

# **Fast Machine Learning**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Docker and Kubernetes

*Thursday, September 12, 2019 9:00 AM (30 minutes)*

**Presenters:** ACOSTA, Maria (Fermi National Accelerator Laboratory); ACOSTA FLECHAS, Maria (Fermi National Accelerator Lab. (US))

**Session Classification:** Tutorial

Contribution ID: 2

Type: **not specified**

## Galapagos

*Thursday, September 12, 2019 11:15 AM (1 hour)*

**Presenters:** RANKIN, Dylan Sheldon (Massachusetts Inst. of Technology (US)); TARAFDAR, Naif (University of Toronto)

**Session Classification:** Tutorial

Contribution ID: 3

Type: **not specified**

## **hls4ml**

*Thursday, September 12, 2019 2:00 PM (1h 15m)*

**Presenters:** DUARTE, Javier Mauricio (Univ. of California San Diego (US)); SUMMERS, Sioni Paris (CERN); WU, Zhenbin (University of Illinois at Chicago (US))

**Session Classification:** Tutorials, office hours

Contribution ID: 4

Type: **not specified**

## Welcome to the LPC

*Tuesday, September 10, 2019 1:00 PM (5 minutes)*

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

**Session Classification:** Overview, Challenges, Opportunities

Contribution ID: 5

Type: **not specified**

## **The IRIS-HEP Blueprint: Concepts and Process**

*Tuesday, September 10, 2019 1:05 PM (15 minutes)*

**Presenter:** NEUBAUER, Mark Stephen (Univ. Illinois at Urbana-Champaign)

**Session Classification:** Overview, Challenges, Opportunities

Contribution ID: 6

Type: **not specified**

## Overview of triggering and real-time systems

*Tuesday, September 10, 2019 1:25 PM (25 minutes)*

**Presenter:** OJALVO, Isobel (Princeton University (US))

**Session Classification:** Overview, Challenges, Opportunities

Contribution ID: 7

Type: **not specified**

## Future computing architectures

*Tuesday, September 10, 2019 1:55 PM (25 minutes)*

**Presenter:** CALAFIURA, Paolo (Lawrence Berkeley National Lab. (US))

**Session Classification:** Overview, Challenges, Opportunities



Contribution ID: 8

Type: **not specified**

## Energy-efficient Machine Learning

*Tuesday, September 10, 2019 2:30 PM (30 minutes)*

**Presenter:** MOSHOVOS, Andreas (University of Toronto)

**Session Classification:** Overview, Challenges, Opportunities

Contribution ID: 9

Type: **not specified**

## **(Fast) Machine Learning at the LHC**

*Tuesday, September 10, 2019 3:20 PM (30 minutes)*

**Presenter:** Dr VLIMANT, Jean-Roch (California Institute of Technology (US))

**Session Classification:** Science applications and connections

Contribution ID: 10

Type: **not specified**

## **(Fast) Machine Learning in Cosmology**

*Tuesday, September 10, 2019 3:50 PM (30 minutes)*

**Presenters:** NORD, Brian (Fermi National Accelerator Laboratory); NORD, Brian (Fermi National Accelerator Laboratory)

**Session Classification:** Science applications and connections

Contribution ID: 11

Type: **not specified**

## **(Fast) Machine Learning for Accelerators**

*Tuesday, September 10, 2019 4:20 PM (30 minutes)*

**Presenter:** EDELEN, Auralee (SLAC)

**Session Classification:** Science applications and connections

Contribution ID: 12

Type: **not specified**

## **(Fast) Machine Learning for Neutrinos**

*Tuesday, September 10, 2019 4:50 PM (30 minutes)*

**Presenter:** KARAGIORGI, Georgia

**Session Classification:** Science applications and connections

Contribution ID: 13

Type: **not specified**

## **(Fast) Machine Learning for Gravitational Waves**

*Tuesday, September 10, 2019 5:20 PM (30 minutes)*

**Presenter:** HUERTA ESCUDERO, Eliu (UIUC)

**Session Classification:** Science applications and connections

Contribution ID: 14

Type: **not specified**

## **hls4ml status**

*Wednesday, September 11, 2019 8:30 AM (20 minutes)*

**Presenter:** NGADIUBA, Jennifer (CERN)

**Session Classification:** Current tools and status

Contribution ID: 15

Type: **not specified**

## **Real-time AI systems (Academia)**

*Wednesday, September 11, 2019 8:55 AM (20 minutes)*

**Presenter:** DI GUGLIELMO, Giuseppe (Columbia University)

**Session Classification:** Current tools and status



Contribution ID: 16

Type: **not specified**

## **Real-time AI Systems (Industry)**

*Wednesday, September 11, 2019 9:20 AM (25 minutes)*

**Presenter:** VIDMAR, Jason (Xilinx)

**Session Classification:** Current tools and status

Contribution ID: 17

Type: **not specified**

## Neuromorphic photonics

*Wednesday, September 11, 2019 9:50 AM (20 minutes)*

**Presenters:** ROQUES-CARMES, Charles (MIT); BERNSTEIN, Liane (MIT)

**Session Classification:** Current tools and status

Contribution ID: 18

Type: **not specified**

## **Heterogenous Computing as a Service (Industry)**

*Wednesday, September 11, 2019 10:45 AM (30 minutes)*

**Presenters:** PUTNAM, Andrew (Microsoft); OVTCHAROV, Kalin (Microsoft)

**Session Classification:** Current tools and status

Contribution ID: 19

Type: **not specified**

## **Heterogenous Computing as a Service (Academia)**

*Wednesday, September 11, 2019 11:45 AM (25 minutes)*

**Presenter:** TARAFDAR, Naif (University of Toronto)

**Session Classification:** Current tools and status

Contribution ID: **20**

Type: **not specified**

## **SONIC status**

*Wednesday, September 11, 2019 11:20 AM (20 minutes)*

**Presenter:** LIU, Miaoyuan (Fermi National Accelerator Lab. (US))

**Session Classification:** Current tools and status

Contribution ID: 21

Type: **not specified**

# Training over Distributed Computing Systems

*Wednesday, September 11, 2019 1:15 PM (15 minutes)*

**Presenter:** VLIMANT, Jean-Roch (California Institute of Technology (US))

**Session Classification:** Current tools and status

Contribution ID: 22

Type: **not specified**

## Scalable Systems Laboratory

*Wednesday, September 11, 2019 1:55 PM (20 minutes)*

**Presenter:** GARDNER JR, Robert William (University of Chicago (US))

**Session Classification:** Current tools and status

Contribution ID: 23

Type: **not specified**

## Lightning round

**Session Classification:** Current tools and status



Contribution ID: 24

Type: **not specified**

## **Real-time RF Processing**

*Wednesday, September 11, 2019 2:20 PM (10 minutes)*

**Presenter:** KREINAR, EJ (Hawkeye360)

**Session Classification:** Lightning round

Contribution ID: 25

Type: **not specified**

## Reconstruction at Nova

*Wednesday, September 11, 2019 2:32 PM (10 minutes)*

**Presenter:** WARBURTON, Thomas (Fermi National Accelerator Laboratory)

**Session Classification:** Lightning round

Contribution ID: 26

Type: **not specified**

## Searching for Black Holes with ML

*Wednesday, September 11, 2019 2:44 PM (5 minutes)*

**Presenter:** CONDON, Sean (MIT)

**Session Classification:** Lightning round

Contribution ID: 27

Type: **not specified**

## Azure

*Thursday, September 12, 2019 9:30 AM (1h 15m)*

**Presenter:** WAY, Ted (Microsoft)

**Session Classification:** Tutorial

Contribution ID: **28**

Type: **not specified**

## **hls4ml**

*Thursday, September 12, 2019 3:45 PM (1h 15m)*

**Session Classification:** Tutorials, office hours

Contribution ID: 29

Type: **not specified**

## Deep Cleaning for Gravitational Wave Data

*Wednesday, September 11, 2019 2:51 PM (10 minutes)*

**Presenter:** NGUYEN, Tri (MIT)

**Session Classification:** Lightning round

Contribution ID: **30**

Type: **not specified**

## **Graph NNs for LHC reconstruction**

*Wednesday, September 11, 2019 3:03 PM (10 minutes)*

**Presenter:** GRAY, Lindsey (Fermi National Accelerator Lab. (US))

**Session Classification:** Lightning round

Contribution ID: **31**

Type: **not specified**

## Workshop Dinner

*Tuesday, September 10, 2019 7:00 PM (2 hours)*

The workshop dinner will be on Tuesday at 7 pm at MingHin Cuisine restaurant in Naperville.



Contribution ID: 32

Type: **not specified**

## Distributed Training on HPC

*Wednesday, September 11, 2019 1:35 PM (15 minutes)*

**Presenter:** SAXTON, Aaron (University of Illinois, NCSA)

**Session Classification:** Current tools and status

Contribution ID: 33

Type: **not specified**

## **hls4ml tutorial continued (non-tornado version)**

*Friday, September 13, 2019 9:00 AM (1h 30m)*

**Session Classification:** Tutorials, office hours