

List of topics for the joint UNIPA – INAF/OAPa Astrophysics PhD course, Cycle XXXVII:

- Developing the optical filters of Athena, the ESA mission for high energy astrophysics.
- High-resolution spectroscopic exoplanet atmosphere observations from Earth and synergy with low-resolution space-based observations
- Filling the gap between supernovae, their progenitors and their remnant: 3D MHD models and comparisons with observations
- Multi-wavelength analysis of the stellar population of starburst clusters in the Milky Way
- Young Stellar Objects: spectroscopic and photometric studies, preparing the ground for the Vera C. Rubin Observatory Legacy Survey of Space and Time, LSST
- Probing the accretion process in young stars by simultaneous UV and X-ray monitoring