# Postdoctoral Fellowship – CSOF4

Role summary for potential applicants

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| Advertised Job Title**:** | Postdoctoral Fellowship Future Science Platforms Probing Biosystems (implantable devices) - 2 positions available |
| Reference Number**:** | 34842 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $78K to AU $88K plus up to 15.4% superannuation |
| Location**:** | Hobart, TAS |
| 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 |
| % Client Focus - Internal: | 80% |
| % Client Focus - External: | 20% |
| Reports to the: | Team leader |
| Number of Direct Reports: | 0 |

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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. 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.Future Science Platforms (FSPs) are a major new CSIRO initiative. FSPs are multi-year investments in frontier science that will reinvent and create new industries for Australia. CSIRO’s Data61 Business Unit along with the newly established Probing Biosystems FSP are driving innovation in implantable biosensor technology design to improve health monitoring and surveillance. Our research group has active projects in the area of micro-sensing technologies to enable miniaturised devices to operate in different environments. As part of this research endeavour we have developed energy harvesters and micro-batteries to be further integrated with microcontrollers, communication gateways and transducers to perform reliable measurements in different environments, and deploy them in the field. We aim for our devices to be deployed as implantable devices. Candidates will be expected to have previously published in the area of advanced microscale electronics, ASIC-design and sensor systems. We are looking for a solid record of publishing in high impact journals, and a track record of working both independently and as a member of a large interdisciplinary research team. The successful candidate will be competent and experienced in microcircuit design, simulation, optimisation and have a good understanding of manufacturing processes in the micrometer scale. The successful candidate will work in an interdisciplinary team in designing new microscale devices under specific performance and constructive constraints, test, improve, follow their manufacture and support those sensor deployments in the field and participate actively in the interpretation of experimental results with collaborators. This post-doctoral fellow is expected to publish in high-impact journals, assist our team in securing IP, and to present results, when appropriate, in international conferences. The successful candidate will participate in a vibrant interdisciplinary research group and will be involved in projects addressing highly relevant research problems for Australia and beyond with impact to wide economy and society.  |

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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.
* Producing quality research in the area of micro-Sensing Technologies.
* Developing a technology roadmap related to micro-devices for Probing Biosystems.
* Designing, simulating, assembling and testing prototype models of new micro-sensor platforms.
* Write technical reports and contribute to research proposals;
* Contribute, as part of an interdisciplinary team, in the analysis of experimental results;
* Supervise graduate students associated to the research program;
* 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) in a relevant discipline area, such as ASIC-design, microelectronics, MOMS/MEMS and/or embedded systems.

***Please note:*** *To be eligible for this role you must have* ***no more than 3 years*** *of relevant postdoctoral experience.*1. **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.**
2. **Publications: A record of publications in quality, peer reviewed journals.**
3. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.

***Essential Criteria:***1. Demonstrated strong experience in micro-electronics.
2. Demonstrated experience in one of the key areas for micro-sensing devices: sensing technologies and micro-transducers, energy harvesting and microwatt energy storage, memory devices, microcontrollers, micro-RFIDs, MEMS and ASIC-design.
3. Experience in microcircuit design, modelling and simulation using SPICE, VHDL, Verilog, Simulink, CADENCE or equivalent software packages.
4. Demonstrated experience in working with interdisciplinary teams.
5. Outstanding publication record of reports for industry, peer-review journal papers.

**Desirable Criteria:**1. Experience developing software for resource-constrained embedded systems and support tools in C/C++, assembler, Python and/or other languages.
2. Familiar with product development life cycle and with certification of engineering products.

**CSIRO is a values based organisation. You will need to demonstrate behaviours aligned to our values of:*** Integrity of Excellent Science
* Trust & Respect
* Creative Spirit
* Delivering on Commitments
* Health, Safety & Sustainability

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 (AU $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 [www.csiro.au/careers](http://www.csiro.au/careers). You may be asked to provide additional information (online) relevant to the selection criteria. If so, then responding will enhance your application so please take the time to provide relevant succinct answers. 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: 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: Dr Paulo de Souzavia email: paulo.desouza@csiro.au or phone: +61 3 6237 5644 Please do not email your application directly to Dr de Souza. 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 Future Science Platforms**[Future Science Platforms](http://www.csiro.au/en/About/Future-Science-Platforms) (FSPs) a multi-year, multi-disciplinary investment in our collective future - bringing CSIRO and our partners together to work on the big ideas. They are critical to turn Australia’s future challenges into opportunities to invent a better future for us all. FSPs 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.**Probing Biosystems**A revolution in healthcare and agriculture through devices and systems to obtain real-time information from living organisms about their health and well-being. This will lead to the ability to provide health and medical interventions that are timely, customised and highly specific.**CSIRO Data61** is thelargest data innovation group in Australia, a connector that brings together technology innovators, businesses and universities to transform Australian industry and to help solve our greatest challenges. - http://data61.csiro.au/ |