

The era of collaborative multi-wavelength and multi-messenger astronomy: science and engineering

Tuesday 22 October

- 09:00 – 09:10: Welcome from the INAF-Arcetri Director
Sofia Randich
- 09:10 – 09:20: Comments from the INAF President
Nichi D'Amico
- 09:20 – 09:30: Comments from the Australian Ambassador to Italy
Greg French

Current and future optical facilities in the multi-messenger era

- 09:30 – 10:00: Next-generation optical facilities in the multi-messenger era: the SOXS case
Sergio Campana (INAF-Brera)
- 10:00 – 10:30: MAVIS: an MCAO assisted visible imager and spectrograph for the VLT
Giovanni Cresci (INAF-Arcetri)
- 10:30 – 11:00: Morning tea
- 11:00 – 11:30: Neutral hydrogen in the distant Universe - New HI absorption results from ASKAP
Elaine Sadler (CSIRO and University of Sydney)
- 11:30 – 12:00: The SkyHopper Space Telescope CubeSat
Michele Trenti (University of Melbourne)

Multi-wavelength and transient astronomy

- 12:00 – 12:30: Optical surveys in the multi-messenger era
Enrico Cappellaro (INAF-OAPd)
- 12:30 – 13:30: Lunch
- 13:30 – 14:00: Fast Radio Bursts and their multiwavelength follow-ups
Shivani Bhandari (CSIRO)
- 14:00 – 14:30: The host galaxies of Fast Radio Bursts with ASKAP and the VLT
Stuart Ryder (Macquarie University)

14:30 – 17:00: Tour of Ximeniano Museum and Biblioteca Medicea Laurenziana
Conference photo

Wednesday 23 October

The role of current and future radio telescopes in the multi-messenger era

- 09:00 – 09:30: The role of current and future Italian radio telescopes
Federica Govoni (UTG II - Radio Astronomy)
- 09:30 – 10:00: Technology for radio astronomy
Tasso Tzioumis (CSIRO)
- 10:00 – 10:30: Gas and dust in the host galaxies of Gamma-Ray Bursts
Leslie Hunt (INAF-Arcetri)
- 10:30 – 11:00: Morning tea
- 11:00 – 11:30: The role of current and future radio telescopes in the multi-messenger era
Melanie Johnston-Hollitt (Curtin University)
- 11:30 - 12:00: A first glimpse of the Galactic Plane with ASKAP
Grazia Umana (INAF-Catania)
- 12:00 – 12:20: Untangling the Magnetic Field of the Giant Radio Galaxy ESO422-G028
with Australian SKA Precursors
Christopher Riseley (University of Bologna)
- 12:20 – 12:40: Jets at the extremes: the GLEAM and LAT view of blazars
Marcello Giroletti (INAF-IRA)
- 12:40 – 13:40: Lunch
- 13:40 – 14:00: Digital beamforming with the cryogenic C-band PHAROS2 PAF
Alessandro Navarrini (INAF-Cagliari)
- 14:00 – 14:20: Combining large radio continuum surveys with multi-wavelength data to
extract the science
Ray Norris (WSU/CSIRO)
- 14:20 – 14:40: Multi-frequency polarimetry of complete samples of extragalactic radio
sources
Vincenzo Galluzzi (INAF-Trieste)
- 14:40 -15:10: Afternoon tea

- 15:10 - 15:30: Assessing the RQ AGN population: results from observations of the G23 field with ASKAP and ATCA
Isabella Prandoni (INAF-IRA)
- 15:30 – 15:50: UAV-based Radiation Pattern Measurement of the SKA-low demonstrators
Giuseppe Virone (CNR-IEIIT)
- 15:50 – 16:10: The Northern Cross Fast Radio Burst project
Gianni Bernardi (INAF-IRA)

The history of astronomy between Australia and Italy, motivated by the career of Pietro Baracchi

- 16:10 – 16:40: Baracchi and the Great Melbourne Telescope
Phil Edwards (CSIRO)
- 19:00: Conference dinner

Thursday 24 October

Gravitational wave detectors and prospects for coordination with electro-magnetic astronomy

- 09:00 – 09:30: Gravitational wave detectors: prospects for the future
Viviana Fafone (Università Roma Tor Vergata and I)
- 09:30 – 10:00: The properties of compact binaries with gravitational waves
Eric Thrane (Monash/OzGrav)
- 10:00 – 10:30: GW signal from transient astronomical events
Martina Toscani (University of Milan)
- 10:30 – 11:00: Morning tea
- 11:00 – 11:30: TBD
Andrea Possenti

The role of astroparticle experiments in the future

- 11:30 – 12:00: Neutrino telescopes in the Mediterranean sea for multimessenger astrophysics
Maurizio Spurio (Univ. Bologna / KM3Net)

12:00 – 12:30: Multimessenger astroparticle physics for testing theories of dark matter and new particles
Pat Scott (ICL)

12:30 – 13:30: Lunch

High photon energy astrophysics in the multi-messenger era.

13:30 – 14:00: Cosmic Ray physics in the in the CTA era
Elena Amato (INAF-Arcetri)

14:00 – 14:30: Connecting radio waves and gamma-rays in extreme astronomical settings
Gavin Rowell (University of Adelaide)

14:30 – 15:00: The ASTRI mini-array in the context of gamma-ray astronomy
Giovanni Pareschi (INAF-Brera)

15:00 – 15:30: Rapid-response radio follow-up of high-energy astrophysical events
Gemma Anderson (Curtin University)

15:30 – 16:00: Afternoon tea

16:00 – 16:30: HERMES: a constellation of nano-satellites for high energy astrophysics and fundamental physics
Fabrizio Fiore (INAF-Trieste)

16:30 – 17:00: The Transient High-Energy Sky and Early Universe Surveyor (THESEUS)
Lorenzo Amati (INAF-Bologna)

17:00 – 17:20: Workshop summary
TBD (one Aus, one It)

17:20: Meeting close