# Position Details

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

|  |  |
| --- | --- |
| The following information is for applicants | |
| Advertised Job Title | CERC Postdoctoral Fellowship in X-ray Microanalysis |
| Job Reference | 77085 |
| 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) | Perth (Kensington), WA, Whadjuk Noongar Country or Melbourne (Clayton), VIC, Wurundjeri Kulin Country |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents * Australian temporary residents currently residing in Australia (visa sponsorship may be provided to eligible candidates) |
| Position reports to the | Team Leader |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Mark Pearce via email at mark.pearce@csiro.au or phone +61 8 6436 8542 |
| 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 area 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

**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.**

The Postdoctoral Fellow will work with our team of physicists, engineers, data scientists and geologists to develop new analytical methods using our world-class research infrastructure. The Fellow will focus on expanding the capabilities of the Maia Mapper instrument, developed for rapid, high-definition X-ray fluorescence (XRF) analysis of large geological samples. The Maia Mapper incorporates a high brightness X-ray source and Maia array detector both of which provide unexplored potential for new types of analysis. With a solid grounding in X-ray microanalysis or instrument physics the Fellow will explore what new geological information can be gained from exploiting the large solid angle of the detector, array detector, high X-ray fluxes and event mode scanning provided by this unique instrument. Additionally, the large repository of existing XRF maps with correlative microanalysis datasets will offer a testbed for machine learning and other data analytics approaches as a further avenue of research.

The Postdoctoral Fellow will be supported by our broadly experienced and world-leading team to build their own research agenda within the scope outlined above. They will be expected to work closely with the Maia Mapper users to develop useful tools that aid research in exploration and orebody knowledge.

The team recognises that Aboriginal and Torres Strait Islander peoples have made and will continue to make extraordinary contributions to Australian culture, economy and science and we aim to promote and support the vision of ‘A science landscape in respectful partnership with Indigenous Australia delivering innovative, sustainable, holistic solutions to meet our greatest national challenges’.

While working at CSIRO, you will be able to create a dynamic career path leveraging from your own experiences and identity. You will have access to a range of world-class facilities based at local and national universities where CSIRO has collaborative arrangements in place, and at other CSIRO sites across Australia. CSIRO provides an attractive remuneration package that includes a generous superannuation scheme, flexible work options, travel, and multiple leave options including paid maternity and parental leave.

CSIRO is also a member of the Science in Australia Gender Equity (SAGE) pilot, holds Gold Employer Status through the AWEI (Australian Workplace Equality Index), which sets a comparative benchmark for LGBTIQ+ inclusion for employers across all sectors and is committed to reconciliation with Aboriginal and Torres Strait Islander Peoples.

### Duties and Key Result Areas:

Supported by our senior research scientists and engineers, the CERC Postdoctoral Fellow will carry out the following duties:

* Develop a strong understanding of Maia Mapper data acquisition and analysis workflows to outline potential opportunities for new products.
* Work with downstream users to understand what outputs would provide value.
* Expand analysis capabilities of Maia Mapper and other XRF-based instruments by producing novel analysis methods for new and existing datasets.
* Explore the potential for using data analytics to improve geological analysis of X-ray fluorescence mapping data.
* Work safely with X-ray and other radiation sources ensuring all required training is maintained and constantly explore the opportunity to improve CSIRO’s safety culture.
* Record, manage, and analyse data/information using relevant domain data science techniques.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Values, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal 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, analytical chemistry, x-ray imaging etc.

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 of developing X-ray based analysis of chemical and physical properties of samples.
2. 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.
3. A sound history of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications or patents.
4. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

## **Desirable:**

1. Knowledge of geological materials.
2. Experience of incorporating analysis algorithms into software.
3. Hands-on experience of instrument/detector design and deployment.
4. Experience of a range of microanalysis techniques commonly used to analyse geological samples (e.g. electron microscopy, XRD, laser ablation)
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 ($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.
* 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/)!

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 [Mineral Resources](https://www.csiro.au/en/Research/MRF).