# Position Details

## Research Projects- CSOF4

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| The following information is for applicants | |
| Advertised Job Title | Photonics Packaging Engineer |
| Job Reference | 99964 |
| Tenure and work schedule | Specified Term of 30 months  Full-time  *We will explore options for flexible work arrangements based on needs of the role and individual circumstances.* |
| Salary Range | AU$96,811 – AU$109,527 per annum (pro-rata for part-time) plus up to 15.4% superannuation |
| Location(s) and office arrangements | Brisbane (Pullenvale), QLD |
| 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, Distributed Mine Sensing Team |
| Client Focus – Internal | 60% |
| Client Focus – External | 40% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Matt van de Werken, Team Leader – Distributed Mine Sensing Team, via email at [matt.vandewerken@csiro.au](mailto:matt.vandewerken@csiro.au) |
| Support and workplace adjustments | We offer a range of reasonable supports and workplace adjustments. Please let us know via email [Vicki.Ferrar@csiro.au](mailto:Vicki.Ferrar@csiro.au) (Vicki Ferrar – Talent Acquisition Partner) if we can help you to equitably participate in our recruitment process or the role itself. |
| How to apply | Apply online at <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  We encourage you to reach out if you require any support or experience difficulties when applying – please email [careers.online@csiro.au](mailto:careers.online@csiro.au) |

**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).

**About CSIRO**

As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology. Many of our iconic innovations were once considered impossible until someone, just like you, joined us and took on the challenge.

As one of the world’s largest multidisciplinary mission-driven research organisations, we are focused on the issues that matter the most: for our quality of life, for the economy and for our environment. We believe diverse teams are more effective and deliver more innovative outcomes. When we all focus on the big things that really matter, and work in partnership with our communities and [Indigenous Australia](https://www.csiro.au/research/indigenous-science), Australian science and technology can solve seemingly impossible problems and create new value for all Australians. Visit [CSIRO.au](https://www.csiro.au/) for more information.

### 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.

As a key member of the Distributed Mine Sensing Team within the Sustainable Mining Technologies research program, the successful candidate will play a vital role in advancing photonic packaging technologies to support both the Sustainable Mining Technologies Program and the Queensland Advanced Photonics Packaging Facility, based at the Queensland Centre for Advanced Technologies (QCAT).

Working collaboratively within a multidisciplinary environment, the candidate will contribute to the development of photonic packaging processes, optical coupling strategies, and manufacturing methods optimised for performance, reliability, yield, and cost. This hands-on role requires expertise in cleanroom operations, optical assembly using active and passive alignment techniques, fibre-to-chip coupling, and semiconductor packaging methods such as wire bonding and flip-chip assembly. The candidate will also support the development of experimental methods, perform optical and thermal simulations, and assist in trialling photonic sensor prototypes in both laboratory and field environments.

Beyond technical contributions, the position involves active collaboration with internal teams and external industry partners to drive joint development projects and support the translation of research outcomes into practical, scalable solutions. Through this work, the candidate will contribute to CSIRO’s mission to create a safer, more sustainable, and technologically advanced resources sector, while strengthening the broader Queensland photonics ecosystem.

### Duties and Key Result Areas

* Contribute to the development of low-loss, low-cost, scalable photonic chip packaging solutions.
* Design and develop new packaging processes and assembly approaches for silicon photonic chip system specifications.
* Operate electrical wire bonders, two-photon polymerisation lithography instruments, and die bonders/optical assembly instruments in a cleanroom environment.
* Maintain cleanroom facilities and equipment in line with best practices, safety, and quality standards.
* Contribute to the development and implementation of standardized validation methodologies for fibre-coupled photonic chip packages.
* Design and develop heterogeneous integration (HI) assembly processes for seamless photonic and electronic integration at the chip level.
* Perform Multiphysics modelling and simulations to optimize thermal, mechanical, and optical performance of integrated photonic assemblies using Ansys Lumerical and ZEMAX.
* Collaborate with partners across the Queensland photonics ecosystem to drive joint development projects and strengthen strategic relationships.
* Communicate research outcomes and technical findings through presentations and detailed written reports for internal teams, clients, and stakeholders.
* Work collaboratively as part of a multi-disciplinary, regionally dispersed research team to carry out tasks in support of CSIRO’s scientific objectives, and 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 and diversity initiatives.
* Perform other duties as directed, contributing flexibly to team and organizational objectives.

## **Selection Criteria**

#### Essential

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

1. Minimum qualification of a Master’s degree in Electrical Engineering, Physics (ideally majoring in Optics), Materials Science, Mechanical Engineering, or a related field.
2. Demonstrated experience in scientific programming (MATLAB, LabVIEW, C++, or Python).
3. Direct experience with manufacturing methods for attaching optical fibres to semiconductor chips using active and passive alignment.
4. Experience in semiconductor packaging technologies including die attach, wire bonding, flip-chip, and micro-optics.
5. Demonstrated analytical and problem-solving skills.

## **Desirable**

1. Experience with PCB Design/ CAD Design.
2. Strong background in photonics fundamentals, device/module integration, photonic device modelling (Lumerical, COMSOL, Tiny3D), and micro-optics design (ZEMAX).
3. Experience with fibre handling, fibre cleaving and measuring fibre-coupled devices.
4. Experience with Optical and electro-optical characterization and probing.
5. Experience with automated test setups for wafer/ die scale electro-optical measurements through Python or any other language and motion controllers.

## **Not sure if you meet all the criteria?**

While it is CSIRO policy that the successful candidate must meet all the essential criteria, there are many ways to demonstrate this. Don’t let the list discourage you. If you are unsure about applying, please reach out to the contact on page 1 of this document so we can discuss the role further.

## **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.

## **Setting you up for success**

We understand that not everyone works in the same way and sometimes people may require reasonable support and adjustments to perform at their best. Whether related to the recruitment process and or the role itself, this may include options such as providing different methods of communication, flexible hours or physical adjustments to work methods. If you feel comfortable, we encourage you to share any support and adjustments you may need to carry out the inherent requirements of the role. Please let us know via email [Vicki.Ferrar@csiro.au](mailto:Vicki.Ferrar@csiro.au) (Vicki Ferrar – Talent Acquisition Partner) if we can help you to equitably participate in our recruitment process or the role itself.

## **Life at CSIRO and flexible working arrangements**

We [work flexibly at CSIRO](https://www.csiro.au/en/careers/life-at-csiro/Flexible-work), offering a range of options for how, when and where you work.  We can discuss flexible work arrangements with you during the recruitment process. CSIRO also offers a range of leave entitlements, [benefits](https://www.csiro.au/en/careers/life-at-csiro/Benefits) and [career development](https://www.csiro.au/en/careers/life-at-csiro/Career-development) opportunities. To learn more, visit [Careers at CSIRO](https://www.csiro.au/en/careers).

We celebrate the uniqueness of our workforce and are committed to creating [diverse and inclusive teams](https://www.csiro.au/en/careers/life-at-csiro/Diversity-inclusion-belonging) where everyone feels they belong. CSIRO is an equal employment opportunity organisation dedicated to recruiting people based on merit, and reflecting the diversity of the community we serve. We recognise true diversity encompasses all ages, nationalities, abilities, cultures, genders, sexualities, faiths, levels of education, diversity of thought and many more aspects of identity. By empowering diverse teams, our community is reflected in the solutions we create.

## **CSIRO values**

CSIRO is a values-based organisation committed to values-based leadership.

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| **Value** | **Descriptor** | **Behaviour** |
| **People first** | Our priority is the safety and wellbeing of our people. We believe in, and respect, the power of diverse perspectives. We seek out and learn from our differences. | * Respectful * Caring * Inclusive |
| **Further together** | We achieve more together than we ever could alone. We listen and collaborate, in teams, across disciplines, across boundaries. We embrace ambiguity and use discussion and persistence to generate unique solutions to complex problems. | * Accountable * Authentic * Courageous |
| **Making it real** | We do science with real impact. We thrive when taking on the big challenges facing the world. We take educated risks and defy convention. We celebrate successes and failures and leverage them to learn as we strive to be the force for positive change. | * Partnering * Cooperative * Humble |
| **Trusted** | We’re driven by purpose but remain objective. We fight misinformation with facts. We earn trust everywhere through everything we do. We trust each other and we hold each other accountable. Together our actions drive Australia’s trust in CSIRO. | * Curious * Adaptive * Entrepreneurial |

## **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).

Special Requirements

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

* The successful candidate will undertake a pre-employment background check. 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 undertake a pre-employment medical examination prior to commencement.