Abstract

I will present the latest results obtained from the 3 GHz VLA-COSMOS Large
Project, the deepest radio survey ever conducted over the COSMOS field
(2.6 sq.deg.). We collected nearly 11000 radio sources down to
unprecedented sensitivity (2.3 uJy/beam), and identified about 3000 AGN
based on X-ray, mid-infrared (MIR) and radio diagnostics.
I will show how this AGN sample is a unique and ideal benchmark to track
the impact of AGN feedback onto their host-galaxies across 0<z<5. The
key
results delivered by our study confirm that X-ray/MIR AGN and radio AGN
reside in different host-galaxies since z~5, as found in the local
Universe. However, their preferred habitat changes throughout cosmic
time:
intriguingly, radio AGN - completely elusive in X-rays or MIR - seem to
prefer the most massive galaxies at z<1, while they tend to populate less
massive systems at z~2. We observe the opposite trend for X-ray/MIR
AGN,
suggesting that our two AGN populations might be following two different
pathways of the galaxy life cycle. This dichotomy is strengthened by the
different specific accretion rate distributions inferred for these AGN
populations, with BH accretion in radio AGN being less efficient than that
inferred for X-ray/MIR AGN. Our results provide first important steps for
advancing our knowledge on the AGN-host growth from a radio
perspective,
paving the way towards the next-generation facilities.