

Session Program

Jun 16 - 20, 2025



EUROPEAN AI FOR
FUNDAMENTAL PHYSICS
CONFERENCE
EuCAIFCon 2025

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Explainability & Theory

THotel, Cagliari, Sardinia, Italy
Via dei Giudicati, 66, 09131 Cagliari (CA), Italy

Tue, June 17

12:00 PM

Explainability & Theory

Session | Location: T1c | Convener: Tilman Plehn

12:00 - 12:03 PM

✂ **Predicting the trainability of deep neural networks with reconstruction entropy**

Speaker

Yanick Thurn

12:03 - 12:06 PM

✂ **Cause-mic Universe : Causal Approaches probing Solar and Astrophysical Variability**

Speaker

Nachiketa Chakraborty

12:06 - 12:26 PM

On the accuracy of posterior recovery with neural network emulators

Speaker

Harry Bevins

12:26 - 12:46 PM

Efficient Graph Coloring with Neural Networks: A Physics-Inspired Approach for Large Graphs

Speaker

Lorenzo Colantonio

12:46 - 12:49 PM

✂ **Neural Network-Based Particle Identification: Towards Physics-Informed Loss Functions**

Speakers

Marvin Kohls, Dr Simon Spies

12:49 - 12:52 PM

✂ **Emulating CO Line Radiative Transfer with Deep Learning**

Speaker

Ms Shiqi Su

1:00 PM

Wed, June 18

4:30 PM

Explainability & Theory

Session | Location: T3b | Convener: Roberto Ruiz de Austri

4:30 - 4:33 PM

Applications of Machine Learning in Constraining Multi-Scalar Models

Speaker

Dr Darius Jurčiukonis

4:33 - 4:36 PM

Physics-guided Machine Learning methods in QUBIC

Speaker

Leonora Kardum

4:36 - 4:56 PM

Machine-Learned Fixed-Point Actions in Four-Dimensional SU(3) Gauge Theory

Speaker

Andreas Ipp

4:56 - 5:16 PM

Mixture of Expert Graph Transformer for Particle Collision Detection

Speaker

Dr Donatella Genovese

5:16 - 5:19 PM

Investigating Explainable Jet Tagging with Pretrained Vision Transformers and Attention Mechanisms

Speaker

Mariagrazia Monteleone

5:19 - 5:22 PM

Reinforcement Learning for background determination in particle physics

Speaker

Guillermo Hijano

5:30 PM

Thu, June 19

4:15 PM

Explainability & Theory

Session | Location: T3b | Convener: Andreas Ipp

4:15 - 4:35 PM

Bridging the Gap: Unfolding and Quantification Learning for Physics Research

Speaker

Mirko Bunse

4:35 - 4:55 PM

Isbi: linear simulation based inference

Speaker

Will Handley

5:15 PM