

8th INFIERI Workshop: INFIERI goes to USA



Report of Contributions

Contribution ID: 1

Type: **not specified**

Plenary Session

Contribution ID: 2

Type: **not specified**

Welcome to Fermilab

Introduction by the Local organizer of the workshop

Presenter: Prof. LOCKYER, Nigel (FNAL, Director)

Session Classification: Welcome and Overview

Contribution ID: 3

Type: **not specified**

Registration

Session Classification: Welcome and Overview

Contribution ID: 4

Type: **not specified**

FNAL and MAIN FUTURE PERSPECTIVES

Monday, October 17, 2016 9:00 AM (30 minutes)

Introductory overview by the FNAL Director, Nigel Lockyer, including his vision of the future for FNAL

Presenter: LOCKYER, Nigel (FNAL, Director)

Session Classification: Plenary Session

Contribution ID: 5

Type: **not specified**

Highlights on the Computing Division at FNAL

The Computing Division at FNAL is conducting a number of advanced R&D projects in the domain of the research and also linked to the latest developments on High Performance and Massive Parallel Computing. This talk will give an overview of these activities, many of which are related to items also developed within the INFIERI network.

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: 6

Type: **not specified**

The LSST project

Presenter: PETERSON (TBC), John (Purdue University)

Session Classification: Plenary Session

Contribution ID: 7

Type: **not specified**

Astrophysics projects and related detector R&D at Fermilab

Presenter: FLAUGHER, brenna (Fermilab)

Session Classification: Plenary Session

Contribution ID: 8

Type: **not specified**

The Square Kilometer Array, SKA, and Pathfinders

Monday, October 17, 2016 11:00 AM (45 minutes)

Presenter: Dr TORCHINSKY, Steve (Observatoire de Paris et Nancy)

Session Classification: Plenary Session

Contribution ID: 9

Type: **not specified**

The Cerenkov Telescope Array, CTA experiment: The Physics and the Detector

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: **10**

Type: **not specified**

CTA and related R&D developments (SiPM's based Camera)

Presenter: DE FRANCO, Andrea (University of Oxford)

Session Classification: Plenary Session

Contribution ID: 11

Type: **not specified**

Beamformer feeding board design and package EM simulation

Presenter: WANG, Tailei (APC-CNRS/Universite Paris Diderot, FR)

Session Classification: Plenary Session

Contribution ID: 12

Type: **not specified**

Astrophysics projects at Fermilab

Monday, October 17, 2016 1:50 PM (10 minutes)

Presenter: FLAUGHER, brenna (Fermilab)

Session Classification: Plenary Session

Contribution ID: 13

Type: **not specified**

The Physics and Related R&D of the Mu2e Experiment at Fermilab

Wednesday, October 19, 2016 8:30 AM (45 minutes)

Presenter: GLENZINSKI, Douglas

Session Classification: Plenary Session

Contribution ID: 14

Type: **not specified**

The g-2 experiment at FNAL: past, present, future

Wednesday, October 19, 2016 9:15 AM (45 minutes)

Presenter: GRANGE, Joe (FermiLab/University of Florida)

Session Classification: Plenary Session

Contribution ID: 15

Type: **not specified**

TBA

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: 16

Type: **not specified**

The Short-Baseline Neutrino Oscillation Program in the Fermilab Booster Neutrino Beam

Thursday, October 20, 2016 6:00 PM (30 minutes)

Presenter: PALAMARA, Ornella

Session Classification: Plenary Session

Contribution ID: 17

Type: **not specified**

NUMI/MINOS

Presenter: HELLER, Ken (Minnesota)

Session Classification: Plenary Session

Contribution ID: **18**

Type: **not specified**

Liquid Argon TPC developments

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: 19

Type: **not specified**

Tracking in the triggering system: the use of Associative Memory from CDF to HL-LHC, an inspring lecture

Wednesday, October 19, 2016 2:00 PM (45 minutes)

Presenter: RISTORI, Luciano Frances (Fermi National Accelerator Lab. (US))

Session Classification: Plenary Session

Contribution ID: 20

Type: **not specified**

Status report on system demonstration of the AM based tracking trigger at FNAL/LPC

Wednesday, October 19, 2016 3:20 PM (35 minutes)

Presenter: JINDARIANI, Sergo (Fermi National Accelerator Lab. (US))

Session Classification: Plenary Session

Contribution ID: 21

Type: **not specified**

New developments on A.M. at INFN-Pisa

Presenter: FEDI, Giacomo (Universita di Pisa & INFN (IT))

Session Classification: Plenary Session

Contribution ID: 22

Type: **not specified**

The A.M. Based L1 track finder for CMS at HL-LHC

Wednesday, October 19, 2016 2:45 PM (35 minutes)

Presenter: PALLA, Fabrizio (Universita di Pisa & INFN (IT))

Session Classification: Plenary Session

Contribution ID: 23

Type: **not specified**

The Phase 1 Pixel Detector Upgrade at CMS

Tuesday, October 18, 2016 8:30 AM (30 minutes)

The CMS experiment is undergoing an important upgrade of the Pixel Detector for Phase 1: this talk will overview all the new technological challenges confronted by this upgrade Phase and its important benefits for the Physics.

Presenter: MERKEL, Petra (Fermi National Accelerator Lab. (US))

Session Classification: Plenary Session

Contribution ID: 24

Type: **not specified**

Upgrade of the ATLAS Pixel Detector

Tuesday, October 18, 2016 9:00 AM (30 minutes)

Upgrade of the ATLAS micro vertex: new sensor and Front End ASIC, FEI4, developed technologies.

Presenter: METCALFE, Jessica (Argonne National Laboratory (US))

Session Classification: Plenary Session

Contribution ID: 25

Type: **not specified**

The TRACKLET based Level1 TRACK FINDER for HL-LHC at CMS

Wednesday, October 19, 2016 4:30 PM (30 minutes)

Presenter: CHAVES, Jorge (Cornell University (US))

Session Classification: Plenary Session

Contribution ID: 26

Type: **not specified**

The time-multiplexed track-trigger (TMTT) overview

Wednesday, October 19, 2016 5:00 PM (20 minutes)

Presenter: TOMALIN, Ian (STFC - Rutherford Appleton Lab. (GB))

Session Classification: Plenary Session

Contribution ID: 27

Type: **not specified**

The TMTT Seed Filter & Track Fit

Wednesday, October 19, 2016 5:40 PM (20 minutes)

Presenter: CIERI, Davide (STFC - Rutherford Appleton Lab. (GB))

Session Classification: Plenary Session

Contribution ID: 28

Type: **not specified**

The TMTT Geographic Processor & Hough Transform

Wednesday, October 19, 2016 5:20 PM (20 minutes)

Presenter: CALLIGARIS, Luigi (STFC - Rutherford Appleton Lab. (GB))

Session Classification: Plenary Session

Contribution ID: 29

Type: **not specified**

The TMTT Duplicate Track Removal

Wednesday, October 19, 2016 6:00 PM (20 minutes)

Presenter: Mr ARDILA-PEREZ, Luis (KIT-IPE)

Session Classification: Plenary Session

Contribution ID: **30**

Type: **not specified**

The Long Baseline Neutrino Facility and the DUNE experiment

Thursday, October 20, 2016 5:30 PM (30 minutes)

Presenters: CAVANNA, Flavio (Dipartimento di Fisica); CAVANNA, flavio

Session Classification: Plenary Session

Contribution ID: 31

Type: **not specified**

New Developments on Interconnect and Packaging techniques

Friday, October 21, 2016 8:30 AM (30 minutes)

Presenter: PATTI, Robert (Tezzaron Semiconductor)

Session Classification: Plenary Session

Contribution ID: 32

Type: **not specified**

New developments on 3D Interconnect Technologies by LETI-CEA (FR)

Presenter: PARES, Gabriel (CEA-Leti)

Session Classification: Plenary Session

Contribution ID: 33

Type: **not specified**

Novel 3D SPAD architecture in an advanced FDSOI technology

Friday, October 21, 2016 9:00 AM (20 minutes)

Presenter: CALMON, Francis (INSA lyon)

Session Classification: Plenary Session

Contribution ID: 34

Type: **not specified**

FNAL VIPRAM (Vertically Integrated Associative Memory) ASIC development status report

Friday, October 21, 2016 9:20 AM (30 minutes)

Presenter: HOFF, Jim (Fermilab)

Session Classification: Plenary Session

Contribution ID: 35

Type: **not specified**

JESD2048 Project

Presenters: Prof. JONES, Matthew; JONES, Timothy Matthew (Purdue University (US))

Session Classification: Plenary Session

Contribution ID: 36

Type: **not specified**

The JESD204B Interface from Texas Instrument: developments and application

Presenter: JONES, Timothy Matthew (Purdue University (US))

Session Classification: Plenary Session

Contribution ID: 37

Type: **not specified**

Silicon Photonics for HEP

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: **38**

Type: **not specified**

The Optical Wireless Communication Technology

Presenter: CIARAMELLA (TBC), Ernesto (SSSUP)

Session Classification: Plenary Session

Contribution ID: 39

Type: **not specified**

Application of Advanced data transmission technology to Medical Imaging

Presenter: ALI, Wahajat (Scuola Superiore Sant'Anna, Pisa, IT)

Session Classification: Plenary Session

Contribution ID: 40

Type: **not specified**

Further developments on Data communication related to FE processing in Medical Imaging

Wednesday, October 19, 2016 12:40 PM (20 minutes)

Presenters: KONSTANTINOOU, Georgios (Universidad Carlos III de Madrid); VAQUERO, Juan José (Universidad Carlos III de Madrid)

Session Classification: Plenary Session

Contribution ID: 41

Type: **not specified**

Latest on data communication development at FNAL

Wednesday, October 19, 2016 11:50 AM (25 minutes)

Presenters: PROSSER, Alan Gregory (Fermi National Accelerator Lab. (US)); PROSSER, Alan (Fermilab)

Session Classification: Plenary Session

Contribution ID: 42

Type: **not specified**

The Optical Wireless Communication, OWC Technology

Wednesday, October 19, 2016 11:15 AM (35 minutes)

Presenter: COSSU, Giulio (Scuola Superiore Sant'Anna)

Session Classification: Plenary Session

Contribution ID: 43

Type: **not specified**

The JESD208B interface from Texas Instrument: developments and application

Wednesday, October 19, 2016 12:15 PM (25 minutes)

Presenter: JONES, Timothy Matthew (Purdue University (US))

Session Classification: Plenary Session

Contribution ID: 44

Type: **not specified**

The X-Ray pixel sensors developments at ANL within the VIPIC project

Friday, October 21, 2016 1:30 PM (40 minutes)

Presenter: BRADFORD, Rebecca (ANL)

Session Classification: Plenary Session

Contribution ID: 45

Type: **not specified**

HVCMOS sensor technology R&D

Tuesday, October 18, 2016 11:00 AM (30 minutes)

Presenters: VIGANI, Luigi (University of Oxford (GB)); VIGANI , Luigi (University of Oxford)

Session Classification: Plenary Session

Contribution ID: 46

Type: **not specified**

Development of HV-CMOS sensors at University of Liverpool

Tuesday, October 18, 2016 11:30 AM (25 minutes)

Presenter: ZHANG, Chenfan (Liverpool University, UK)

Session Classification: Plenary Session

Contribution ID: 47

Type: **not specified**

New developments on Avalanche Pixels and R&D results

Tuesday, October 18, 2016 11:55 AM (25 minutes)

Presenter: VIGNETTI, Matteo Maria (Institut des Nanotechnologies de Lyon (INL-CNRS))

Session Classification: Plenary Session

Contribution ID: 48

Type: **not specified**

New trends in Silicon sensor technology

Tuesday, October 18, 2016 12:20 PM (30 minutes)

Presenter: LIPTON, Ronald (Fermi National Accelerator Lab. (US))

Session Classification: Plenary Session

Contribution ID: 49

Type: **not specified**

The SiDet Laboratory at FNAL

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: 50

Type: **not specified**

The ATLAS FEI4 Front-End ASIC

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: 51

Type: **not specified**

The RD53 ASIC R&D for HEP and other applications

Tuesday, October 18, 2016 2:50 PM (45 minutes)

Presenters: FAHIM, Farah (Fermi National Accelerator Lab. (US)); FAHIM, Farah (Fermilab)

Session Classification: Plenary Session

Contribution ID: 52

Type: **not specified**

A new VFE design for RD53A : joint effort INFIERI, FNAL and Bergamo

Tuesday, October 18, 2016 3:35 PM (25 minutes)

Presenter: NODARI, Benedetta (APC-CNRS and Universita e INFN, Pavia (IT))

Session Classification: Plenary Session

Contribution ID: 53

Type: **not specified**

A new compressor design

Presenter: POULIOS, Stamatios (Universita di Pisa & INFN (IT))

Session Classification: Plenary Session

Contribution ID: 54

Type: **not specified**

New Ideas for including the Pixels in the L1 trigger for HL-LHC at CMS: joint effort FNAL and CNRS-INFIERI

Tuesday, October 18, 2016 4:30 PM (25 minutes)

Presenter: CHRISTIAN, David (Fermilab)

Session Classification: Plenary Session

Contribution ID: 55

Type: **not specified**

New sensor and ASIC developments for X-Ray applications

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: 56

Type: **not specified**

Pixel Detector for LHCb VELO Upgrade

Tuesday, October 18, 2016 4:55 PM (35 minutes)

Presenter: DALL'OCCO, Elena (Nikhef National institute for subatomic physics (NL))

Session Classification: Plenary Session

Contribution ID: 57

Type: **not specified**

An Edge-Illuminated Photon Counting and Energy Sensitive for Spectral Computed Tomography

Friday, October 21, 2016 11:30 AM (25 minutes)

Presenter: DONI, Michele (Nikhef National institute for subatomic physics (NL))

Session Classification: Plenary Session

Contribution ID: 58

Type: **not specified**

The PS sensor and associated readout for the HL-LHC CMS Outer Tracker upgrade

Tuesday, October 18, 2016 9:30 AM (30 minutes)

Presenter: CANEPA, Anadi (Fermi National Accelerator Lab. (US))

Session Classification: Plenary Session

Contribution ID: 59

Type: **not specified**

Welcome and Introduction to the Workshop

Presenter: MERKEL, Petra (Fermi National Accelerator Lab. (US))

Session Classification: Welcome and Overview

Contribution ID: **60**

Type: **not specified**

The LHC Physics Center, LPC, at FNAL

Monday, October 17, 2016 9:30 AM (30 minutes)

Introduction to the LPC at FNAL: organization, role in US, goals and achievements

Presenter: KLIMA, Boaz (Fermi National Accelerator Laboratory (FNAL))

Session Classification: Plenary Session

Contribution ID: 61

Type: **not specified**

High Performance Computing/Massive Parallel Computing Activities and Developments at FNAL: an Overview

Thursday, October 20, 2016 8:30 AM (30 minutes)

FNAL is actively involved in HPC/MPC developments using or exploring new processors (GPGPUs, INTEL Xeon Phi's, new FPGA's) and firmwares, this talk will give an overview of these activities

Presenter: Dr AMUNDSON, James (Fermilab)

Session Classification: Plenary Session

Contribution ID: **62**

Type: **not specified**

DOE Leadership Computing and Lattice QCD

Friday, October 21, 2016 1:00 PM (30 minutes)

Presenter: OSBORN, James (ANL)

Session Classification: Plenary Session

Contribution ID: 63

Type: **not specified**

THALES Research and Technology Department, TRT, goals and developments in HPC/MPC field

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: 64

Type: **not specified**

Techniques for Dynamic Workload Partitioning in HPC Platforms with Heterogeneous Architectures

Thursday, October 20, 2016 9:30 AM (20 minutes)

Presenter: LOPES, Wilder (THALES-TRT)

Session Classification: Plenary Session

Contribution ID: 65

Type: **not specified**

Fast iteration and prototyping in HPC medical applications: a case study with Mentor Vista

Thursday, October 20, 2016 9:50 AM (20 minutes)

Presenter: GARCIA, Alberto (THALES-TRT)

Session Classification: Plenary Session

Contribution ID: 66

Type: **not specified**

High Performance Computing for Medical Imaging at PHILIPS GmbH (Ge)

Presenter: Dr PREVRHAL, Sven (PHILIPS GmbH Hamburg Ge)

Session Classification: Plenary Session

Contribution ID: 67

Type: **not specified**

Efficient Prototyping in High Performance Computing for Medical Applications

Thursday, October 20, 2016 10:10 AM (20 minutes)

Presenter: SASHALA NAIK, Alvin (APC-CNRS/IN2P3 and Universite Paris Diderot)

Session Classification: Plenary Session

Contribution ID: **68**

Type: **not specified**

GeantV - Simulation in Future Particle Physics Experiments

Thursday, October 20, 2016 11:00 AM (35 minutes)

Presenter: ELVIRA, Victor Daniel (Fermi National Accelerator Lab. (US))

Session Classification: Plenary Session

Contribution ID: 69

Type: **not specified**

The Automata Processor by MICRON and applications

Thursday, October 20, 2016 11:35 AM (25 minutes)

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

Session Classification: Plenary Session

Contribution ID: 70

Type: **not specified**

Simulation of beam of Particles for Accelerator R&D

Thursday, October 20, 2016 12:00 PM (30 minutes)

Presenter: Dr STERN, Eric G. (FNAL)

Session Classification: Plenary Session

Contribution ID: 71

Type: **not specified**

Latest on the PET/MRI developments based on SiPM technology at INFN-Pisa

Presenter: TBA

Session Classification: Plenary Session

Contribution ID: 72

Type: **not specified**

Advances on Medical Imaging Techniques at University Carlos Tercero Madrid

Friday, October 21, 2016 10:50 AM (40 minutes)

Presenter: VAQUERO, Juan José (Universidad Carlos III de Madrid)

Session Classification: Plenary Session

Contribution ID: 73

Type: **not specified**

Further progress at INFN

Presenter: KOSTARA, eleftheria (INFN-Pisa)

Session Classification: Plenary Session

Contribution ID: 74

Type: **not specified**

Highlights on Medical Imaging Technology related developments at FNAL and USA

Friday, October 21, 2016 9:50 AM (40 minutes)

Presenter: COUTRAKON , George (Northern Illinois University)

Session Classification: Plenary Session

Contribution ID: 75

Type: **not specified**

Wine and Cheese

Friday, October 21, 2016 3:30 PM (30 minutes)

Session Classification: Fermilab Wine and Cheese Seminar

Contribution ID: 76

Type: **not specified**

Searching for Light Dark Matter with DASEL: Why and How?

Friday, October 21, 2016 4:00 PM (1 hour)

Wine and Cheese Seminar

Presenter: SCHUSTER, Philip (MIT)

Session Classification: Fermilab Wine and Cheese Seminar

Contribution ID: 77

Type: **not specified**

High Granularity Forward Calorimetry for HL-LHC at CMS

Tuesday, October 18, 2016 10:00 AM (30 minutes)

Presenter: GECSE, Zoltan (Fermi National Accelerator Lab. (US))

Session Classification: Plenary Session

Contribution ID: 78

Type: **not specified**

Triggering at HL-LHC the main challenges for ATLAS and CMS

Tuesday, October 18, 2016 2:00 PM (45 minutes)

Presenter: SMITH, Wesley (University of Wisconsin-Madison (US))

Session Classification: Plenary Session

Contribution ID: 79

Type: **not specified**

The challenges of the L1 Phase 2 (HL-LHC) triggering architecture

Friday, October 21, 2016 2:10 PM (30 minutes)

Presenter: CAVANAUGH, Rick (University of Illinois at Chicago (US))

Session Classification: Plenary Session

Contribution ID: **80**

Type: **not specified**

The European INFIERI network meets with FermiLab

Monday, October 17, 2016 10:00 AM (30 minutes)

Presenter: SAVOY NAVARRO, Aurore (APC-CNR/IN2P3, Fr and Universita di Pisa & INFN (IT))

Session Classification: Plenary Session

Contribution ID: **81**

Type: **not specified**

Beamformer feeding board design and package EM simulation

Monday, October 17, 2016 12:25 PM (25 minutes)

Presenter: WANG, Tailei (APC, University Paris-Diderot/CNRS)

Session Classification: Plenary Session

Contribution ID: **82**

Type: **not specified**

MKIDs detectors and physics

Monday, October 17, 2016 2:20 PM (20 minutes)

Presenter: SHIRIKOFF, Erik (Argonne National Lab)

Session Classification: Plenary Session

Contribution ID: **83**

Type: **not specified**

Dark Matter searches with CCD detectors

Monday, October 17, 2016 2:40 PM (20 minutes)

Presenter: TIFFENBERG, Javier (Fermilab)

Session Classification: Plenary Session

Contribution ID: **84**

Type: **not specified**

ADMX Resonators

Monday, October 17, 2016 3:00 PM (20 minutes)

Presenter: SONNENSCHNEIN, Andrew (Fermilab)

Session Classification: Plenary Session

Contribution ID: **85**

Type: **not specified**

The Big Data at FNAL

Thursday, October 20, 2016 9:00 AM (30 minutes)

Presenter: GUTSCHE , Oliver (Fermi National Accelerator Lab. (US))

Session Classification: Plenary Session

Contribution ID: **86**

Type: **not specified**

AWARD for the SECOND ROUND of INFIERI YOUTUBES & FAREWELL

Friday, October 21, 2016 2:40 PM (20 minutes)

Session Classification: Plenary Session

Contribution ID: 87

Type: **not specified**

The Big Data at FNAL

Presenter: GUSTCHE

Session Classification: Plenary Session

Contribution ID: **88**

Type: **not specified**

The Cerenkov Telescope Array, CTA experiment: The Physics and the Detector

Monday, October 17, 2016 11:45 AM (40 minutes)

Presenter: GREENSHAW, Tim (Liverpool University)

Session Classification: Plenary Session

Contribution ID: **89**

Type: **not specified**

Cosmic Microwave Background and the Southpole Telescope 3G

Monday, October 17, 2016 2:00 PM (20 minutes)

Presenter: ANDERSON, Adam (Fermilab)

Session Classification: Plenary Session

Contribution ID: **90**

Type: **not specified**

ADMX with Quantum Detectors

Monday, October 17, 2016 3:20 PM (20 minutes)

Presenter: CHOU, Aaron

Session Classification: Plenary Session

Contribution ID: **91**

Type: **not specified**

Cryogenic Dark Matter search with SuperCDMS: the NEXUS project

Monday, October 17, 2016 3:40 PM (20 minutes)

Presenter: ROBINSON, Alan (Fermilab)

Session Classification: Plenary Session

Contribution ID: 92

Type: **not specified**

The LSST project

Wednesday, October 19, 2016 10:00 AM (40 minutes)

Presenter: DODELSON, scott (fermilab)

Session Classification: Plenary Session

Contribution ID: 93

Type: **not specified**

Detector R&D at Fermilab, a selection

Thursday, October 20, 2016 5:00 PM (30 minutes)

Presenter: RAMBERG, erik (Fermilab)

Session Classification: Plenary Session

Contribution ID: 94

Type: **not specified**

Research objectives of Thales Research & Technology in embedded HPC and MPC domains”

Thursday, October 20, 2016 10:40 AM (20 minutes)

Presenter: DUHEM, Francois (TRT-Thales)

Session Classification: Plenary Session

Contribution ID: 95

Type: **not specified**

SB-Full Members Only Meeting

Thursday, October 20, 2016 6:30 PM (2 hours)

Session Classification: Combined SB-All and EC Meeting (part 2)