



MACHINE LEARNING FOR ASTROPHYSICS

3RD EDITION

VALLETTA, 31 AUG - 4 SEP, 2026



L-Università
ta' Malta



INAF

ISTITUTO NAZIONALE
DI ASTROFISICA



The 3rd International Conference on Machine Learning for Astrophysics
Dr Andrea DeMarco, SOC & LOC

The University of Malta

- Main campus is in Msida
- 14 Faculties, 18 Institutes and 13 Centers, offering courses ranging from the humanities to the sciences and engineering
- Caters for 11,500 students, with 3500 graduating annually



The Valletta Campus

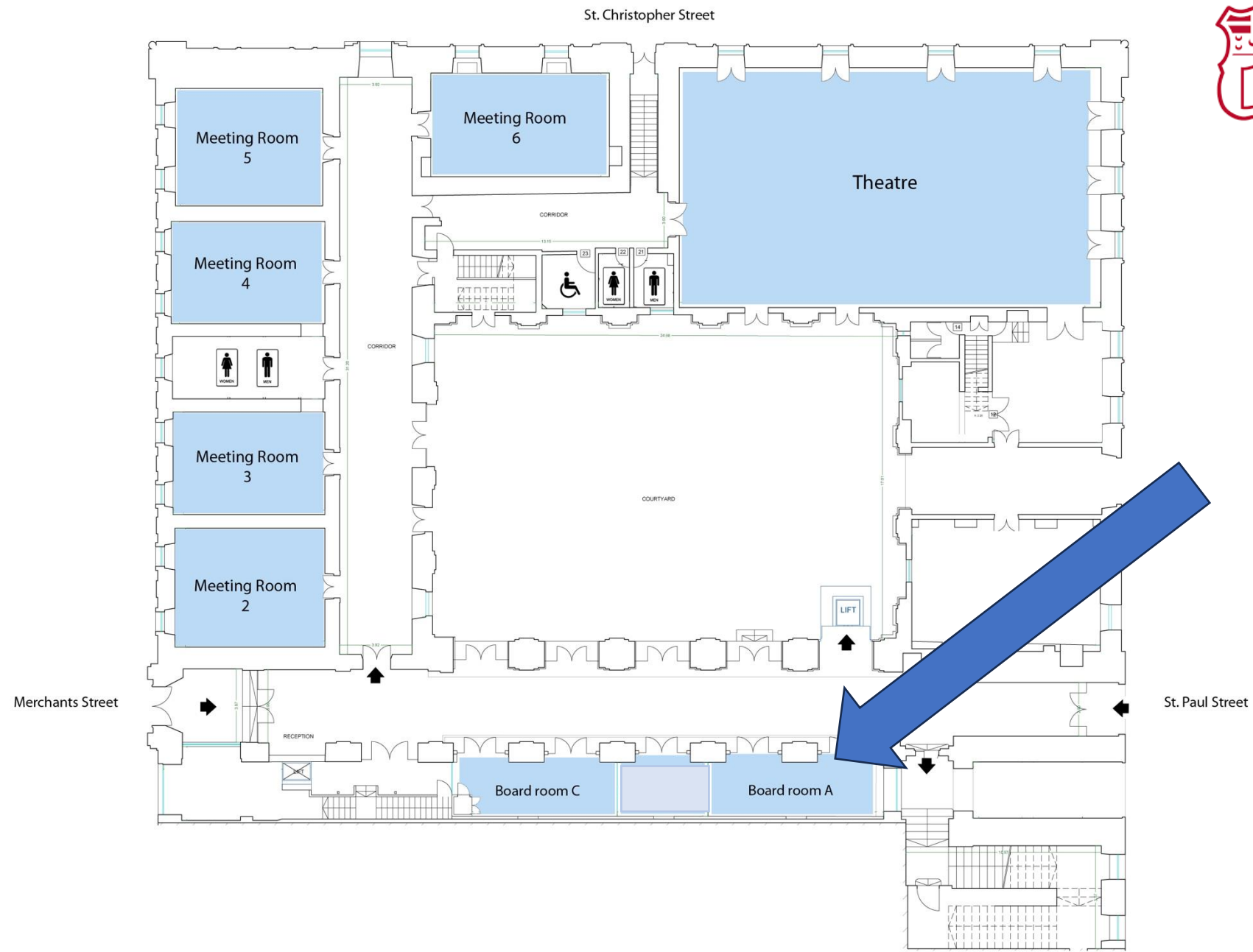
- This venue is the Old University Building
- Constructed between 1595 and 1602 to house the predecessor of the University, the Collegium Melitense
- Primary used for conferences, events and to host some joint Master's programmes



Valletta (Il-Belt)

- Malta's capital city, named after Grandmaster Jean Parisot de Valette
- First stone laid on 28th March 1566
- World heritage site since 1980
- One of the most concentrated historic areas in the world
- 130 monuments in < 1 sq km
- 10 years of rejuvenation





L-Università
ta' Malta

Ground Floor Level



L-Università
ta' Malta



Second Floor Level

Agenda Overview

- All talks in Aula Prima
- Two coffee breaks on Monday
- One coffee break Tuesday-Friday
- Hospitality guide has many lunch suggestions



Wi-Fi Connection

- Eduroam
- Non-eduroam credentials provided at registration desk



Agenda Overview

- 5-day conference
- 8 keynote speakers
- +70 talks
- Opportunities for scientific discussion and networking
- No parallel sessions

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INVITED SPEAKERS

- MALGORZATA SIUDEK**
Barcelona Institute of Science and Technology, Spain
- NICOLA ROSARIO NAPOLITANO**
Università degli Studi di Napoli Federico II, Italy
- YVONNE BECHERINI**
Université Paris Cité, France
- FRANCISCO VILLAESCUSA-NAVARRO**
Simons Foundation NY, USA
- MORGAN FOUESNEAU**
Max Planck Institute for Astronomy, Germany
- ANGUS H. WRIGHT**
Ruhr University Bochum, Germany
- VICKY KALOGERA**
Northwestern University, CIERA Evanston, USA
- PIERPAOLO BRUTTI**
Sapienza Università di Roma, Italy

- Multiwavelength surveys**
- Time domain astronomy**
- Galactic and extragalactic science**
- Cosmology & simulations**
- Astroparticles & high-energy astrophysics**
- Generative AI for Astronomy**

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ISTITUTO NAZIONALE DI ASTRONOMIA
e FISICA
SPESSO ASTRONOMICO DI CATANIA

L-Università ta' Malta

SOC

- FILOMENA BUFANO (INAF-OAcT)
- ANDREA DE MARCO (U. Malta)
- FRANCISCO F. BURON (U. Chile)
- ALESSIO MAGRO (U. Malta)
- SIMONE RIGGI (INAF-OAcT)
- EVA SCIACCA (INAF-OAcT)
- JACKSON SAID (U. Malta)
- ELENI VARDOLAKI (NAO)
- SEBASTIAN TRUJILLO (HITS)

LOC

- ANDREA DE MARCO (U. Malta)
- ALESSIO MAGRO (U. Malta)
- HAYLEY CAMILLERI (U. Malta)
- MICOLE MICELI (U. Malta)
- CRISTOBAL BORDIU (INAF-OAcT / IAA)

Agenda Overview

- Talks are a mix of full and flash talks, most in-person, and some remote [●REC]
- Will be made available on Indico after the conference – if you have any concern, inform the organizers by email



Conference Proceedings

- Proceedings were published for the last two editions (Springer, Astrophysics and Space Science Proceedings)
- After the conference, you will be contacted to ask if interested in submitting a 3-4 page paper for publication
- With enough interest, we hope to publish our 3rd proceedings volume in this series!
- The timeline for this process is approximately 1 year



[see more...](#)

Mon 31/08

Registration	
Aula Prima, University of Malta	08:30 - 09:30
Welcome	
Aula Prima, University of Malta	09:30 - 09:50
[INVITED] Deep Learning the Physics of Galaxy Formation Using Large Observational Surveys	Malgorzata Siudek
Aula Prima, University of Malta	09:50 - 10:40
What Comparing HST and JWST Images Reveals About Stellar Clusters Without Labels	Nils Guillaume Francois Dani Candebat
Aula Prima, University of Malta	10:40 - 11:00
J-Patch: A Transformer architecture for missing data imputation and anomaly detection in photometric SEDs	Antonio Hernán Caballero
Aula Prima, University of Malta	11:00 - 11:20
Coffee Break	
Aula Prima, University of Malta	11:20 - 11:40
Rethinking Gaia XP Spectra for Machine Learning: Truncation, Basis Design, and Functional Methods	Aidas Medžiūnas
Aula Prima, University of Malta	11:40 - 12:00
Multimodal contrastive learning for white dwarf classification with Gaia	Xabier Pérez Couto
Aula Prima, University of Malta	12:00 - 12:20
Koexai's AI Pipelines for Astrophysical Data Analysis: from Supernovae to the Cosmic Web	Luca Naso
Aula Prima, University of Malta	12:20 - 12:40
Lunch	
	12:40 - 14:00
[INVITED] Astronomical Image Denoising	Pierpaolo Brutti
Aula Prima, University of Malta	14:00 - 14:40
STRADAVIT: Self-Supervised Transfer for Radio Astronomy Vision Transformers	Andrea DeMarco
Aula Prima, University of Malta	14:40 - 15:00
Quantifying Data Curation Effects in Vision Transformers for Radio Astronomy Imaging	Hayley Camilleri
Aula Prima, University of Malta	15:00 - 15:20
Self-Supervised Neural Networks for High-Resolution Radio Imaging	Shunyuao Mao
Aula Prima, University of Malta	15:20 - 15:40
Coffee Break	
Aula Prima, University of Malta	15:40 - 16:10

Social Events

- **Tuesday - Valletta Walking Tour (1 hour)**
(registration at welcome desk, departing 4pm from conference venue, belongings can be left at Board Room A – ground floor)
- **Wednesday - Conference BBQ**
Fra Martino, Corinthia St. George's Bay (pre-booked registrants only), 8-1030pm
- Please refer to Hospitality Guide for ideas of what to see and where to eat



Social Events

- **Tuesday - Valletta Walking**
(1 hour, registration at well
from conference venue)
- **Wednesday - Conference I**
Fra Martino, Corinthia St. C
(registrants only), 8-1030pr
- Please refer to Hospitality
and where to eat





Marsamxett Harbour



Valletta

The Grand Harbour





Filters

Sort

Tiles

List

★ Top beaches

Ghajn Tuffieha Bay

Malta · Mgarr

SANDY

SWIMMING CONDITIONS

Ideal

AIR °C29°

SEA °C30°

WAVES0.2m2.7s

WIND10 km/h

Golden Bay

Malta · Mgarr

SANDY

SWIMMING CONDITIONS

Ideal

AIR °C29°

SEA °C30°

WAVES0.2m2.7s

WIND11 km/h

Mellieha Bay (Ghadira)

Malta · Mellieha

SANDY

SWIMMING CONDITIONS

Ideal

AIR °C29°

SEA °C30°

WAVES0.2m2.7s

WIND12 km/h

Anchor Bay

Malta · Mellieha

ROCKY

SWIMMING CONDITIONS

Ideal

AIR °C29°

SEA °C30°

WAVES0.2m2.7s

WIND11 km/h



LOC



Community

A place where people from very different scientific fields and frequency domains can **share experiences** (including failures), use the **same language**, and agree on the **best practices** to follow.



Enjoy the conference!



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