# Position Details

## Research Projects- CSOF4

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| The following information is for applicants | |
| Advertised Job Title | X-Ray Physicist/Scientist |
| Job Reference | 71045 |
| Tenure | Specified Term of 3 years (Full-time) |
| Salary Range | AU$83,687 to AU$94,679 pa + up to 15.4% superannuation |
| Location(s) | Lucas Heights (Sydney), 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 | Team Leader |
| Client Focus – Internal | 75% |
| Client Focus – External | 25% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Brianna Ganly via email at: Brianna.Ganly@csiro.au |
| 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. |

### Role Overview

CSIRO’s Mineral Resources’ X-ray Technologies Group are looking to appoint an X-ray Physicist/Scientist to work in the Lucas Heights laboratory located on the southern edge of Sydney. The group develops X-ray analysis systems through basic research, laboratory experiments and the development of prototypes through to market ready systems. The X-ray Physicist/Scientist will perform research to support and develop novel X-ray based on-line instruments to solve a range of challenging, real-world problems in the mining industry, such as the rapid measurement of elements and minerals in ores. The X-ray Physicist/Scientist will also contribute to existing projects related to the on-line analysis of mineral slurries.

The position offers considerable variety, tackling scientific, engineering and logistical challenges. The X-ray Physicist/Scientist is encouraged to use or develop their own skills and expertise to contribute to existing projects and to contribute to new capability development in the X-ray research area. The position will suit a person with an excellent understanding of physics concepts, interested in working in developing ideas to move from the laboratory to industry applications.

### Duties and Key Result Areas:

* Contributing to the development of new methodologies to measure elements and minerals using X-ray or allied spectroscopies.
* Using skills in X-ray measurement and analysis, such as assembly of X-ray equipment including X ray tubes and detectors, to support the development of new measurement methods.
* Using deep knowledge of experimental physics to prototype and develop novel analysers.
* Developing software for controlling laboratory prototype equipment.
* Managing scientific projects with industrial clients in the analysis of mineral samples.
* Assessing prototypes in field trials at mineral plants.
* Taking significant responsibility in experimental design and execution.
* Contributing to existing projects relating to mineral slurry measurement, including potential client interfacing duties.
* Using computer modelling to validate experimental results.
* Exploring opportunities for sensing methodology and technology improvements.
* Taking part in technology field trials in Australia and overseas.
* Other duties as directed.

## **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 relevant Masters’ Degree or equivalent experience in Physics, Physical Sciences or Engineering.
2. Excellent experimental and measurement skills and an expert-level understanding of a spectroscopy.
3. Demonstrated ability to independently deliver assigned research project objectives and report outcomes within a specified timeframe.
4. Good communication and interpersonal skills, including working constructively with research scientists, engineers, support staff and/or client personnel.
5. Interest in applying scientific problem solving and research to solve practical problems in industry.
6. Strong working knowledge of Python software or other programming languages, to support data analysis.
7. Willing and able to travel within Australia and overseas for periods of 2-4 weeks at a time, and to participate in field trials in remote locations (COVID-19-permitting).

## **Desirable:**

1. Experience in X-ray spectroscopy and understanding of interactions of X-rays with matter.
2. General electronics knowledge.
3. Experience in writing code to interface with hardware.

Special Requirements

Appointment to this role will be subject to the following condition:

* The successful candidate will be asked to pass the ANSTO security clearance.

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