

Position Details

Research Projects – CSOF4

THE FOLLOWING INFORMATION IS FOR APPLICANTS	
Advertised Job Title	RFI Technician - SKA-Low Telescope
Job Reference	96699
Tenure	Indefinite - Full-time, Part-time or Job-share
Salary Range	CSOF4 - AU\$93,267 to AU\$105,517 per annum, plus 15.4% superannuation
Location(s)	Geraldton, Western Australia
Relocation Assistance	Will be provided to the successful candidate if required
Applications are open to	All Candidates
Client Focus – Internal	0%
Client Focus – External	100%
Position reports to the	This position will report to the SKA-Low RFI/EMC Engineer
Number of Direct Reports	0
Enquire about this job	To enquire about this job please reach out to the SKA-Low RFI/EMC Engineer, Paul van der Merwe, on paul.vandermerwe@skao.int for more information.
How to apply	Apply online at https://jobs.csiro.au/ Internal applicants please apply via Jobs Central If you experience difficulties when applying, please email careers.online@csiro.au or call 1300 984 220.

Acknowledgement of Country

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](#).

The CSIRO Experience

As an employee of CSIRO, you will be eligible for the many benefits of working at Australia’s National Science Agency. You can read more here:

1. [Life at CSIRO](#)
2. [Personal Development & Learning](#)
3. [Generous Leave & Conditions](#)
4. [Work / Life Balance](#)

Background

The SKA Observatory (SKAO) is a next-generation radio astronomy facility that will revolutionise our understanding of the Universe and the laws of fundamental physics. Enabled by cutting-edge technology, it promises to have a major impact on society, in science and beyond. As an intergovernmental organisation, the SKAO brings together sixteen countries around the world.

The SKAO has an international footprint and consists of the SKAO Global Headquarters in the UK, the SKAO's two telescopes at radio-quiet sites in South Africa and Australia, and associated facilities to support the operations of the telescopes.

Constructing and operating these telescopes will position the SKAO as the leading research infrastructure for radio astronomy globally, providing science capabilities to the international astronomical community for decades to come.

Australia will host the SKAO's low frequency telescope (SKA-Low) in remote Western Australia on Wajarri Yamaji Country.

The Traditional Owners and native title holders, the Wajarri Yamaji, have gifted CSIRO with the traditional name Inyarrimanha Ilgari Bundara for the CSIRO Murchison Radio-astronomy Observatory, home to the SKA-Low telescope. The traditional name means 'sharing sky and stars' in the Wajarri language.

In Australia, SKAO is collaborating with CSIRO to operate and support the construction of the SKA-Low Telescope. SKA-Low teams will operate out of:

- Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory on Wajarri Yamaji Country.
- Our Engineering Operations Centre on Nhanhangardi, Naaguja, Wilynyu and Amangu Country in Geraldton.
- Our Science Operations Centre on Whadjuk Noongar Country in Perth.

Further Reading: [Explore SKAO](#)

Role Overview

The Radio Frequency Interference (RFI) Technician will form part of the existing SKA-Low RFI & EMC team. This position will be based at the Engineering Operations Centre (EOC) in Geraldton, Western Australia. Regular work will be required at the SKA Low telescope site at Inyarrimanha Ilgari Bundara, the CSIRO Murchison Radio-astronomy Observatory. The position will also form part of the wider SKA RFI and EMC group that consists of engineers and technicians responsible for ensuring the RFI and EMC integrity of the observatory is maintained. Actively engaging in technical analysis and problem solving of pertinent interference topics will be a rewarding and important part of this role.

The position will require a strong testing and measurement focus, including both qualification and characterisation testing. The role will support activities in our reverberation test chamber at the EOC as well as site-based investigations. The RFI Technician will support the RFI and EMC engineer primarily responsible for the chamber, in particular with operation and testing activities.

Additionally, the RFI technician will help to maintain, develop and update all on-site RF spectrum monitoring systems. Troubleshooting operational issues and performing repairs on these systems is crucial to ensure effective spectrum management. Self-generated RFI is a concern for these systems, which requires regular evaluation and maintenance of their shielded environments. Technical knowledge to help operate and improve a variety of monitoring stations and systems will form part of this position's inputs.

In addition to the monitoring activities, additional on-site work will include dedicated characterisation campaigns, site acceptance testing, and fault-finding investigations. Maintaining and ensuring the availability of site-based instruments and test equipment is crucial for these investigations and forms part of this role's responsibilities.

This role will require a willingness and ability to occasionally travel interstate and from time to time internationally, noting that we work very hard to accommodate personal arrangements.

CSIRO and the SKA Observatory value and respect difference, and we 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. We are open to discussing flexible working opportunities with this role being offered on a full-time, part-time or job share basis. Please raise your preference in your application.

Duties and Key Result Areas

RFI Detection and Analysis:

- Utilize spectrum analyzers, signal generators, and other specialized equipment to perform RFI characterisation and qualification testing.
- Assist with testing and analysing RFI and interference related issues.
- Operating, maintaining and repairing site-based spectrum monitoring equipment.

Interference Mitigation:

- Develop and implement strategies to mitigate interference, including filtering, shielding, and frequency analysis.
- Collaborate with engineering teams to design and implement effective solutions for RFI problems.
- Perform on-site testing and validation of mitigation measures to ensure their effectiveness.

Documentation and Reporting:

- Maintain detailed records of RFI incidents, including observations, test results, and corrective actions taken.
- Generate reports summarizing RFI investigations, findings, and recommendations.
- Help to define and maintain documentation to support regulatory compliance and certification requirements.

Communication and Collaboration:

- Communicate effectively with internal stakeholders, including engineers, technicians, and management, to coordinate RFI mitigation efforts.
- Liaise with external parties, such as regulatory agencies, service providers, and CSIRO Site Entity, to address RFI-related concerns and inquiries.
- Participate in cross-functional teams to troubleshoot complex RFI issues and implement comprehensive solutions.

Continuous Improvement:

- Stay abreast of industry developments, standards, and best practices related to radio frequency interference.
- Identify opportunities for process improvements and optimization of RFI detection and mitigation techniques.
- Actively contribute to the development of training materials and knowledge sharing initiatives to enhance team capabilities.

Selection Criteria

CSIRO is an Equal Opportunity employer working hard to recruit world-class talent that represents the diversity across our society. As part of our commitment to equitable employment outcomes for under-represented groups, preference will be given to Aboriginal and Torres Strait Islander people, women, and people with a disability who meet the role criteria.

Essential

Under CSIRO policy only those who are able to demonstrate how they can meet the essential criteria may be appointed.

- Formal qualification in electrotechnology or equivalent relevant experience in RF systems, telecommunications, or a related field.
- Proven knowledge and understanding in radio frequency interference or electromagnetic compatibility testing, analysis, and mitigation techniques, or in radio frequency signal detection and analysis, including antenna performance characterisation.
- Proficiency in using spectrum analysers, signal generators, and other RF test equipment.
- Strong understanding of RF principles and test methodologies
- Effective communication and interpersonal abilities, with the capacity to work collaboratively in a team environment.
- Familiarity with data analysis software or computational analysis tools (e.g., MATLAB, CST Microwave Studio, Python).

Desirable

- Certification in radio frequency engineering or related field (e.g., Certified Wireless Network Professional - CWNP).
- Experience with software-defined radio (SDR) platforms and digital signal processing (DSP) techniques.
- Knowledge of antenna design and RF propagation principles.
- Understanding of electromagnetic compatibility (EMC) considerations in RF system design and installation.

Required Competencies

- **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.
- **Influence and Communication:** Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others reactions.
- **Resource Management/Leadership:** Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.
- **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
- **Independence:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
- **Adaptability:** Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own

preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of changes.

Special Requirements

- The successful candidate will be required to gain a National Police Clearance or equivalent. This will be conducted by CSIRO, Talent Services, through our provider HireRight. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
- If the successful candidate is not an Australian Citizen or Permanent Resident, they may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test- [https://ielts.com. au/](https://ielts.com.au/)).
- The successful candidate will be required to undertake a pre-employment medical examination prior to commencement.

Child Safety

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](#).

CSIRO and SKAO Values

Visit [CSIRO Online](#) and [Space and Astronomy](#) and [SKAO online](#) and [SKAO Location](#) for more information. In your application and at interview you will need to demonstrate behaviours aligned to our values of:

CSIRO	SKA Observatory
<ul style="list-style-type: none">• People First• Further Together• Making it Real• Trusted	<ul style="list-style-type: none">• Diversity and Inclusion• Excellence• Collaboration• Creativity and Innovation• Sustainability and Safety