

## **Session Program**

**May 21 - 23, 2025**

# **AI in Astronomy Workshop**

## ***Team Activity Reports***

INAF-OACT, Aula Magna  
Via S. Sofia, 78, 95123 Catania CT

# Wed, May 21

9:30 AM

## Team Activity Reports: Session I

**Session** | **Location:** INAF-OACT, Aula Magna, Via S. Sofia, 78, 95123 Catania CT | **Convener:** Filomena Bufano

### 9:30 - 10:00 AM Napoli Team Activities

**Speaker**

Stefano Cavuoti

### 10:00 - 10:20 AM

#### Automated identification of diffuse radio emission in all-sky surveys with Radio U-Net

**Speaker**

Chiara Stuardi

### 10:20 - 10:40 AM

#### Evaluating small vision-language models as AI assistants for radio astronomical source analysis tasks

**Speaker**

Dr Simone Riggi

### 10:40 - 11:00 AM

#### Machine learning for asterism selection in adaptive optics

**Speaker**

Fabio Rossi

11:00 AM

11:15 AM

## Team Activity Reports: Session II

**Session** | **Location:** INAF-OACT, Aula Magna, Via S. Sofia, 78, 95123 Catania CT | **Convener:** Dr Simone Riggi

### 11:15 - 11:35 AM

#### OATo/UniGe Synergy - Integrating Observations and AI: Transformative Approaches for Unraveling Solar Activity

**Speaker**

Daniele Telloni

### 11:35 - 11:55 AM

#### The MIDA's activities in space sciences: Artificial intelligence for space weather

**Speaker**

Sabrina Guastavino

### 11:55 AM - 12:15 PM

#### Extending foreground emission with neural networks

**Speaker**

Giuseppe Puglisi

### 12:15 - 12:35 PM

#### Benchmarking Quantum Convolutional Neural Networks for Signal Classification in Simulated Gamma-Ray Burst Detection

**Speaker**

Farida Farsian

1:00 PM	<p>12:35 - 12:55 PM <b>Atmospheric Retrievals with Quantum Extreme Learning Machines</b></p> <p><b>Speaker</b> Prof. Tiziano Zingales</p>
2:30 PM	<p><b>Team Activity Reports: Session III</b></p> <p><b>Session</b>   <b>Location:</b> INAF-OACT, Aula Magna, Via S. Sofia, 78, 95123 Catania CT   <b>Convener:</b> Eva Sciacca</p>
	<p>2:30 - 2:50 PM</p> <p><b>Deep Metal: Applying Transformer Models to Photometric Light Curves for Metallicity Estimation</b></p> <p><b>Speaker</b> Dr Lorenzo Monti</p>
	<p>2:50 - 3:10 PM</p> <p><b>Survey of Surveys: Homogenizing Stellar Parameters Across Surveys with Symbolic Regression</b></p> <p><b>Speaker</b> Aleksandra Avdeeva</p>
3:30 PM	<p>3:10 - 3:30 PM</p> <p><b>Onboard AI: Enhancing High-Energy Space Missions with Machine Learning</b></p> <p><b>Speaker</b> Dr Nicolo' Parmiggiani</p>