

Abstract

Powerful winds and jets driven by active galactic nuclei (AGN) are often invoked to play a fundamental role in the evolution of both supermassive black holes (SMBHs) and their host galaxies, possibly quenching star formation and explaining the tight SMBH-galaxy relations. Combining observations in the X-ray, radio, mm and infrared, it is possible to map such outflows from nearby the SMBH event horizon up to galaxy scales. In particular, I will show how recent observations of X-ray winds in some ultra-luminous infrared galaxies and their comparison with galaxy-scale molecular outflows indicate that the SMBH activity can influence the cold gas out of which stars form. A very recent new twist on the topic of SMBH feedback is the investigation of how the SMBH activity may affect the conditions for habitability in galaxies. In this regard, I will show a case study in which we explore the possible effects that the active phase of Sgr A* may have had on the habitability of terrestrial planets in our Milky Way.