# Position Details

## Research Projects- CSOF4

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| The following information is for applicants |
| Advertised Job Title | X-Ray Technology Project Scientist |
| Job Reference | 84941 |
| Tenure | Specified Term of 3 years Full-time |
| Salary Range | AU$87,068 – AU$98,504 per annum + up to 15.4% superannuation |
| Location(s) | Lucas Heights, NSW |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Position reports to the | Research Team Leader, XRD and GAA |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Joel O'Dwyer via email at joel.o'dwyer@csiro.au or phone +61 2 9710 6790 |
| 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 or call 1300 984 220. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas 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

The role of Research Projects staff in CSIRO is to collaborate in scientific and technological activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental, observational or technology development work, and in carrying out the more practical aspects of the work.

X-Ray Technology Project Scientist will join the X-ray Technologies Group at our Lucas Heights laboratory located on the southern edge of Sydney. The X-ray Technologies Group is part of CSIRO’s Mineral Resources Business Unit – we are world leaders in the development and commercialisation of technologies that enable the assessment of elemental and mineralogical composition of ore in real-time or near real time. Details of some of our recent technology developments that have been successfully commercialised can be found at:

* Chrysos (<https://www.chrysos.com.au/>)
* OLGA (<https://www.gekkos.com/solutions/olga>)

X-Ray Technology Project Scientist will actively contribute to research projects related to the progression of two of our core technologies: real time Gamma Activation Analysis (GAA) and real time X-ray imaging and reconstruction. Working in both these areas, they will develop and test prototype systems, organise experiments, lead technology trials, communicate findings and collaborate with industry partners.

### Duties and Key Result Areas

* Under general direction, contribute to research and/or technology through the development of original and adapted experimental methods, equipment or software.
* Undertake a wide variety of tasks, or tasks with a high degree of specialisation.
* Apply appropriate existing experimental methods, and assist in creating new methods to measure elements or minerals using GAA and X-ray imaging.
* Assist in running Monte Carlo simulations to test ideas and/or validate experiments.
* Assist in organising different facets of experiments, which may include procurement of hardware, set up equipment like X-ray tubes, flat panels and scintillators, use computer programming to run the experiment and data acquisition.
* Show initiative to seek new approaches to meet experimental or technological needs when encountering new problems where methods are not defined.
* Participate in the identification and definition of research and/or technological problems with colleagues.
* Liaise with clients to determine their needs and take personal responsibility for their satisfaction.
* Take part in and/or organise technology field trials in Australia and overseas.
* Address problems promptly and in a constructive manner.
* Participate in planning projects and accept responsibility for scheduling and completion of major parts of the project, including evaluation of options, experimental design, data collection and analysis, user and customer research, user experience and/or software design, implementation and delivery.
* Make significant contributions to the interpretation and communication of research or technological results and may collaborate on drafting presentations to, and/or detailed written reports for, clients and the scientific and/or technology community.
* Maintain safe working practices when working with hazardous materials.
* 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 to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## **Selection Criteria**

#### Essential

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

1. Minimum qualification of a bachelor’s degree with honours, or an equivalent combination of qualifications and work experience, in a relevant field such as (nuclear) physics, physical sciences, or engineering.
2. Demonstrated experimental skills involving X-ray and gamma-ray measurement hardware.
3. Good theoretical understanding of physics concepts particularly in the areas of nuclear and/or X-ray physics.
4. Demonstrated ability to design and independently deliver assigned research project objectives and report outcomes within a specified timeframe.
5. Good communication and interpersonal skills, including working constructively with research scientists, engineers, support staff and/or client personnel.
6. Familiarity with Python or other scripting/programming languages.
7. Demonstrated ability to undertake original, creative and innovative research and experiments by generating and pursuing novel ideas & solutions to scientific research problems.

## **Desirable**

1. General electronics knowledge.
2. Experience in X-ray imaging and image reconstruction techniques.
3. Experience with GAA and usage of LINACs.
4. Any experience with Photo-multiplier tubes, silicon drift detectors, X-ray tubes, scintillators, signal processing or flat panels for X-ray imaging is a plus.

## **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.

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 Clearance or equivalent. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* The successful candidate will be required to obtain and maintain an ANSTO security clearance to be allowed to enter CSIRO Lucas Heights site that is located at ANSTO.
* The successful candidate must be willing and able to travel within Australia and overseas for periods of 2-4 weeks at a time, and participate in field trials in remote locations.

## **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:

* People First
* Further Together
* Making it Real
* Trusted

Find out more about CSIRO [Mineral Resources](https://www.csiro.au/en/Research/MRF)