# Postdoctoral Fellowship – CSOF4

Role summary for potential applicants

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| Advertised Job Title**:** | Postdoctoral Fellowship – Pattern Recognition of Remotely Sensed Agricultural Responses |
| Reference Number**:** | 29581 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $78K to AU $88K plus up to 15.4% superannuation |
| Location**:** | Floreat (Perth) Western Australia |
| 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: | 80% |
| % Client Focus - External: | 20% |
| Reports to the: | Team leader |
| Number of Direct Reports: | 0 |

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| **Role Overview:** |
| Future Science Platforms (FSPs) are a major new CSIRO initiative. FSPs are multi-year investments in frontier science that will reinvent and create new industries for Australia. [Digiscape](http://my.csiro.au/Business-Units/Future-Science-Platforms/Digiscape-FSP.aspx) is the FSP that is creating next-generation decision tools to transform the agriculture and land management sector. To achieve this aim, Digiscape will bring to bear cutting edge climate science; new sources of locally and remotely sensed data; informatics for agro-ecosystems; rigorous analysis of uncertainties; and innovation in both the ICT and social dimensions of systems integration. The successful candidate for this position will therefore join a cohort of early-career researchers and engineers who will combine their individual disciplinary contributions into mission-focussed R&D.  Improved monitoring of crops, pastures and natural vegetation is vital to the success of Digiscape. This **CSIRO Data61** postdoctoral fellow will contribute to the research and development of algorithms and methods for the analysis of remotely sensed and other data. As part of a broader team delivering solutions to land managers and agencies, they will use their quantitative skills to contribute to the development of new models for the analysis of spatial and temporal data, with particular emphasis on improving our capacity to monitor agronomic biomass response and soil water availability. They will develop modular tools that can be integrated into larger systems. The fellow will work well with others and interact with scientists and technical staff within CSIRO, and colleagues from other institutions. Extension of outcomes in high impact scientific journals and conferences will be expected. The fellow will be guided/mentored by a multidisciplinary team of scientists and technical experts.  **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 novel and important scientific outcomes. They present the findings in appropriate publications and at conferences. |

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| **Duties and Key Result Areas:** |
| * Under the direction of senior research scientists, carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes. * Contribute to the scientific research of the CSIRO Digiscape initiative. * Develop new models for the analysis of spatial and temporal data to monitor vegetation biomass and soil water status, and test prototype models. * Facilitate technology transfer to third parties through specifying and implementing operational methodologies for monitoring vegetation biomass and soil water status. * Produce scientific papers suitable for publication in quality journals, for client reports, granting of patents, and for presentation at conferences. * Contribute to the development of innovative concepts and ideas for future research. * Work collaboratively with colleagues within the CSIRO. * Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals. * Undertake an appropriate training and development program developed by CSIRO. * Other duties as directed.   ***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, mathematics, statistics, physics or engineering.   ***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 in quality, peer reviewed journals.** 3. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.   ***Essential Criteria:***   1. Experience with multivariate methods 2. The ability to develop and implement new methods and algorithms 3. Ability to write efficient computer code 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. 6. Willingness to travel interstate for meetings and conferences   **Desirable Criteria:**   1. Knowledge of statistical / mathematical models for image data 2. Knowledge of statistical / mathematical models for time-series data 3. Familiarity with statistical packages such as R 4. Familiarity with image processing packages   **CSIRO is a values based organisation. You will need to demonstrate behaviours aligned to our values of:**   * Integrity of Excellent Science * Trust & Respect * Creative Spirit * Delivering on Commitments * Health, Safety & Sustainability   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 (AU $78,479)*.* 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.  ***Other special requirements:***  *Appointment to this role may be subject to conditions including security/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents may be required to undergo additional security clearance processes; which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).-*[*http://www.ielts.org/default.aspx*](http://www.ielts.org/default.aspx) |

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| **Other Information:** |
| **How to Apply**  Please apply for this position online at [www.csiro.au/careers](http://www.csiro.au/careers). You may be asked to provide additional information (online) relevant to the selection criteria. If so, then responding will enhance your application so please take the time to provide relevant succinct answers. Applicants who do not provide the information when requested may not be considered.  If you experience difficulties applying online call 1300 301 509 and someone will be able to assist you. Outside 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 Peter Caccetta via email: [Peter.Caccetta@csiro.au](mailto:Peter.Caccetta@csiro.au) or phone: 08 9333 6188  Please do not email your application directly to Dr Caccetta. 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).  **CSIRO Data61** is thelargest data innovation group in Australia, a connector that brings together technology innovators, businesses and universities to transform Australian industry and to help solve our greatest challenges. - http://data61.csiro.au/ |