**Position Details**

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| Advertised Job Title**:** | Postdoctoral Fellowship in Epigenetics Liquid Biopsy Markers |
| Reference Number**:** | 31121 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $78k to $88k plus up to 15.4% superannuation |
| Location**:** | Sydney, NSW |
| 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 |

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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. The "Probing Biosystems FSP" aims to revolutionise healthcare and agriculture through devices and systems to obtain real-time information from living organisms about their health and well-being. This will lead to the ability to provide health and medical interventions that are timely, customised and highly specific.  The goal of the FSP is to develop innovative platforms capable of interrogating living systems, preferably in real time, to extract and interpret meaningful information about the health status of the subject associated with recommendations for treatment and/or automated intervention if required.  The Postdoctoral Fellow appointed to this role will join CSIRO’s Probing Biosystems team to undertake a Future Science Platform (FSP) project led by Dr Jason Ross. This project seeks to find and characterise circulating cell-free DNA biomarkers of traumatic brain injury with the translational goal of developing a clinical biomarker in this space. The Epigenetics Team in North Ryde, NSW has a long history in DNA methylation biomarker development, including the co-development of Colvera(tm) with the Clinical Genomics company. Colvera(tm) is a biomarker product for diagnosing and monitoring the recurrence of colorectal cancer. |

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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 innovative concepts, theories, tools and techniques related to the analysis and integration of epigenomic data. * Develop DNA methylation assays and test these on clinical plasma samples. * Participate in collaborative research and liaise with external collaborators. * Develop innovative decision frameworks with impact in clinical and biotechnological applications. * Produce high quality scientific and technical outputs including journal articles, conference papers and presentations, patents and technical reports. * Represent CSIRO at leading national and international conferences and forums. * Contribute to the development of innovative concepts and ideas for further research. * Undertake regular reviews of relevant literature and patents. * Prepare appropriate conference papers and present those at conferences as agreed with your supervisor. * 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:** |
| Please note: Under CSIRO policy only applicants who meet all the essential criteria can be appointed  ***Pre-Requisites:***   1. **Education/Qualifications:** A doctorate and or equivalent research experience in a relevant discipline area, such as molecular biology, (epi)genetics or bioinformatics. 2. **Communication:** Strong written and oral communication skills including the ability to publish research results, prepare reports and present the results of scientific investigations at national and international conferences and stakeholder meetings. 3. **Publications: A solid record of publication in quality, peer reviewed journals.** 4. **Behaviours: A history of professional and respectful behaviours and attitudes in a collaborative environment.**   ***Essential Criteria:***   1. Demonstrated knowledge and understanding of molecular biology. 2. Demonstrated knowledge and experience in bioinformatics for the analysis and interpretation of multi-dimensional datasets. 3. Demonstrated proficiency in at least one data analysis language: R, Python, MATLAB. 4. Willingness to work across regionally dispersed, multi-disciplinary research teams and institutions across Sydney and Brisbane and 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. Knowledge of epigenetics. 2. Experience in undertaking lab procedures with bisulfite-treated DNA. E.g. Methylation-specific PCR, bisulfite amplicon library preparation. 3. Experience with Unix shell or a scripting, interpreted or compiled language: Python, Ruby, Perl, C++, Java, Scala. 4. A knowledge of commonly used genomics tools for working with deep sequencing data.   **CSIRO Values:**  As Australia’s Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to Excellent science, Inclusion, trust & respect, Health, safety & environment and Deliver on commitments.  In your application and at interview you will need to demonstrate alignment with these behaviours.  **Eligibility:**  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$78.4k plus superannuation*)* 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 please call +61 1300 984 220 during Australian business hours 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 Jason Ross at [Jason.Ross@csiro.au](mailto:Jason.Ross@csiro.au)  Please do not email your application directly to Dr Ross. 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).  **About Future Science Platforms**  [Future Science Platforms](http://www.csiro.au/en/About/Future-Science-Platforms) (FSPs) a multi-year, multi-disciplinary investment in our collective future - bringing CSIRO and our partners together to work on the big ideas. They 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 us 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. Probing Biosystems A revolution in healthcare and agriculture through devices and systems to obtain real-time information from living organisms about their health and well-being. This will lead to the ability to provide health and medical interventions that are timely, customised and highly specific. |