# Research Scientist – Bioinformatics Genome Engineering

Role summary for potential applicants

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| Advertised Job Title**:** | Research Scientist – Bioinformatics Genome engineering |
| Classification**:** | CSOF5 |
| Reference Number: | 59269 |
| Salary Range: | AU$97,276 to AU$105,269 plus up to 15.4% superannuation |
| Location**:** | North Ryde, NSW |
| Tenure: | Indefinite |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | * All Candidates |
| Functional Area**:** | Research Scientist / Engineer |
| % Client Focus - Internal: | 40% |
| % Client Focus - External: | 60% |
| Reports to the: | Team Leader |
| Number of Direct Reports: | 0 |

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| **Role Overview:** |
| We are seeking to appoint a highly motivated Research Scientist to undertake bioinformatics research relevant for medical and biosecurity applications. The successful candidate will contribute to multiple projects undertaken by the CSIRO and in collaboration with other high profile academic and commercial partners.  These projects will include the development and deployment of novel algorithms and software frameworks that create insights from high-throughput biomedical data and enable exciting new applications in the health and biosecurity space, such as a) modelling CRISPR-Cas9 activity, b) developing methods for gene therapy applications c) providing epidemic preparedness through prediction of influenza evolution. The successful candidate will join the high-performing Transformational Bioinformatics Team within the Australian e-Health Research Centre (AEHRC), which is part of the CSIRO Health and Biosecurity Flagship.  To be successful in this role you will be enthusiastic about making a hands-on contribution to improve genome editing through computational solutions and create new application cases in the health and biosecurity space. You will be working with clinical and commercial partners to create novel gene therapy applications and help keep Australia save using advanced cloud-computing and machine learning methodology.  This is a great opportunity for the successful candidate to work in a leading government organisation that is engaged in world class scientific research and offers excellent career development initiatives. CSIRO is strongly committed to Diversity and offers Flexible Working Arrangements.  Challenge yourself and find out how your research and ideas can enable Australia become the healthiest nation by 2030 and protect our unique biodiversity. |

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| **Duties and Key Result Areas:** |
| * Develop innovative concepts, theories, tools and techniques related to the analysis, integration and processing of high-throughput biomedical data. * Drive the development of “the search engine for the genome”, GT-Scan, which is CSIRO’s cloud-based computational workbench for genome editing. * Produce high quality scientific papers suitable for publication in high impact journals, for client reports and granting of patents. * Make a contribution to the effective functioning of the research team and help deliver CSIRO’s organisational objectives and plans. * Supervision of students and junior staff. * Develop and drive commercial translation of CSIRO’s research through innovation initiatives including reviews of relevant literature and patents. * 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. * Other duties as directed. |

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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 and postdoctoral research experience (3-6 Years) in a relevant discipline area, such as bioinformatics, computer science, information technology, or an equivalent field. 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. **Funding: demonstrated ability to write grant proposals and evidence of money attracted from external funding bodies.** 4. **Publications: A solid record of publication in quality, peer reviewed journals (please include journal impact measurements in your CV).** 5. **Collaboration: A history of professional and respectful behaviours and attitudes in a collaborative environment.** 6. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.   ***Essential Criteria:***   1. Demonstrated knowledge and skills in bioinformatics application specifically high-throughput sequence data analysis and a deep understanding of the underlying genome editing field (e.g. CRISPR, Gene-drive, HDR-mediated nucleotide editing). 2. Demonstrated experience with BigData Paradigms (e.g. Spark), cloud computing vendors (AWS, Alibaba cloud, Azure, GCP) and high-performance computing (e.g. PBS, SLURM). 3. Evidence of advanced programming skills and software design in languages relevant for bioinformatics (e.g. Python, Java, C++, Scala, BASH, R) and demonstrated software engineering practices (use of repositories, deployment standards, terraform). 4. Proven ability to work independently and as part of a team to prototype research ideas and develop them into demonstration and/or proof of concept systems. In addition, a demonstrated ability to interact with external/internal collaborators and stakeholders. 5. Ability to investigate issues of complex and ill-defined problems and develop appropriate responses by adapting/creating and testing alternative solutions. 6. A record of science innovation and creativity, plus the ability and willingness to incorporate novel ideas and approaches into scientific investigations.   **Desirable Criteria:**   1. Strong network with the international genome editing community 2. Experience with clinical gene therapy applications. 3. Engagements in media and outreach programs as well as championing women in CS initiatives.   **CSIRO is a values based organisation. You will need to demonstrate behaviours aligned to our values of:**   1. Integrity of Excellent Science 2. Trust & Respect 3. Creative Spirit 4. Delivering on Commitments 5. Health, Safety & Sustainability   ***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 <https://jobs.csiro.au/> and enter requisition number 59269. Internal applicants please apply via ‘Jobs Central’ in SAP (click ‘Recruitment’)  If you experience difficulties applying online call 1300 301 509 and someone will be able to assist you. Outside business hours please email: [careers.online@csiro.au](mailto:careers.online@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:  Denis Bauervia email at [Denis.Bauer@csiro.au](mailto:Denis.Bauer@csiro.au) or phone: +61 2 9325 3174.  *Please do not email your application directly to Denis Bauer. 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 CSIRO Health and Biosecurity**  The Health and Biosecurity Business Unit is focused on Australia’s productivity challenge. We use data and digital technologies to address economic and developmental challenges.  By building on our legacy in computer science, engineering, statistics and mathematics, we realize and extend the potential of our increasingly interconnected, digitised, and automated world.    For further information on the CSIRO ICT Centre and the Australian e-Health Research Centre please visit <http://www.csiro.au/en/Research/Health> and [www.aehrc.com](http://www.aehrc.com). |