# Position Details

## Research Scientist/Engineer – CSOF5/CSOF6

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| The following information is for applicants |
| Advertised Job Title | Digital Livestock Scientist |
| Job Reference | 98764 |
| Tenure and work schedule | Specified Term of 3 years Full-time*Flexible work arrangements may be considered, if required, based on needs of the role and individual circumstances* |
| Salary Range | Applications would be assessed across two capability levels, and the successful candidate will be appointed at the level commensurate with their skills and experience, as assessed by the Selection Panel.**CSOF5:** AU$ $114,219 – AU$123,605 per annum (pro-rata for part-time) plus up to 15.4% superannuation**CSOF6:** AU$ $131,113 – AU$153,639 per annum (pro-rata for part-time) plus up to 15.4% superannuation  |
| Location(s) and office arrangements | Armidale NSW **(preferred),** or Brisbane QLD may be considered |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates (visa sponsorship may be provided) |
| Position reports to the | Team Leader, Digital Livestock |
| Client Focus – Internal | 70% |
| Client Focus – External | 30% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Sabine Schmoelzl (she/her), Group Leader – Smart, Sustainable Livestock Systems Group, via email at sabine.schmoelzl@csiro.au  |
| Support and workplace adjustments | We offer a range of reasonable supports and workplace adjustments. Please let us know via email Piumi.Desilva@csiro.au (Piumi De Silva – Talent Acquisition Partner) 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 |

**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

The role of Research Scientist staff in CSIRO, in general, is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. They may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. They will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.

Digital Livestock Science has a strong track record at CSIRO, with projects focussing on the use of on-animal sensors to record feed intake and investigate reproductive and social behaviours and links to production outcomes. Recent initiatives at the research station in Chiswick near Armidale aim to connect digital data flows to livestock systems modelling tools with the ultimate aim to provide access to evidence-based decision making for livestock farmers.

* [eGrazor - measuring cattle pasture intake - CSIRO](https://www.csiro.au/en/research/animals/livestock/eGrazor-measuring-cattle-pasture-intake)
* [EweWatch - CSIRO](https://www.csiro.au/en/research/animals/livestock/EweWatch)
* [Chiswick: science-based solutions for the cattle, sheep and poultry industries - CSIRO](https://www.csiro.au/en/research/animals/livestock/Armidale)

The Digital Livestock Scientist will play a key role in widening CSIRO’s portfolio of digital livestock approaches, securing productive and responsible livestock farming in a changing environment. The research focus of the Digital Livestock Scientist could include data analytics, artificial intelligence, sensor technologies, computer vision, multi-modal data processing, evaluating precision livestock management, or other foci relevant to the digital livestock space. A key feature of the research will be taking a trans-disciplinary approach to arrive at industry-relevant research outcomes.

As part of the Digital Livestock team, this role will contribute to a key capability engaging with the whole of the Agriculture and Food Business Unit. The role will be suitable for animal scientists from a range of backgrounds with a strong interest and well-developed skills in coding or informatics/data sciences, or alternatively for data scientists with a well-established, and proven, strong understanding and interest in animal production systems.

### Duties and Key Result Areas

* Incorporate novel approaches to scientific investigations by adapting and/or developing original concepts and ideas for new, existing, and further research, with a focus on boundary spanning, trans-disciplinary approaches.
* Work closely with colleagues and industry to develop impact-focused digital technologies.
* Develop data flows to augment the annotation, integration, and analysis of diverse data, in collaboration with Data61 data scientists.
* Apply advanced data science workflows for integration of multi-modal data streams.
* Utilise data science strategies to analyse and evaluate data, and manage data curation, storage, and data sharing in accordance with best practise guidelines.
* Develop and apply standard operating procedures and safe working instructions.
* Undertake regular reviews of relevant literature and patents.
* Communicate openly, effectively, and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Produce high quality scientific and/or engineering papers suitable for publication in quality journals and for presentation at national and international conferences.
* Communicate research results to clients and the scientific community through oral and written reports and prepare documentation for patent applications (where relevant).
* Under the guidance of senior leaders, work collaboratively and honestly with internal and external colleagues, clients and partners to help define and satisfy objectives for small to medium research projects.
* Address problems promptly and in a constructive manner.
* Work effectively as part of a multi-disciplinary, regionally dispersed research team, to undertake independent scientific investigations and carry out associated tasks under the guidance of more senior Research Scientists/Engineers.
* Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

*In addition to the duties listed above, if the successful candidate is appointed at the higher CSOF6 level, their additional duties & key result areas would also include:*

* Lead research projects, including the negotiation and management of resource requirements.
* Initiate and take responsibility for research projects or work packages within larger projects within and/or across Research Units.
* Provide leadership, supervision and on-the-job training to technical staff and students to ensure experiments are established in accordance with the research design and are completed within the agreed timeframes and budget.

## **Selection Criteria**

#### Essential

*Applications would be assessed according to the Selection Criteria listed below and the level they’re met, and the successful candidate will be considered/appointed at the capability level commensurate with their skills and experience, as assessed by the Selection Panel.*

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A PhD (or an equivalent combination of qualifications and research experience) in a relevant animal science or data science field.
2. Demonstrated understanding of animal production and/or livestock farming systems.
3. Broad understanding of agri-food systems and an interest in deepening knowledge of current global and national issues.
4. Demonstrated ability to initiate and undertake original, creative, and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
5. Demonstrated experience in the development of digital workflows, including data annotation.
6. Demonstrated experience in data science and statistical analysis, coding and/or related analytical methods, and expert usage of statistical software packages, such as R, Matlab, Python, C.
7. Demonstrated ability to communicate scientific content clearly and effectively to a range of audiences.
8. A demonstrated publication history of authorship on scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications.

#### Desirable

1. Demonstrated expertise in ML/AI.
2. Advanced expertise in suitable programming languages, e.g. Python, C++, R, MATLAB or others.
3. Demonstrated expertise in video data analysis, including computer vision.
4. Expertise in IOT and or remote sensing technologies.
5. Design of multi-modal data analytic workflows.
6. Demonstrated ability to secure support for new research projects.
7. Understanding of livestock production in an Australian farming systems context.
8. Strong networks within the Australian livestock research community.
9. Demonstrated ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out independent individual research, to achieve organisational goals.

## **Not sure if you meet all the criteria?**

While it is CSIRO policy that the successful candidate must meet all the essential criteria, there are many ways to demonstrate this. Don’t let the list discourage you. If you are unsure about applying, please reach out to the contact on page 1 of this document so we can discuss the role further.

## **Required Competencies**

#### CSOF 5

* **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 responses by adapting/creating and testing alternative solutions.
* **Independence:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **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 change.

#### CSOF 6

* **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:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious proposals/ideas.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to, and manages, the increasing rate of organisational change by adjusting strategies, goal and priorities.

## **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 email Piumi.Desilva@csiro.au (Piumi De Silva – Talent Acquisition Partner) 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
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| **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
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| **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
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| **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
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## **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/>