Session Program

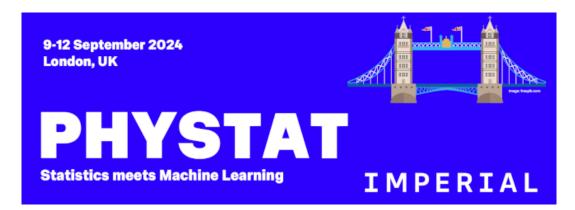**9–12 Sept 2024**

PHYSTAT - Statistics meets ML

Social

Imperial College London, Lecture Theatre 2, Blackett Laboratory

Tuesday 10 September

18:00

Social: Poster Session & Welcome Drinks
Session | **Location:** Imperial College London, Lecture Theatre 2, Blackett Laboratory

18:00–18:01 **Uncertainty-aware machine learning for the LHC**

Speaker
Nina Elmer

18:01–18:02 **Generative models: their evaluation and their limitations**

Speaker
Samuele Grossi

18:02–18:03

Limits to classification performance by relating Kullback-Leibler divergence to Cohen's Kappa

Speaker
Stephen Watts

18:03–18:04 **Graph neural networks on the test bench in HEP applications**

Speaker
Emanuel Lorenz Pfeffer

18:04–18:05 **Interpolated Likelihoods for Fast Reinterpretations**

Speaker
Tom Runting

18:05–18:06 **Efficient machine learning for statistical hypothesis testing**

Speaker
Dr Marco Letizia

18:06–18:07

Integrating Explainable AI in Data Analyses of ATLAS Experiment at CERN

Speaker
Joseph Carmignani

18:07–18:08 **Proximal Nested Sampling with Data-Driven AI Priors**

Speaker
Henry Aldridge

18:08–18:09

Generative models of astrophysical fields with scattering transforms on the sphere

Speaker
Matt Price

18:09–18:10

Advanced techniques for Simulation Based Inference in collider physics

Speaker

Giovanni De Crescenzo

18:10–18:11   **SBI for wide field weak lensing**

Speaker

Kiyam Lin

18:11–18:12

Exhaustive Symbolic Regression: Learning Astrophysics directly from Data

Speaker

Harry Desmond

18:12–18:13   **Usage of weakly correlated observables for nuisance parameter fits**

Speaker

Lars Stietz

18:13–18:14

Accounting for Selection Effects in Supernova Cosmology with Simulation-Based Inference and Hierarchical Bayesian Modelling

Speaker

Benjamin Boyd

18:14–18:15

COmoving Computer Acceleration (COCA): Correcting Emulation Errors for Trustworthy N-Body Simulations

Speaker

Deaglan Bartlett

18:15–18:16

Application of Machine Learning Based Top Quark and Jet Tagging to Hadronic Four-Top Final States Induced by SM as well as BSM Processes

Speaker

Monika Machalová

18:16–18:17

Accelerating High-Dimensional Cosmological Inference with COSMOPOWER

Speaker

Alessio Spurio Mancini

18:17–18:18

Learning Optimal and Interpretable Summary Statistics of Galaxy Catalogs with SBI

Speaker

Kai Lehman

18:18–18:19   **How to Unfold Top Decays**

Speakers

Sofia Palacios Schweitzer, Tilman Plehn

18:19–18:20   **Noise injection node regularization for robust learning**

Speaker

Noam Levi

18:20–18:21

Modeling Smooth Backgrounds at Collider Experiments With Log Gaussian Cox Processes

Speaker

Yuval Yitzhak Frid

18:21–18:22   **Precision Machine Learning for the Matrix Element Method**

Speakers

Nathan Huetsch, Tilman Plehn

18:22–18:23   **The Landscape of Unfolding with Machine Learning**

Speakers

Tilman Plehn, Xavier Marino

19:15

Wednesday 11 September

19:00
|
21:00

Social: Workshop dinner at Ognisko
Session | **Location:** Imperial College London, Lecture Theatre 2, Blackett Laboratory