ACAT 2024

Monday, 11 March 2024

Track 1: Computing Technology for Physics Research - Theatre (14:30 - 16:10)

-**Conveners: Gordon Watts; Vladimir Loncar**

time	[id] title	presenter
14:30	[2] JUNO raw data management system	ZHANG, Xiaomei
14:50	[22] A Function-As-Task Workflow Management Approach with PanDA and iDDS	GUAN, Wen
15:10	[25] HEP Benchmark Suite: Enhancing Efficiency and Sustainability in Worldwide LHC Computing Infrastructures	SZCZEPANEK, Natalia Diana
15:30	[168] CLAS12 remote data-stream processing using ERSAP framework	Dr GYURJYAN, Vardan
15:50	[186] Low Latency, High Bandwidth Streaming of Experimental Data with EJFAT	GOODRICH, michael

Track 1: Computing Technology for Physics Research: Quantum Computing - Lecture Hall 1 (14:30 - 16:10)

-**Conveners: Vladimir Loncar; Herschel Chawdry**

time	[id] title	presenter
14:30	[6] Quantum simulation with just-in-time compilation	PASQUALE, Andrea
14:50	[59] quantum GAN for fast shower simulation	Dr HUANG, Xiaozhong
15:10	[40] QUnfold: Quantum Annealing for Distributions Unfolding in High-Energy Physics	Dr BIANCO, Gianluca GASPERINI, Simone
15:30	[7] Real-time error mitigation for variational optimization on quantum hardware	ROBBIATI, Matteo

Track 1: Computing Technology for Physics Research - Theatre (16:50 - 18:10)

-**Conveners: Vincenzo Eduardo Padulano; Philippe Canal**

time	[id] title	presenter
16:50	[11] Persistifying the complex Event Data Model of the ATLAS Experiment in RNTuple	METE, Alaettin Serhan
17:10	[18] RNTupleInspector: A storage information utility for RNTuple	DE GEUS, Florine
17:30	[19] Seamless transition from TTree to RNTuple analysis with RDataFrame	CZURYLO, Marta
17:50	[74] HPC Friendly HEP data model and RNTuple in HEP-CCE	BASHYAL, Amit

Track 1: Computing Technology for Physics Research: Quantum Computing - Lecture Hall 1 (16:50 - 18:10)

-**Conveners: Vladimir Loncar; Herschel Chawdry**

time	[id] title	presenter
16:50	[119] Advancing Image Classification using Intel SDK: Integrating NAQSS Encoding with Hybrid Quantum-Classical PQC Models	Mr AJAREKAR, Digvijaysinh
17:10	[177] Quantum-centric Supercomputing for Physics Research	PASCUZZI, Vincent R.

17:30	[56] Towards an open-source hybrid quantum operating system	PEDICILLO, Edoardo

Tuesday, 12 March 2024

Track 1: Computing Technology for Physics Research - **Theatre (11:30 - 13:10)**

-**Conveners: Florine de Geus; Benedikt Hegner**

time	[id] title	presenter
11:30	[77] Optimizing ANN-Based Triggering for BSM events with Knowledge Distillation	LORUSSO, Marco
11:50	[95] Accelerating Machine Learning Inference on GPUs with SYCL using SOFIE	Dr PADULANO, Vincenzo
12:10	[172] Improving Computational Performance of a GNN Track Reconstruction Pipeline for ATLAS	MURNANE, Daniel Thomas
12:30	[176] New developments and applications of a Deep-learning-based Full Event Interpretation (DFEI) in proton-proton collisions	SOUZA DE ALMEIDA, Felipe Luan
12:50	[78] Fair Universe: HiggsML Uncertainty Challenge	BHIMJI, Wahid

Wednesday, 13 March 2024

Track 1: Computing Technology for Physics Research - Theatre (14:30 - 16:10)

  -Conveners: Vladimir Loncar; Philippe Canal

time	[id] title	presenter
14:30	[26] Evaluating Application Characteristics for GPU Portability Layer Selection	Dr LEGGETT, Charles
14:50	[36] Optimizing the CMS Offline Software Infrastrucure for Run 3	VALENZUELA RAMIREZ, Andrea
15:10	[45] A Mechanism for Asynchronous Offloading in the Multithreaded Gaudi Event Processing Framework	STANISLAUS, Beojan
15:30	[64] Bridging Worlds: Achieving Language Interoperability between Julia and Python in Scientific Computing	OSBORNE, Ianna
15:50	[85] Key4hep	HEGNER, Benedikt

Track 1: Computing Technology for Physics Research - Theatre (16:50 - 18:10)

  -Conveners: Benedikt Hegner; Philippe Canal

time	[id] title	presenter
16:50	[30] Towards a Simplified (Fast) Simulation Infrastructure in ATLAS	BEIRER, Joshua Falco
17:10	[63] CaloDiT: Diffusion with transformers for fast shower simulation	RAIKWAR, Piyush
17:30	[190] Optimizing the ATLAS Geant4 detector simulation	SCHMIDT, Mustafa Andre
17:50	[24] "Accelerating Particle Physics Simulations with Machine Learning using Normalizing Flows and Flow Matching"	VASELLI, Francesco

Thursday, 14 March 2024

Track 1: Computing Technology for Physics Research - Theatre (14:30 - 16:10)

   -Conveners: Benedikt Hegner; Vladimir Loncar

time	[id] title	presenter
14:30	[76] ACTS as a Service	CHOU, Yuan-Tang
14:50	[109] Fully containerised approach for the HPC cluster at FAIR	KRESAN, Dmytro
15:10	[175] Pinpoint resource allocation for GPU batch applications	VOIGTLAENDER, Tim
15:30	[44] Deep learning methods for noise filtering in the NA61/SHINE experiment.	SCHMIDT, Katarzyna
15:50	[169] Effective denoising diffusion probabilistic models for fast and high fidelity whole-event simulation in high-energy heavy-ion experiment	GO, Yeonju

Track 1: Computing Technology for Physics Research - Theatre (16:50 - 18:30)

   -Conveners: Vladimir Loncar; Benedikt Hegner

time	[id] title	presenter
16:50	[34] FASER Tracking and Emulsion Station Alignment	GARABAGLU, Ali
17:10	[51] ATLAS TDAQ Phase-2	PASTORE, Francesca
17:30	[50] Phase-2 Upgrade of the ATLAS L1 Central Trigger	KOULOURIS, Aimilianos
17:50	[181] First experiences with the LHCb heterogeneous software trigger	BOETTCHER, Thomas
18:10	[75] Real-time track reconstruction with FPGAs in the LHCb Scintillating Fibre Tracker beyond Run 3	XU, Ao