# Research Scientist

Role summary for potential applicants

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| Advertised Job Title**:** | Research Scientist - Genome Engineering |
| Reference Number**:** | 38503 |
| Classification**:** | CSOF5 |
| Salary Range: | AU $95K to AU $100K plus up to 15.4% superannuation |
| Location**:** | Australian Animal Health Laboratory, Geelong, VIC |
| Tenure: | Specified Term until June 2020 |
| Relocation assistance**:** | Will be provided to the successful candidate if required |
| Applications are open to: | [ ]  Australian Citizens Only[ ]  Australian Citizens and Permanent Residents Only* [x]  All Candidates
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| Functional Area**:** | Research Scientist/ Engineer |
| % Client Focus - Internal: | 75% |
| % Client Focus - External: | 25% |
| Reports to the: | Team Leader |
| Number of Direct Reports: | No direct reports  |

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| **Role Overview:** |
| [Future Science Platforms](http://www.csiro.au/en/About/Future-Science-Platforms) are an investment in science that underpins innovation with the potential to help reinvent and create new industries for Australia. FSPs will strengthen capability of the 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. To position Australia as a vibrant synthetic biology research and development community supporting the bio-based industries and ecoengineering activities of tomorrow, CSIRO has established the [Synthetic Biology FSP](https://research.csiro.au/synthetic-biology-fsp/) (SynBioFSP). Synthetic Biology (SynBio) is the design and construction of biological parts, devices, and organisms (usually based on DNA-encoded componentry); and their application for useful purposes. The SynBioFSP has a mission to develop capacity in synthetic biology within CSIRO and across Australia, in a collaborative and transparent manner. Science capability will be strongly aligned with CSIRO business unit capabilities and will allow CSIRO to deliver novel future outcomes for external partners. The program has a $13 million funding envelope over the first three years. We aim to:1. Build the foundational capabilities to advance SynBio research, including significant investment in social licence to operate
2. Drive national coordination by making these foundational capabilities widely available to the broad research community, governments, and industry for the development of novel industrial products, pharma, biocontrol agents, and strategies for building ecosystem resilience to environmental change, and
3. Build strong partnerships, collaborations, and connections across the innovation sector to develop these novel products and applications responsibly.

The Synthetic Biology FSP (SynBioFSP) is developing a research portfolio which will be spread across CSIRO and a wide variety of partner organisations (universities, industry, NGOs, other research organisations, etc.), both national and international. The research portfolio is dynamic and will evolve over time on the basis of strategy and performance. Research projects will sit within one or more priority [Application Domains](https://research.csiro.au/synthetic-biology-fsp/application-domains/) (Environment & Biocontrol, Chemicals & Fibres, Organelles & Endosymbionts) and one or more [Science Domains](https://research.csiro.au/synthetic-biology-fsp/science-domains/) (Integrative Biological Modelling, Engineering Novel Biological Components, Assembling Novel Biosystems, Maximising Impact). The SynBio FSP will embed a social and behavioural science agenda to address issues around social licence to operate.The candidate will work as part of an internationally recognised team that has developed world leading expertise and technology to apply synthetic biology to avian species in particular poultry. The candidate will develop the critical components needed to assemble constructs to direct the expression of novel bio bricks in eggs. This will lead to opportunities to develop new high value products that use the egg as a bio-reactor. The use of null-segregant technology will enable the diversion of male embryonated eggs from a controversial “waste stream” into high value products. The candidate will be expected to have experience characterising promotors and associated regulatory elements that direct tissue specific transcription and appropriate translation e.g. secretion, to generate a suite of genetic circuitry components. Combined with the development of novel bio bricks this will be used to develop new genetic code required for generating eggs as synthetic biology reactors for novel high value products.  |

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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 biobricks and bio-circuitry for integration into the chicken genome and the generation of transgenic chickens for functional evaluation.
* Contribute to team goals for the generation of specific genome engineered chickens.
* Undertake regular reviews of relevant literature and patents.
* Participate in regular team meetings and discussions with supervisor to set and monitor progress and milestones
* Produce high quality scientific and/or engineering papers suitable for publication in quality journals, for client reports and granting of patents.
* Accurately record experimental results in approved Laboratory Notebooks and maintain computer databases.
* 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.

**Security Assessment and Microbiological Security Requirements for Personnel Working on the AAHL Site.*** The nature of our work requires that each person working on site must comply with the conditions described below.
* The appointee is required to pass a security clearance at a level appropriate to duties of the position. Confirmation of the appointment is subject to obtaining that clearance.
* It is essential that all work on exotic or emerging diseases carried out at AAHL is conducted in a safe manner to prevent the escape of the disease agents used, and to this end, all activities and personnel will be subject to appropriate microbiological security measures. Consequently, while working at AAHL, you may not reside on a property on which are kept any of the following animals: sheep, cattle, pigs, goats, horses, asses and mules, any other cloven-hoofed animal, fowls, turkeys, geese, domestic ducks, caged birds, emus or ostriches. Personnel working with diseases of aquatic animals may not keep aquarium fish at their place of residence and personnel working with cane toad material must avoid contact with amphibians.
* In addition, for a period of seven days after working in the microbiologically secure area of AAHL, personnel may not have close contact with any of the above animals, amphibians or birds or the actual places where these animals are held, or visit any aquatic animal farm or aquatic animal hatchery.
* Working in the barrier maintained Small Animal Facility requires avoidance of additional animals such as mice, rats, guinea pigs, rabbits and poultry 3 days prior to arrival.
* It is usual practice in laboratories where work with infectious disease agents is carried out, to collect a blood sample from personnel and store serum for future reference. This is a safety precaution, so that if any person becomes ill in the future, serum samples are available for testing.
* Personnel must abide by Occupational Health, Safety and Environment regulations. Safety signs and directives issued by CSIRO personnel must be complied with at all times.
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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 post-doctoral experience in a relevant discipline area, such as biotechnology, molecular biology or cell biology.
2. **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.**
3. **Publications: A record of publications in quality, peer reviewed journals.**
4. **Collaboration:** A history of professional and respectful behaviours and attitudes in a collaborative environment.

***Essential criteria***1. A track record of research in synthetic biology or genome engineering.
2. Demonstrated high level skills in molecular biology techniques
3. Strong knowledge in eukaryotic expression vector design and construction (such as enhancers, promoters, conditional and tissue specific expression systems)
4. **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.**
5. A record of science innovation and creativity, plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

***Desirable criteria***1. Research experience to complement Essential Criteria 1, either with genome engineering techniques (such as ZFN, TALEN or CRISPR) or synthetic biology.
2. Research experience with chicken embryos or other livestock species.
3. Demonstrated skills in tissue culture

***CSIRO Values:***As Australia’s Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to: * Excellence in science,
* Inclusion, trust & respect,
* Health, safety & environment
* Deliver on commitments.

In your application and at interview you will need to demonstrate alignment with these behaviours.***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)***To be eligible for this position you must be willing and able to:**** Adhere to CSIRO AAHL microbiological security requirements and HSE policies.
* Work across regionally dispersed sites and teams within the Geelong and Melbourne region.
* Work in the high containment area of AAHL, and prepared to receive appropriate vaccinations.
* Willingness to undertake a medical examination and psychometric testing if required.
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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 will need to upload your cover letter and resume/CV as ONE document, expressing your interest in the role and addressing each of the Selection Criteria. Please provide sufficient relevant information to enable the selection panel to assess your suitability against the Selection Criteria. Should your application proceeds to the next step, you may be asked to provide additional information.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 Tim Doran by email at timothy.doran@csiro.au or by phone at +61 5227 5788.**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 the SynBio FSP Future Science Platform** For more information, see the [Synthetic Biology FSP](https://research.csiro.au/synthetic-biology-fsp/) website. |