# Position Details

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

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| The following information is for applicants | |
| Advertised Job Title | CSIRO Postdoctoral Fellowship in Imaging Science |
| Job Reference | 80031 |
| Tenure | Specified Term of 3 years  Full-time |
| Salary Range | AU$89,926 to AU$98,504 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Brisbane, QLD |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | All candidates (must be able to commence by March 2022) |
| Position reports to the | Group Leader (Pest Management Systems) |
| Client Focus – Internal | 80% |
| Client Focus – External | 20% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Dr Rieks Van Klinken via email at rieks.vanklinken@csiro.au  *Please do not email your application directly to Rieks Van Klinken. Applications received via this method will not be considered.* |
| 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. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the area that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

### 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 of 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.

This is an exciting opportunity for a highly motivated, early career scientist with a background in medical imaging, experimental physics, spectroscopy, or other physical sciences. The successful applicant will use leading-edge, X-ray imaging technology to push the limits of biosecurity threat detection in fresh produce. Global trade in fresh, agricultural produce is a high-risk pathway for a wide range of biosecurity threats such as plant pests and diseases. X-ray technology offers opportunities for automated pest detection.

You will work in a vibrant, multi-disciplinary team with expertise in the application of diverse imaging technologies to solve problems in agriculture, mining and metals, advanced analytics, biosecurity, and the translation of science into impact. As a CERC Postdoctoral Fellowships you will have the opportunity to build and maintain networks, develop new business, provide scientific leadership and pursue new ideas and approaches that create new concepts and beneficial impacts.

This Fellowship is part of the **Autonomous Sensing Future Science Platform**, offering new opportunities to work on frontier science to accelerate the generation of new tools to enable growth of digital decision making within domains; combining fundamental sensor research with autonomous engineering solutions to provide new advanced sensing and platform technologies for the environmental monitoring, health monitoring, mining, agriculture, and manufacturing domains.

### Duties and Key Result Areas

* + Contribute to the development and experimental verification of methodologies for the automatic detection of biosecurity threats in fresh produce using X-ray technology
  + Extend technology to scan bulk samples using novel X-ray equipment and techniques, and refine into a deployable, automated detection technology
  + Create an extensive catalogue of experimental data, for the development and testing of machine learning algorithms
  + Maintain a focus on adoption of Research and Development (R&D).
  + Incorporate novel approaches to scientific study by adapting and/or developing original concepts and ideas into existing and future research.
  + Under the guidance of senior colleagues, develop and contribute to new, multi-disciplinary research projects, including negotiation and securing of external funding requirements.
  + Develop active collaborations with scientists from other disciplines and application areas.
  + Produce scientific papers suitable for publication in high quality international journals and for presentation at national and international conferences, and present or write reports for, clients and the scientific and/or technology community.
  + Under general direction, participate in planning projects and accept responsibility for the scheduling and completion of major parts of projects, including allocating and directing tasks where appropriate.
  + Work collaboratively as part of a multi-disciplinary, often regionally dispersed research team, and business unit to carry out tasks in support of CSIRO’s scientific objectives.
  + Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
  + Other duties as directed.

[**The CERC Postdoctoral Fellow learning and development program**](http://www.csiro.au/en/Careers/Student-and-graduate-programs/Postdoctoral-fellowships)is developed between the CERC Postdoctoral Fellow and their CSIRO supervisors. 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

## **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 response by adapting/creating and testing alternative solutions.
* **Independence:** Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).
* **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**

#### Essential

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

1. A doctorate (or will shortly satisfy the requirements of a PhD) in a relevant discipline area, such as medical physics, experimental physics, high energy physics or other physical sciences.

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. Experience with computer programming, such as but not limited to Python, C, C++, and Matlab.
2. Experience working with at least one imaging technique including an understanding of image processing, and an aptitude and willingness to apply imaging and analytical technologies to novel applications for applied outcomes.
3. Excellent experimental and data collection skills.
4. Willingness and the ability, when permitted, to travel throughout Australia and internationally, including regular trips to conduct laboratory work CSIRO Lucas Heights (Sydney).
5. High level written and oral communication skills with the ability to represent the research team effectively to audiences with scientific and non-scientific backgrounds, both written and oral. This includes a demonstrated ability to publish impactful research.
6. A record of science and/or technological innovation and creativity, including the ability and willingness to incorporate novel ideas and approaches into scientific investigations.
7. **The ability to work effectively as part of a multi-disciplinary, potentially regionally dispersed research team, plus the motivation and discipline to carry out autonomous research to achieve project goals.**

## **Desirable**

1. An expert-level understanding of at least one imaging technique and the ability to analyse and perform image reconstruction.
2. Demonstrated research experience in the application of X-ray technologies and related analytics.
3. Familiarity with data science including analysis and reduction techniques, numerical algorithms, control systems, big data and deep learning concepts.
4. Track record in developing science-based solutions for applied problems.
5. A current Australian driver’s licence or the ability to obtain one.

To be appointed to this CERC Fellowship role within CSIRO, candidates will be expected to commence employment by March 2022. 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 ($87,068). 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 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.
* The applicant will also be required to undertake ANSTO Security Clearance to gain access to the CSIRO site at Lucas Heights for experimental work.
* The successful candidate may be required to undertake a pre-employment medical examination prior to commencement.
* 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/

**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 [here](https://www.csiro.au/en/careers/postdoctoral-fellowships)!

## **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 [Health and Biosecurity](https://www.csiro.au/en/Research/BF)