# Postdoctoral Fellowship – CSOF4

Role summary for potential applicants

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| Advertised Job Title**:** | Postdoctoral Fellowship in Crop/Forage Physiology & Systems Modelling |
| Reference Number**:** | 54483 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $80k to AU $91k plus up to 15.4% superannuation |
| Location**:** | Toowoomba, Queensland |
| Tenure: | Specified Term of 3 years |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | Australian Citizens Only  Australian Citizens and Permanent Residents Only   * All Candidates |
| Functional Area**:** | Research Scientist / Engineer - Postdoc |
| % Client Focus - Internal: | 0% |
| % Client Focus - External: | 100% |
| Reports to the: | Principal Research Scientist - Farming Systems |
| Number of Direct Reports: | 0 |

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| **Role Overview:** |
| Feed gaps during winter are a major constraint for livestock producers across many of Australia’s mixed farming regions. This postdoctoral research role will contribute to two projects, funded by Meat and Livestock Australia and CSIRO, that are investigating options for addressing winter feed gaps using either dual-purpose crops and/or forage brassica crops.  Firstly, the PDF will be responsible for coordinating a national multi-site evaluation of new and novel forage brassica varieties to assess their wider application across Australia. This research aimed at understanding the wider role for forage brassicas across Australia’s mixed farming zone, particularly recently developed technologies in the suite of forage Brassica’s available (Herbicide tolerant brassicas and Raphnobrassica hybrids) compared to existing varieties in these systems. While preliminary data collected by the breeding company on these new genotypes is promising they have received little evaluation in more challenging environments and require wider testing to quantify the potential gains they may provide in Australian systems. To extrapolate from these sites and seasons, the PDF will coordinate the collections of critical physiological data on forage brassicas in order to calibrate new models in APSIM. These models will be then used to extrapolate the productivity of forage brassicas and implications for livestock system productivity over a range of seasons and locations spanning Australia’s mixed farming zone.  Secondly, the role will undertake systems modelling analyses to predict the long-term lamb and crop production potential and animal health consequences of systems using dual-purpose crops compared to those that do not, and also winter/spring compared to autumn lambing in summer rainfall regions of Australia. This will compliment a detailed experimental study conducted at CSIRO’s Armidale Research facilities.  The successful candidate will work in CSIRO Agriculture and Foods’ Integrated Agricultural Systems team amongst a group of world-leading researchers in farming systems research and modelling. In addition, it will collaborate extensively with farmers, advisors, pasture seed industry and other research agencies to ensure research outputs generate impacts and industry relevant outcomes.  The postdoctoral fellows research will contribute to the Livestock Productivity Partnership a coordinated program of MLA, CSIRO, NSW DPI and UNE funded research.  **Postdoctoral Fellowships** at CSIRO provide opportunities to scientists and engineers, who have completed their doctorate and have less than three years relevant postdoctoral work experience. These fellowships will help launch their careers, provide experience that will enhance their career prospects, and facilitate the recruitment and development of potential leaders for CSIRO.  Postdoctoral Fellows **are appointed for up to three years** and will work closely with a leading Research Scientist or Engineer in their respective field. They carry out innovative, impactful research of strategic importance to CSIRO with the possibility of novel and important scientific outcomes. They present the findings in appropriate publications and at conferences. |

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| **Duties and Key Result Areas:** |
| * Lead the development and implementation of a national multi-site research program comparing productivity of new and existing forage brassica genotypes with other conventional winter forage options * Collect critical physiological data to predict the growth and quality of forage brassicas and use this to parameterise new models in APSIM. * Use farming systems models to analyse feed-base, livestock productivity and health implications of integrating dual-purpose crops and/or altered lambing times in diverse production systems. * Produce client reports & high quality scientific papers suitable for publication in quality journals. * Present research findings to collaborating farmers, advisors and seed industry partners * Prepare appropriate conference papers and present those at conferences as agreed with your supervisor. * Work collaboratively with colleagues within CSIRO and the broader teams in the farming systems projects.   ***CSIRO’s postdoctoral training program***is developed between the Postdoctoral Fellow and a CSIRO scientist. 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   <http://www.csiro.au/en/Careers/Student-and-graduate-programs/Postdoctoral-fellowships> |

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| **Selection Criteria:** |
| *Under CSIRO policy only those who meet all essential criteria can be appointed*  ***Pre-Requisites:***   1. **Education/Qualifications:** A doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such as agricultural science, crop or forage physiology, systems modelling.   ***Please note:*** *To be eligible for this role you must have* ***no more than 3 years*** *of relevant postdoctoral experience.*   1. **Communication: High level written and oral communication skills with the ability to represent the research team effectively internally and externally, including at national and international conferences.** 2. **Publications: A record of publications preferably in quality, peer reviewed journals.** 3. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.   ***Essential Criteria:***   1. Demonstrated understanding of plant physiological processes important in forage crops. 2. Experience with development and/or application of crop/pasture models. 3. Experience with conducting agricultural field research activities. 4. **The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.** 5. A record of science innovation and creativity, plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.   **Desirable Criteria:**   1. Understanding of drivers for production in forage-based livestock systems. 2. Appreciation for and experience in communicating and engaging with diverse stakeholders in research.   **As Australia’s Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to**:   * Excellent science * Inclusion, trust & respect * Health, safety & environment * Delivery on commitments.   **In your application and at interview you will need to demonstrate alignment with these behaviours.**  To be appointed as a 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 $80,833*.* 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. |

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| **Other Information:** |
| **How to Apply**  Please apply for this position online at <https://jobs.csiro.au/> and enter requisition number **54483**. Internal applicants please apply via ‘Jobs Central’ in SAP (click ‘Recruitment’)  Please load your CV (Maximum 2MB). You may also be required to respond to some screening questions.  If you experience difficulties applying online call 1300 984 220 for assistance. Outside Australian business hours please email: [csiro-careers@csiro.au](mailto:csiro-careers@csiro.au).  **Referees**: If you do not already have the names and contact details of two previous supervisors or academic/ professional referees included in your resume/CV please add these before uploading your CV.  **Contact:** If after reading the selection documentation you require further information please contact:  Dr Lindsay Bellvia email: Lindsay.Bell@csiro.au or phone: +61 7 4571 3201  Please do not email your application directly to Dr Bell. Applications received via this method will not be considered.  **About CSIRO**  Australia is founding its future on science and innovation. Its national science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.  Find out more! [www.csiro.au](http://www.csiro.au).  **About CSIRO**  Australia is founding its future on science and innovation. Its national science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation.  Find out more! [www.csiro.au](http://www.csiro.au).  We work flexibly at CSIRO, offering a range of options for how, when and where you work. Talk to us about how this role could be flexible for you.  Find out more! [CSIRO Balance](https://www.csiro.au/en/Careers/A-great-place-to-work/Work-life-balance)  **CSIRO Agriculture and Food** carries out research and development for new agricultural technologies, value added foods, crop and livestock improvement, aquaculture, farming systems, sustainability and advancement of international agriculture. |