# 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 Sensing Animal Welfare |
| Job Reference | 75393 |
| Tenure | Specified Term of 3 years Full-time |
| Salary Range | AU$89,926 to AU$98,504 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | St Lucia (Brisbane), QLD |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All candidates |
| Position reports to the | Team Leader |
| Client Focus – Internal | 80% |
| Client Focus – External | 20% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Aaron Ingham via email at aaron.ingham@csiro.au or phone +61 7 3214 2663 |
| 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 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.**

In this role, the successful candidate will operate within a multi-disciplinary team to lead the development of approaches for automated assessment of an animal’s welfare status.

Current assessment of animal welfare is based on manual reporting of observations that often represent single point in time measures. This situation has been adopted because it is extremely difficult to objectively measure animal welfare in large numbers of animals, across broad periods of time and in remote environments.

Sensor technologies that may be located on animal, or in the environment occupied by the animal, have the potential to improve animal welfare assessment. Our team, together with commercial partners, have developed sensor technologies that classify animal behaviour accurately, remotely, objectively and continuously.

Our vision is for this Postdoctoral Fellow to harness the capability of the behaviour classification system, and sensor technologies more generally, to deliver an automated animal welfare assessment system. The successful candidate will be required to identify sensor technologies able to monitor animal welfare at critical stages of the animal supply chain, and design experiments to investigate the accuracy and suitability of these approaches in a commercial setting. Define objective systems for assessment of animal welfare status and opportunities to automate this process. To set up systems that aggregate welfare measures into an index or database that can be used to report on a whole of life welfare experience. Finally, to liaise with external stakeholders to gain a better understanding of how this research fits into the supply chain.

The developed technology will have a direct application to Agrifood sustainability assurance, allowing for new quantitative measures of livestock welfare and behaviour monitoring to be integrated, enabling automated benchmarking for welfare assurance.

The fellowship facilitates collaboration and research across research programs, which together help develop strong research leadership and technical skills, while growing a broad scientific network with an innovation and impact focus. As such, this project will provide a unique opportunity to interconnect different disciplines and craft a novel research area that can be made your own.

### Duties and Key Result Areas

* Pursue research to advance the state of the art in sensor technologies, data analytics, and automated compliance with application to enhance livestock welfare.
* Carry out innovative, impactful research of strategic importance to CSIRO that will 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.
* Work effectively as part of a multi-disciplinary research team to undertake scientific investigations and carry out associated tasks under the guidance of Senior Research Scientists/Engineers.
* Liaise with industry stakeholders to identify opportunities for the application of sensor technologies to underpin livestock welfare metrics and to refine and optimise the technology for industry application.
* Carry out research investigations with 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 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 Data science, Sensor technologies, Machine Learning or related discipline **or**

A doctorate (or will shortly satisfy the requirements of a PhD) in animal science or biological science with demonstrated experience in data science, sensor technologies, machine learning or related discipline.

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

1. Demonstrated experience in using any of the above disciplines in an area of biological science.
2. Knowledge of machine learning to interpret large datasets (ML/AI).
3. 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.
4. **The ability to work and communicate effectively as part of a multi-disciplinary (**including computer scientists, data scientists, ML modellers and animal scientists)**, potentially regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.**
5. A sound history of publication in peer reviewed journals and/or authorship of scientific papers, reports or patents.
6. A record of science innovation and creativity, including the ability & willingness to incorporate novel ideas and approaches into scientific investigations.
7. Willingness to be placed regionally for periods of time

## **Desirable:**

1. Experience with automated compliance.
2. Experience with formal verification and logic.
3. Experience with or knowledge of animal behaviour monitoring.
4. Experience in animal welfare.
5. Experience with agricultural systems.

To be appointed as a CERC Postdoctoral Fellow within CSIRO, candidates will be expected 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 ($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 the CSIRO [Data61](https://research.csiro.au/data61/category/research/)

Find out more about CSIRO [Agriculture and Food](https://www.csiro.au/en/Research/AF)