



# Physics in the AI era

## Wednesday, 25 September 2024

**Cosmology - Sala Stemmi (09:00 - 10:30)**

| time  | [id] title   | presenter              |
|-------|--|------------------------|
| 09:00 | [37] Cosmology from the first billion years as seen with the 21cm line | Prof. MESINGER, Andrei |
| 09:40 | [38] Machine Learning for Astrophysics & Cosmology                     | Dr HENEKA, Caroline    |
| 10:05 | [39] Machine Learning of the Cosmic 21-cm Signal                       | Dr PRELOGOVIC, David   |

**Cosmology - Sala Stemmi (11:20 - 12:15)**

| time  | [id] title  | presenter            |
|-------|---|----------------------|
| 11:20 | [57] Generative models for large-scale structures                                     | Prof. MORIWAKI, Kana |
| 11:45 | [28] Machine learning based inference of high redshift observations.                  | LAZARE, Hovav        |
| 12:00 | [31] Evaluating Summary Statistics with Mutual Information for Cosmological Inference | SUI, Ce              |

**Cosmology - Sala Stemmi (14:30 - 16:00)**

| time  | [id] title   | presenter                        |
|-------|--|----------------------------------|
| 14:30 | [44] Machine learning in astrophysics                                  | Prof. BUCK, Tobias               |
| 15:10 | [50] Solving inverse problems with diffusion models                    | ADAM, Alexandre                  |
| 15:35 | [51] Dusting off the Cosmic Microwave Background with Diffusion Models | Dr RÉGALDO-SAINT BLANCARD, Bruno |

**Cosmology - Sala Stemmi (16:30 - 17:15)**

| time  | [id] title   | presenter            |
|-------|--|----------------------|
| 16:30 | [26] Analysing edge-on galaxies with deep learning   | Dr CHROBÁKOVÁ, Žofia |
| 16:45 | [25] Emulating the Interstellar Medium Chemistry with Neural Operators   | Dr BRANCA, Lorenzo   |
| 17:00 | [7] Neural Network Approaches for Quasar and Galaxy Continuum Estimation: A Comparative Study of Autoencoder and U-Net Architectures | Dr PISTIS, Francesco |