# Position Details

## Research Scientist/Engineer- CSOF6

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| The following information is for applicants |
| Advertised Job Title | Parkes Senior System Scientist |
| Job Reference | 88361 |
| Tenure | Indefinite Full-time, Part-time, or Job-share |
| Salary Range | AU$117k - AU$138k per annum (pro-rata for part-time)plus up to 15.4% superannuation |
| Location(s) | Parkes, New South Wales |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * All Candidates
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| Position reports to the | Facilities Program Director, ATNF Science |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 2 |
| Enquire about this job | Dr George Heald via email at George.Heald@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 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

As Senior System Scientist, you will take a leading role in maximising the scientific productivity of the Parkes 64-m radio telescope, *Murriyang*. The Parkes radio telescope is the largest single-dish telescope dedicated for radio astronomy use in the southern hemisphere, and has an outstanding international reputation for exceptional performance and astronomical research. The telescope operates at wavelengths ranging from 70 cm to 1 cm. It is maintained as a state-of-the-art instrument and carries out world-class astronomical research, with pulsar and neutral hydrogen studies being predominant in recent years. The site also hosts a 12-m radio telescope which serves as a science and engineering testbed, and a Visitors Centre that welcomes over 100,000 people per year as part of an important outreach role centred around *Murriyang*.

You will be expected to gain a deep understanding of the telescope’s operation, help astronomers make the best use of the telescope in innovative ways, contribute at a high level to the scientific specification and development of new systems, and follow projects through to commissioning and scientific use. Approximately 30 per cent of your time will be available for personal astronomical or instrumental research. The ATNF will provide training and support as you build your experience with the telescope.

You will also lead a small team of Science Operations staff at the Observatory responsible for oversight of operations of the Parkes 64-m telescope; liaising with astronomers, clients, the Parkes Site Leader and other S&A staff to ensure a detailed schedule of observing time is produced in a timely fashion and executed smoothly; and that telescope maintenance periods are scheduled as required.

The Parkes 64-m telescope’s receiver fleet is currently undergoing a major upgrade, with an ultra-wide-band feed (UWL) covering 700 MHz to 4 GHz already installed and commissioned, a cryogenically-cooled Phased Array Feed (CryoPAF) nearing installation, and funding being sought for an additional ultra-wide-band feed covering 4 GHz to at least 26 GHz, possibly up to 32 GHz. The CryoPAF receiver will use a new GPU-based backend, developed by CSIRO, for signal processing. You will contribute to leading and participate in a series of commissioning tests to characterize the performance of CryoPAF.

CSIRO Space and Astronomy (S&A) operates the Australia Telescope National Facility (ATNF), which includes the Parkes 64-m telescope, the Australia Telescope Compact Array (ATCA), the Long Baseline Array (LBA) and the Australian Square Kilometre Array Pathfinder (ASKAP). S&A is also heavily engaged in the design and development of the Square Kilometre Array (SKA). It is expected that the successful candidate will be involved in the development, planning and execution of future projects as we navigate the transition to the SKA era.

Generous relocation assistance will be provided to the successful candidate. CSIRO offers the opportunity to establish flexible working arrangements, four weeks (pro-rata) of Annual Leave per year, access to salary packaging options and health and well-being initiatives.

CSIRO Space and Astronomy values and respects difference, and we are committed to providing a safe and inclusive workplace 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 maintain a healthy 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 indicate your preference in your application.

### Duties and Key Result Areas

* Incorporate novel approaches to scientific investigations by adapting and/or developing original concepts and ideas for new, existing and further research.
* Contribute at a high level to the scientific requirements and commissioning of new instruments for the Parkes telescope.
* Devise test observations for new systems, aid in detecting and diagnosing faults, and compare the results with expected performance.
* Contribute to the smooth operation of the observing systems and services needed to carry out world class radio astronomy observations.
* Liaise with the Head of ATNF Science and other staff as needed for Observatory operations and developments.
* Provide documentation and reports as required.
* Maintain a scientific involvement with the ATNF telescopes, and so gain an appreciation of them from an observer’s perspective.
* Contribute at a high level to outreach and community engagement activity at Parkes.
* Work collaboratively as part of a multi-disciplinary, regionally-dispersed research team to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy, 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.*

1. A Doctorate or equivalent research experience in a relevant discipline area, such as Astronomy, Astrophysics, Physics, or Engineering.
2. The ability and willingness to work some flexible hours, and to travel and spend periods at ATNF sites and other astronomy institutions.
3. Demonstrated ability to devise and execute observations or measurements to test radio astronomy instrumentation, and to identify and solve complex instrumental problems.
4. **A significant record of science innovation, creativity, and quality publications in high impact, peer reviewed journals.**
5. **Excellent written and oral communication skills, evidenced by high-level reporting, presentation and negotiation abilities, and the capacity to identify and influence critical stakeholders to gain support for contentious proposals/ideas.**
6. **The ability to work effectively as a member and leader of a multi-disciplinary, regionally-dispersed research team, and carry out independent individual research, to achieve organisational goals.**

## **Desirable**

1. Experience in pulsar or spectral line observing programs at cm wavelengths.
2. Experience with Unix-based operating systems, and familiarity with computer programming and scripting languages such as C, C++, Perl or Python.
3. **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:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious proposals/ideas.
* **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:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to, and manages, the increasing rate of organisational change by adjusting strategies, goal and priorities.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

Include if relevant:

* 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.
* 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/
* This role has child safety obligations. Accordingly, the successful candidate will be required to obtain or provide evidence that they hold a working with children check prior to confirmation of appointment.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [Space and Astronomy](https://www.csiro.au/astronomy) 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