# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Research Scientist - Designer Microbiomes and Delivery Systems for Bioremediation and Waste Treatment |
| Job Reference | 76724 |
| Tenure | Specified Term of up to 4 years  Full-time |
| Salary Range | AU$100k to AU$108k pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Perth, Western Australia (initially Floreat but will move to Waterford mid-2022) |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All Candidates |
| Position reports to the | Research Science Supervisor / Microbiomes for One Systems Health – Future Science Platform |
| Client Focus – Internal | 80% |
| Client Focus – External | 20% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Anna Kaksonen via email at anna.kaksonen@csiro.au or phone +61 8 9333 6253 |
| How to apply | Apply online at <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  If you experience difficulties when applying, please email [careers.online@csiro.au](mailto:careers.online@csiro.au) or call 1300 984 220. |

### Role Overview

The role of a **Research Scientist** in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. You may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. You will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership and pursue new ideas and approaches that create new concepts.

The Research Scientist - Designer Microbiomes and Delivery Systems for Bioremediation and Waste Treatment role will be part of the **Microbiomes for One Systems Health - Future Science Platform (FSP).** The position will sit in Resource Sector Biotechnology Team of Industrial Biotechnology Group in CSIRO Land and Water. As part of the Microbiome FSP, the Research Scientist will design and construct microbiomes and develop delivery system platform technologies to biodegrade persistent organic contaminants (such as per- and poly-fluoroalkyl substances (PFAS) and/or petroleum organics) and/or wastes (such as mixed plastics).

**Microbiomes for One Systems Health - Future Science Platform**

CSIRO FSPs address new scientific challenges for Australia. They are an investment in science that underpins innovation that has the potential to help reinvent and create new industries. FSPs allow the development of capability and capacity for a new generation of researchers to work with CSIRO on future science.

The Microbiome FSP is developing new understanding of microbiome connectivity across the environment to human continuum and how system perturbations impact on microbiome functionality, diversity and systems health. A key objective is to capture greater benefit from microbiome interactions through more informative and predictive frameworks for functionality and by targeted interventions. Capacity to directly manipulate microbiomes across hosts and environments will provide new opportunities for bio-based solutions to be developed and applied to improve host and environmental health and for increased benefit to plants, animals and humans.

The portfolio of research within the Microbiome FSP is focussed around new science that addresses systems connectivity, predictive frameworks and deliberate Interventions through the application of multi-omic tools to analyse point and system level change and associated measures of functionality both within and across interconnected biomes. This includes integration and analysis of multi-layered data and use of empirical and/or statistical modelling. The science portfolio of the FSP spans multiple CSIRO Business Units that address key focal areas that include; i) Environment, Soil & Plant Health, ii) Food Chain & Production ii) Diet, Gut and Health and iv) Optimized Industry & Urban Processes.

Further information: <https://research.csiro.au/microbiome/>

### Duties and Key Result Areas

* As part of a multidisciplinary research team, carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
* Identify suitable microbes and design and construct designer microbiomes for biodegradation of persistent organic contaminants (such as PFAS and/or petroleum organics) and/or wastes (such as mixed plastics).
* Develop platform technology for microbiome delivery systems to improve the resilience of designer microbiomes for the treatment of organic wastes and/or pollutants.
* Develop, lead, and manage the experimental program and deliverable on designer microbiomes and delivery systems with support from the supervisor and senior research team.
* Collaborate with Microbiome FSP systems biology and metabolic modelling experts to provide relevant data on designer microbiomes and delivery systems.
* Produce progress reports and lead high-quality scientific papers suitable for publication in peer review journals together with co-authors.
* Prepare appropriate conference papers and represent the project and CSIRO at national and international conferences.
* Contribute to the development of innovative concepts for further research.
* Under limited direction, assist in the planning and preparation of research proposals and carry out research investigations, requiring originality, creativity, and innovation.
* Address problems promptly and in a constructive manner, selecting the most profitable lines of attack upon a problem, preparing detailed design proposals and experimental protocols.
* Undertake in experimental and/or observational research activities, often requiring the supervision and/or training of others to ensure experiments are established in accordance with research design, or as required.
* Draw on professional expertise, knowledge of other disciplines and research experience, recognise opportunities for innovation and generate new theoretical perspectives by pursuing new ideas/approaches and networking with scientific colleagues across a range of disciplines.
* Make a contribution to the effective functioning of the research team and help deliver CSIRO’s organisational objectives and plans.
* Undertake appropriate training courses organised by CSIRO.
* Liaise with clients to determine their needs and take personal responsibility for client satisfaction.
* Maintain confidentiality when dealing with commercially sensitive information.
* Communicate openly, 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 as part of a multi-disciplinary, regionally dispersed project team, and business unit to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

## **Required Competencies**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.
* **Influence and Communication:** Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others reactions.
* **Resource Management/Leadership:** Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate responses by adapting/creating and testing alternative solutions.
* **Independence:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **Adaptability:**Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of change.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A PhD (or an equivalent combination of qualifications and research experience) in a relevant field such as microbiology, molecular biology, biochemistry, chemistry, material science or nanoscience, or a related field.
2. Experience in developing, leading, and managing research projects using microbial/molecular and/or material science techniques for environmental applications.
3. Demonstrated experience in aseptic culture techniques.
4. Demonstrated ability to undertake original, creative, and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
5. High level of written and oral communication skills with a demonstrated publication history of authorship on scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications, and conference presentations.
6. **The ability to work effectively as part of a multi-disciplinary, regionally dispersed project team, plus the motivation and discipline to carry out autonomous research.**
7. Experience in responsible and ethical behaviour in research, inclusiveness, and work health and safety practices and procedures.

## **Desirable**

1. Practical research experience in developing on designer microbiomes and/or targeted delivery systems, e.g. with 3D printing.
2. Demonstrated experience in working with a range of stakeholders and/or commercialisation of innovations.
3. Experience in using microorganisms for the biodegradation of contaminants and/or wastes.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

* The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* If the successful candidate is not an Australian Citizen or Permanent Resident, they may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- https://ielts.com.au/
* This successful candidate will commence at the Floreat site but will transfer to the Waterford site in mid-2022.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. To find out more visit us [online](http://www.csiro.au/)!

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* 1. People First
  2. Further Together
  3. Making it Real
  4. Trusted

Find out more about CSIRO [Land and Water](https://www.csiro.au/en/Research/LWF)