ACAT 2022

Monday, 24 October 2022

Track 1: Computing Technology for Physics Research **- Sala Federico II (14:30 - 16:10)**

 -Conveners: Diego Ciangottini; Baidyanath Kundu

time	[id] title	presenter
14:30	[20] Optimizing the ATLAS Geant4 detector simulation software	KOURLITIS, Evangelos
14:50	[13] The Software Quality Assurance programme of the ASTRI Mini-Array project	CONFORTI, Vito
15:10	[58] Next generation task scheduler for ATLAS software framework	STANISLAUS, Beojan
15:30	[116] GPU acceleration of Monte Carlo simulations: particle physics methods applied to medicine	BARBONE, Marco
15:50	[207] The LHCb simulation software: Gauss and its Gaussino core framework	CORTI, Gloria

Track 1: Computing Technology for Physics Research: 1 **- Sala Federico II (16:40 - 18:00)**

 -Conveners: Marica Antonacci; Daniele Cesini

time	[id] title	presenter
16:40	[27] The journey towards HEPscore, the HEP-specific CPU benchmark for WLCG	GIORDANO, Domenico
17:00	[36] CPU-level resources allocation for optimal execution of multi-process physics code	BERTRAN FERRER, Marta
17:20	[45] ML-based tool for RPC currents quality monitoring	SHUMKA, Elton
17:40	[205] EJFAT: Towards Intelligent Compute Destination Load Balancing	GOODRICH, michael

Tuesday, 25 October 2022

Track 1: Computing Technology for Physics Research - Sala Federico II (14:30 - 16:10)

-**Conveners: Marica Antonacci; Michael Poat**

time	[id] title	presenter
14:30	[37] Challenges and opportunities in migrating the CNAF datacenter to the Bologna Tecnopolo	CESINI, Daniele DELL'AGNELLO, Luca Dr BOCCALI, Tommaso
14:50	[44] A cloud-based computing infrastructure for the HERD cosmic-ray experiment	MORI, Nicola
15:10	[61] The new GPU-based HPC cluster at ReCaS-Bari	VINO, Gioacchino
15:30	[96] Power Efficiency in HEP (x86 vs. arm)	SIMILI, Emanuele

Track 1: Computing Technology for Physics Research - Sala Federico II (16:40 - 18:00)

-**Conveners: Gioacchino Vino; Stefano Bagnasco**

time	[id] title	presenter
16:40	[86] Design and implementation of zstd compression algorithm for high energy physics experiment data processing based on FPGA	Mr ZHOU, Xuyang
17:00	[115] Precision Cascade: A novel algorithm for multi-precision extreme compression	YING, Yueyang
17:20	[138] Portable Programming Model Exploration for LArTPC Simulation in a Heterogeneous Computing Environment: OpenMP vs. SYCL	Dr LIN, Meifeng
17:40	[233] Efficient and Accurate Automatic Python Bindings with Cppyy and Cling	KUNDU, Baidyanath

Wednesday, 26 October 2022

Track 1: Computing Technology for Physics Research - Sala Federico II (11:30 - 13:00)

-Conveners: Maria Girone; Taylor Childers

time	[id] title	presenter
11:30	[15] The Virtual Research Environment: towards a complexive analysis platform	GAZZARRINI, Elena
11:50	[181] Computing for Gravitational-wave Research towards O4	BAGNASCO, Stefano
12:10	[153] CernVM 5: a versatile container-based platform to run HEP applications	EBERHARDT, Jakob Karl

Track 1: Computing Technology for Physics Research - Sala Federico II (14:15 - 15:55)

-Conveners: Gioacchino Vino; Raquel Pezoa Rivera

time	[id] title	presenter
14:15	[127] covfie: a compositional library for heterogeneous vector fields	SWATMAN, Stephen Nicholas
14:35	[40] Speeding up CMS simulations, reconstruction and HLT code using advanced compiler options	PIPARO, Danilo
14:55	[151] Using a DSL to read ROOT TTrees faster in Uproot	ROY, Aryan
15:15	[231] Implementing Machine Learning inference on FPGAs: from software to hardware using hls4ml	LORUSSO, Marco
15:35	[92] Extending ADL/CutLang with a new dynamic multipurpose protocol	UNEL, Gokhan

Thursday, 27 October 2022

Track 1: Computing Technology for Physics Research - Sala Federico II (14:30 - 16:10)

   -**Conveners: Nicola Mori; Elena Gazzarrini**

time	[id] title	presenter
14:30	[214] PHASM: A toolkit for creating AI surrogate models within legacy codebases	BREI, Nathan
14:50	[60] The Level 1 Scouting system of the CMS experiment	JAMES, Thomas Owen
15:10	[124] Development of the Topological Trigger for LHCb Run 3	SCHULTE, Nicole
15:30	[126] Real-time tracking on FPGAs at LHCb	TUCI, Giulia
15:50	[197] APEIRON: composing smart TDAQ systems for high energy physics experiments	LONARDO, Alessandro

Track 1: Computing Technology for Physics Research - Sala Federico II (16:40 - 18:00)

   -**Conveners: Nicola De Filippis; Oksana Shadura**

time	[id] title	presenter
16:40	[66] The Awkward World of Python and C++	GOYAL, Manasvi
17:00	[97] Challenges and opportunities integrating LLAMA into AdePT	GRUBER, Bernhard Manfred AMADIO, Guilherme HAGEBOECK, Stephan
17:20	[130] Adoption of the alpaka performance portability library in the CMS software	BOCCI, Andrea
17:40	[164] Application of Portable Parallelization Strategies for GPUs on track reconstruction kernels	KWOK, Ka Hei Martin