# 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 Food Systems Resilience Diagnostics |
| Job Reference | 70441 |
| Tenure | Specified Term of 3 years |
| Salary Range | AU$86 434 to AU$94 679 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | St Lucia, Brisbane, QLD (preferred), Black Mountain, Canberra, ACT (considered) |
| 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 | Research Group Leader, Climate Smart Agriculture |
| Client Focus – Internal | 40% |
| Client Focus – External | 60% |
| Number of Direct Reports | 0 |
| Enquire about this job | Lilly Lim-Camacho via email at lilly.lim-camacho@csiro.au or phone +61 7 3327 4730 |
| 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. |

### 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.**

The [Resilience Initiative for Food and Agriculture](https://rifa.org.au/) (RIFA) is a partnership between CSIRO, the Australian National University (ANU) and the Department of Foreign Affairs and Trade (DFAT) that delivers science-backed, development-ready solutions for pressing agriculture and food security needs in Asia and the Pacific.

Our food system provides food and nutritional security, livelihood and employment, infrastructure and public services, environmental resources and natural capital, and a vast array of other social benefits. The COVID-19 pandemic, and other recent food system shocks, has highlighted our lack of understanding of what makes food systems resilient. In the case of developing nations in the Asia-Pacific, this lack of understanding translates to poor situational awareness, and severely limits the ability to act in order to support communities.

This CSIRO Postdoctoral Fellowship will develop a food system resilience observational framework to enable rapid and ongoing situational assessment that will aid in the identification of responses and interventions to food system crises in the Asia-Pacific. The Postdoctoral Fellow will utilise computer science and software engineering skills to develop a prototype diagnostic system for rapid scanning of food system vulnerability.

### Duties and Key Result Areas

Under the direction of senior research scientists and engineers, CERC Postdoctoral Fellows:

* + Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
  + Examine existing approaches for measuring and quantifying food stress and the observed data requirements for each approach.
  + Determine the most appropriate approach for rapid detection of food stress and the associated data ingestion/acquisition approaches required to measure food stress.
* Develop a prototype diagnostic system for rapid scanning of food stress and food system vulnerability.
* Consult with key stakeholders invested in food security in the design and development of the prototype for displaying food stress and/or vulnerability.
  + Undertake regular reviews of relevant journal and patent literature.
  + Produce high quality scientific and technical outputs including journal articles, conference papers and presentations, patents and technical reports.
  + Represent CSIRO at leading national and international conferences and forums as agreed with your supervisor.
  + 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.
  + Maintain confidentiality when dealing with sensitive information.
* Communicate effectively and respectfully in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work effectively as a member of a multi-disciplinary, international and regionally dispersed research team, to undertake independent scientific investigations and carry out associated tasks under broad guidance from other Research Scientists.
  + 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 computer science, mathematics or agri-food systems.

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. Evidence of application of data systems or information technology solutions in agri-food or socio-ecological systems (e.g. communities, natural resource management or value chains).
2. Demonstrated expertise in software engineering, data systems integration, or data analytics, specifically related to data ingestion, manipulation and display.
3. High level computational and programming skills (e.g. Python, R, or C++) to build prototype diagnostic systems and conduct analyses.
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.

## **Desirable**

1. Experience in user experience (UX) research and user interface (UI) design.
2. Experience in research for development, particularly in agricultural systems.
3. Expertise in mixed-methods and quantitative data analysis.
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.**

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$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.
* 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 [Agriculture and Food](https://www.csiro.au/en/Research/AF)