# Position Details

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

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| The following information is for applicants | |
| Advertised Job Title | CSIRO Winanga-y Postdoctoral Fellowship in Agricultural Digital Transformation |
| Job Reference | 101077 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$99,990 - AU$109,527 per annum (pro-rata for part-time)  plus 15.4% superannuation |
| Location(s) | Perth, Adelaide, Brisbane or Canberra |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates (visa sponsorship may be offered) |
| Position reports to the | Team Leader, Spatial Temporal Decisions |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Roger Lawes via email at [roger.lawes@csiro.au](mailto:roger.lawes@csiro.au) or phone +61 8 9333 6455 |
| Support and Workplace Adjustments | We offer a range of reasonable supports and workplace adjustments. Please let Karen Smith know via [careers.online@csiro.au](mailto:careers.online@csiro.au) if we can help you to equitably participate in our recruitment process or the role itself. |
| 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 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).

**About CSIRO**

As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology. Many of our iconic innovations were once considered impossible until someone, just like you, joined us and took on the challenge.

As one of the world’s largest multidisciplinary mission-driven research organisations, we are focused on the issues that matter the most: for our quality of life, for the economy and for our environment. We believe diverse teams are more effective and deliver more innovative outcomes. When we all focus on the big things that really matter, and work in partnership with our communities and [Indigenous Australia](https://www.csiro.au/research/indigenous-science), Australian science and technology can solve seemingly impossible problems and create new value for all Australians. Visit [CSIRO.au](https://www.csiro.au/) for more information.

### 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 or part time equivalent.**

The Postdoctoral Fellow will address a critical gap in agricultural technology adoption by investigating how AI and machine learning outputs can be better translated into actionable decisions for industry end-users. While sophisticated technologies for crop yield forecasting, pest identification, plant counting, disease monitoring, and soil moisture assessment have been developed, their widespread adoption remains limited due to complex barriers including poor data capture workflows, fragmented systems, and inadequate understanding of human decision-making processes in agricultural contexts. This position requires a researcher who can bridge data science and decision theory to enhance both the usability and practical application of these technologies.

The role will focus on user-centred research and engagement, working directly with farmers, agronomists, and other agricultural stakeholders to understand their decision-making frameworks and information processing needs. A key component of this research will involve investigating how data capture and integration workflows can be simplified to lower barriers to technology adoption, recognizing that current digital systems often fail to accommodate the realities of farm operations where data collection is complex, fragmented across multiple platforms, and requires significant time investment. The role emphasises understanding both the technical challenges of data interoperability and the human factors that influence technology acceptance, including the need for streamlined data entry processes that align with existing agricultural workflows.

### Duties and Key Result Areas

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

* Conduct User-Centred Research and Stakeholder Engagement
* Investigate and Optimize Data Capture and Integration Workflows.
* Design and Evaluate User Experience Solutions for Agricultural Technologies
* Bridge Data Science and Decision Theory Applications
* Disseminate Research Findings and Contribute to Digital Agriculture Advancement
* Contribute to new knowledge in the emerging field of agricultural Human-Computer Interaction, through publication and evidence-based recommendations for agricultural technology development
* Generate intellectual property and research outputs to inform industry best practice and influence the next generation of agricultural digital tools and user interfaces.
  + 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 Values, Code of Conduct, Health, Safety and Environment procedures and policy and diversity initiatives.
* 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 Human Computer Interaction, User Experience and Engagement, Agricultural Systems or equivalent.

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

1. Advanced qualitative research methodologies, with expertise in participant observation, in-depth interviewing, focus group facilitation and mixed methods research design.
2. Demonstrated experience in data integration and workflow analysis, with technical competency in assessing data systems, workflow optimisation, data interoperability challenges in an applied field.
3. A current Australian driver’s licence or the ability to obtain one.
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 constructing agricultural decision support systems with process models such as APSIM.
2. Experience working with agricultural stakeholders, and an affinity for the unique challenges present in the agricultural sector with application to digital technology.
3. Decision Theory and Agricultural System knowledge, with a foundation in agricultural decision-making frameworks.
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.**

CSIRO is an Equal Opportunity employer working hard to recruit world-class talent that represents the diversity across our society. As part of our commitment to Aboriginal and Torres Strait Islander employment outcomes, preference will be given to Aboriginal and Torres Strait Islander people, who meet the role criteria. CSIRO considers conscious inclusion practices are intended to constitute a special/equal opportunity/affirmative measure under section 8(1) of the Racial Discrimination Act 1975 (Cth).

## **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 as a CERC Fellow within CSIRO, candidates are 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 ($96811). 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.

**Setting You Up for Success**

We understand that not everyone works in the same way and sometimes people may require reasonable support and adjustments to perform at their best. Whether related to the recruitment process and or the role itself, this may include options such as providing different methods of communication, flexible hours or physical adjustments to work methods. If you feel comfortable, we encourage you to share any support and adjustments you may need to carry out the inherent requirements of the role. Please let us know via the contact details on Page 1 if we can help you to equitably participate in our recruitment process or the role itself.

**Life at CSIRO and Flexible Working Arrangements**

We [work flexibly at CSIRO](https://www.csiro.au/en/careers/life-at-csiro/Flexible-work), offering a range of options for how, when and where you work.  We can discuss flexible work arrangements with you during the recruitment process. CSIRO also offers a range of leave entitlements, [benefits](https://www.csiro.au/en/careers/life-at-csiro/Benefits) and [career development](https://www.csiro.au/en/careers/life-at-csiro/Career-development) opportunities. To learn more, visit [Careers at CSIRO](https://www.csiro.au/en/careers).

We celebrate the uniqueness of our workforce and are committed to creating [diverse and inclusive teams](https://www.csiro.au/en/careers/life-at-csiro/Diversity-inclusion-belonging) where everyone feels they belong. CSIRO is an equal employment opportunity organisation dedicated to recruiting people based on merit, and reflecting the diversity of the community we serve. We recognise true diversity encompasses all ages, nationalities, abilities, cultures, genders, sexualities, faiths, levels of education, diversity of thought and many more aspects of identity. By empowering diverse teams, our community is reflected in the solutions we create.

**CSIRO Values**

CSIRO is a values-based organisation committed to values-based leadership.

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| **Value** | **Descriptor** | **Behaviour** |
| **People First** | Our priority is the safety and wellbeing of our people. We believe in, and respect, the power of diverse perspectives. We seek out and learn from our differences. | * Respectful * Caring * Inclusive |
| **Further Together** | We achieve more together than we ever could alone. We listen and collaborate, in teams, across disciplines, across boundaries. We embrace ambiguity and use discussion and persistence to generate unique solutions to complex problems. | * Accountable * Authentic * Courageous |
| **Making it Real** | We do science with real impact. We thrive when taking on the big challenges facing the world. We take educated risks and defy convention. We celebrate successes and failures and leverage them to learn as we strive to be the force for positive change. | * Partnering * Cooperative * Humble |
| **Trusted** | We’re driven by purpose but remain objective. We fight misinformation with facts. We earn trust everywhere through everything we do. We trust each other and we hold each other accountable. Together our actions drive Australia’s trust in CSIRO. | * Curious * Adaptive * Entrepreneurial |

**Child Safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy)

Special Requirements

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

* The successful candidate will undertake a pre-employment background check. 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