Postdoctoral Research Fellow: The interplay between AGN, star-formation and gas as a function of environment and redshift

We are seeking a Postdoctoral Researcher to join the RADHIANCE research group of Dr Jacinta Delhaize at the University of Cape Town (UCT). This is funded by NRF grant CSUR240426216203 – "RADHIANCE: **R**adio-based **A**nalysis and **D**etection of **HI**, **A**GN, star-formatio**N** and their **C**osmic **E**volution" (PI: Delhaize). The position will be for two years and should commence by July 2026, though ideally as soon as possible from February 2026.

The position will leverage 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 the University of Oxford and Western Australian institutes such as ICRAR, UWA, Curtin University and CSIRO.

Project description:
The successful candidate will seek to understand the interplay between AGN activity, star formation and/or gas as a function of environment and redshift. They will make use of deep continuum or spectral line (HI) observations with MeerKAT, to push the redshift limit of such studies. In particular, the postdoctoral researcher will make use of data from the MIGHTEE and LADUMA Large Survey Projects, as well as Open Time MeerKAT UHF observations of the COSMOS field. The successful candidate will have the freedom to choose their research directions within these bounds and may also propose their own Open Time observations with MeerKAT.

Members of the RADHIANCE group currently have expertise in HI (emission and absorption line) source finding, characterisation, stacking and scaling relations, as well as star forming galaxy and (giant) radio galaxy detection and characterisation and spectral index analysis. We are particularly seeking a postdoctoral researcher with complementary scientific/technical skills in, and proposing research involving, one or more of the following:
- Galaxy environment/cluster analysis
- Optical/NIR extragalactic spectroscopic observations and analysis (particularly with SALT)
- Galaxy/AGN SED-fitting with codes such as CIGALE
- Hydrodynamical or semi-analytical simulations of galaxies/AGN

Requirements:
- Strong background in multiwavelength extragalactic astronomy and/or galaxy evolution
- Experience in detection/analysis of at least one of: (i) Active Galactic Nuclei (AGN) including radio galaxies, (ii) neutral atomic hydrogen gas (HI), or (iii) star-formation in galaxies.
- Expertise in at least one of the complementary skills listed in the position description above.
- The candidate should not have obtained their PhD more than 5 years before the date of appointment.

Highly desirable skills:
Preference will be given to candidates with:
- Experience in radio continuum or radio spectral line data analysis (preferably MeerKAT).
- Experience with supervision of students/teaching assistant roles, as they will be expected to co-supervise or provide input on RADHIANCE student projects.

Application documents:
- Complete CV and list of publications.
- Motivation letter with a short description of past research experience and future plans (max 3 pages).
- Two letters of recommendation (sent directly by the referees to the email address below)

Please send the application documents to j.delhaize@uct.ac.za by **30th January 2026** for full consideration. Selection will continue until the position is filled.