# Position Details

## Research Projects- CSOF5

|  |  |
| --- | --- |
| The following information is for applicants | |
| Advertised Job Title | Senior Electronics Electrical Engineering lead |
| Job Reference | 88304 |
| Tenure | Indefinite |
| Salary Range | AUD $102,724 to AUD $111,165 (pro-rata for part-time) plus up to 15.4% superannuation |
| Location(s) | Narrabri, NSW |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian Citizens Only * Australian/New Zealand Citizens and Australian Permanent Residents * All Candidates |
| Position reports to the | Group Leader – East Coast Observatories |
| Client Focus – Internal | 95% |
| Client Focus – External | 5% |
| Number of Direct Reports | Up to 6 |
| Enquire about this job | Contact Peter Mirtschin via email at peter.mirtschin@csiro.au |
| 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](mailto: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](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

### Role Overview

Space and Astronomy (S&A)manages CSIRO’s world-class facilities for radio astronomy and spacecraft tracking. We are internationally renowned for our radio astronomy research and engineering expertise, and closely engaged with construction of the SKA, a 2 billion Euro international project in radio astronomy sited jointly in Western Australia and South Africa.

CSIRO’s radio astronomy observatories are collectively known as the Australia Telescope National Facility (ATNF) and comprise radio telescopes at three observatories in NSW near the towns of Parkes, Coonabarabran and Narrabri. A fourth telescope, the next-generation Australian Square Kilometre Array Pathfinder (ASKAP), is operated at the Murchison Radio-astronomy Observatory (MRO) in Western Australia.

The Paul Wild Observatory near Narrabri is the location of the Australia Telescope Compact Array (ATCA), an array comprising six 22-metre high-performance dish antennas with receiver systems spanning 1.1GHz to 105GHz. In 2023 we will commence a major upgrade of the telescope’s entire data processing system, in a multi-million dollar project called BIGCAT. The Observatory will also host the first of a series of low-frequency (50-350MHz) clusters as part of a future long-baseline array to operate with SKA. The observatory site is located 25 km from the township of Narrabri. Transport between Narrabri and the Observatory site is provided.

We are seeking a full time, highly motivated and enthusiastic electronics, electrical or radio frequency engineer to be part of the ATNF Operations Program to support Observatory Operations at the Paul Wild Observatory at Narrabri. You will contribute your own highly practical engineering skills and lead a small multi-disciplinary engineering team to plan and conduct the routine maintenance and repairs to observatory instrumentation including cryogenically-cooled low-noise receivers, digital signal processing, control and monitoring, and timing systems. You will be responsible for ensuring that high levels of system reliability and performance are maintained while providing a safe and efficient work environment for your team.

While leading a small team at Narrabri, you will work at times within the broader ATNF technical team including at our Marsfield Headquarters to maintain operations and to participate actively in the planning and delivery of major new state-of-the-art instrumentation projects such as BIGCAT. Opportunities will exist for you to provide expertise and assist in the coordination of resources to provide support to ATNF Observatories in NSW and WA.

This is an opportunity to combine the advantages of a rural lifestyle with a role that presents unique professional challenges at a world-class science and technology research facility.

### Duties and Key Result Areas

* Lead a technically diverse engineering team to maintain the highest levels of reliability of the Australia Telescope Compact Array (ATCA), including electronic, electrical, mechanical, cryogenic and RF Systems.
* Use your specialised engineering skills to actively contribute to the maintenance and operations of systems and equipment, sharing your knowledge and skills with other staff.
* Ensure efficient planning and implementation of routine maintenance, operational activities an upgrades of Observatory systems.
* Work closely with ATNF staff at other sites, including at Marsfield, in the design, construction and deployment of new instrumentation and upgrades including BIGCAT.
* Participate in the Observatory on-call roster to attend to after-hours breakdowns, working flexible hours if required, and travel to other sites to assist with installation and maintenance activities.
* Maintain a safe, effective and efficient work team, allocate and manage resources and undertake effective and proactive staff performance management.
* Communicate effectively and respectfully with staff, contractors and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed*

***Pre-Requisites:***

1. A degree in electronic or electrical engineering (or similar) with eligibility for Graduate Membership of the Institute of Engineers (Australia) or equivalent professional body.
2. A valid Class ‘C’ driver’s licence and ability to work at heights.

***Essential Criteria:***

1. Demonstrated in-depth professional engineering experience (5-10 years minimum) with the operation, maintenance and modification of electronic/electrical systems, equipment, automated systems and plant.
2. A sound understanding of a broad range of system engineering principles including digital and analogue electronics, radio frequency, servo systems and electrical and mechanical.
3. Excellent hands-on technical and problem solving skills in complex systems.
4. Proven effectiveness in applying independent professional engineering judgement in the course of maintaining and operating systems and equipment in an operational environment.
5. Demonstrated leadership experience of diverse work teams in an operational environment, including a willingness to openly share technical knowledge.
6. Demonstrated commitment to safe work practices, environmental sustainability and the principles of equity and diversity.

## **Desirable**

1. Previous experience in the engineering maintenance of an operational facility with complex engineering requirements.
2. Previous experience with fault finding and repairing RF and electronic modules to the component level
3. A demonstrated understanding of radio-frequency techniques.

## **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 team 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:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **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:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **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 asked to obtain and provide evidence of a National Police Clearance or equivalent. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* You will be required to participate in the Observatory on-call roster to attend to after-hours breakdowns, and to work flexible hours as required

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [ATNF Website](https://www.atnf.csiro.au/) for more information.

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted