ADVERTISEMENT

SKA Mid - Data Analyst

Contract type: Permanent

Job Level: Skilled / Middle Management

Work Location: Cape Town, Western Cape

The National Research Foundation (NRF) (wwww.nrf.ac.za) supports and promotes research and human capital development through funding, the provision of National Research Facilities and science outreach platforms and programmes to the broader community in all fields of science and technology, including natural sciences, engineering, social sciences and humanities.

The South African Radio Astronomy Observatory (SARAO) (www.sarao.ac.za) spearheads South Africa's activities in the Square Kilometre Array Radio Telescope, commonly known as the SKA, in engineering, science and construction. SARAO is a National Facility managed by the National Research Foundation and incorporates radio astronomy instruments and programmes such as the MeerKAT in the Karoo, the Hartebeesthoek Radio Astronomy Observatory (HartRAO) in Gauteng, the African Very Long Baseline Interferometry (AVN) programme in nine African countries as well as the associated human capital development and commercialisation endeavours.

The Square Kilometre Array Observatory (SKAO) (www.skao.int) is a next-generation global radio-astronomy facility that will revolutionise our understanding of the Universe and the laws of fundamental physics. It is one observatory with two telescopes SKA-Mid in South Africa and SKA-Low in Western Australia. South Africa is a co-host member of the SKAO, an intergovernmental organisation headquartered at Jodrell Bank (near Manchester in the United Kingdom) responsible for SKAO construction and operations globally.

The data analyst/ telescope operator is part of the science operations team. During construction the team will support the Commissioning team and Assembly, Integration and Verification (AIV) team. The team will also be expected to provide input and feedback to the software development teams regarding operations and science processing user interfaces. Observing during this phase is expected to be outside of traditional working hours. The team will be expected to contribute to both the designing and documenting of operating procedures for SKAO. Once construction is complete the team will be responsible for the day-to-day observing of the SKA-Mid Telescope and provide analysis of the initial telescope data for quality assurance and science verification. Observing during this phase is expected to be 24/7 with the team working shift patterns.

Key Responsibilities:

* Contribute to the designing and documenting of operating procedures for SKAO
* Conduct, monitor and calibrate astronomical observations and use appropriate computing resources
* towards successful operation of the telescope array
* Undertake quality assurance of data
* Support communication between engineering and technical staff and scientific stakeholders.

Key Requirements:

Qualification:

* MSc in physics, astronomy or related discipline, coupled with a minimum of 2 years relevant experience
* OR
* BSc (Hons) in physics, astronomy or related discipline, coupled with 3 years relevant experience.

Experience:

MSc in physics, astronomy or related discipline coupled with 2 years experience in technical or scientific environment.

BSc (Hons) in physics, astronomy or related discipline, coupled with 3 years experience in technical or scientific environment.

Knowledge:

* Awareness of radio astronomy principles and interferometric calibration
* Astronomical reduction software
* Control and monitoring systems
* Scientific computing in Python

Additional Notes:

Related Skills:

Linux operating systems

Control and monitoring software

Technical report writing

Data analysis

Extreme Importance (Essential):

Domain knowledge: Experience in astronomy observations and data reduction pipelines

High level analytical capability: Demonstrated problem-solving ability

Teamwork and collaboration: Cooperates with others to achieve organisational objectives and may share team resources to do this. Collaborates with other teams

Communication: Well-developed verbal and written communication skills in English.

Documentation: Aptitude to contribute to the definition and development of operational procedures, monitoring dashboards and documentation. Rigor in maintaining reports and documentation.

Scientific computing: Understanding of software development and data analysis using Python, C or C++ in Linux environment

Equity, diversity and inclusivity: An awareness of, and commitment to, equitable practices, including accessibility, to facilitate broad access to the Observatory

Must be able to work on a 24/7 rotational basis including weekends and public holidays.

High Importance (Desirable):

Aptitude to control and operate a scientific research facility including familiarity with monitoring, controlling, and scheduling

Demonstrated ability to work and cope under pressure in time sensitive environments with multiple priorities

Ability to work independently as well as part of a multidisciplinary team.

Familiarity with SAFe or Agile code development practices

Experience working with scientific instruments, where the experience may include scheduling experiments/ observations,

Designing interfaces and user modules for operating the instrument

Analysing instrument data for calibration and data quality purposes

Day-to-day health checks and status of the instrument.

Organisational Values

The SKA-Mid Data Analyst will be expected to demonstrate the SARAO and SKAO's values, and to work actively to in still those behaviours in all SKA-Mid staff in South Africa.

SKAO's values are:

1. Diversity and Inclusion
2. Excellence
3. Collaboration
4. Creativity and Innovation
5. Sustainability

SARAO's values are:

1. Passion for Excellence
2. World-class service
3. People-centred
4. Respect
5. Integrity and Ethics
6. Accountability

Both SARAO and SKAO value and respect difference and are committed to building an inclusive culture by creating an environment where you can balance a successful career with your commitments and interests outside of work. We believe that you will do your best at work if you have a work / life balance. Some roles lend themselves to flexible options more than others, so if this is important to you, please raise this during your interview, as we are open to discussing flexible working opportunities during the hiring process.

Information:

The website www.nrf.ac.za provides more details on the NRF initiatives and activities.

Applications:

Applicants should submit a comprehensive CV by logging to https://ess.nrf.ac.za/Account/Recruitment and apply online. Applications should be accompanied by a letter of motivation indicating the applicant's suitability for the position. The names and contact details of at least three referees should be provided.

Closing Date: 30 June 2024

The NRF offers a challenging career and competitive remuneration package which is commensurate with qualifications and experience. The NRF is committed to employment equity and redress and the appointment to the position will be made in line with the NRF Employment Equity Plan.

The NRF reserves the right not to make an appointment.

Correspondence will be sent to short-listed candidates only