# Postdoctoral Fellowship – CSOF4

Role summary for potential applicants

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| Advertised Job Title**:** | Postdoctoral Fellowship in Biomedical Engineering in innovative implantable sensor and feedback physiological control systems |
| Reference Number**:** | 32504 |
| Classification**:** | CSOF4 |
| Salary Range: | AU $80K to AU $91K plus up to 15.4% superannuation |
| Location**:** | Herston, Brisbane, QLD |
| Tenure: | Specified term of 36 months |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | Australian Citizens Only  Australian Citizens and Permanent Residents Only   * All Candidates |
| Functional Area**:** | Research Scientist - Postdoc |
| % Client Focus - Internal: | 60% |
| % Client Focus - External: | 30% |
| Reports to the: | Research Group Leader |
| Number of Direct Reports: | 1 |

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| **Role Overview:** |
| Postdoctoral Fellowsat 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.  This Postdoctoral Fellowship will undertake biomedical engineering of innovative approaches to implantable sensor (intra-thoracic) and physiological control system research. The Fellow will contribute to cross-divisional and external clinical partners specialist undertaken by CSIRO. These projects will include the development of novel implantable sensor design that is able to detect changes in physiological/biochemistry/biomechanical/metabolic to enable physiological feedback control internally via implanted devices or externally through mobile health/portal platform developed by CSIRO.  The successful candidate will join the multidisciplinary team of Probing Biosystems Future Science Platform team (<https://research.csiro.au/biosystems/)> and the Mobile Health team at the Australian e-Health Research Centre (AEHRC), part of CSIRO Health and Biosecurity, and Critical Care Research Group (CCRG) and ICETLAB, The Prince Charles Hospital.  It will be a great opportunity for the successful candidate to work with a world-renowned research team on cutting edge research projects. The Fellow will have a unique opportunity to be involved in cutting-edge science and medical innovation to bring about state-of-art clinical intervention through monitoring and feedback controlled system that is surgically implantable, and provide better quality of medical care into healthcare practice for the benefit of the community and healthcare delivery in Australia and worldwide. |

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| **Duties and Key Result Areas:** |
| * Under the direction of senior research scientists and clinicians, carry out innovative, impactful research of strategic importance to CSIRO that will, where possible, lead to novel and important scientific and clinical outcomes. * Investigate new implantable biosensors and signal processing towards physiological measurements with CSIRO’s Biomedical Manufacturing and Data61 business units. * Develop feedback control system that directly communicates with implanted devices (eg. cardiac assist devices) and/or externally via mobile health Apps through automated or manual clinical decision methods via algorithms or clinicians’ judgement, respectively. * Work with clinicians and contribute to conducting surgical implantation and testing of developed implantable feedback control system in large animal studies to collect data to test an automated post-surgical monitoring and management scenarios. * Produce and communication of high quality science towards publication in high quality 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. * Work collaboratively with colleagues within your team, the business unit and across CSIRO and CCRG. * 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-opportunities/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:** Biomedical Engineering doctorate (or will shortly satisfy the requirements of a PhD) in a relevant engineering discipline area, such as Electrical, Electronic, or computer science with application medical research experience*.*   ***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. **Collaboration:** A history of professional and respectful behaviours and attitudes in a collaborative environment.   ***Essential Criteria:***   1. Knowledge and experience in developing implantable sensors, feedback control, and signal processing of physiological/biomechanical/biochemistry data to enable closed loop physiological control system. 2. Research experience in biomedical engineering, health or medical research. 3. Analytical methods to derive physiological and clinical diagnostic from implantable sensor monitoring. 4. The ability to work effectively as part of a multi-disciplinary (particularly clinicians, engineers, and scientists) regionally dispersed research team, plus the motivation and discipline to carry out research independently and meet project deadlines. 5. A record of science innovation and creativity, plus the ability and willingness to incorporate novel ideas and approaches into scientific investigations.   **Desirable Criteria:**   1. Experience working with clinicians and patients/community participants. 2. Evidence in developing clinical decision support systems.   **CSIRO Values:**  As Australia’s Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to Excellent science, Inclusion, Trust & Respect, Health, Safety & Environment and Deliver on commitments.  In your application and at interview you will need to demonstrate alignment with these behaviours.  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 $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 984 221 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:  Dr Mohan Karunanithivia email: [Mohan.Karunanithi@csiro.au](mailto:Mohan.Karunanithi@csiro.au) or phone: +61 7 3253 3623  Please do not email your application directly to Dr Mohan Karunanithi. Applications received via this method will not be considered.  **About CSIRO**  At CSIRO, we do the extraordinary every day. We innovate for tomorrow and help improve today – for our customers, all Australians and the world.  Our innovations contribute billions of dollars to the Australian economy every year. As the largest patent holder in the nation, our vast wealth of intellectual property has led to more than 150 spin-off companies.  With more than 5,000 experts and a burning desire to get things done, we are Australia’s catalyst for innovation.  CSIRO. We imagine. We collaborate. We innovate.  Find out more! [www.csiro.au](http://www.csiro.au)  **CSIRO Health and Biosecurity** is focused on developing innovative technologies that: improve access to and delivery of health services; increase efficiency and security of our critical infrastructure; provide efficient and effective public services and systems, and deliver innovative, high performance wireless broadband services.  Find out more! <http://www.csiro.au/en/Research/BF> |