# Postdoctoral Fellowship – CSOF4

Role summary for potential applicants

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| Advertised Job Title**:** | FSP Postdoctoral Fellowship in Ecology and Evolution |
| Reference Number**:** | 54642 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $83,487 to AU $91,451 plus up to 15.4% superannuation |
| Location**:** | Black Mountain, Canberra, ACT |
| 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: | 100% |
| % Client Focus - External: | 0% |
| Reports to the: | Team Leader – National Collections and Marine Infrastructure |
| 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.  [The Environomics Future Science Platform](http://www.csiro.au/en/Research/Collections/Environomics). Environomics is genomics for environmental science, a frontier science that brings together advances in DNA sequencing, evolutionary biology, big-data and environmental modelling. Just as genomics has revolutionised agriculture and medicine, Environomics will shift Australia towards a whole-of-environment understanding of the genetic roots and relationships of our biodiversity, from our evolutionary hotspots, to the trillions of microbes essential to our soils, to the genes that give plants drought tolerance. Environomics will allow us to see beyond the Australian landscape to the genescape, transforming our ability to manage our biodiversity and make use of the genetic resources locked inside.  Biodiversity assessments are essential to tracking the condition of the environment, yet are time consuming and technically difficult to achieve. CSIRO’s Environomics Future Science Platform is developing new cost-effective methods to assess environmental conditions at scale.  **The Position:**  The Postdoctoral Fellow will develop novel analytical and molecular tools for rapid characterisation and measurement of ecological interactions between animals and plants. They will use high-throughput DNA sequencing of pollen load samples collected from insect pollinators in terrestrial landscapes (including natural, agricultural and disturbed landscapes) to determine the network of plant-pollinator interactions. They will work in a team of scientists as part of CSIRO’s Environomics Future Science Platform and collaborate with industrial, governmental and academic partners. They will establish the relative accuracy, sensitivity and cost-effectiveness of pollen metabarcoding and conventional taxonomic assessments approaches to describe plant-pollinator networks and biodiversity. The candidate will also reconstruct past plant-pollinator communities using historical museum specimens from the Australian National Insect Collection to investigate potential impacts of climate change on the networks. |

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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. * Characterise and quantify plant-pollinator networks using pollen metabarcoding methods. * Develop novel methods and pollen metabarcoding protocols to estimate relative abundances of plant species using insect specimens. * Reconstruct past plant-pollinator networks using historical museum specimens of insect pollinators*.* * Undertake regular reviews of relevant literature and produce high quality scientific papers suitable for publication in quality journals and client reports. * 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:***   * **Education/Qualifications:** A doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such as molecular biology, ecology or genetics*.*   **Please note:** To be eligible for this role you must have **no more than 3 years** of relevant postdoctoral experience*.*   * **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.** * **Publications: A record of publications in quality, peer reviewed journals.** * **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.   ***Essential Criteria:***   1. Demonstrated experience in metabarcoding and molecular ecology of plants or insects. 2. Demonstrated experience for the construction of libraries for high-throughput sequencing. 3. Demonstrated experience with molecular laboratory work. 4. Demonstrated experience extracting and amplifying degraded DNA. 5. Demonstrated experience in DNA extraction, PCR, Sanger Sequencing and high-throughput sequencing work. 6. Demonstrated experience with metagenomics, DNA barcodes and Illumina library preparation. 7. **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.** 8. A record of science innovation and creativity, plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.   **Desirable Criteria:**   1. Knowledge of plant ecology, pollination ecology and/or community ecology. 2. Experience doing fieldwork, and willingness and ability to undertake field work in alpine (high altitude) ecosystems. 3. Experience identifying/sampling insects and/or plants. 4. Experience with handling and curating insect collection specimens and/or working in a natural history museum setting. 5. Familiarity with identifying/sampling insects and/or plants and network analysis. 6. Knowledge of bioinformatics and programming experience (R, Unix, Python).   **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 $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.  **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).  Please upload one document only that contains your **cover letter addressing the selection criteria** as defined in this document, and your **CV/resume** that best represents your ability to meet the requirements of this role.  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 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 selection documentation you require further information please contact:  Dr Francisco Encinas-Visovia email: [Francisco.Encinas-Viso@csiro.au](mailto:Francisco.Encinas-Viso@csiro.au) or phone: +61 2 62465846  Please do not email your application directly to Dr Encinas-Viso. 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).  **What CSIRO offers you**  The successful candidate will join the CSIRO Environomics Future Science Platform which is leading in Australia the research to create novel ways to monitor our biodiversity and ecosystems. The project provides excellent opportunities to develop research questions, conditions, outputs and future career possibilities for the Postdoctoral Fellow. It is at the cutting edge of a cross disciplinary research thrust, which brings together considerable skills in genetics, ecology and evolutionary biology. The potential for breakthrough discoveries and development of novel applications are high, with excellent publication prospects in high impact journals. The Postdoctoral Fellow will have opportunities to collaborate with leading national and international experts in molecular ecology, pollination ecology and community ecology, including the School of Biology at ANU and other important Australian universities. The successful candidate will also be provided additional training in technical writing and seminar presentations and will have the potential to present her/his work in national and international conferences.  This project will also give the successful candidate the opportunity to develop a strong professional network with collaborators from the agricultural industry and government agencies. The Postdoctoral Fellow will therefore have numerous career opportunities to build this research internally or externally in either an academic, applied or industry setting.  The position is based in Canberra, ACT, the Nation’s capital. A great city where you can enjoy natural bushland, beautiful nature reserves, sample world-class local wines and it is close to the stunning NSW south coast and the Snowy Mountains. The climate of Canberra allows for extensive outdoor sporting activity, which is reflected in the wide variety of sports available to locals and visitors alike.  Children may attend either public schools, run by the state government's Department of Education, or private schools, both religious and secular. Canberra also hosts a number of tertiary institutions, including world class universities such as the Australian National University (UWA) and the University of Canberra.  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 provides formal and informal flexible attendance arrangements to support a balance between both work and private commitments. This enables staff to vary their pattern of attendance to make allowances for their commitments on a day-to-day basis, and for work peaks or troughs as negotiated with their supervisor.  [About Future Science Platforms](http://www.csiro.au/en/About/Future-Science-Platforms)**:** Future Science Platforms (FSPs) are critical to turn Australia’s future challenges into opportunities to invent a better future for us all. FSPs are an investment in science that underpins innovation and that has the potential to help reinvent and create new industries for Australia. FSPs will see CSIRO grow the capability of new generation of researchers and allow Australia to attract the best students and experts to work with us on future science.  They are strategic investments aimed at developing capacity in areas of identified future importance for Australia. FSPs are both impact and science focused, developing innovative scientific solutions with industry, government and university partners. They support world class, coherent and creative research teams which integrate science and delivery over the long term.  [The National Research Collections of Australia](https://www.csiro.au/en/Research/Collections)**:** CSIRO is the custodian of a number of collections of animal and plant specimens that contribute to national and international biological knowledge. Together, they constitute a vast storehouse of information about Australia’s biodiversity and underpin a significant part of the country’s taxonomic, genetic, agricultural and ecological research - making these vital resources for conservation and the development of sustainable land and marine management systems. |