# Position Details

## Research Projects- CSOF4

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| The following information is for applicants |
| Advertised Job Title | Photonics Research Engineer for Mine Sensing Applications |
| Job Reference | 92498 |
| Tenure | Specified Term of 3 years Full-time, 73.5 hours |
| Salary Range | AU$89,680- AU$101,459 per annum plus, up to 15.4% superannuation |
| Location(s) | Brisbane - Pullenvale |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens, Australian Permanent Residents and temporary visa holders with unrestricted work rights for the duration of the three-year term.
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| Position reports to the | Research Team Leader |
| Client Focus – Internal | 75% |
| Client Focus – External | 25% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Karsten Hoehn via email at karsten.hoehn@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 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).

**Child Safety**

CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy)

### 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.

This posting is to hire a Photonics Research Engineer to support the Mining program at the Queensland Centre for Advanced Technologies. This position will be focused on development activities for next generation and custom photonics sensing technologies, including distributed fibre optic sensors and silicon photonics-based sensors.

 This position will require hands-on simulation, design, processing, inspections, testing, packaging, and development of novel sensor systems within the CSIRO optics labs as well as trialling prototype sensor systems at mine sites under harsh environmental conditions.

### Duties and Key Result Areas

* Creation of new photonics devices and sensing technologies from conceptualization, to simulation, design, process development, integration, testing, and delivery of hardware.
* Interacting with customers or development partners to understand the specific requirements of a project and to update on challenges, risks, and progress
* Coordinating with vendors such as foundries, packaging, and any outsourced processes
* Under general direction, contribute to research and/or technology through the development of original and adapted experimental methods, equipment or software.
* Make significant contributions to the interpretation and communication of research or technological results and collaborate on drafting presentations to, and/or detailed written reports for, clients and the scientific and/or technology community.
* 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.
* 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. Relevant master’s degree, PhD or equivalent relevant work experience in Photonics or relevant field, preferably with a focus on sensing
2. Background in modelling or device physics of photonic devices, specifically silicon or III-V photonics (Lumerical, COMSOL)
3. Familiarity with IC layout and verification tools (Luceda IPKISS, KLayout, Cadence, Mentor Graphics, Synopsys)
4. Demonstrated hands-on problem solver

## **Desirable**

1. Integration experience with non-CMOS technologies (MEMS, sensors, photonics, etc.)
2. Experience in embedded computer programming, IoT sensors, and distributed fibre optic sensors

## **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.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) Find out more about CSIRO [Mineral Resources](https://www.csiro.au/en/Research/MRF) for more information.

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