ESA Astrophysics: Projects and Instrumentation

Specific Seminar – Curriculum 1

March 19, 2025, 4 p.m.

Speaker:

Matteo Guainazzi, European Space Agency

Abstract:

X- and γ-rays are the observational window to the most energetic phenomena in the Universe. They allow us to address fundamental questions in modern astrophysics such as the production and distribution of metals; the physical properties of the baryons locked in the cosmic web and their evolution since the epoch of structure formation at z~2-3; the cosmological evolution of super- massive accreting black holes (BHs) and their host galaxies; the behaviour of matter in the Strong Gravity regime; accretion and ejection phenomena close to compact objects; or the Equation-of-State of ultra-dense matter in neutron stars, to mention just a few. The European Space Agency (ESA) has been at the forefront of investigating the high-energy Universe from its very first scientific mission (COS-B; 1975-1982); through XMM-Newton, the largest X-ray observatory ever flown, still running strong after more than 25 years of successful science operations; to the future large X-ray observatory, NewAthena, expected to be launched in the second half of 2030s. Each mission was enabled by a set of key technological innovations, underpinning transformational astrophysical discoveries. In this talk, I will lead you through a journey linking ESA science and technology in high-energy astrophysics over the last half a century

Online attendance:

Zoom Link: https://us02web.zoom.us/j/7050444609?pwd=enRnVUtUaTlYMXZLTmtiT2tybXBGZz09

Prof. Carlo Baccigalupi
Scuola Internazionale Superiore di Studi Avanzati (SISSA) - Trieste
carlo.baccigalupi@sissa.it

National PhD in Space Science and Technology - Secretariat
+39 0461 281504
+39 0461 283566
dn_sst@unitn.it