# 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 Smart Ageing and Internet of Things |
| Job reference: | 60674 |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | All Candidates |
| Percentage of client focus - internal: | 50% |
| Percentage of client focus - external: | 50% |
| Reports to the: | Research Team Leader |
| Number of direct reports: | 0 |
| How to apply: | Please apply online at jobs.csiro.au and enter the requisition number. Internal applicants please apply via ‘Jobs Central’ through the ‘People Hub’ icon |
| Contact details to discuss this position: | Qing Zhang via email - [qing.zhang@csiro.au](mailto:qing.zhang@csiro.au)  Please do not email your application to Qing Zhang. Applications received via this method will not be considered by the selection panel. |
| If you have difficulty applying please contact: | Call 1300 984 220 or email [csiro.online@csiro.au](mailto:careers.online@csiro.au) |

## Role Overview:

**CSIRO Early Research Career (CERC) 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 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.**

The Postdoctoral Fellow will work in the CSIRO Health Internet of Things team to help design and develop novel algorithms towards practical applications to support Australian seniors Ageing in Place. In this role, the fellow will have the opportunity to address critical health and wellbeing issues among independent living seniors, through undertaking innovative research on the CSIRO Smarter Safer Homes platform. The fellow will join a multidisciplinary team of the Australian eHealth Research Centre, a joint venture between CSIRO and the Queensland Government, and will work closely with collaborators from Aged Care industry in Australia.

## Duties and Key Result Areas:

* Under the direction of senior research scientists and engineers, CERC Postdoctoral Fellows:
* Contribute to the development of innovative concepts and ideas for health and wellbeing science and aging in palace metrics through sensors and Smart Home platform.
* Contribute to large clinical trials in data collection and analytics using artificial intelligence techniques, sensor development and evaluation, technical and clinical research outputs delivery and presentation.
* Undertake regular reviews of literature and patents in Geriatrics and Gerontology, Internet of Things, and Data Mining/Machine Learning area.
* Possess the discipline to carry out autonomous research in Health, Biomedical and Engineering, Machine Learning domain, 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.
* Make contribution to the effective functioning of the Health Internet of Things team and help deliver CSIRO’s organisational objectives and plans.
* Undertake an appropriate professional training and development program developed by CSIRO.
* 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, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.
* 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.

* A doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such as Biomedical Engineering or Computer Science focussed in Health Application.
  + **Please note:** To be eligible for this role you must have **no more than 3 years (or part time equivalent)** of relevant postdoctoral experience.
* Experience in signal processing or mining data and developing algorithms using artificial intelligence methods
* Demonstrated experience on Data analytic of data collected from clinical trials.
* Demonstrated expertise in data analytics/pattern recognition/statistical inference/signal processing/artificial intelligence methods
* Demonstrated experience of mathematical/analytical approach to address real world questions
* Ability to conduct high-quality research independently and proactively, with a track record of scholarly publications in top-ranked journals and in flagship conferences.
* **The demonstrated ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.**
* A record of science innovation and creativity, plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.
* High level written and oral communication skills with the ability to represent the research team effectively internally and externally, including through peer reviewed journals and/or authorship of scientific papers, reports, grant applications, patents, and presenting at national and international conferences
* A history of professional and respectful behaviours and attitudes in a collaborative environment.

## Desirable Criteria:

* Experience with human research methodologies, random control clinical trial.
* Experience with sensor hardware prototype design and development.

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 (AU$83,687 plus up to 15.4% superannuation). 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.

## 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)