



# Rome Joint Astrophysics Colloquia

## A new benchmark for the local and high-z scaling relations of supermassive black holes: Dissecting the roles of AGN feedback and black hole mergers

The correlations between Supermassive Black Hole (SMBH) mass and host galaxy properties can reveal the processes shaping the coevolution of SMBHs and galaxies, from mergers to Active Galactic Nuclei (AGN) feedback. However, a clear knowledge of the exact shape and evolution of these relations is still missing. In this talk, I will present the latest results on the SMBH scaling relations, their residuals, and their time evolution. I will conclude by presenting a cutting-edge comprehensive semi-empirical/data-driven model for the evolution of SMBHs in a cosmological context, inclusive of mergers and accretion rates in line with observed Eddington ratio distribution, starting from the high-z conditions imposed by luminous red dots to the local Universe.



**Francesco Shankar**

University of Southampton (UK)

**Wednesday 19 March 2025 time 16:30 CET**

Join in person at Aula Grassano (Physics Dept. Tor Vergata University of Rome)  
or online with the MS Teams App <https://rebrand.ly/JAC-Shankar>

If attending IN PERSON, we are organizing a COFFEE BREAK from 16:00 (TBC).

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