

## **Session Program**

**31 August 2026 to 4 September 2026**



**MACHINE LEARNING  
FOR ASTROPHYSICS**

3<sup>RD</sup> EDITION VALLETTA, 31 AUG - 4 SEP, 2026

## **International Conference on Machine Learning for Astrophysics 3rd Ed. - ML4ASTRO3**

### ***Extragalactic Science***

University of Malta, Aula Prima  
Valletta Campus, St Paul Street Valletta VLT 1216, Malta

# Wednesday 2 September

09:00

## Extragalactic Science: I

**Session** | **Location:** University of Malta, Aula Prima, Valletta Campus, St Paul Street Valletta VLT 1216, Malta

09:00–09:40

### [INVITED] Machine Learning and Extragalactic Science

#### Speaker

Nicola Rosario Napolitano

09:40–10:00

### More Than the Sum of Its Parts - Multimodal Learning for Galaxy Evolution in JWST Pure Parallel Observations

#### Speaker

Ivelina Momcheva

10:00–10:20

### Using UMAP Dimensionality Reduction to Map the Color-Redshift Relation

#### Speaker

Finian Ashmead

10:20–10:40

### Learning AGN multimodal characterization through optical, x-ray and host galaxy properties

#### Speaker

Noemi Lery Borrelli

10:40

11:10

## Extragalactic Science: II

**Session** | **Location:** University of Malta, Aula Prima, Valletta Campus, St Paul Street Valletta VLT 1216, Malta

11:10–11:30

### 4MOST/ByCycle: Detecting Cool Circumgalactic Medium Quasar Absorbers via Contextual Anomaly Detection with Variational Autoencoders

#### Speaker

Nicolás Guerra-Varas

11:30–11:50

### Needles in the cosmic haystack: Innovating the search for Reionization-Era quasars with self-supervised machine learning

#### Speaker

Laura Natalia Martínez Ramírez

11:50–12:10

### From Projection to Reconstruction: Predicting Peculiar Velocities and Internal Distances in Galaxy Clusters via Graph Neural Networks

#### Speaker

Sheng-Chieh Lin

12:10

14:00

## Extragalactic Science: III

**Session** | **Location:** University of Malta, Aula Prima, Valletta Campus, St Paul Street Valletta VLT 1216, Malta

14:00–14:20

**End-to-end differentiable forward modeling and inverse inference for integral field spectroscopic data**

**Speaker**

Anna Lena Schaible

14:20–14:40

**J-PAS: A Neural Network Approach to Single Stellar Population Characterization (remote)**

**Speaker**

Helena Domínguez Sánchez

14:40–15:00

**Deep learning approaches to galaxy merger identification and classification**

**Speaker**

Subhrata Dey

15:00–15:20

**TORRCH: Field-level Reconstruction of Reionization Morphology from Galaxy Tracers (remote)**

**Speaker**

Soumak Maitra

15:20