# 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 AI for improved quality of life for epilepsy patient. |
| Job Reference | 63277 |
| Tenure | Specified Term of 3 years |
| Salary Range | AU$83,687 to AU$94,679 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Herston, Queensland or Townsville, Queensland |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Position reports to the | Team Leader, Medical Image Analysis |
| Client Focus – Internal | 30% |
| Client Focus – External | 70% |
| Number of Direct Reports | 0 |
| Enquire about this job | Dr Jason Dowlingvia email: Jason.Dowling@csiro.au or phone: 3253 3634.  *Please do not email your application directly to Dr Dowling. Applications received via this method will not be considered.* |
| 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. |

### 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 Health and Biosecurity are seeking to appoint a highly motivated Postdoctoral Fellow in the Medical Image Analysis Team based at the Royal and Brisbane and Women's Hospital. The Fellow will be part of an international, multi-disciplinary research team with expertise in: clinical nuclear medical imaging, neuroimaging, PET; magnetic resonance imaging; and medical image analysis. The Fellow will conduct novel, world class research aimed at the development, validation and translation of AI algorithms to improve the accuracy of PET imaging to assist diagnosis and treatment planning for epilepsy patients.

### Duties and Key Result Areas:

* + CSIRO requires National Police Checks to be provided by preferred applicants for all new positions. Where matters are disclosed in a National Police Check, only those that are relevant to the position and the ability of the applicant to perform the role will be taken into account. Accordingly it is important to consider, and include in the position description, all duties and responsibilities relevant to the position, to assist with the consideration of any record that may be disclosed through the National Police Check process.

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

* + Under the direction of senior research scientists, carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
  + Develop and validate AI algorithms to improve the accuracy of PET images using PET and MRI data.
  + Working with clinical experts, research and develop re-usable software libraries and/or system models designed to provide improved epilepsy lesion localisation.
  + Actively engage in state, national and international conferences as well as deliver seminars or workshops within CSIRO and externally.
  + Publish research findings through scientific, technical reports and patents, journal articles, research proposals and scientific papers, helping ensure high standards of research products and improve uptake of research outcomes within industry and government.
  + Assist to build CSIRO’s research reputation for integrated and multi-disciplinary science related to services through networking activities and advisory roles/tasks.
  + Contribute to the effective functioning of a research team to help deliver upon CSIRO’s organisational objectives.
  + Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
  + Recognise and exploit opportunities for innovation and the generation of new theoretical perspectives, and progress opportunities for the further development or creation of new lines of research
  + Utilise design thinking methodology to plan and prepare research proposals, and apply non-academic impact methodology to research projects
  + Carry out research investigations requiring originality, creativity and innovation
  + Record, manage, and analyse data/information using relevant domain data science techniques.
  + Proactively undertake development to grow effective researcher capabilities to support career goals
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, 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 medical image analysis or computer vision.

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 performance in developing, implementing and validating new medical image analysis algorithms with strong skills in analytical thinking.
2. Demonstrated competency in C++ (Linux and Windows) and software development processes and environments (including MS Visual Studio, gcc, CMake, svn/git).
3. Demonstrated experience with PET and PET/MR reconstruction.
4. Demonstrated competence and experience in problem solving and application of knowledge, as evidenced by publications and research experience.
5. 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.
6. A sound history of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
7. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## **Desirable:**

1. Experience with ITK for medical image analysis. Competency in Python and/or R and associated machine learning libraries.
2. Remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.
3. **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 AU$83,687 + up to 15.4% superannuation. 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

* 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.

**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)