friday 16 September 2016 11:00 (30 minutes)*

**Presenter:** ARCIDIACONO, Roberta (Universita e INFN Torino (IT))

**Session Classification:** Timing in Solid State/diamond Detectors II

Contribution ID: 15

Type: **not specified**

## **Timing Detectors Between Jefferson Lab and CERN**

*Friday 16 September 2016 11:30 (30 minutes)*

**Presenter:** AL GHOUL, Hussein (The University of Kansas (US))

**Session Classification:** Timing in Solid State/diamond Detectors II



Contribution ID: 16

Type: **not specified**

## **Discussion session: timing with Gaseous/solid state/diamond detectors**

*Friday 16 September 2016 12:00 (30 minutes)*

**Session Classification:** Timing in Solid State/diamond Detectors II

Contribution ID: 17

Type: **not specified**

## **Test Beam Studies of Silicon Timing for Use in Calorimetry**

*Friday 16 September 2016 14:30 (30 minutes)*

**Presenter:** APRESYAN, Artur (Fermi National Accelerator Lab. (US))

**Session Classification:** Timing in calorimeters

Contribution ID: **18**

Type: **not specified**

## **Fast Timing R&D at Fermilab**

*Friday 16 September 2016 14:00 (30 minutes)*

**Presenter:** RAMBERG, erik (Fermilab)

**Session Classification:** Timing in calorimeters

Contribution ID: 19

Type: **not specified**

## **Direct tests of a pixelated microchannel plate as the active element of a shower maximum detector**

*Friday 16 September 2016 15:00 (30 minutes)*

**Presenter:** PENA HERRERA, Cristian Ignacio (California Institute of Technology (US))

**Session Classification:** Timing in calorimeters

Contribution ID: 20

Type: **not specified**

## **Algorithms for timing measurements using a fast sampling device**

*Friday 16 September 2016 16:00 (30 minutes)*

**Presenter:** MINAFRA, Nicola (The University of Kansas (US))

**Session Classification:** Timing algorithms / discussion

Contribution ID: 21

Type: **not specified**

## **Discussion session: timing detectors and algorithms**

*Friday 16 September 2016 16:30 (1 hour)*

**Session Classification:** Timing algorithms / discussion

Contribution ID: 22

Type: **not specified**

## **Progress towards 10ps TOFPET resolution on scintillator-based detectors**

*Saturday 17 September 2016 09:00 (30 minutes)*

**Presenter:** LECOQ, Paul Rene Michel

**Session Classification:** Timing in medical/engineering applications I

Contribution ID: 23

Type: **not specified**

## **PET Detector Review and Digital SPAD Scintillation Detector Simulation Flow to Evaluate and Minimize Real-Time Requirements**

*Saturday 17 September 2016 09:30 (30 minutes)*

**Presenter:** TÉTRAULT, Marc-André (Université de Sherbrooke)

**Session Classification:** Timing in medical/engineering applications I



Contribution ID: 24

Type: **not specified**

## **SiPMs as photosensors for a Cherenkov based TOF PET device**

*Saturday 17 September 2016 10:00 (30 minutes)*

**Presenter:** DOLENEC, Rok (Institut "Jožef Stefan")

**Session Classification:** Timing in medical/engineering applications I

Contribution ID: 25

Type: **not specified**

**tba**

**Presenter:** SALANDRINO, Alessandro

**Session Classification:** Timing in physics

Contribution ID: 26

Type: **not specified**

## **SAMPIC fast timing electronics**

*Saturday 17 September 2016 11:30 (30 minutes)*

**Presenters:** BRETON, Dominique Robert (Laboratoire de l'Accelérateur Lineaire (FR)); MAALMI, Jihane (Laboratoire de l'Accelérateur Lineaire (FR))

**Session Classification:** Front-end electronics I

Contribution ID: 27

Type: **not specified**

## **New readout electronics for Ultra fast Si**

*Saturday 17 September 2016 12:00 (30 minutes)*

**Presenter:** MINAFRA, Nicola (The University of Kansas (US))

**Session Classification:** Front-end electronics I

Contribution ID: 28

Type: **not specified**

## **The WaveDAQ system: Picosecond measurements with 10'000 channels**

*Saturday 17 September 2016 14:00 (30 minutes)*

**Presenter:** RITT, Stefan (Paul Scherrer Institut (CH))

**Session Classification:** Front-end electronics II

Contribution ID: 29

Type: **not specified**

## **TRB/Padiwa/DiRich FEE electronics with ~10ps precision FPGA-TDCs for MA-PMT/MCP-PMT readout: Results, Experiences and Problems**

*Saturday 17 September 2016 14:30 (30 minutes)*

**Presenter:** TRAXLER, Michael (GSI Helmholtzzentrum für Schwerionenforschung GmbH)

**Session Classification:** Front-end electronics II

Contribution ID: **30**

Type: **not specified**

## **Electronics test results (tab)**

**Presenter:** GRABAS, Herve Marie Xavier (University of California, Santa Cruz (US))

**Session Classification:** Front-end electronics II

Contribution ID: 31

Type: **not specified**

## **THz timing processor with extended dynamic range**

*Saturday 17 September 2016 16:00 (30 minutes)*

**Presenter:** ZHAMKOCHYAN, Simon

**Session Classification:** Electronics Systems and Code Support



Contribution ID: 32

Type: **not specified**

## **Superconductor 100 GHz digital electronics for detector instrumentation.**

*Saturday 17 September 2016 16:30 (30 minutes)*

**Presenter:** SARWANA, Saad

**Session Classification:** Electronics Systems and Code Support

Contribution ID: 33

Type: **not specified**

## **The Development of Electronics for Fast Timing**

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

**Session Classification:** Electronics Systems and Code Support

Contribution ID: 34

Type: **not specified**

## **Discussion session: electronics / timing in medicine/engineering**

*Saturday 17 September 2016 17:00 (45 minutes)*

**Session Classification:** Electronics Systems and Code Support

Contribution ID: 35

Type: **not specified**

## **Application of UFSD sensors to High Energy Physics Experiments**

*Thursday 15 September 2016 16:30 (30 minutes)*

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

**Session Classification:** Time and Space Resolution with Photodetectors -Present Status, Results, Prospects III

Contribution ID: **36**

Type: **not specified**

## **CT-PPS project a the LHC**

*Sunday 18 September 2016 10:00 (30 minutes)*

**Presenter:** FORTHOMME, Laurent (The University of Kansas (US))

**Session Classification:** Applications for Colliders, Dark Matter and Neutrinoless Double Beta Decay I...

Contribution ID: 37

Type: **not specified**

## The AFP project at the LHC

*Saturday 17 September 2016 11:00 (30 minutes)*

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

**Session Classification:** Timing in physics

Contribution ID: **38**

Type: **not specified**

## **Timing detectors for physics at the LHC**

*Sunday 18 September 2016 09:30 (30 minutes)*

**Presenter:** ROYON, Christophe (The University of Kansas (US))

**Session Classification:** Applications for Colliders, Dark Matter and Neutrinoless Double Beta Decay I...

Contribution ID: 39

Type: **not specified**

## Potential for timing measurements at the Electron Ion Collider

*Sunday 18 September 2016 09:00 (30 minutes)*

**Presenter:** MURRAY, Michael (The University of Kansas (US))

**Session Classification:** Applications for Colliders, Dark Matter and Neutrinoless Double Beta Decay I...



Contribution ID: 40

Type: **not specified**

## **Discussion: timing applications in high energy/nuclear physics, medicine, engineering; plans for this year**

*Sunday 18 September 2016 11:00 (50 minutes)*

**Session Classification:** Applications for Colliders, Dark Matter and Neutrinoless Double Beta Decay II...

Contribution ID: 41

Type: **not specified**

## Final conclusion

*Sunday 18 September 2016 12:20 (10 minutes)*

**Presenter:** ROYON, Christophe (The University of Kansas (US))

Contribution ID: 42

Type: **not specified**

## **Advanced particle flow with timing information (tbc)**

*Saturday 17 September 2016 15:00 (30 minutes)*

**Presenter:** WILSON, Graham (The University of Kansas (US))

**Session Classification:** Front-end electronics II