

Title:

A user-oriented view of GRAVITY+

Abstract:

GRAVITY and the VLT Interferometer (VLTI) have transformed optical interferometry with groundbreaking results on the Galactic Center (see Nobel Prize in Physics 2020), active galactic nuclei, and exoplanets. Through its upgrades – off-axis fringe-tracking, extreme adaptive optics (AO) and laser guide stars for the four 8-m unit telescopes (UTs) – GRAVITY+ will open up the extragalactic sky for milli-arcsec resolution interferometric imaging, and give access to targets as faint as $K = 22$ mag. GRAVITY+ will measure the black hole masses of active galactic nuclei across cosmic time, and obtain high quality exoplanet spectra and orbits. In this talk, I will introduce the new observation modes that GRAVITY+ will provide with a brief description of its brand-new AO system. I will then focus on the tools currently under development that will allow the user to choose the best AO configuration for her/his observations among the four that will be available.