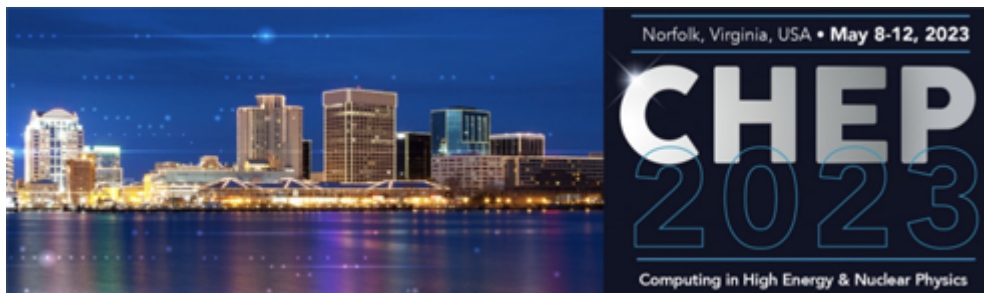


Session Program

May 8 - 12, 2023



26TH INTERNATIONAL CONFERENCE ON COMPUTING IN HIGH ENERGY & NUCLEAR PHYSICS (CHEP2023)

Track 6 - Physics Analysis Tools

Norfolk Waterside Marriott
235 East Main Street Norfolk, VA 23510

Mon, May 8

11:00 AM

Track 6 - Physics Analysis Tools: Statistical Inference and Fitting

Session |

Location: Norfolk Waterside Marriott, Hampton Roads Ballroom VIII, 235 East Main Street Norfolk, VA 23510 |

Conveners: Hageboeck, Stephan, Held, Alexander

11:00 - 11:15

RooFit's new heterogeneous computing backend

Speaker

Rembser, Jonas

11:15 - 11:30

Making Likelihood Calculations Fast: Automatic Differentiation Applied to RooFit

Speaker

Singh, Garima

11:30 - 11:45

Build-a-Fit: RooFit configurable parallelization and fine-grained benchmarking tools for order of magnitude speedups in your fits

Speaker

Wolffs, Zef

11:45 - 12:00

New developments in Minuit2

Speaker

Moneta, Lorenzo

12:00 - 12:15

Bayesian methodologies in particle physics with pyhf

Speaker

Horstmann, Malin

12:15 - 12:30

A multidimensional, event-by-event, statistical weighting procedure for signal to background separation

Speaker

Baldwin, Zachary

12:30 PM

2:00 PM

Track 6 - Physics Analysis Tools: I/O and Data Formats

Session |

Location: Norfolk Waterside Marriott, Hampton Roads Ballroom VIII, 235 East Main Street Norfolk, VA 23510 |

Conveners: Heddle, Dave, Hageboeck, Stephan

14:00 - 14:15

DUNE HDF5 Experience

Speaker

Dr Chowdhury, Barnali

14:15 - 14:30

Schema-Evolution and the TTree within HDF5

Speaker

Eichlersmith, Tom

14:30 - 14:45

ROOT's RNTuple I/O Subsystem: The Path to Production

Speaker
Blomer, Jakob

14:45 - 15:00 **Integration of RNTuple in ATLAS Athena**

Speaker
Mrs De Geus, Florine

15:00 - 15:15 **Improving ROOT I/O Performance for Analysis**

Speaker
Canal, Philippe

15:15 - 15:30

Boosting RDataFrame performance with transparent bulk event processing

Speaker
Guiraud, Enrico

3:30 PM

Tue, May 9

11:00 AM

Track 6 - Physics Analysis Tools: Machine Learning in Analysis

Session |

Location: Norfolk Waterside Marriott, Hampton Roads Ballroom VIII, 235 East Main Street Norfolk, VA 23510 |

Conveners: Heddle, Dave, Held, Alexander

11:00 - 11:15

Binning high-dimensional classifier output for HEP analyses through a clustering algorithm

Speaker

Eich, Niclas

11:15 - 11:30

Deep generative models for generating Drell-Yan events in the ATLAS collaboration at the LHC

Speaker

Ju, Xiangyang

11:30 - 11:45

Unbiased detection of data departures from expectations with machine learning

Speaker

Grosso, Gaia

11:45 - 12:00

Data driven background estimation in HEP using Generative Adversarial Networks

Speaker

Lohezic, Victor

12:00 - 12:15

An Active Learning application in a dark matter search with ATLAS PanDA and iDDS

Speaker

Weber, Christian

12:15 - 12:30

Deep Learning for Matrix Element Method

Speaker

Neubauer, Mark

12:30 PM

2:00 PM

Track 6 - Physics Analysis Tools: Reconstruction and Amplitude Fitting

Session |

Location: Norfolk Waterside Marriott, Hampton Roads Ballroom VIII, 235 East Main Street Norfolk, VA 23510 |

Conveners: Heddle, Dave, Skidmore, Nicole

14:00 - 14:15

A Kinematic Kalman Filter Track Reconstruction Algorithm for the Mu2e Experiment

Speaker

Brown, David

14:15 - 14:30

MEDUSA, A MULTITHREAD 4-BODY DECAY FITTING AND SIMULATION SOFTWARE**Speaker**

Dr Ricci, Alessandro Maria

14:30 - 14:45

Event Generator Tuning Incorporating MC Systematic Uncertainty**Speaker**

Ju, Xiangyang

15:00 - 15:15

`epic-analysis` : Common Physics Analysis Software for the EIC**Speaker**

Dilks, Christopher

15:15 - 15:30

Laurelin: A ROOT I/O implementation for Apache Spark**Speaker**

Melo, Andrew

3:30 PM

4:30 PM

Track 6 - Physics Analysis Tools: Physics Analysis Workflows**Session** |**Location:** Norfolk Waterside Marriott, Hampton Roads Ballroom VIII, 235 East Main Street Norfolk, VA 23510 |**Conveners:** Hageboeck, Stephan, Skidmore, Nicole

16:30 - 16:45

Benchmarking distributed-RDataFrame with CMS analysis workflows on the INFN analysis infrastructure**Speaker**

spiga, daniele

16:45 - 17:00

RootInteractive tool for multidimensional statistical analysis, machine learning and analytical model validation**Speaker**

Eulisse, Giulio

17:00 - 17:15

Physics analysis for the HL-LHC: concepts and pipelines in practice with the Analysis Grand Challenge**Speaker**

Held, Alexander

17:15 - 17:30

First implementation and results of the Analysis Grand Challenge with a fully Pythonic RDataFrame**Speaker**

Padulano, Vincenzo Eduardo

17:30 - 17:45

PyPWA: A Software Toolkit for Parameter Optimization and Amplitude Analysis**Speaker**

Mr Jones, Mark

17:45 - 18:00

Analysis Productions: A declarative approach to ntupling

6:00 PM

Speaker
Burr, Chris

Thu, May 11

11:15 AM

Track 6 - Physics Analysis Tools: AM Parallel

Session |

Location: Norfolk Waterside Marriott, Hampton Roads Ballroom VIII, 235 East Main Street Norfolk, VA 23510 |

Conveners: Hageboeck, Stephan, Heddle, Dave

11:15 - 11:30

High-performance end-user analysis in pure Julia programming language

Speaker

Ling, Jerry

11:30 - 11:45

Extracting Columnar Event Data From Experiment Specific Data Formats At Scale

Speaker

Galewsky, Ben

11:45 - 12:00

Awkward Just-In-Time (JIT) Compilation: A Developer's Experience

Speaker

Schreiner, Henry

12:00 - 12:15

The New Awkward Ecosystem

Speaker

Ifrim, Ioana

12:15 - 12:30

Data Management Package for the novel data delivery system, ServiceX, and Applications to various physics analysis workflows

Speaker

Choi, KyungEon

12:30 - 12:45

Interpreting C++20 and CUDA, with profiling and debugging

Speaker

Canal, Philippe

12:45 PM

2:00 PM

Track 6 - Physics Analysis Tools: PM Parallel

Session |

Location: Norfolk Waterside Marriott, Hampton Roads Ballroom VIII, 235 East Main Street Norfolk, VA 23510 |

Conveners: Held, Alexander, Skidmore, Nicole

14:00 - 14:15

CP Algorithms: A common corrections framework for ATLAS

Speaker

Krumnack, Nils

14:15 - 14:30

PHYSLITE - a new reduced common data format for ATLAS

Speaker

Schaarschmidt, Jana

14:30 - 14:45

Columnar analysis and on-the-fly analysis corrections at ATLAS

Speaker
Krumnack, Nils

14:45 - 15:00 **podio v1.0 - A first stable release of the EDM toolkit**

Speaker
Madlener, Thomas

15:00 - 15:15 **The QuantOm Event-Level Inference Framework**

Speaker
Lersch, Daniel

15:15 - 15:30 **Speeding up amplitude analysis with a Computer Algebra System**

Speaker
de Boer, Remco

3:30 PM