# Position Details

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

|  |
| --- |
| The following information is for applicants |
| Advertised Job Title | CSIRO Postdoctoral Fellowship in Environmental Systems Biology |
| Job Reference | 71386 |
| Tenure | Specified Term of 3 years Full-time |
| Salary Range | AU$86,434 to AU$94,679 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Black Mountain, ACT or Brisbane, QLD |
| 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 | Principal Research Scientist |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Tom Walsh via email at tom.walsh@csiro.au or phone +61 2 62464083 |
| 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 of 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.**

Organofluorines can be persistent pollutants, however some Australian plants recruit fluorine into toxic organofluorine (fluoroacetate) for protection against herbivores. Here, we will use a whole of system approach to characterise these complex interactions and identify and manipulate biological processes for degradation of similar short-chained PFAS (per- and polyfluoroalkyl substances) contaminants. This will include using environmental omics-based techniques (a combination of metagenomics, transcriptomics, proteomics, lipidiomics and metabolomics) to characterise the degradation pathways in soils, in the plants themselves and invertebrates consuming the fluorinated compounds. As well as the omics-based tools, the CERC Postdoctoral Fellow will examine the capability of known and novel fluorinated compound degrading proteins to target anthropogenic fluorinated compounds such as PFAS/PFOS. A detailed and comprehensive approach has the potential to unlock new methods for managing these recalcitrant pollutants.

The project on offer is transdisciplinary in nature and requires the application of knowledge and skills from several specialist scientific areas (multiomics, bioinformatics, biochemistry). The Postdoctoral Fellow will have the opportunity to work across multiple CSIRO laboratories, in addition to working at collaborator institutions). This will ensure the Fellow has access to state-of-the-art technologies and bioinformatics techniques in the field of environmental systems biology. This will help broaden the Fellow’s experiences and develop deeper professional networks. The collaborative nature of the project provides a unique opportunity for the Fellow to become engaged with various scientific, cultural and organizational structures, enabling them to become a truly cross-disciplinary science leader.

### Duties and Key Result Areas

* Under the direction of senior research scientists, carry out innovative and impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes that include:
* A multi-omic analysis of the degradation of natural and anthropogenic fluorinated compounds in soils and invertebrate herbivores in natural systems
* Laboratory based analysis of the capacity of plants, soils and invertebrate herbivores to degrade and take up fluorinated compounds.
* Biochemical investigation of candidate organisms and enzymes to identify mechanisms of degradation.
* Undertake regular reviews of relevant literature and patents.
* Produce high quality scientific papers suitable for publication in peer reviewed journals, internal reports and granting of patents. Prepare appropriate conference papers and present those at national and international conferences as agreed with your supervisor.
* 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 Values, Code of Conduct, 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 Environmental Science, Biochemistry or Systems Biology. *Please note:* To be eligible for this role you must have **no more than 3 years** (or part time equivalent) of postdoctoral research experience.
2. Demonstrated bioinformatics experience in metagenomics, metabolomics- and/or proteomics-based research. Experience in other omics-based approaches, such as transcriptomics, will be advantageous. Professional (contracted consultancy work) and non-professional (academic) experience at a university will be considered.
3. Prior experience with method development and preparation strategies applied to system biology workflows and/or environmental samples.
4. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.
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 relative to opportunity.
7. A record of science innovation and creativity, including the ability and willingness to incorporate novel ideas and approaches into scientific investigations.

## **Desirable**

1. Experience with a variety of biological samples would be useful as well as a background in areas such as analytical chemistry, synthetic biology and/or bioinformatics, will also be taken into consideration.
2. Demonstrated experience in biochemistry, metabolomics, proteomics, and/or microbiological techniques.
3. Demonstrated experience with organising and conducting field sampling.
4. Significant and demonstrable experience in dealing with data acquisition, analysis protocols and associated software. Experience with computer programming (e.g., R, Matlab or Python) and multivariate statistics (e.g., SIMCA) would be highly advantageous but is not essential as training is available.
5. Remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.

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.

**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 [Land and Water](https://www.csiro.au/en/Research/LWF)