



Postdoctoral Research Fellow: Black Hole-Galaxy Co-evolution with MeerKAT and Euclid

We are seeking a Postdoctoral Researcher to join a project focused on exploring the co-evolution of supermassive black holes (SMBH) and galaxies, with a specific focus on characterising heavily obscured Active Galactic Nuclei (AGN) and Dusty Star-Forming Galaxies (DSFGs) at high redshift ($z \sim 1-5$).

The Project:

This multi-wavelength study leverages deep radio continuum data from the MeerKAT MIGHTEE and EDFs L-band surveys, combined with observations from leading facilities including Euclid, LSST, Chandra, and XMM. The work is divided into three phases:

- Identifying and characterising a large sample of DSFGs in the MIGHTEE and EDFs fields to constrain the Star-Formation Rate Density (SFRD) evolution.
- Building and characterising samples of X-Ray and radio-selected obscured AGN across all MIGHTEE fields.
- Extending the search for obscured AGN (via [NeV] emitters) and DSFGs to the full Euclid Deep Field South (EDFS), utilising Euclid's spectroscopic capabilities for environmental studies.

Requirements:

- Strong expertise in X-ray and multi-wavelength extragalactic astronomy.
- Strong background in source characterisation and SED-fitting.
- Experience with radio astronomy data analysis (MeerKAT data highly desirable).
- (Not mandatory, but desired) Experience with supervision of students/teaching assistant roles
- The candidate should not have obtained the PhD more than 5 years before the date of appointment.

The position is for 2 years, funded by the South African Radio Astronomy Observatory and will be based at the University of Cape Town (UCT), leveraging UCT/IDIA's key role in the MeerKAT surveys and its access to the ilifu computational infrastructure. The successful candidate will also benefit from strong collaborations with Italian institutes (UniBo, INAF-IRA) and involvement in the MIGHTEE and EDFs-MeerKAT collaborations.

Application:

Please send the following documents to lucia.marchetti@uct.ac.za **by December 5th, 2025**:

- Complete CV and list of publications.
- Motivation letter with a short research statement (max 3 pages).
- 2 Reference letters.

Selection should commence no later than 8 December 2025 and will continue until the position is filled. The position should start on January 1st, 2026.