



# 8th INFIERI Workshop: INFIERI goes to USA

## Monday 17 October 2016

### Plenary Session: 1: The FERMI NATIONAL LABORATORY, the LPC and INFIERI - One West (WH1W) (09:00-10:30)

-Conveners: Petra Merkel

time	[id] title	presenter
09:00	[4] FNAL and MAIN FUTURE PERSPECTIVES	LOCKYER, Nigel
09:30	[60] The LHC Physics Center, LPC, at FNAL	KLIMA, Boaz
10:00	[80] The European INFIERI network meets with FermiLab	SAVOY NAVARRO, Aurore

## Tuesday 18 October 2016

### Plenary Session: 5: SILICON: New detector upgrades at LHC as a first step to Future developments - One West (WH1W) (08:30-10:30)

-Conveners: Michele Gallinaro

time	[id] title	presenter
08:30	[23] The Phase 1 Pixel Detector Upgrade at CMS	MERKEL, Petra
09:00	[24] Upgrade of the ATLAS Pixel Detector	METCALFE, Jessica
09:30	[58] The PS sensor and associated readout for the HL-LHC CMS Outer Tracker upgrade	CANEPA, Anadi
10:00	[77] High Granularity Forward Calorimetry for HL-LHC at CMS	GECSE, Zoltan

### Plenary Session: 6: New Pixel sensor technology developments for HEP, astro and Medical imaging applications - One West (WH1W) (11:00-13:00)

-Conveners: Anadi Canepa

time	[id] title	presenter
11:00	[45] HVCMOS sensor technology R&D	VIGANI, Luigi VIGANI, Luigi
11:30	[46] Development of HV-CMOS sensors at University of Liverpool	ZHANG, Chenfan
11:55	[47] New developments on Avalanche Pixels and R&D results	VIGNETTI, Matteo Maria
12:20	[48] New trends in Silicon sensor technology	LIPTON, Ronald

### Plenary Session: TRIGGERING AT HIGH LUMINOSITY LHC - Curia II (WH2SW) (14:00-14:50)

-Conveners: Ronald Lipton

time	[id] title	presenter
14:00	[78] Triggering at HL-LHC the main challenges for ATLAS and CMS	SMITH, Wesley

### Plenary Session: 7 New Pixels sensors and related advanced signal Processing R&D - Curia II (WH2SW) (14:50-16:00)

-Conveners: Ronald Lipton

time	[id] title	presenter
14:50	[51] The RD53 ASIC R&D for HEP and other applications	FAHIM, Farah FAHIM, Farah
15:35	[52] A new VFE design for RD53A : joint effort INFIERI, FNAL and Bergamo	NODARI, Benedetta

### Plenary Session: 8: New Pixel Sensors and Related Advanced Signal Processing Technology (cont'd) - Curia II (WH2SW) (16:30-18:00)

-Conveners: Timothy Matthew Jones

time	[id] title	presenter
16:30	[54] New Ideas for including the Pixels in the L1 trigger for HL-LHC at CMS: joint effort FNAL and CNRS-INFIERI	CHRISTIAN, David

16:55	[56] Pixel Detector for LHCb VELO Upgrade
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DALL'OCCO, Elena
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## Wednesday 19 October 2016

### Plenary Session: 10 THE INTENSITY FRONTIER at FNAL - Hornet's Nest (WH8X) (08:30-10:00)

-Conveners: Nuno Leonardo

time	[id] title	presenter
08:30	[13] The Physics and Related R&D of the Mu2e Experiment at Fermilab	GLENZINSKI, Douglas
09:15	[14] The g-2 experiment at FNAL: past, present, future	GRANGE, Joe

### Plenary Session: More on the Cosmics Frontier - Hornet's Nest (WH8X) (10:00-10:40)

-Conveners: Nuno Leonardo

time	[id] title	presenter
10:00	[92] The LSST project	DODELSON, scott

### Plenary Session: 11 ADVANCES in DATA COMMUNICATION TECHNOLOGY - Hornet's Nest (WH8X)

(11:00-13:00)

-Conveners: Sergo Jindariani

time	[id] title	presenter
11:15	[42] The Optical Wireless Communication, OWC Technology	COSSU, Giulio
11:50	[41] Latest on data communication development at FNAL	PROSSER, Alan Gregory PROSSER, Alan
12:15	[43] The JESD208B interface from Texas Instrument: developments and application	JONES, Timothy Matthew
12:40	[40] Further developments on Data communication related to FE processing in Medical Imaging	KONSTANTINOU, Georgios VAQUERO, Juan José

### Plenary Session: 12 REAL TIME (Level 1) TRIGGERING AT HIGH LUMINOSITY at LHC - Sunrise (WH11NE)

(14:00-16:00)

-Conveners: James William Dolen

time	[id] title	presenter
14:00	[19] Tracking in the triggering system: the use of Associative Memory from CDF to HL-LHC, an inspring lecture	RISTORI, Luciano Frances
14:45	[22] The A.M. Based L1 track finder for CMS at HL-LHC	PALLA, Fabrizio
15:20	[20] Status report on system demonstration of the AM based tracking trigger at FNAL/LPC	JINDARIANI, Sergo

### Plenary Session: 12: REAL TIME (Level1) TRIGGERING AT HIGH LUMINOSITY AT LHC (cont'd) - Hornet's Nest

(WH8X) (16:30-18:30)

-Conveners: Jacobo Konigsberg

time	[id] title	presenter
16:30	[25] The TRACKLET based Level1 TRACK FINDER for HL-LHC at CMS	CHAVES, Jorge

17:00	[26] The time-multiplexed track-trigger (TMTT) overview	TOMALIN, Ian
17:20	[28] The TMTT Geographic Processor & Hough Transform	CALLIGARIS, Luigi
17:40	[27] The TMTT Seed Filter & Track Fit	CIERI, Davide
18:00	[29] The TMTT Duplicate Track Removal	Mr ARDILA-PEREZ, Luis

# Thursday 20 October 2016

## **Plenary Session: 13: HIGH PERFORMANCE and MASSIVE PARALLELE COMPUTING - One West (WH1W)** **(08:30-10:30)**

**-Conveners: Agnese Ciocci**

time	[id] title	presenter
08:30	[61] High Performance Computing/Massive Parallel Computing Activities and Developments at FNAL: an Overview	Dr AMUNDSON, James
09:00	[85] The Big Data at FNAL	GUTSCHE , Oliver
09:30	[64] Techniques for Dynamic Workload Partitioning in HPC Platforms with Heterogeneous Architectures	LOPES, Wilder
09:50	[65] Fast iteration and prototyping in HPC medical applications: a case study with Mentor Vista	GARCIA, Alberto
10:10	[67] Efficient Prototyping in High Performance Computing for Medical Applications	SASHALA NAIK, Alvin

## **Plenary Session: 13: HIGH PERFORMANCE and MASSIVE PARALLEL COMPUTING (cont'd) - One West (WH1W)** **(10:40-12:30)**

**-Conveners: Agnese Ciocci**

time	[id] title	presenter
10:40	[94] Research objectives of Thales Research & Technology in embedded HPC and MPC domains"	DUHEM, Francois
11:00	[68] GeantV - Simulation in Future Particle Physics Experiments	ELVIRA, Victor Daniel
11:35	[69] The Automata Processor by MICRON and applications	WANG, Michael
12:00	[70] Simulation of beam of Particles for Accelerator R&D	Dr STERN, Eric G.

## **Plenary Session: 14: THE NEUTRINO PHYSICS at FNAL: Short Baseline and Long Baseline neutrino Experiments - Curia II (WH2SW) (17:00-18:30)**

**-Conveners: Juan José Vaquero**

time	[id] title	presenter
17:00	[93] Detector R&D at Fermilab, a selection	RAMBERG, erik
17:30	[30] The Long Baseline Neutrino Facility and the DUNE experiment	CAVANNA, Flavio CAVANNA, flavio
18:00	[16] The Short-Baseline Neutrino Oscillation Program in the Fermilab Booster Neutrino Beam	PALAMARA, Ornella

## Friday 21 October 2016

### **Plenary Session: 15: ADVANCES and APPLICATION of 3D INTERCONNECT TECHNOLOGIES - WH8X** **(08:30-09:50)**

**-Conveners: Steve Torchinsky**

time	[id] title	presenter
08:30	[31] New Developments on Interconnect and Packaging techniques	PATTI, Robert
09:00	[33] Novel 3D SPAD architecture in an advanced FDSOI technology	CALMON, Francis
09:20	[34] FNAL VIPRAM (Vertically Integrated Associative Memory) ASIC development status report	HOFF, Jim

### **Plenary Session: 16: HIGHLIGHTS on MEDICAL IMAGING TECHNIQUES cont'd - WH8X (10:50-11:55)**

**-Conveners: Ian Tomalin**

time	[id] title	presenter
10:50	[72] Advances on Medical Imaging Techniques at University Carlos Tercero Madrid	VAQUERO, Juan José
11:30	[57] An Edge-Illuminated Photon Counting and Energy Sensitive for Spectral Computed Tomography	DONI, Michele

### **Plenary Session: 17 WHEN THEORY MEETS WITH HIGH PERFORMANCE AND MASSIVE PARALLEL COMPUTING - One West (13:00-13:30)**

**-Conveners: Fabrizio Palla**

time	[id] title	presenter
13:00	[62] DOE Leadership Computing and Lattice QCD	OSBORN, James

### **Plenary Session: 18 FINALS... - One West (13:30-15:15)**

**-Conveners: Fabrizio Palla**

time	[id] title	presenter
13:30	[44] The X-Ray pixel sensors developments at ANL within the VIPIC project	BRADFORD, Rebecca
14:10	[79] The challenges of the L1 Phase 2 (HL-LHC) triggering architecture	CAVANAUGH, Rick
14:40	[86] AWARD for the SECOND ROUND of INFIERI YOUTUBES & FAREWELL	