# backgroundData 61 and CSIRO logo Postdoctoral Fellowship – CSOF4

Role summary for potential applicants

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| Advertised Job Title**:** | CSIRO Postdoctoral Fellowship in Bioinformatics |
| Reference Number**:** | 42486 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $78K to AU $88K plus up to 15.4% superannuation |
| Location**:** | Dutton Park, QLD |
| Tenure: | Specified Term of 3 years |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: |  All Candidates |
| Functional Area**:** | Research Scientist / Engineer - Postdoc |
| Number of Direct Reports: | 0 |
| Reports to the: | Team Leader |

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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. [Future Science Platforms](http://www.csiro.au/en/About/Future-Science-Platforms) 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. 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, looking to the future science needs of CSIRO and our partners with a 5 to 10 year vision. [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.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 position will be based in the Data61’s Brisbane offices and will work closely with experimental research scientists and technical staff from the National Research Collections of Australia, including the Australian National Insect Collection (ANIC), the Australian National Herbarium, Australian Fish Collection and the Australian Algal Collection. The position will work primarily with the Environomics FSP project “High-throughput Collection Genomics”, which will develop an automated laboratory pipeline for the large-scale sequencing of whole genomes from old specimens in the National Research Collections Australia. The successful candidate will work closely with the experimental team developing the laboratory protocols for efficiently generating whole genome sequencing data from several thousand specimens of insects, lichen, flowering plants and fish. The laboratory pipeline will be used to generate genomic reference sequences for the molecular identification of specimens, with subsequent applications in, e.g., eDNA-based biodiversity surveys, conservation and biosecurity. The combination of degraded and/or fragmented DNA from up to 150y old samples and high-throughput DNA sequencing poses unique analytical challenges in the generation of those reference resources. These include challenges related to the assembly and annotation of highly fragmented and degraded samples as well as complexities posed by pseudo-genes and nuclear integrated mitochondrial DNA seqments and developing strategies for successfully identify and mitigate issues caused.  |

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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, integration and processing of high-throughput genomic data from historical biological specimens from the National Research Collections of Australia
* 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) or equivalent research experience in a relevant discipline area, such as genetics, bioinformatics or information science.

***Please note:*** *To be eligible for this role you must have* ***no more than 3 years*** *of relevant postdoctoral experience.*1. **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.
2. **Adaptability:** The ability to effectively manage a number of competing priorities simultaneously, under general direction from Senior Research staff.
3. **Problem Solving:** Proven ability to investigate underlying issues of complex and ill-defined problems and develop appropriate responses by adapting/creating and testing alternative solutions.
4. **Behaviours: A history of professional and respectful behaviours and attitudes in a collaborative environment.**

***Essential Criteria:***1. Demonstrated knowledge and skills in advanced bioinformatics research, specifically high-throughput DNA sequence data analysis and a deep understanding of the underlying molecular biology
2. Proficiency in at least one of R, Python or Perl as well as experience in utilising high-performance computing environments.
3. 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.
4. Experience in the effective communication of scientific findings in written and verbal form, and **a solid record of publication in quality, peer reviewed journals.**
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, or knowledge of, reproducibility and version control approaches for computational biology.
2. Practical experience with open source bioinformatics tools and resources strongly preferred

**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.In Data61, our leaders will be expected to demonstrate the following values:1. **Great Impact:** We focus our valuable resources on areas where we can lead globally and have large impact for Australia, to aid our future prosperity and independence.
2. **Mastery:** We are fearless, curious and we improve every day. We strive to excel in research, technology and business, and to work with the best in the world.
3. **Co-Creation of Value:** Everything we do involves co-creation with our network: team, customers and partners. Generously empowering their success is central to our success.
4. **Ownership of Results:** We jointly hold ourselves accountable for our actions. We do this via trust and commitment.
5. **People and their Differences**: We embrace the creativity that comes from the diversity of our people.
6. **Agility and Flexibility:** We view the changing world as an opportunity. This requires agility and flexibility in everything we do; everything changes, except our constant desire to adapt.
7. **Tell it Straight, with Respect:**We say what we mean, mean what we say, and do not mislead, obfuscate or spin. We're direct and always respectful.

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 ($78,479).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 csiro-careers@csiro.au. Please provide enough information relevant to this position and the essential criteria to enable the selection panel to determine your suitability, and upload your CV/resume and cover letter as one document. If your application proceeds to the next stage you may be asked to provide additional information. 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: 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 Annette McGrath via email:annette.mcgrath@data61.csiro.au phone: 07 38335629Please do not email your application directly to Dr McGrath. 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). **We work flexibly at CSIRO, offering a range of options for how, when and where you work.** **Find out more here!:** [Balance](https://www.csiro.au/en/Careers/A-great-place-to-work/Work-life-balance)**About the Environomics FSP Future Science Platform** For more information, see the [Environomics FSP](http://www.csiro.au/en/Research/Collections/Environomics) website.**Data61** is Australia’s digital powerhouse, formed by the recent integration of NICTA and CSIRO’s Digital Productivity business unit. We bring a multidisciplinary approach with design thinking, creativity, and behavioural economics to solve complex business problems, digital transformation and early stage commercialisation of data-centric solutions.Data61 is a CSIRO entity, Australia’s preeminent scientific organisation. Being part of CSIRO gives us access to deep domain expertise across all of the industry sectors most likely to be disrupted over next 5-20 years.Data61 focuses on every aspect of data research and development, from data capture [via sensor technology and robotics] to data consumption; communications and networking; infrastructure; hardware and software; cybersecurity; data statistics, modeling and analytics; decision sciences; behavioural economics and cognitive sciences—across every major industry sector.    Find out more – visit our [website](http://www.data61.csiro.au)  |