# Position Details

## CSIRO Early Research Career (CERC) Postdoctoral Fellowship– CSOF4

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| The following information is for applicants |
| Advertised Job Title | CSIRO Postdoctoral Fellowship in Fast Radio Bursts |
| Job Reference | 76245 |
| Tenure | Specified Term of 3 years Full-time |
| Salary Range | AU$88,163 to AU$96,573 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Marsfield, Sydney, Australia |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens, Australian Permanent Residents and Australian temporary residents currently residing in Australia (visa sponsorship may be provided to eligible onshore candidates) |
| Position reports to the | Team Leader – ASKAP and Fellows |
| Client Focus – Internal | 75% |
| Client Focus – External | 25% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Elizabeth Mahony via email at elizabeth.mahony@csiro.au or phone on +61 2 9372 4143 or Keith Bannister via email at keith.bannister@csiro.au or phone on +61 2 9372 4295. |
| 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. |

### Role Overview

**CSIRO Early Research Career (CERC) Postdoctoral Fellowships** provide opportunities to scientists and engineers who have completed their doctorate and have less than three years relevant postdoctoral work experience. These fellowships aim to develop the next generation of future leaders of the innovation system through:

* A differentiated career development program to deliver capability excellence and breadth across all facets of the national innovation system.
* Research training via strategic research and development projects with a clear focus that will deliver real impact through science and engineering excellence;
* An innovative culture supporting the development and demonstration of original thinking and expertise leading to peer-recognition; and
* Opportunities to develop skills and experience in collaborative research teams to effectively work within national and global multi/transdisciplinary and multi-stakeholder environments.

CERC Postdoctoral Fellows **are appointed for three years or part time equivalent.**

CSIRO’s Australian Square Kilometre Array Pathfinder (ASKAP) telescope is a world-leading instrument in localising Fast Radio Bursts (FRBs). Pinpointing where FRBs come from allows us to identify their host galaxies, study their environments and use them as cosmological probes to uncover the Universe’s missing baryons. This Postdoctoral Fellowship will give early career researchers the opportunity to join ASKAP’s Commensal Real-time Transients (CRAFT) team and get involved in the testing and commissioning of the new “CRAFT Coherent Upgrade” (CRACO) instrument which will be deployed on ASKAP towards the end of 2021. This upgrade will make ASKAP 5 times more sensitive to FRBs, enabling the CRAFT team to detect bursts more efficiently, significantly increasing the sample of localised FRBs.

### Duties and Key Result Areas:

Under the direction of senior research scientists and engineers, the CERC Postdoctoral Fellow will:

* + Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
	+ Help in the day-to-day management of ASKAP/CRAFT observing and data reduction.
	+ Improve efficiency and sensitivity of ASKAP FRB searches by contributing to software development efforts.
	+ Assist with CRACO commissioning.
	+ Produce high quality scientific and/or engineering papers suitable for publication in quality journals, for client reports and granting of patents.
	+ Prepare appropriate conference papers and present those at conferences as agreed with your supervisor.
	+ Work collaboratively with colleagues within your team, the business unit and across CSIRO.
	+ Communicate effectively and respectfully with all staff, clients 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.

[**The CERC Postdoctoral Fellow learning and development program**](http://www.csiro.au/en/Careers/Student-and-graduate-programs/Postdoctoral-fellowships)is developed between the CERC Postdoctoral Fellow and their CSIRO supervisor. The program will focus on enhancing the Fellows’ capabilities to the level expected of an independent researcher and will include on-the-job and course-based development encompassing:

* Discipline-specific techniques and protocols
* Professional growth
* Project management
* Communication and influencing skills
* Working and collaborating with others

## **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.

## **Selection Criteria**

#### Essential

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

1. A doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such as Physics or Astronomy.

Please note: To be eligible for this role you must have **no more than 3 years** (or part time equivalent) of postdoctoral research experience.

1. Demonstrated strong programming skills and capacity to learn Python.
2. Demonstrated understanding of radio astronomy tools and techniques.
3. High level written and oral communication skills with the ability to represent the research team effectively internally and externally, including the presentation of research outcomes at national and international conferences.
4. A sound history of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
5. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## **Desirable:**

1. Knowledge of FRB science and observing techniques.
2. Experience in telescope testing and commissioning.
3. Remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.
4. **The ability to work effectively as part of a multi-disciplinary, potentially regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.**

To be appointed to this CERC Postdoctoral Fellowship role within CSIRO, candidates will be expected to commence employment by December 2021/January 2022. To be appointed as a CERC Postdoctoral Fellow within CSIRO, candidates are required to have **submitted** their PhD at the time of commencement, as a minimum requirement, if PhD conferment has not been obtained. If a candidate has submitted, but their PhD has not yet been formally attained, the starting salary will be CSOF4-1 ($85,361). Upon CSIRO receiving written confirmation that the PhD has been awarded (within a six month period from commencement date), the salary will be increased to the negotiated level and the difference will be back-paid to the Officer’s start date.

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.

* The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* The successful candidate may be required to undertake a pre-employment medical examination prior to commencement.
* 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/

**Our value proposition**

We want CERC Postdoc Fellows to join our world class science, engineering and digital teams to solve big, complex problems that make a real difference to the future of Australia and the world.

You'll get to work with some of the most talented minds in their fields, not just in Australia, but in the world. At CSIRO, we spark off each other, learn from each other, trust each other and collaborate closely to achieve more than we could individually.

## **About CSIRO:**

We solve the greatest challenges through innovative science and technology. To find out more visit us [online](http://www.csiro.au/)!

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

* 1. People First
	2. Further Together
	3. Making it Real
	4. Trusted

Find out more about [CSIRO Astronomy and Space Science](https://www.csiro.au/en/Research/Astronomy)

You will be working with an innovative, diverse and dynamic team in a friendly, social and supportive environment. You will have the opportunity to learn a wide range of skills from telescope commissioning and software development to FRB astrophysics. CASS headquarters is a short train ride from Sydney CBD and has ready access to its famous beaches, nightlife and outdoor lifestyle activities.

CSIRO Space & Astronomy supports a flexible working environment and offers a range of family friendly programs and policies. CSIRO Space & Astronomy is committed to diversity, in particular to increasing awareness, demonstrating best practice, and implementing initiatives to improve diversity and equity within our workplace.