



# MONDELLO WORKSHOP 2026

June 15-20, Mondello (Palermo), Italy

Frontier Research in Astrophysics - V



## FINAL PROGRAM (19<sup>th</sup> June 2026)

### Sunday 14 Afternoon

15.30 REGISTRATION OF PARTICIPANTS

19.00 END OF REGISTRATION

19.30 WELCOME COCKTAIL PARTY

20.00 DINNER

### Monday 15 Morning

07.30 REGISTRATION OF PARTICIPANTS

08.20 END OF REGISTRATION

08.25 BEGINNING of the WORKSHOP

08.25 Franco GIOVANNELLI Welcome Address

**In red: remote presentation via ZOOM**

### OPENING REMARKS

**Chairperson: PAUL MASON**

08.30	Franco GIOVANNELLI	Commemoration of Janusz Ziolkowski
08.35	Franco GIOVANNELLI	The wondrous journey to unravel the mysteries of the Universe
09.05	Gennady BISNOVATYI- KOGAN	The Very Early Universe
09.35	Vladimir LIPUNOV	Global Master Net's contribution to verifying Scenario Machine's
10.05	Eleonora FIORELLINO	Understanding stellar and planet formation - A Review

10.35 Coffee Break

Organized by:

INAF – Istituto di Astrofisica e Planetologia Spaziali, Roma, Italy; INTA – Departamento de Cargas Útiles y Ciencias del Espacio, Madrid, Spain; INAF – Osservatorio Astronomico di Padova, Italy; RAS – Institute of Astronomy, Moscow, Russia; ASCR – Astronomical Institute, Ondrejov & Prague Technical University, Czech Republic; St. John's College, Annapolis, MD, USA; IAC (Instituto de Astrofísica de Canarias), Tenerife, Spain; New Mexico State University, NM, USA; IAA, Universität Tübingen, Germany; CNR-IASI (Istituto di Analisi dei Sistemi ed Informatica), Roma, Italy; Dipartimento di Fisica, Università di Pisa, Italy; Fudan University, Shanghai, China

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**Monday 15 Morning**

**OPENING REMARKS**

**Chairperson: GENNADY BISNOVATYI-KOGAN**

- |       |                        |  |
|-------|------------------------|--|
| 11.15 | Carlotta PITTORI       | The AGILE space mission - Highlights and Legacy in the Era of PeVatron Astronomy                         |
| 11.45 | Alessandro EDEROCCLITE | Stellar Astrophysics with Narrow Band Wide Field Surveys from the Observatorio Astrofísico de Javalambre |
| 12.15 | Elena ARBUZOVA         | Solving the Primordial ${}^7\text{Li}$ Deficit via Primordial Black Hole Evaporation                     |
| 12.35 | Umberto BATTINO        | Heavy Elements as Clues to the Progenitors of Type Ia Supernovae   |

**12.55** **I N T E R V A L**

**Monday 15 Afternoon**

**OPENING REMARKS**

**Chairperson: CARLOTTA PITTORI**

- |       |                    |  |
|-------|--------------------|--|
| 17.00 | Franco GIOVANNELLI | Nothing happens by chance  |
| 17.05 | Alexandre VAZDEKIS | Why the Northern Hemisphere Needs a 30-40m Telescope and the Science at Stake  |
| 17.35 | Alessio TURCHI     | Survey of Survey spectroscopic catalog with machine learning parameters. Exploiting large datasets to increase accuracy. |
| 17.55 | René HUDEC         | ML based analyses of digitized astronomical plates for modern astrophysics   |

**18.15** **END OF THE SESSION**

**Advanced Talk of the Ongoing Experiments Session**

**Chairperson: VLADIMIR LIPUNOV**

- |       |                   |  |
|-------|-------------------|--|
| 18.15 | Andrea SANTANGELO | The Enhanced X-ray Timing and Polarimetry Mission: Toward Launch in 2030 |
|-------|-------------------|--|

**18.45** **End of the Advanced Talk**

**GRAVITATIONAL WAVES**

- |       |                        |  |
|-------|------------------------|--|
| 18.45 | Dorota GONDEK-ROSINSKA | 10 years of Gravitational Wave Astronomy |
| 19.15 | Rosa POGGIANI          | Gravitational Wave - A Review            |

**19.45** **I N T E R V A L**

**Monday 15 Night**

**22.00** **V I O L I N C O N C E R T**  
**by**  
**Alessandro Perpich and Isabella Perpich**

**23.00** **I N T E R V A L**

**Tuesday 16 Morning**

**STAR FORMATION AND EVOLUTION**

**Chairperson: GUIDO DE MARCHI**

08.30	Rubén FEDRIANI	Massive Star Formation - A Review
09.00	Itziar ARETXAGA	A panchromatic view of the star formation history of the Universe
09.30	José Eduardo MENDEZ DELGADO	Relations between nucleosynthesis, metallicity, and dust in star-forming regions in the era of SDSS-V LVM
09.50	Morten ANDERSEN	Low-Metallicity Star Formation Survey in Sh2-284
10.10	Paolo PERSI	The enigmatic highly-variable high-mass young stellar object Mol 12 A. A new extreme Herbig Be(proto) star.

**10.30 Coffee Break**

11.00	Marco MERAFFINA	Dynamical evolution of Globular Clusters: the early distribution of star generations
11.30	Matteo TEODORI	Dynamical evolution of Globular Clusters: the degree of mass segregation from birth to nowadays

**11.50 END OF THE SESSION**

**COSMOLOGY**

**Chairperson: ITZIAR ARETXAGA**

11.50	Simone VERONESE	Galaxy formation and evolution
12.20	Yosuke MIZUNO	Numerical Modeling and Constraint of the Shadow of the Supermassive Black Holes

**12.50 INTERVAL**

Tuesday 16 Afternoon

COSMOLOGY

Chairperson: ALESSANDRO EDEROCLITE

- 16.30 Maria Giovanna DAINOTTI Parameterizations of the Hubble Constant:  
Logarithmic vs Power-Law Expansion from  
the Binned Master Sample of SNe Ia
- 17.00 Maria Giovanna DAINOTTI GRBs as cosmological standard candles with  
new statistical assumptions and probes of  
Dark Energy

17.30 END OF THE SESSION

HIGH ENERGY ASTROPHYSICS

Chairperson: ELEONORA FIORELLINO

- 17.30 Alessandro Ederoclite Nova Explosions in 2040
- 17.50 Paul MASON TESS and Ground-based Photometry of Magnetic  
Cataclysmic Variables
- 18.20 Antonella TARANA From spectra to geometry: two decades of  
progress in Neutron Star Low-Mass X-ray  
Binaries
- 18.50 Fabio LA MONACA X-ray polarization properties of Z-sources
- 19.20 Alessandro DI MARCO X-ray Polarization variability in  
non-pulsating weakly magnetized neutron  
stars: GX 13+1 and its serendipitous  
polarization angle rotation

19.40 I N T E R V A L

Tuesday 16 Night

22.00 E T R U S C A N W I N E P A R T Y

24.00 I N T E R V A L

Wednesday 17 Morning

Postponed talk of the COSMOLOGY Session

Chairperson: ALEXANDER DOLGOV

09.00 Ciriaco GODDI VAPOLA - A multi-epoch multi-band survey of  
AGN at (sub)mm-wavelengths with ALMA  
09.30 Cosimo BAMBI Probing the strong gravity region of black  
holes with eXTP

10.00 End of the postpone talk

HIGH ENERGY ASTROPHYSICS

Chairperson: FABIO LA MONACA

10,00 Alexander DOLGOV Black Holes and Antimatter in Milky Way

10.30 O F F I C I A L P H O T O

Coffee Break

Chairperson: COSIMO BAMBI

11.10 Nicolò Oreste  
PINCIROLI VAGO The hunt for new pulsating ultraluminous  
X-ray sources: A clustering approach  
11.30 Andrzej ZDZIARSKI The Counterjet Dominates the Production of  
PeV Photons from Cyg X-3  
11.50 Andrzej ZDZIARSKI The spin of the black hole in Cyg X-1 from  
the XRISM observations  
12.10 Ingyin ZAW Intermediate Mass Black Holes - A Review

12.40 I N T E R V A L

Wednesday 17 Afternoon

F R E E

Wednesday 17 Night

22.00 P E R F O R M A N C E I N P A L E R M O  
(Splendid Hotel La Torre)

HIC HABITAT FELICITAS  
(Mozarterie dal Regno di Dietro)  
by  
Flavia Giovannelli e Lisa Colosimo

played by

Anna Lisa Amodio and Flavia Giovannelli

23.00 I N T E R V A L

Thursday 18 Morning

**HIGH ENERGY ASTROPHYSICS**

**Chairperson: ANDRZEJ ZDZIARSKI**

09.00	Simone PAGLIARELLA	The Impact of IXPE on the Knowledge of Extended Sources
09.30	Rosa POGGIANI	Search for Gamma-Ray Counterparts of a sample of IceCube Neutrino Events in the AGILE Public Archive
09.50	Andrea GOKUS	The blazar population at high energies

**10.20 Coffee Break**

**Chairperson: MARCO MERAFINA**

10.50	Andrea GOKUS	Tracing the most distant blazars at gamma-ray energies with Fermi-LAT
11.10	Swati RAVI	Soft X-ray Polarimetry - Current and Prospective

**11.30 END OF THE SESSION**

**JET SOURCES & GAMMA-RAY BURSTS**

**Chairperson: ROSA POGGIANI**

11.30	James BEALL	Astrophysical Jets in the Light of Recent and Historical Observations
12.00	Lorenzo AMATI	Cosmology and multi-messenger astrophysics with Gamma-Ray Bursts

**12.30 I N T E R V A L**

Thursday 18 Afternoon

**Advanced Talks of the Ongoing Experiments Session**

**Chairperson: SWATI RAVI**

17.00	Rosa POGGIANI	Gravitational Wave and Dark Matter detection with Very Long Baseline Atom Interferometers
17.30	Andres MOYA	HAYDN: A Next-Generation ESA Mission Concept for Stellar Structure and Evolution and its impact on exoplanet and galaxy formation

**17.50 End of the Advanced Talks**

**JET SOURCES & GAMMA-RAY BURSTS**

17.50	James RODI	GRB 241107A - A Close-by Extragalactic Magnetar & How to Find More
18.20	Andrea MELANDRI	Swift GRB light curves as observed by the XRT

**18.40 END OF THE SESSION**

**I N T E R V A L**

Thursday 18 Night

**SPECIAL NIGHT SESSION**

**Chairperson: GENNADY BISNOVATYI-KOGAN**

22.00 Paul MASON The Recent Emergence of Life in the  
Milky Way

23.00 I N T E R V A L

Friday 19 Morning

**EXOPLANETS & HABITABILITY**

**Chairperson: JAMES RODI**

09.00 Guido DE MARCHI The Impact of Detection of Ices Outside the  
Milky Way

09.30 Grigory TSURIKOV Potentially observable UV biomarkers in the  
atmospheres of exoplanets

09.50 END OF THE SESSION

**Postponed talk of the Opening Remarks session**

09.50 Maria Luisa CHIOFALO Terrestrial Very-Long Baseline Atom  
Interferometry: from conceptual setting  
to case studies

10.20 End of the Postponed talk

**Coffee Break**

11.10 **Postponed talk of the Gravitational Wave session**

11.10 Rosa POGGIANI Gravitational Wave Emission from Binary  
Systems

11.40 End of the Postponed talk

**ONGOING EXPERIMENTS**

11.40 Giuseppe PICCIONI Moons and Jupiter Imaging Spectrometer  
(MAJIS) on Jupiter Icy Moons Explorer  
(JUICE) - Scientific Objectives

12.10 Cosimo BAMBI An interstellar mission to the closest black  
hole?

12.40 I N T E R V A L

**Friday 19 Afternoon**

**ONGOING EXPERIMENTS**

**Chairperson: GIUSEPPE PICCIONI**

17.00	Filippo FRONTERA	Hard X-ray/Soft gamma-ray Laue Lenses for High Energy Astrophysics
17.30	Nicolas DE ANGELIS	Scientific Prospects of the POLAR-2 Mission
17.50	René HUDEC	ESA CHINA satellite SMILE and astrophysics
18.10	Abhay KUMAR	Probing Particle Acceleration in Solar Flares with Hard X-ray Polarimetry: The CUSP Mission Phase B Status and Future Outlook
18.30	Bruno Luigi MARTINO	Simplifying High-Performance Parallelism From Geant4 to MEGALib
18.50	Franco GIOVANNELLI	Passage of the baton to the new generations

**19.00** **I N T E R V A L**

**Friday 19 Night**

**SPECIAL NIGHT SESSION**

**Chairperson: GUIDO DE MARCHI**

22.00	Mauro BELLI	Space Radiation is a major challenge to Human mission to Mars
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**23.00** **I N T E R V A L**

Saturday 20 Morning

ONGOING EXPERIMENTS

Chairperson: ANDREA GOKUS

09.00 Zhixing LING The Einstein Probe Mission  
09.30 Yuya NAKAMURA GRAINE project: sub-GeV/GeV gamma-ray  
observations with high-angular  
resolution and polarization sensitivity -  
Latest results and Future Prospects

10.00 END OF THE SESSION

Coffee Break

CONCLUDING REMARKS

Chairperson: MAURO BELLI

10.30 Rubén FEDRIANI: Concluding Remarks I  
11.00 Rosa POGGIANI: Concluding Remarks II  
11.30 René HUDEC: Concluding Remarks III

12.00 END OF THE SESSION

CONCLUDING ADDRESS

12.00 Franco GIOVANNELLI Concluding Address

12.30 E N D O F T H E W O R K S H O P