

Digital Twins for Nuclear and Particle physics - NPTwins 2024

Monday, 16 December 2024

Talks - Sala Didattica (11:00 - 12:45)

time	[id] title	presenter
11:00	[2] Intro	BATTAGLIERI, Marco DI BELLO, Francesco Armando Dr PILLONI, Alessandro SCHIAVI, Carlo Dr TORRE, Riccardo
11:15	[3] Hadron spectroscopy theory and AI	FOX, Geoffrey
11:45	[4] Physics constrained GAN for amplitude extraction	MONTANA, Gloria
12:15	[5] Point cloud-based diffusion models for the Electron-Ion Collider	SATO, Nobuo

Talks - Sala Didattica (14:30 - 16:10)

time	[id] title	presenter
14:30	[30] Greetings from the Director	TAIUTI, Mauro Gino
14:40	[6] Machine Learning for Hadron Spectroscopy	FERNANDEZ-RAMIREZ, Cesar
15:10	[8] Simulating the LHCb experiment with Machine Learning	ANDERLINI, Lucio
15:40	[9] Training with Real Rata: Signal Extraction via Density Ratios	GLAZIER, Derek Ian

Talks - Sala Didattica (16:40 - 18:10)

time	[id] title	presenter
16:40	[10] Anomaly detection for BSM using AI/ML	MORAN, Patrick
17:10	[11] AI in ICSC/terabit	ANDERLINI, Lucio
17:40	[21] Quantum computing applications for HEP	ZULIANI, Davide

Tuesday, 17 December 2024

Talks - Sala Didattica (09:00 - 10:30)

time	[id] title	presenter
09:00	[12] Fast simulation with ATLAS	CORCHIA, Federico Andrea Guillaume
09:30	[14] Global particle flow reconstruction	DREYER, Etienne
10:00	[13] Identification of HF jets/tau	D'ANNIBALLE, Gabriele

Talks - Sala Didattica (11:00 - 12:30)

time	[id] title	presenter
11:00	[15] Charmed-hadron rec in ALICE using AI/ML	CAMERLINGO, Maria Teresa
11:30	[16] Unfolding Particle Detector Effects in HEP with Generative AI	LI, Yaohang
12:00	[17] Data smearing and acceptance correction using AI	VITTORINI, Tommaso

Talks - Sala Didattica (14:30 - 16:00)

time	[id] title	presenter
14:30	[18] Simulation based inference at the LHC	SANDESARA, Jay
15:00	[19] Plug the physics into the AI: inductive bias, and the case of enforcing symmetries in neural networks	VISCHIA, Pietro
15:30	[20] AI for Experiment Optimization	DORIGO, Tommaso

Talks - Sala Didattica (16:30 - 17:30)

time	[id] title	presenter
16:30	[22] AI for real time data-reduction	ROSSI, Fabio
17:00	[23] AI for low-level data reconstruction	DE VITA, Raffaella DE VITA, Raffaella

Wednesday, 18 December 2024

Talks - Sala Didattica (09:00 - 10:30)

time	[id] title	presenter
09:00	[24] The Italian center for HPC (ICSC)	SALOMONI, Davide
09:30	[25] Determining parton distribution functions accurately and precisely with Machine Learning	NOCERA, Emanuele Roberto
10:00	[26] Kernel Methods	ROSASCO, Lorenzo

Talks - Sala Didattica (11:00 - 12:30)

time	[id] title	presenter
11:00	[27] Reinforcement learning	SEMINARA, Agnese
11:30	[28] Recent developments in zero-th order optimization algorithms	RANDO, Marco
12:00	[29] The NPLM method: ML for signal-agnostic searches and beyond	LETIZIA, Marco