

## Active Galactic Nuclei: what's in a name?

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The workshop was aimed at presenting a multi-wavelength picture of active galactic nuclei. The contents of the workshop are here briefly summarised; a review article synthesising the invited reviews, presentations and discussions is in preparation.

Active Galactic Nuclei (AGN) are being discovered in ever-larger numbers over the whole electromagnetic spectrum. Different spectral bands employ different methods to identify these sources but, most importantly, they provide different windows on AGN physics. For example, the infrared band is mostly sensitive to obscuring material and dust, the optical/ultraviolet band is related to emission from the accretion disc, while the X-ray band traces the emission of a (putative) corona. Gamma-ray and (high flux density) radio samples, on the other hand, preferentially select AGN emitting strong non-thermal radiation. This has led to a proliferation of classes, which outsiders (and insiders as well!) find mesmerising. The main goal of the workshop was to paint the AGN “big picture” emerging

from these multi-wavelength surveys, and to understand the truly intrinsic and fundamental properties of AGN and the physics behind them. This was addressed in discussions of the following topics:

1. the different types of AGN selected in the various spectral bands;
2. the similarities and differences they display;
3. the impact of selection effects on the interpretation of the results;
4. the physical mechanism(s) behind the emission in a given band;
5. the effective range of black hole mass and Eddington ratio probed by each selection method;
6. the possible limitations of current observations and/or facilities.

The workshop consisted of six different sessions: radio, infrared, optical, X-ray, gamma-ray, and variability. Each session was introduced by a review talk which set the scene, followed by contributed talks, by a total of eighty-six speakers. Sixty-seven posters completed the programme. A summary talk and a discussion session were held at the end of the workshop. The workshop was very well attended, with 165 participants, covering five continents and 31 different countries; 60 of the participants were students. The full workshop programme is available online<sup>1</sup>, from where a PDF copy of most of

the presentations, and some of the posters, can be downloaded. Many of the individual presentations are also available through Zenodo<sup>2</sup>, accessible by their Digital Object Identifier (DOI).

A review paper, to be published in *The Astronomy and Astrophysics Review*, is currently being prepared (Padovani et al. 2017, in prep). It will summarise our knowledge of the AGN phenomenon from all angles by synthesising the review talks and the content of presentations and discussions during the workshop. This will hopefully be a useful legacy of the workshop for all AGN researchers.

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### Links

<sup>1</sup> Workshop programme: <http://www.eso.org/sci/meetings/2016/AGN2016.html>

<sup>2</sup> Zenodo DOI platform: <http://zenodo.org/>



Figure 1. The participants at the workshop photographed in the grounds of ESO Headquarters.