# CSIRO Postdoctoral Fellow

Role summary for potential applicants

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| Advertised Job Title**:** | CSIRO Postdoctoral fellow – Close-kin Mark Recapture Methods |
| Reference Number**:** | 56089 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $83K to AU $91K plus up to 15.4% superannuation |
| Location**:** | Hobart |
| 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 – Postdoctoral Fellow |
| Reports to the: | Team Leader, Pelagic Predator Ecology and Dynamics |
| Number of Direct Reports: | 0 |

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| **Role Overview:** |
| **Postdoctoral Fellows** 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.  This role requires a statistician to work on population modelling and genetics aspects of Close-kin Mark Recapture. The primary role will be to develop and extend a suite of statistical methods for identifying genetically related pairs of individuals in large samples, to estimate the abundance and other demographics of wild marine populations. The main goal is to find parent-offspring, half-sibling pairs and more distant kin. A central component of the research is to develop statistical techniques to take advantage of the latest genetic sequencing technologies, and to investigate their potential through applications to species with different life-histories. Data are available from existing and planned projects on sharks, tunas, and other fish species. A second task will be to explore development of new approaches to inferring population structure in large, highly fecund marine populations through the combination of close-kin and conventional population genetics data. For both tasks, we expect the incumbent to work with population geneticists to refine the genetic techniques to facilitate large-scale, cost-effective implementation for monitoring commercially harvested species and species “at risk” from a conservation perspective.  The successful candidate will be part of an internationally recognised research group in population dynamics, assessment and applied resource and conservation management. |

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| **Duties and Key Result Areas:** |
| Under the direction of the Project Leader, evaluate a range of genetic techniques and their utility for a range of close-kin mark-recapture applications.   * Develop and apply close-kin methods for new species based on next generation sequencing techniques and genome complexity reduction. * Develop and trial genetic and statistical techniques to detect a range of close-kin relationships, using low-cost approaches to coarse-level genome assembly. * Explore the integration of close-kin and population genetics approaches for estimating structure and connectivity in marine populations. * Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation. * Work collaboratively with colleagues within your team, the business unit and across CSIRO, to reach objectives. * Adhere to the spirit and practice of CSIRO’s Values, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals. * 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 statistics, population modelling or quantitative population genetics and evidence of original work in this field. * ***Please note:*** *To be eligible for this role you must have* ***no more than 3 years*** *of relevant postdoctoral experience.* * **Publications: A record of publications in quality, peer reviewed journals.** * **Collaboration:** A history of professional and respectful behaviours and attitudes in a collaborative environment.   ***Essential Criteria:***   1. Experience in population modelling and modern statistical methods for estimation of population parameters; 2. High level mathematical and statistical coding skills, including use of R, C++; 3. Demonstrated ability to work in a multi-disciplinary team environment and cooperate with others to achieve objectives using shared resources; 4. Demonstrated ability to collaborate with other teams as well as industry colleagues; 5. 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; 6. A record of science innovation and creativity, plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.   **Desirable Criteria:**   1. Experience in the development and application of mark-recapture models; 2. Experience with genetic analyses for population structure and connectivity; 3. Understanding of/experience with adaptive management and simulation evaluation of natural resource management systems.   **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> |

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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 for assistance or 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 Campbell Davies via email: [Campbell.Davies@csiro.au](mailto:Campbell.Davies@csiro.au) or phone: +61 3 6232 5044  Please do not email your application directly to Dr Davies. 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 Oceans and Atmosphere**  CSIRO Ocean and Atmosphere is uniquely placed to deliver significant economic, social and environmental benefits for Australia and the region. We seek to secure Australia’s future through our seas and skies. Find out more: <https://www.csiro.au/en/Research/OandA/About>  **What CSIRO Offers You**  The successful PDF will join an inter-disciplinary group with an international reputation in pelagic fisheries and conservation science. The group includes population geneticists, applied statisticians, mathematicians, marine ecologists and fisheries scientists directly engaged in national and international science and management initiatives, including the Commission for the Conservation of Southern Bluefin Tuna, International Whaling Commission and Indian Ocean Tuna Commission. The Close-kin Mark Recapture approach has the potential to revolutionise the assessment and monitoring of marine and terrestrial populations, as demonstrated by its application to southern bluefin tuna and white sharks. The PDF will focus on the statistical methods required to extend this approach and apply it to a suite of marine populations, while gaining exposure to a variety of other disciplines, international science networks and national and international conservation and fisheries management fora. This will include the opportunity to visit leading laboratories and present work at major international science meetings.  The project team are located in Hobart, Tasmania, a major hub for marine and Antarctic science. A small sophisticated city with a growing reputation for fine food and wine, Hobart is flanked on one side by the spectacular beaches and islands, and on the other by mountains leading to the famous World Heritage wilderness areas. It has a vibrant arts and music scene. Our Marine Laboratories are located on the downtown waterfront, alongside the University of Tasmania’s Institute for Marine and Antarctic Studies. |