# 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 Biomedical Imaging |
| Job Reference | 68733 |
| Tenure | Specified Term of 3 years (Full-time) |
| Salary Range | AU$83,687 to AU$94,679 pa + up to 15.4% superannuation |
| Location(s) | Herston, QLD |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates |
| Position reports to the | Team Leader Neurodevelopment and Plasticity |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dana Bradford via email at: Dana.Bradford@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. |

### 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.

The Postdoctoral Fellow will join a multidisciplinary team working within the Australian e-Health Research Centre (AEHRC), part of the CSIRO Health and Biosecurity, and Queensland Hospital and Health services. The role will work as part of the AEHRC Neurodevelopment and Plasticity team within the Biomedical Informatics group.

The Postdoctoral Fellow will undertake research into the detection and management of brain injuries in neonates, children and adults using MR imaging. The Postdoctoral Fellow will take a role in multiple existing projects in this area, which includes managing and growing existing inter-institutional collaborations with clinicians and external scientists in addition to overcoming the significant technical challenges in the area.

From a technical perspective, the Postdoctoral Fellow will be involved in devising techniques to analyse MR images and performing cross population analyses to detect subtle differences in brain white-matter structure and how these change as a result of therapy. There will be a strong focus on processing data from neonates and/or elderly and dealing with the technical problems typical to these data.

### Duties and Key Result Areas:

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

* Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific and clinical outcomes.
* Development of innovative concepts and ideas for assessing MR images that utilise diffusion and structural imaging, including the contribution to research grants.
* Support the supervision of PhD students and vacation work students.
* Design and conduct the research study, including data collection and analysis of existing and new data.
* Communication of the results in high quality journals, client reports. Supporting the drafting of patents to protect IP as needed
* 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.
* Undertake an appropriate training and development program developed by CSIRO.
* 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 Neuroscience, Medical Imaging or Neuropsychology.

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. Experience in programming with Python, C++ and/or Matlab to customise important aspects of processing pipelines.
2. Minimum of 12 months experience processing biomedical imaging datasets for populations with neural injury and neurotypical controls.
3. Ability to undertake both structural and diffusion processing of medical imaging data to extract volumetrics, tract analysis and measures to score lesion severity.
4. Ability to correlate neural pathology with clinical assessments.
5. Ability to apply predictive models to neuroimaging data.
6. Current Blue Card for working with children (or willing to obtain).
7. 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.
8. A sound history of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
9. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## **Desirable:**

1. Experience with analysing task and resting state fMRI or willingness to learn.
2. Previous experience in automating conventional MRI measures for neonatal brain images.
3. Demonstrable knowledge of neuro-anatomy.
4. Experience with drafting ethics applications and developing study protocols.
5. Remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.
6. **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 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 ($83,687). 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.

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.

CSIRO Early Research Career (CERC) Postdoctoral Fellow Experience Employee Value Proposition (EVP). Find out more [here](https://www.csiro.au/en/careers/postdoctoral-fellowships)!

## **About CSIRO:**

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

Find out more about CSIRO [Health and Biosecurity](https://www.csiro.au/en/Research/BF)