# 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 Freshwater Ecosystem Health  |
| Job Reference | 86882 |
| Tenure | Specified Term of 3 years Full-time  |
| Salary Range | AU$89,926 to AU$98,504 pa + up to 15.4% superannuation |
| Location(s) | Dutton Park, QLD or Floreat, WA |
| 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)
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| Position reports to the | Project Leader, Senior Research Scientist |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact David Beale via email at david.beale@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. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas 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) Fellowships** provide opportunities to scientists and engineers who have completed their doctorate and have less than three years relevant research 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 Fellows **are appointed for three years full-time or equivalent.**

Wetlands perform critical ecosystem functions such as freshwater storage, nutrient cycling, and biodiversity habitat. However, urban wetlands are polluted by metals, per- and polyfluoroalkyl substances (PFAS), and other commonly used anthropogenic contaminants. Despite a growing body of research highlighting the extent of wetland pollution, little is known about the toxicological impacts of metals and polyfluoroalkyl substances on higher-order terrestrial biota, such as frogs.

Globally, frogs face significant threats from anthropogenic activities. Bioaccumulative behaviour, transformational life history, and links between aquatic and terrestrial ecosystems have made them ideal bioindicator species for assessing pollution effects and overall wetland health. Urban metals and organic pollutants cause malformations in frogs, as well as suppression of the immune system, stunted growth, and aberrant behaviour; however, how these impacts influence other physiological traits and overall population health are unknown. Monitoring and evaluating metals and PFAS impacts on urban frog populations using systems biology tools will help to understand how emerging and legacy pollutants impact urban ecosystems, which is crucial in managing the risk associated with polluted wetlands and mitigating near and long-term health impacts.

To address this research gap, we are looking for a CERC Postdoctoral Fellow with experience in vertebrate ecotoxicology, herpetofauna biology, collection and tissue sampling, toxicological data analysis and interpretation (including bioinformatics), and managing multi-disciplinary datasets. The project on offer is transdisciplinary in nature and requires the application of knowledge and skills from several specialist scientific areas. The CERC Fellow will apply their field, laboratory, and data analytical skills to design, execute and lead novel research projects identifying multi-omic-to-whole organism responses in frogs from common urban wetland contaminants.

The CERC Fellow will have the opportunity to work across multiple CSIRO laboratories, in addition to working at collaborator institutions (national and international). This will ensure the Fellow has access to state-of-the-art high throughput technologies and bioinformatics techniques in the field of systems biology and environmental omics. 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 multi-disciplinary leader.

### Duties and Key Result Areas

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

* + Help lead the initiation, design, and execution of field-based multi-omic and whole-organism assessments of the impacts of chronic urban contaminants on frogs.
	+ Contribute to the development of environmental pollution bioindicators, toxicity thresholds, and novel organism health monitoring technologies.
	+ Work in close collaboration with state environmental regulators and other stakeholders to maximise research impact.
	+ 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 procedures and policy, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

The CERC Fellow learning, development, and training programis developed between the CERC Fellow and their CSIRO supervisor. The program will focus on enhancing the Fellow’s 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

## **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). The doctorate must be in a relevant discipline area, such as Ecotoxicology and/or Environmental Science.

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

1. Experience in herpetofauna biology, field-based collection, and tissue sampling (including acquiring ethics approvals and permits).
2. Experience in analysing and interpreting ecotoxicological datasets.
3. Proficiency with multi-variate and multi-dimensional data analysis, either using open source or proprietary software.
4. 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.
5. A sound history of publication in peer-reviewed journals and/or authorship of scientific papers, reports, grant applications, or patents.
6. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.
7. A current Australian driver’s licence.

## **Desirable**

1. Experience in bioinformatic data analysis with at least one ‘omics dataset (i.e., genomics, metabolomics, proteomics, etc.)
2. Experience in working with a large collaborative network spanning academia, government, and industry.
3. Experience in laboratory work with biological tissues.
4. Remain productive, positive, and resilient in complex, ambiguous and/or uncertain environments.
5. **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.**

## **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.

To be appointed to this CERC Fellowship role within CSIRO, candidates will be expected to commence employment by 31 January 2023. Candidates are also required to have **submitted** their doctoral thesis 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$87,068). Upon CSIRO receiving written confirmation that the PhD has been awarded (within a six-month period from the 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 Clearance or equivalent. Please note that individuals 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 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.

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

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [Land and Water](https://www.csiro.au/en/Research/LWF%22%20%5Co%20%22Land%20%26%20Water-%20CSIRO%20Website) for more information.

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

* People First
* Further Together
* Making it Real
* Trusted