

## SARAO/UCT science operations postdoctoral fellowship

SARAO and UCT are offering an exciting postdoctoral opportunity for a researcher interested in gaining experience in the science operations of the MeerKAT telescope.

In this role, the successful candidates will support MeerKAT telescope operations (50% of the time), its users, and have the opportunity to carry out their own research ( 50 % of the time).

The SKA precursor MeerKAT is a 64-dish radio interferometer located in South Africa, inaugurated in 2018. In parallel with a robust science program, development of new capabilities continues. MeerKAT's wide field of view, wide bandwidth, and sensitivity to low surface brightness emission pose new challenges in characterisation and calibration of the telescope providing growth opportunities to a dedicated team of technically-minded astronomers. More information on MeerKAT can be found at <https://skafrica.atlassian.net/servicedesk>

The successful candidate will work closely with the SARAO Science Operations team, conducting the following activities:

- Serve as Astronomer on Duty on a roster basis
- Provide quality assurance and quality control of the telescope data products and support engineering teams in troubleshooting operational issues.
- Improve operations and scientific performance
- Maintain calibration of the telescope
- Contribute to the commissioning and science verification of the MeerKAT Extension
- Support users in the preparation of proposals, observation schedule blocks, calibration strategies and data reduction
- Assist in feasibility reviews of proposals

The candidate will split their time between the SARAO offices in Black River Park, Observatory, Cape Town and the Astronomy department at University of Cape Town in Rondebosch

*The successful candidate will be affiliated with the Department of Astronomy at UCT (<https://science.uct.ac.za/department-astronomy>) and will have the opportunity to work with MeerKAT data from open time and large survey projects, including LADUMA, the MeerKAT Fornax Survey, MHONGOOSE, and MIGHTEE, in close collaboration with any of the department's faculty. Candidates are encouraged to contact faculty members, if they wish to discuss possible projects, before applying. The successful applicant will have access to the ilifu data intensive cloud computing facility operated by IDIA (<https://idia.ac.za/ilifu-research-cloud-infrastructure/>).*

### Mandatory Knowledge, Skills and Experience

- University PhD degree in Astronomy, Physics, Engineering or another closely related and relevant field
- Expertise in radio astronomy techniques including in the acquisition, reduction and analysis of astronomical data
- Ability to program in C/ Python/shell scripts
- Linux operating systems
- Effective oral and written communication skills in English
- Flexibility and adaptability to change.

[www.sarao.ac.za](http://www.sarao.ac.za)

The South African Radio Astronomy Observatory (SARAO) is a National Facility managed by the National Research Foundation and incorporates all national radio astronomy telescopes and programmes.

**Desirable Knowledge, Skills and Experience**

- Experience with the operation of radio observatories
- Experience commissioning radio astronomy instrumentation

The expected remuneration for 2024 is ZAR 447 000 per annum, tax-free, subject to corrections for inflation. Additional funding is available for equipment, travel and relocation expenses. The position is for three years, subject to adequate performance.

Applicants should email a single PDF document containing:

- a cover letter
- a CV (including a list of publications)
- a description of previous/current research and future plans/interests (maximum: 3 pages)
- names and emails of 3 referees: letters must be sent directly to us from the referees by the deadline

Email address: [postdoc\\_applications@ast.uct.ac.za](mailto:postdoc_applications@ast.uct.ac.za)

Deadline: 15 January 2024

For any further questions, please use the email above.

The appointment is subject to the rules and approval of the University of Cape Town and SARAO/National Research Foundation of South Africa.