# 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 Functional Soil Microbial Ecology  |
| Job Reference | 90762 |
| Tenure | Specified Term of 3 years Full-time  |
| Salary Range | AU$92,624 to AU$101,459 pa + up to 15.4% superannuation |
| Location(s) | Waite Campus, Urrbrae, SA 5064 |
| 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 | Leader, Functional Soil Biology Team, Waite Campus |
| Client Focus – Internal | 90% |
| Client Focus – External | 10% |
| Number of Direct Reports | 0 |
| Enquire about this job | Gupta Vadakattu via email Gupta.Vadakattu@csiro.au or phone +61 8 83038579 |
| 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 to 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.
* 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 of full-time equivalence.**

**Position Description**

This CERC Fellow will exploit recent developments in genomic and biochemical techniques and ML&AI methods to measure, monitor and resolve functional microbial diversity and its impact on resilience within a systems-based context. The CERC Fellow will leverage experience applying molecular and microbiology tools in different environmental settings to understanding how microbial biological function contributes to systems performance. The candidate will have opportunity to utilize a network of ongoing long-term experimental (field-based) sites to quantify how crop diversity (mix of different plant species) and intensity (the proportion of time plants are actively growing) influence soil microbiome composition, function and system resilience. The project aligns with CSIRO Agriculture & Food Impact Area of ‘Resilient Farming Systems’.

The CERC Fellow will be part of a multidisciplinary project team involving specialist researchers across multiple disciplines in systems-based research and analytics including: cropping system management, plant health, microbiology, soil carbon dynamics and data machine learning. The CERC Fellow would have opportunity to integrate across disciplines and gain experience in developing research competencies including technical expertise and project management capabilities to advance their future research career.

The CERC Fellow will have active interaction with members of the Plant Health team within the CSIRO ‘Microbiomes for One Systems Health – Future Science Platform (MOSH-FSP)’ that includes experienced researchers located across CSIRO sites and other early career researchers (PDF’s). The Fellow will also have opportunity to work directly with colleagues within the CSIRO A&F Systems (plant-microbe interactions, crop production) and Crops (agronomy, genetics) Programs, and engage in current international scientific collaborations.

### Duties and Key Result Areas

Under the direction of Senior Research Scientists and Line Managers, the CERC Fellow will:

* + Develop novel scientific approaches to investigate original concepts and innovations in functional microbiome research as applied to Australian farming production systems.
	+ Design and conduct iterative experiments to address how environmental, physical and chemical constraints influence functional soil resilience, including those due to climate change and how these relate to agronomic outcomes.
	+ Employ and integrate current research tools for hypothesis driven research directed at diversity and intensity gradients within Australian cropping systems.
	+ Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
	+ Record, manage, and analyse data/information using relevant domain data science techniques.
	+ Proactively undertake personal 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.

A learning, development and training programwill be developed for the CERC Fellow. 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) in a relevant discipline area, such as soil biology, molecular microbiology or microbial ecology.

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 using genomics, biochemical and/or isotopic techniques to investigate composition, diversity and functional capacity of microbiomes in complex ecosystems.
2. Experience in compilation, interpretation and management of complex biological data sets.
3. Demonstrated ability to design and develop hypothesis-driven experiments and conduct sound scientific investigations.
4. Strong written and oral communication skills and ability to represent the research team effectively internally and externally, including the presentation of research outcomes at national and international conferences.
5. Evidence of publication in peer reviewed journals and/or authorship of scientific papers, reports, grant applications and/or patents.
6. Evidence of working effectively within research teams and supervising others, plus the motivation and discipline to carry out autonomous research.
7. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to address scientific research problems.

## **Desirable**

1. Experience using advanced data science/statistical techniques and bioinformatic approaches to interrogate and integrate ‘big data’.
2. Knowledge and experience in plant(host)-microbiome interaction research.
3. Understanding of keys drivers for Australian Farming Systems.
4. **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.**
5. A current driver’s licence.

## **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 30 June 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 $89,680. 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 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/) 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