# Postdoctoral Fellowship – CSOF4

Role summary for potential applicants

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| Advertised Job Title**:** | Postdoctoral Fellowship – Market design |
| Reference Number**:** | 29815 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $78K to AU $88K plus up to 15.4% superannuation |
| Location**:** | Canberra or Melbourne (Docklands) |
| Tenure: | Specified Term of 3 years and 0 months |
| 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: | 50% |
| % Client Focus - External: | 50% |
| Reports to the: | Andrew Reeson (team leader) |
| Number of Direct Reports: | 0 |

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| **Role Overview:** |
| **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.  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.  Market design is a fast growing research field which consists of economic engineering, designing and implementing the rules under which people interact to exchange information, goods and services. Digital technology opens up many opportunities to develop novel mechanisms for gathering and sharing information. However, market design is more than a technical problem. It also requires an understanding of human decision-making, and an enthusiasm for multi-disciplinary research. Market platforms must provide people with the right social and economic incentives to reveal salient information, and assurance that they can do so safely.  This fellowship offers a unique opportunity to join an interdisciplinary team of scientists who will harness data, mathematical and behavioural models and digital technology to enhance the management of Australia’s environmental resources. Initially focussing on greenhouse gas mitigation credits (‘carbon’), the platform will take outputs from farm-scale models to demonstrate abatement and sequestration. It will include expected quantities of carbon, along with sources of risk, enabling potential buyers and aggregators to construct balanced portfolios. It will also seek to incorporate other information, for example on co-benefits of carbon such as biodiversity or landscape amenity. |

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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. * Design a market platform which integrates outputs from biophysical models and communicates project type, modelled risks and other quantitative and qualitative aspects of carbon projects to market participants. * Experimentally test alternative market designs with human participants. * Undertake regular reviews of relevant literature and patents. * Produce high quality scientific and/or engineering papers suitable for publication in quality journals, for client reports and granting of patents. * Prepare appropriate conference papers and present those at conferences as agreed with your supervisor. * Contribute to the development of innovative concepts and ideas for further research. * Make a contribution to the effective functioning of the research team and help deliver CSIRO’s organisational objectives and plans. * Work collaboratively with colleagues within your team, the business unit and across CSIRO. * Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation. * 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, such as information systems, economics, software engineering, social psychology, decision science.   ***Please note:*** *To be eligible for this role you must have* ***no more than 3 years*** *of relevant postdoctoral experience.*   1. **Communication: Excellent 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. Demonstrated knowledge of, and interest in, human behaviour. 2. Prior experience of data analytics using script-based software such as R, Python, Matlab or similar. 3. Proven ability to present, or publish, new or enhanced models or analysis frameworks, including analysis of qualitative and quantitative real world data. 4. The ability and desire to actively contribute to 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 and willingness to incorporate novel ideas and approaches into scientific investigations.   **Desirable Criteria:**   1. Experience in designing and carrying out experiments with human participants, under ethics supervision. 2. Experience working with big, complex or found data. 3. Experience of designing or programming web-based software.   **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   ***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 984 220 and someone will be able to assist you. Outside business hours please email: [careers.online@csiro.au](mailto:careers.online@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 Andrew Reeson via email: [andrew.reeson@csiro.au](mailto:andrew.reeson@csiro.au) or phone: +61 2 6216 7323  Please do not email your application directly to Dr Reeson. Applications received via this method will not be considered.  **About CSIRO**  At CSIRO, we do the extraordinary every day. We innovate for tomorrow and help improve today – for our customers, all Australians and the world.  Our innovations contribute billions of dollars to the Australian economy every year. As the largest patent holder in the nation, our vast wealth of intellectual property has led to more than 150 spin-off companies.  With more than 5,000 experts and a burning desire to get things done, we are Australia’s catalyst for innovation.  CSIRO. We imagine. We collaborate. We innovate.  Find out more! [www.csiro.au](http://www.csiro.au).  **About DATA61:** In today’s data-focused world, there’s no doubt that numbers count.  [Data61](http://www.data61.csiro.au/) are the largest 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. A CSIRO business, we are creating our data-driven future.  Find out more! <http://www.data61.csiro.au/> |