

Workshop: AI4EIC-Exp - Experimental Applications of Artificial Intelligence for the Electron Ion Collider



Report of Contributions

Contribution ID: 1

Type: **not specified**

Detector Design 1

Contribution ID: 2

Type: **not specified**

Accelerator Overview

Tuesday, September 7, 2021 10:05 AM (30 minutes)

Presenter: SATOGATA, Todd (JLAB)

Session Classification: Day 1 morning

Workshop: ... / Report of Contributions

Break

Contribution ID: 3

Type: **not specified**

Break

Session Classification: Day 1 morning

Contribution ID: 4

Type: **not specified**

AI/ML supported design

Tuesday, September 7, 2021 11:25 AM (30 minutes)

Presenter: FANELLI, Cristiano (MIT)

Session Classification: Day 1 morning

Contribution ID: 5

Type: **not specified**

Event Generation and Simulation Needs for the EIC

Tuesday, September 7, 2021 2:05 PM (25 minutes)

Presenter: Dr DIEFENTHALER, Markus (Jefferson Lab)

Session Classification: Day 1 afternoon

Contribution ID: 6

Type: **not specified**

Generative AI applications for simulations in colliders

Tuesday, September 7, 2021 3:40 PM (30 minutes)

Presenter: NACHMAN, Benjamin

Session Classification: Day 1 afternoon

Contribution ID: 7

Type: **not specified**

ML for tracking in HEP

Wednesday, September 8, 2021 10:05 AM (24 minutes)

Presenter: GAGDON, Louis-Guillaume (UCB)

Session Classification: Day 2 morning

Contribution ID: 8

Type: **not specified**

ML for data analysis in HEP

Wednesday, September 8, 2021 11:35 AM (30 minutes)

Presenter: GLEYZER, Sergey (UA)

Session Classification: Day 2 morning

Contribution ID: 9

Type: **not specified**

AI for Particle Identification at the CPP experiment

Wednesday, September 8, 2021 2:05 PM (18 minutes)

Presenter: SCHICK, Andrew (UMA)

Session Classification: Day 2 afternoon

Contribution ID: **10**

Type: **not specified**

Machine Learning for jet reconstruction

Wednesday, September 8, 2021 3:35 PM (30 minutes)

Presenter: NACHMAN, Benjamin

Session Classification: Day 2 afternoon

Contribution ID: 11

Type: **not specified**

Anomaly detection/Online data quality monitoring

Thursday, September 9, 2021 10:05 AM (22 minutes)

Presenter: RAJPUT, Kishansingh (JLab)

Session Classification: Day 3 morning

Contribution ID: 12

Type: **not specified**

Trigger rate control and allocation

Thursday, September 9, 2021 11:30 AM (22 minutes)

Presenter: MILLER, David (University of Chicago)

Session Classification: Day 3 morning

Contribution ID: 13

Type: **not specified**

Detector Readout 1

Session Classification: Day 3 afternoon

Contribution ID: 14

Type: **not specified**

Detector Readout 2

Session Classification: Day 3 afternoon

Contribution ID: 15

Type: **not specified**

Quantum Simulations

Friday, September 10, 2021 10:05 AM (22 minutes)

Presenter: LAMM, Henry (FNAL)

Session Classification: Day 4 morning

Contribution ID: 16

Type: **not specified**

Computing Frontiers - Panel Discussion

Friday, September 10, 2021 12:00 PM (45 minutes)

Session Classification: Day 4 morning

Contribution ID: 17

Type: **not specified**

Discussion AI4EIC (future, hackathon, AOB)

Friday, September 10, 2021 2:00 PM (1h 15m)

Presenter: FANELLI, Cristiano (MIT)

Session Classification: Day 4 afternoon

Contribution ID: **18**

Type: **not specified**

Accelerator and Detector Design - summary

Friday, September 10, 2021 4:10 PM (10 minutes)

Presenter: SCHRAM, Malachi

Session Classification: Day 4 afternoon

Contribution ID: **19**

Type: **not specified**

Discussion

Tuesday, September 7, 2021 12:35 PM (25 minutes)

Session Classification: Day 1 morning

Contribution ID: 20

Type: **not specified**

Welcome and Introduction

Session Classification: Day 1 morning

Contribution ID: 21

Type: **not specified**

Discussion

Tuesday, September 7, 2021 4:35 PM (25 minutes)

Session Classification: Day 1 afternoon

Contribution ID: 22

Type: **not specified**

Discussion

Wednesday, September 8, 2021 12:35 PM (25 minutes)

Session Classification: Day 2 morning

Contribution ID: 23

Type: **not specified**

Discussion

Wednesday, September 8, 2021 4:35 PM (25 minutes)

Session Classification: Day 2 afternoon

Contribution ID: 24

Type: **not specified**

Discussion

Thursday, September 9, 2021 12:36 PM (24 minutes)

Session Classification: Day 3 morning

Contribution ID: 25

Type: **not specified**

Discussion

Thursday, September 9, 2021 4:40 PM (20 minutes)

Session Classification: Day 3 afternoon

Contribution ID: 26

Type: **not specified**

Discussion

Friday, September 10, 2021 12:45 PM (15 minutes)

Session Classification: Day 4 morning

Contribution ID: 27

Type: **not specified**

Summary & Adjourn

Friday, September 10, 2021 4:30 PM (30 minutes)

Session Classification: Day 4 afternoon

Contribution ID: 28

Type: **not specified**

Introduction: AI4EIC structure

Tuesday, September 7, 2021 9:05 AM (15 minutes)

Presenter: FANELLI, Cristiano (MIT)

Session Classification: Day 1 morning

Contribution ID: 29

Type: **not specified**

EIC Overview and Schedule

Tuesday, September 7, 2021 9:20 AM (25 minutes)

Presenter: ENT, Rolf (Jefferson Lab)

Session Classification: Day 1 morning

Contribution ID: **30**

Type: **not specified**

Accelerator and Detector Design: Introduction

Tuesday, September 7, 2021 10:00 AM (5 minutes)

Presenters: BOCK, Friederike (ORNL); SCHRAM, Malachi (JLab)

Session Classification: Day 1 morning

Contribution ID: 31

Type: **not specified**

Simulations: Introduction

Tuesday, September 7, 2021 2:00 PM (5 minutes)

Session Classification: Day 1 afternoon

Contribution ID: 32

Type: **not specified**

Reconstruction and Analysis: Introduction

Wednesday, September 8, 2021 10:00 AM (5 minutes)

Presenters: TEODORESCU, Liliana (Brunel U.); ULLRICH, Thomas (BNL); FURLETOVA, Yulia (Jefferson Lab)

Session Classification: Day 2 morning

Contribution ID: 33

Type: **not specified**

Reconstruction and Analysis: Introduction

Wednesday, September 8, 2021 2:00 PM (5 minutes)

Presenters: TEODORESCU, Liliana (Brunel U.); ULLRICH, Thomas (BNL); FURLETOVA, Yulia (Jefferson Lab)

Session Classification: Day 2 afternoon

Contribution ID: 34

Type: **not specified**

Accelerator and Detector Control: Introduction

Thursday, September 9, 2021 10:00 AM (5 minutes)

Presenters: NACHMAN, Benjamin; BRITTON, Thomas (JLab)

Session Classification: Day 3 morning

Contribution ID: 35

Type: **not specified**

Detector Readout: Introduction

Thursday, September 9, 2021 2:00 PM (5 minutes)

Presenters: HUANG, Jin (Brookhaven National Lab); HARRIS, Philip (MIT)

Session Classification: Day 3 afternoon

Contribution ID: 36

Type: **not specified**

Computing Frontiers: Introduction

Friday, September 10, 2021 10:00 AM (5 minutes)

Presenters: PERDUE, Gabriel (Fermilab); PFISTER, Olivier (U. Va.); DECONINCK, Wouter (UManitoba)

Session Classification: Day 4 morning

Contribution ID: 37

Type: **not specified**

AI for Transition Radiation Detectors

Wednesday, September 8, 2021 2:23 PM (18 minutes)

Presenter: FURLETOVA, Yulia (Jefferson Lab)

Session Classification: Day 2 afternoon

Contribution ID: **38**

Type: **not specified**

AI for Cherenkov Detectors

Wednesday, September 8, 2021 2:41 PM (18 minutes)

Presenter: FANELLI, Cristiano (MIT)

Session Classification: Day 2 afternoon

Contribution ID: 39

Type: **not specified**

Deeply Learning Deep Inelastic Scattering Kinematics

Wednesday, September 8, 2021 2:59 PM (18 minutes)

Presenter: FARHAT, Abdullah

Session Classification: Day 2 afternoon

Contribution ID: 40

Type: **not specified**

Bottlenecks and limitations in classical simulations: where can AI help?

Tuesday, September 7, 2021 2:30 PM (25 minutes)

Presenter: JOOSTEN, Sylvester (Argonne National Laboratory)

Session Classification: Day 1 afternoon

Contribution ID: 41

Type: **not specified**

What AI offers for EIC simulations

Tuesday, September 7, 2021 2:55 PM (30 minutes)

Presenter: KUCHERA, Michelle (Davidson College)

Session Classification: Day 1 afternoon

Contribution ID: 42

Type: **not specified**

Machine Learning for the LHCb simulations

Tuesday, September 7, 2021 4:10 PM (25 minutes)

Presenter: ANDERLINI, Lucio (INFN)

Session Classification: Day 1 afternoon

Contribution ID: 43

Type: **not specified**

AI/ML for complex systems

Friday, September 10, 2021 10:27 AM (22 minutes)

Presenter: SCHRAM, Malachi

Session Classification: Day 4 morning

Contribution ID: 44

Type: **not specified**

AI on a chip

Friday, September 10, 2021 10:49 AM (22 minutes)

Presenter: FAHIM, Farah (FNAL)

Session Classification: Day 4 morning

Contribution ID: 45

Type: **not specified**

Heterogeneous computing

Friday, September 10, 2021 11:11 AM (22 minutes)

Presenter: HUMBLE, Travis (ORNL)

Session Classification: Day 4 morning

Contribution ID: 46

Type: **not specified**

Online low-level calibration and operational conditions

Thursday, September 9, 2021 10:27 AM (22 minutes)

Presenter: JESKE, Torri (JLab)

Session Classification: Day 3 morning

Contribution ID: 47

Type: **not specified**

Online high-level calibration and analysis

Thursday, September 9, 2021 10:49 AM (22 minutes)

Presenter: MIKE, Williams (MIT)

Session Classification: Day 3 morning

Contribution ID: 48

Type: **not specified**

Machine Learning in trigger deployment

Thursday, September 9, 2021 11:52 AM (22 minutes)

Presenter: TRAN, Nhan (Fermilab)

Session Classification: Day 3 morning

Contribution ID: 49

Type: **not specified**

Accelerator control

Thursday, September 9, 2021 12:14 PM (22 minutes)

Presenter: EDELEN, Aurelee (SLAC)

Session Classification: Day 3 morning

Contribution ID: 50

Type: **not specified**

Detector Overview

Tuesday, September 7, 2021 10:35 AM (30 minutes)

Presenter: HIGINBOTHAM, Douglas (Jefferson Lab)

Session Classification: Day 1 morning

Contribution ID: 51

Type: **not specified**

AI-optimized design for ECCE

Tuesday, September 7, 2021 11:55 AM (20 minutes)

Presenter: PHELPS, William (Christopher Newport University/Jefferson Lab)

Session Classification: Day 1 morning

Contribution ID: 52

Type: **not specified**

AI for accelerator design

Tuesday, September 7, 2021 12:15 PM (20 minutes)

Presenter: HAO, Yue (Brookhaven National Laboratory)

Session Classification: Day 1 morning

Contribution ID: 53

Type: **not specified**

AI for tracking at JLab

Wednesday, September 8, 2021 10:29 AM (17 minutes)

Presenter: GAVALIAN, Gagik (JLab / ODU)

Session Classification: Day 2 morning

Contribution ID: 54

Type: **not specified**

AI for calorimetry

Wednesday, September 8, 2021 10:46 AM (17 minutes)

Presenter: ROMANOV, Dmitry (Jefferson lab)

Session Classification: Day 2 morning

Contribution ID: 55

Type: **not specified**

AI for calorimetry - hackathon

Wednesday, September 8, 2021 11:03 AM (17 minutes)

Presenter: PHELPS, William (Christopher Newport University/Jefferson Lab)

Session Classification: Day 2 morning

Contribution ID: 56

Type: **not specified**

AI for heavy-flavor and jet tagging at EIC

Wednesday, September 8, 2021 12:05 PM (30 minutes)

Presenter: SEKULA, Stephen (Southern Methodist University)

Session Classification: Day 2 morning

Contribution ID: 57

Type: **not specified**

Overview of AI in HEP readout

Thursday, September 9, 2021 2:05 PM (30 minutes)

Presenters: RANKIN, Dylan (MIT); RANKIN, Dylan (MIT)

Session Classification: Day 3 afternoon

Contribution ID: 58

Type: **not specified**

EIC readout overview

Thursday, September 9, 2021 2:40 PM (30 minutes)

Presenter: BARBOSA, Fernando (JLab)

Session Classification: Day 3 afternoon

Contribution ID: 59

Type: **not specified**

Real-time AI tracking and tagging

Thursday, September 9, 2021 3:30 PM (20 minutes)

Presenters: YU, Dantong (New Jersey Institute of Technology); YU, Dantong (Computational Science Center)

Session Classification: Day 3 afternoon

Contribution ID: **60**

Type: **not specified**

Real-time data compression with Bicephalous Convolutional Auto-Encoder

Thursday, September 9, 2021 3:53 PM (20 minutes)

Presenter: Dr HUANG, Yi (BNL/CSI)

Session Classification: Day 3 afternoon

Contribution ID: **61**

Type: **not specified**

Event tagging and triggering on FPGA

Thursday, September 9, 2021 4:16 PM (20 minutes)

Presenter: Dr FURLETOV, Sergey (JLab)

Session Classification: Day 3 afternoon

Contribution ID: **62**

Type: **not specified**

Machine Learning for PID in ALICE

Wednesday, September 8, 2021 4:05 PM (30 minutes)

Presenter: GRACZYKOWSKI, Lukasz (WUT)

Session Classification: Day 2 afternoon

Contribution ID: **63**

Type: **not specified**

Simulations - summary

Friday, September 10, 2021 4:20 PM (10 minutes)

Presenters: Dr ADAMS, Corey (ANL); ASAI, Makoto (SLAC)

Session Classification: Day 4 afternoon

Contribution ID: **64**

Type: **not specified**

Detector Readout - summary

Friday, September 10, 2021 4:00 PM (10 minutes)

Presenter: HARRIS, Philip (MIT)

Session Classification: Day 4 afternoon

Contribution ID: 65

Type: **not specified**

Reconstruction & Analysis - summary

Friday, September 10, 2021 3:40 PM (10 minutes)

Presenter: ULLRICH, Thomas (BNL)

Session Classification: Day 4 afternoon

Contribution ID: **66**

Type: **not specified**

Accelerator and Detector Control - summary

Friday, September 10, 2021 3:50 PM (10 minutes)

Presenter: BRITTON, Thomas (JLab)

Session Classification: Day 4 afternoon

Contribution ID: 67

Type: **not specified**

Computing Frontiers - summary

Friday, September 10, 2021 3:30 PM (10 minutes)

Presenter: PERDUE, Gabriel (Fermilab)

Session Classification: Day 4 afternoon