

## **Session Program**

**Apr 20 - 30, 2020**



## **Connecting The Dots 2020**

### ***Recording sessions***

Virtual/Digital only workshop

# Mon, April 20

1:00 PM

## Recording sessions: Recording session 1

**Session** | **Location:** Virtual/Digital only workshop | **Conveners:** Michel De Cian, Vladimir Gligorov

1:00 - 1:15 PM

### Hashing and similarity learning for track reconstruction for the HL-LHC ATLAS detector

**Speaker**

Moritz Kiehn

1:20 - 1:30 PM

### The Hybrid Seeding at LHCb

**Speaker**

Louis Henry

1:35 - 1:50 PM

### Fast parallel Primary Vertex reconstruction for the LHCb Upgrade

**Speaker**

Florian Reiss

1:55 - 2:20 PM

### A 30 MHz software trigger and reconstruction for the LHCb upgrade

**Speaker**

Louis Henry

2:25 - 2:50 PM

### Using an Optical Processing Unit for tracking and calorimetry at the LHC

**Speaker**

Dr Laurent Basara

2:55 - 3:10 PM

### A Quantum Graph Network Approach to Particle Track Reconstruction

**Speaker**

Mr Cenk Tuysuz

3:15 - 3:25 PM

### An updated hybrid deep learning algorithm for identifying and locating primary vertices

**Speaker**

Marian Stahl

3:30 - 3:55 PM

### Allen: A high level trigger on GPUs for LHCb

**Speaker**

Thomas Julian Boettcher

4:30 PM

7:00 PM

## Recording sessions: Recording session 2

**Session** | **Location:** Virtual/Digital only workshop | **Convener:** Matthias Danninger

7:00 - 7:25 PM

### The Track finder algorithm for the Trigger System of the Mu2e experiment at Fermilab

**Speaker**  
Gianantonio Pezzullo

7:30 - 7:55 PM **Track Clustering with a Quantum Annealer for Primary Vertexing**

**Speaker**  
Dr Souvik Das

8:00 - 8:10 PM

**A muon tracking algorithm for Level 1 trigger in the CMS barrel muon chambers during HL-LHC**

**Speaker**  
Jaime Leon Holgado

8:15 - 8:40 PM **Track Reconstruction on Free Streaming Data at PANDA**

**Speaker**  
Jenny Regina

8:45 - 9:00 PM **Minimum Pt Track Reconstruction in ATLAS**

**Speaker**  
William Patrick McCormack

9:05 - 9:30 PM **Parallelizable Track Pattern Recognition in High-Luminosity LHC**

**Speaker**  
Philip Chang

10:00 PM

## Tue, April 21

1:00 PM

### Recording sessions: Recording session 3

**Session** | **Location:** Virtual/Digital only workshop | **Convener:** David Rousseau

1:00 - 1:25 PM **Level-1 Track Finding at CMS for the HL-LHC**

**Speaker**

Louise Skinnari

1:30 - 1:45 PM **Displaced Event Classification Using Graph Networks**

**Speaker**

Kim Albertsson

1:50 - 2:00 PM **Tracking performance with the HL-LHC ATLAS detector**

**Speaker**

Zachary Michael Schillaci

2:05 - 2:30 PM **Performance of Belle II tracking on collision data.**

**Speaker**

Simon Thomas Kurz

2:35 - 3:00 PM **Progress towards a 4D fast tracking pixel detector**

**Speaker**

Marco Petruzzo

3:05 - 3:30 PM **Fast tracking for the HL-LHC ATLAS detector**

**Speaker**

Fabian Klimpel

3:35 - 3:55 PM

**Exploring (Quantum) Track Reconstruction Algorithms for non-HEP applications**

**Speakers**

Mrs Kristiane Novotny, Kristiane Novotny

4:40 PM

7:00 PM

### Recording sessions: Recording session 4

**Session** | **Location:** Virtual/Digital only workshop | **Convener:** Maurice Garcia-Sciveres

7:00 - 7:25 PM

**Application of the Deep Sets architecture to track-based flavour tagging with the ATLAS detector**

**Speaker**

Nicole Michelle Hartman

7:30 - 7:55 PM **Graph Neural Networks for Track Finding**

**Speaker**

Daniel Murnane

8:00 - 8:25 PM **Kinematic Kalman Filter Track Fit**

**Speaker**  
David Brown

8:30 - 8:45 PM

**Learned Representations from Lower-Order Interactions for Efficient Clustering**

**Speaker**  
Mr Nicholas Choma

8:50 - 9:00 PM

**Performance of the Z Trigger under Luminosity Conditions: First Experience**

**Speaker**  
Felix Megendorfer

9:05 - 9:30 PM

**Requirements, Status and plans for track reconstruction of the sPHENIX experiment**

**Speaker**  
Joseph Osborn

9:35 - 9:45 PM

**Rescuing VBF Higgs Invisible Events with Novel Vertex Selection**

**Speaker**  
Murtaza Safdari

10:00 PM

## Wed, April 22

1:00 PM

### Recording sessions: Recording session 5

**Session** | **Location:** Virtual/Digital only workshop | **Convener:** Markus Elsing

1:00 - 1:25 PM **Overview of online and offline reconstruction in ALICE for LHC Run 3**

**Speaker**

David Rohr

1:30 - 1:45 PM **40 MHz Scouting with Deep Learning in CMS**

**Speaker**

Dejan Golubovic

1:50 - 2:05 PM

**A novel reconstruction framework for an imaging calorimeter for HL-LHC**

**Speakers**

Loukas Gouskos, Marco Rovere, Arabella Martelli, Dr Leonardo Cristella, Felice Pantaleo

2:10 - 2:35 PM **Global least squares alignment with Kalman Filter fitted tracks**

**Speaker**

Pawel Bruckman De Renstrom

2:40 - 3:05 PM **A Machine Learning based 3D Track Trigger for Belle II**

**Speaker**

Sebastian Skambraks

3:10 - 3:25 PM **An optical network for accelerating real-time tracking with FPGAs**

**Speaker**

Federico Lazzari

3:30 - 3:45 PM **ACTS Vertexing and Deep Learning Vertex Finding**

**Speaker**

Bastian Schlag

3:50 - 4:15 PM **Fast pattern recognition for ATLAS track triggers in HL-LHC**

**Speaker**

William Kalderon

4:45 PM

7:00 PM

### Recording sessions: Recording session 6

**Session** | **Location:** Virtual/Digital only workshop | **Convener:** David Lange

7:00 - 7:15 PM

**Graph Neural Networks for Reconstruction in Liquid Argon Time Projection Chambers**

**Speaker**

Jeremy Edmund Hewes

7:20 - 7:45 PM

**Data Reconstruction Using Deep Neural Networks for Particle Imaging Neutrino Detectors****Speaker**

François Drielsma

7:50 - 8:15 PM

**Graph neural networks for FPGAs****Speaker**

Yutaro Iiyama

8:20 - 8:30 PM

**Particle Clustering and Flow Reconstruction for Particle Imaging Neutrino Detectors Using Graph Neural Networks****Speaker**

Dr François Drielsma

8:35 - 9:00 PM

**Applying Submanifold Sparse CNN in MicroBooNE****Speaker**

Dr Ran Itay

9:25 - 9:35 PM

**Parallelizing the unpacking and clustering of detector data for reconstruction of charged particle tracks on multi-core CPUs and many-core GPUs****Speaker**

Bei Wang

9:40 - 10:05 PM

**Tracking performance with ACTS****Speaker**

Xiaocong Ai

10:10 - 10:20 PM

**Manifold reconstruction using linear approximations****Speaker**

Ms Panchali Nag

10:20 PM