# Postdoctoral Fellowship – CSOF4

Role summary for potential applicants

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| Advertised Job Title**:** | Postdoctoral Fellowship in Ecology and Modelling (Two Positions) |
| Reference Number**:** | 57204 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $80,833 to AU $91,451 plus up to 15.4% superannuation |
| Location**:** | Canberra, ACT |
| Tenure: | Specified Term of 3 years (or part time equivalent) |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | All Candidates |
| Functional Area**:** | Research Scientist / Engineer - Postdoc |
| % Client Focus - Internal: | 0% |
| % Client Focus - External: | 100% |
| Reports to the: | Team Leader, Risk Evaluation and Preparedness Program (Health and Biosecurity business unit) |
| 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 or part time equivalent** 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.  A unique opportunity exists within CSIRO Health and Biosecurity, with **two** postdoctoral fellowships being made available as part of a large-scale collaborative project.  The aim of the project is to develop real-time pest risk forecasting tools that will be integrated into an Australian surveillance system. Both fellowships will involve modelling and experimentation. **One fellowship will generate models that will be used to forecast pest phenology and population dynamics. The second fellowship will focus on modelling insect dispersal at regional scales.** In both cases, we expect to use high-level generic modelling frameworks. Little or no low-level computer coding should be required, as you will be expected to work with software engineers if the modelling framework needs modification. The models will be embedded into automated workflows to deliver information products to meet the needs of agricultural producers. |

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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. * Develop process-based population dynamics models of agricultural pests (arthropods or plant diseases) using a generic modelling framework, OR calibrate insect and pathogen aerial spread and survival models using a high-level modelling package * Undertake appropriate ecological or eco-physiological experiments to generate data to calibrate the models * 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 or engineer. 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 ecology or ecological modelling/population dynamics.   ***Please note:*** *To be eligible for this role you must have* ***no more than 3 years (or part time equivalent)*** *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. **Demonstrated experience with ecological** modelling. 2. **Demonstrated mathematical analytical skills.** 3. Demonstrated experience in designing experiments to calibrate models. 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. **Experience with using the DYMEX simulation modelling package or a high level dispersal software tool**   **(e.g. Hysplit, Calpuff).**   1. **Experience with working in inter-disciplinary teams.**   **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 **57204**. 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**: Please provide contact details of two previous supervisor or academic/professional referees in your resume/CV. We will ask your permission before making contact.  **Contact:** If after reading the position details above you require more information please contact:  **For the population dynamics modelling fellowship:** Dr Darren Kriticos via email [**Darren.Kriticos@csiro.au**](mailto:Darren.Kriticos@csiro.au)  **For the dispersal modelling fellowship:** Dr Dean Paini via email [**Dean.Paini@csiro.au**](mailto:Dean.Paini@csiro.au)  Please do not email your application directly to Dr Kriticos or Dr Paini. Applications received via this method may not be considered by the selection panel.  **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)  At **CSIRO Health and Biosecurity** we’re working with our partners, assembling strong multidisciplinary research teams to tackle major national and international health and biosecurity challenges. In doing so we're protecting the health of our farming sector, environment, people, and our way of life. |