# Position Description

## Research Projects – CSOF4

The following information is for applicants

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| Advertised Job Title**:** | Optical Satellite Systems Engineer |
| Job Reference: | 62441 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Percentage of Client Focus - Internal: | 100% |
| Percentage of Client Focus - External: | 0% |
| Reports to the: | Team Leader, Optical Systems |
| Number of Direct Reports: | 0 |
| How to apply: | Please apply online at [jobs.csiro.au](https://jobs.csiro.au/) and enter the requisition number**.** Internal applicants please apply via ‘Jobs Central’ through the ‘People Hub’ icon Dr |
| Contact details to discuss this position: | Stephen Gensemer, Senior Research Scientist, Optical Systems via email or phone: [Stephen.Gensemer@csiro.au](mailto:Stephen.Gensemer@csiro.au) or 0424 204 031.  Adam Macleod, Team Leader via email: [Adam.Macleod@csiro.au](mailto:Adam.Macleod@csiro.au)  P*lease do not email your application directly to Stephen Gensemer or Adam Macleod. Applications received via this method will not be considered.* |
| If you have difficulty applying please contact: | Call 1300 984 220 or email [careers.online@csiro.au](mailto:careers.online@csiro.au). |

## Role Overview:

Research Projects staff in CSIRO collaborates 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. Research Projects staff may be involved in providing consulting services, science management and/or industry liaison.

CSIRO is building imaging systems for satellite launch in the coming years in support of Australia’s rapidly growing space industry. One of the key goals in the near term for the Australian space industry is to establish sovereign Earth observing capability.

The Systems Engineer will support the development of hyperspectral and high spatial resolution imaging for upcoming satellite work. The Engineer will join a team that will build up a new optics laboratory in downtown Adelaide, where the Australian Space Agency and many new space start-ups are headquartered.

## Duties and Key Result Areas:

* Support the development of hyperspectral and high spatial resolution imaging for upcoming satellite work.
* Assist in and contribute substantially to optical design of complicated optical systems, compatible with satellite deployment.
* Lead the physical fabrication, construction, assembly and testing of bespoke optical instruments, including;
  + testing of radiometric response,
  + spatial resolution,
  + spectral resolution,
  + response to thermal drift,
  + optical sensor behaviour, and
  + establish instrument specifications.
* Evaluate performance of optical instruments, highlight problems, communicate them with an interdisciplinary team across multiple locations, and initiate solutions to improve advance prototype instrument development.
* 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.
* 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.
* Provide coaching, on-the-job training and instruction to colleagues, on activities pertaining to the immediate work area and responsibilities, allocate activities, direct tasks and manage resources to meet objectives, as required.
* Adapt and/or develop original experimental methods/equipment/software/concepts/ ideas in support of existing and further research, promptly addressing where methods may not be defined and initiative is required in seeking new approaches to meet experimental and/or technological needs.
* 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, 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 plans and policies, Diversity initiatives and Zero Harm goals.
* Other duties as directed.

## Competencies:

1. **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.**
2. **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.**
3. **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.**
4. **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
5. **Independence: Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).**
6. **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:

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

1. A relevant bachelor’s degree or relevant work experience in physics, photonics, optical engineering or similar field.
2. Demonstrated understanding of imaging optics and performance of light measurement and detection systems.
3. Experience making precision measurements or performing research in an optics laboratory.
4. Strong written and communication skills demonstrating an ability to produce technical documentation. This may be demonstrated through authorship of academic publications or experience producing technical reports or whitepapers.
5. Experience using statistical methods including uncertainty analysis.
6. Familiarity with programming tools such as matlab, python, or similar for data analysis.

## Desirable Criteria:

1. Masters or Ph. D. in physics, photonics, optical engineering or closely related field
2. Substantial Experience in design, construction, or testing of satellite, airborne, or otherwise field-deployed imaging instrumentation
3. Knowledge of optical communications principles (through fibre or free-space)

## Special Requirements:

Appointment to this role may be subject to conditions including security/national police/medical/character clearance requirements.

## About CSIRO:

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Find out more about CSIRO [Manufacturing](https://www.csiro.au/en/Research/MF)