# 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 Quantitative Natural Systems Ecology |
| Job Reference | 81054 |
| 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) | Canberra, ACT (other locations by negotiation) |
| 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) |
| Position reports to the | Team Leader, Adaptive Ecosystem Management, Living Landscapes Program, Land and Water |
| Client Focus – Internal | 100% |
| Client Focus – External | 0% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Kristen Williams via email at [Kristen.Williams@csiro.au](mailto:Kristen.Williams@csiro.au) or phone +61 2 6246 4213 / Suzanne Prober via email at [Suzanne.Prober@csiro.au](mailto:Suzanne.Prober@csiro.au) or phone +61 8 9333 6789 |
| 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 full-time or equivalent.**

As an **Early Research Career (CERC) Postdoctoral Fellow** you will play a pivotal research role in CSIRO’s **Valuing Sustainability Future Science Platform (VS-FSP)**. The VS FSP will develop next generation science to provide confidence that our actions lead to positive outcomes for land, water, biodiversity, and people. The cutting-edge research will recruit 15 post-doctoral fellows who will be embedded in diverse inter-disciplinary research teams bringing together biophysical, ecological, social, and data science expertise. The research teams will co-develop and test measures of sustainability which reflect stakeholder values, achieve real outcomes, and can guide investment and innovation for ongoing improvement.

This position is one of three integrated CERC fellowships within the VS-FSP **Functional Ecosystems for Nature-positive Prosperity** project. It offers an exciting opportunity to join an interdisciplinary team aiming to develop new leading indicators of ecosystem health and integrity and embed these indicators into decision processes to accelerate practice change for nature-positive outcomes across agri-food and nature-based ecosystems. The research will build tools and knowledge-to-action frameworks based on a deep understanding of ecosystem function to support the effective identification, prioritisation, and action planning needed to protect and restore ecosystems at risk of irreversible decline.

**The Postdoctoral Fellow** in this positionwill drive the quantitative natural-systems ecology component of the project to develop novel, informative, and trusted tools that act as early indicators of change to ecosystem processes that are central to natural systems recovery. These tools will integrate knowledge of inter-dependent above- and below-ground ecosystem processes and predict whether nature-based management interventions are having the intended beneficial outcomes, such as restoring habitat for biodiversity. Collaborating across the broader team, we will seek to understand how well current ecosystem integrity indicators serve to inform decision making by agricultural and natural resource management stakeholders. With growing market drivers to restore ecosystem integrity, this research will explore whether leading indicators of ecosystem function can be used to influence management decisions, mitigate sustainability risks, and enhance nature-positive outcomes that align with community values.

The Functional Ecosystems project team will bring together skills in biophysical, ecological, and data sciences with social and economic sciences to work with a diverse range of stakeholder groups and regional communities. As a key member of the team, The Postdoctoral Fellow will lead the quantitative natural-systems ecology research and collaborate with other CERC Fellows in soil biogeochemistry and social-ecological systems. The CERC Fellows will be expected to engage with managers and other stakeholders to build participatory approaches. Inter-disciplinary activities will collectively address challenges in the design and uptake of monitoring and reporting tools to ensure that co-produced leading indicators of ecosystem function are relevant, accessible, reliable and trusted by a broad range of stakeholders. The project aims to develop research outcomes that underpin sustainable innovation and prosperity for Australia’s future.

### Duties and Key Result Areas:

Under the direction of senior research scientists, the Postdoctoral Fellow will:

* + Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
  + Conceive and develop innovative ecosystem integrity and function indicators, monitoring and reporting tools, drawing on a sound understanding of soil and vegetation ecology, and accommodating regional scalability.
  + Work with project stakeholders and collaborators to co-develop and co-design research questions, utilise design thinking methodology to plan and prepare research proposals, implement research activities, and evaluate outcomes using non-academic impact methodology.
  + Translate outcomes of research activities to partners and end-users, including through participation in meetings, workshops, field visits and presentations.
  + Carry out research investigations requiring originality, creativity and innovation.
  + Produce high quality scientific papers suitable for publication in peer reviewed journals, and internal and external reports. Prepare appropriate conference papers and present those at national and international conferences as agreed with their supervisor.
  + Record, manage, and analyse data/information using relevant domain data science techniques.
  + Proactively undertake development to grow effective researcher capabilities to support career goals.
  + Work collaboratively with colleagues across the VS-FSP, including with projects running in parallel to the Functional Ecosystems for Nature-Positive Prosperity project and across CSIRO, as identified and appropriate.
  + Adhere to the spirit and practice of CSIRO’s Code of Conduct, including ethical human research and privacy requirements, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.

1. Other duties as directed.

## **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.

[**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/s. 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

## **Selection Criteria**

To allow assessment of your application, please address each selection criteria with a short paragraph demonstrating the relevance of your research experiences and achievements.

#### 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 quantitative, spatial or experimental natural systems ecology in soil and/or plant science

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

1. Demonstrated experience in empirical or mechanistic ecological modelling, or experimental ecology applied to land management.
2. Interest in undertaking interdisciplinary research linking ecological and biophysical sciences with social systems.
3. Proficiency in data manipulation, statistical analysis and/or spatial modelling using one or more programming languages such as R, Python, C or similar.
4. High level written and oral communication skills including first author publication in peer reviewed journals, presentation of research outcomes at national and international conferences, and ability to effectively communicate with researchers and external stakeholders.
5. A record of science innovation and creativity, including the ability and willingness to incorporate novel ideas and approaches into scientific investigations.
6. The ability to remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.
7. A current drivers license and the willingness to travel.

## **Desirable:**

1. Experience with regional or remote field work and safety requirements.
2. Knowledge and/or experience applying theoretical understanding of natural systems in developing conceptual models relating transitions in ecological states to land management interventions.
3. Experience in remote sensing and spatial analysis, e.g. linking remotely-sensed data to on-ground ecological monitoring or environmental/ecosystem accounting.
4. Knowledge and/or experience in participatory research methods, knowledge co-production, values framing and elicitation, and stakeholder engagement.
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.**

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 $87,068). 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 [Land and Water](https://www.csiro.au/en/Research/LWF)