# Position Description

## CSIRO Early Research Career (CERC) Postdoctoral Fellowship– CSOF4

The following information is for applicants

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| Advertised Job Title**:** | CSIRO Postdoctoral Fellowship in Human Gut Microbiology |
| Job Reference: | 60774 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | [ ]  Australian Citizens Only[ ]  Australian/New Zealand Citizens and Australian Permanent Residents Only* [x]  All Candidates
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| Percentage of Client Focus - Internal: | 60% |
| Percentage of Client Focus - External: | 40% |
| Reports to the: | Senior Principal Research Scientist |
| Number of Direct Reports: | 0 |
| How to Apply | Please apply online at [jobs.csiro.au](https://jobs.csiro.au/) and enter the requisition number**.** Internal applicants please apply via ‘Jobs Central’ through the ‘People Hub’ icon  |
| Name and Contact Details For Applicant Enquiries: | Anthony Bird via email tony.bird@csiro.auPlease do not email your application directly to Dr Bird. Application received via this method may not be considered by the selection panel. |
| Contact Details For Applying: | If you experience difficulties applying on line, Call 1300 984 220 or email csiro.online@csiro.au |

## Role Overview:

**CSIRO Early Research Career (CERC) Postdoctoral Fellowships** provide opportunities to scientists and engineers who have completed their doctorate and have less than three years relevant postdoctoral work experience. These fellowships aim to develop the next generation of future leaders of the innovation system through:

* A differentiated career development program to deliver capability excellence and breadth across all facets of the national innovation system.
* Research training via strategic research and development projects with a clear focus that will deliver real impact through science and engineering excellence;
* An innovative culture supporting the development and demonstration of original thinking and expertise leading to peer-recognition; and
* Opportunities to develop skills and experience in collaborative research teams to effectively work within national and global multi/transdisciplinary and multi-stakeholder environments.

CERC Postdoctoral Fellows **are appointed for three years or part time equivalent.**

## Duties and Key Result Areas:

The gut microbiota plays a pivotal role in human health and wellbeing. Disruption of the microbiota by poor diet is increasingly linked to metabolic derangements in the host that underpin pathogenesis of major chronic diseases, such as diabetes and obesity. There is increasing evidence that phytochemicals and other dietary bioactive modulate the composition and metabolic activity of the intestinal microbiota, and via this interaction, exert health benefits.

In this role the postdoctoral fellow will design, initiate and manage research initiatives to investigate the impact of phytochemical-dense foods on the gut microbiome. The project will utilise a range of techniques to determine the nutritional composition of test foods, and to evaluate their effects on gut microbiota population structure and functional capacity (genes expressed, metabolites produced and their interaction with the host). The successful applicant will be involved in all aspects of the project, from planning and conducting experiments to interpreting and presenting data. They will work as part of a multidisciplinary scientific team focused on reshaping the gut microbiome for improved health outcomes.

Under the direction of senior research scientists, CERC Postdoctoral Fellows:

* Carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific outcomes.
* Develop, validate and apply advanced molecular and associated technologies for the detection, identification and quantitative enumeration of gut microbiota.
* Undertake comprehensive evaluation of test foods including (but not limited to) their nutritional content, assimilation in the GI tract (using proprietary technology) and influence on the composition and metabolic activity of gut microbiota.
* Develop effective operational linkages with other research groups within and external to CSIRO to realise project goals
* Assist in the management of laboratory and experimental activities, including supervision of undergraduate and postgraduate students and laboratory staff.
* Provide scientific and professional leadership in microbiological science and related fields.
* 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.

**The CERC Postdoctoral Fellow learning and development program**is developed between the CERC Postdoctoral Fellow and their CSIRO supervisor. 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>

## CSIRO Competencies:

1. **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.**
2. **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.**
3. **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.**
4. **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
5. **Independence: Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).**
6. **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 changes.

## Selection Criteria:

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

1. A doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such as gastrointestinal microbiology.

Please note: To be eligible for this role you must have ***no more than 3 years (or part time equivalent)*** of postdoctoral research experience.

1. Demonstrable knowledge of microbiology, including advanced technical skills in applying standard nucleic acid based molecular techniques to characterise the composition and function of microbial communities.
2. A commitment to developing a detailed understanding of the complexities associated with host-microbiome interactions and how these can be manipulated for improved human health outcomes.
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. High level written and oral communication skills with the ability to represent the research team effectively internally and externally, including publishing in peer reviewed journals and/or authorship of scientific papers, reports, and presenting at national and/or international conferences.

**Desirable Criteria:**

1. Demonstrable expertise in interrogating microbial population structure and function (“who’s there, and what are they doing?”) via genetic approaches (e.g. high-throughput 16S amplicon, (meta) genomic or metatranscriptomic sequencing, dataset and bioinformatics analysis) with additional expertise in metabolomics, (sample preparation and data analysis, metabolite fingerprinting and bioinformatics analysis) being advantageous.
2. A demonstrable interest and understanding of the role of diet in shaping the composition and function of gut microbial communities and their impact on host physiology
3. Experience in conducting animal and/or human clinical trials and a demonstrable interest in how food and food science can be harnessed to improve health.

To be appointed as a CERC 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 ($82,450) 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.

## Special Requirements:

Appointment to this role may be subject to conditions including security/national police/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents 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/>

**Our value proposition**

We want CERC Postdoc Fellows to join our world class science, engineering and digital teams to solve big, complex problems that make a real difference to the future of Australia and the world.

You'll get to work with some of the most talented minds in their fields, not just in Australia, but in the world. At CSIRO, we spark off each other, learn from each other, trust each other and collaborate closely to achieve more than we could individually.

CSIRO Early Research Career (CERC) Postdoctoral Fellow Experience Employee Value Proposition (EVP). Find out more! <https://www.csiro.au/en/careers/postdoctoral-fellowships>

## About CSIRO:

We imagine. We collaborate. We innovate. To find out more visit us [online](http://www.csiro.au/)!

Find out more about CSIRO [Health and Biosecurity](https://www.csiro.au/en/Research/BF)