

Session Program

31 August 2026 to 4 September 2026



MACHINE LEARNING FOR ASTROPHYSICS

3RD EDITION VALLETTA, 31 AUG - 4 SEP, 2026

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

Flash Talks

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

Monday 31 August

16:30

Flash Talks: Observational Surveys

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

16:30–16:35

Machine Learning and Super resolution for radio astronomical data analysis

Speaker

Giorgia Vitanza

16:35–16:40

Classification Accuracy as a Spectral Similarity Metric for Planetary Bodies

Speaker

Ramapriya Ramamoorthy

16:40–16:45

Inter-annotator consensus: Towards Automated Detection of Low Surface Brightness Features in Large-Scale Surveys

Speaker

Renaud Vancoellie

16:45–16:50

A Benchmark of Convolutional Neural Networks and Vision Transformers for Galaxy Morphology Classification

Speaker

Liam Azzopardi

16:50–16:55

Reconstructing the Milky Way's Merger History with Graph Attention Networks

Speaker

Milan Quandt Rodriguez

16:55–17:00

Extracting 1D Spectra from 2D Spectrograms using Deep Learning

Speaker

Soorya Narayan Rajeshkumar

17:00

Tuesday 1 September

11:50

Flash Talks: Astroparticles

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

11:50-11:55

MAGI (Multivariate Autoencoder for particle Generative Inference): a generative ML framework for accelerated multi-stage particle simulations

Speaker

Francesco Monastra

11:55-12:00

Machine Learning for All-Sky Image Classification and Cloud Detection

Speaker

Ricardo Zanmar Sanchez

12:00

15:30

Flash Talks: Time Domain And Transients

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

15:30-15:35

Leveraging Transformer Architectures for Scalable Exoplanet Transit Inference

Speaker

Vikash Singh

15:35

Wednesday 2 September

12:10

Flash Talks: Extragalactic Science

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

12:10-12:15

Morphological Classification of VLBI Images of Jets in Active Galactic Nuclei Using Contrastive Learning

Speaker

Dmitrii Zagorulia

12:15-12:20

Characterization of the environment of the CHANCES Low-z subsurvey using Machine Learning Techniques [TBC]

Speaker

Franco Piraino-Cerda

12:20

15:20

Flash Talks: Extragalactic Science

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

15:20-15:25

Tracing galaxy evolution with autoencoders

Speaker

Leon Butterworth

15:25-15:30

Spectroscopy fine-tuning: the last step of machine-learning approach for UDGs

Speaker

Antonio Vanzanella

15:30

Thursday 3 September

12:10

Flash Talks: Cosmology

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

12:10–12:15

Robust Dark Matter Inference from Galaxy Clusters via Domain-Adapted Machine Learning

Speaker

Ethan Tregidga

12:15–12:20

Score-Based Diffusion for Low- l Primordial CMB B-Mode Reconstruction

Speaker

Anumanchi Agastya Sai Ram Likhit

12:20–12:25

Robust Cosmological Parameter Inference from Galaxy Properties using Conditional Normalizing Flows

Speaker

Tirthankar De

12:25–12:30

Hub-Aware Hybrid Search: Accelerating the Locally Aligned Ant Technique

Speaker

Simone Vilardi

12:30

16:00

Flash Talks

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

16:00–16:05

ML algorithm for automatic determination of the dynamical state of GCs based on CMC-SURVEY — a public, open-access, fully downloadable database of detailed globular cluster models

Speaker

Arkadiusz Hypki

16:05–16:10

Hierarchical Simulation Based Inference for Milky Way potential reconstruction

Speaker

Giuseppe Viterbo

16:10

Friday 4 September

10:00

Flash Talks

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

10:00–10:05

Deep Learning surrogate models to accelerate on the fly Radiative Transfer in simulations

Speaker

Lorenzo Branca

10:05

15:00

Flash Talks: Generative AI

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

15:00–15:05

A Generative Machine Learning Approach for Molecular Characterization of Astronomical Spectra

Speaker

Gabriel Jaimes-Illanes

15:05–15:10

Aligning Chandra X-ray spectra and scientific literature

Speaker

Nicolo' Oreste Pinciroli Vago

15:10–15:15

Maria-Nifty: Gaussian Process-Based Imaging of (Sub-)Millimeter Single-Dish Telescope Data

Speaker

Richard Fuchs

15:15–15:20

Analysis of GAN as a Tool for Data Augmentation

Speaker

Yagyasha Rastogi

15:20–15:25

Normalizing Every Stellar Spectrum

Speaker

Tomasz Rozanski

15:25–15:30

Probabilistic Spectral Super-Resolution: Bridging Gaia DR3 XP and SDSS for Object Sub-Classification

Speaker

Andrija Zupic

15:30