# Position Details

## Research Projects- CSOF6

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| The following information is for applicants |
| Advertised Job Title | Space Systems Engineer |
| Job Reference | 72895 |
| Tenure | Specified Term of approximately 2 years (ending 30 June, 2023)Full-time, Part-time (min 0.8 FTE) or Job-share (if circumstances permit) |
| Salary Range | AU$113k - AU$132k per annum (pro-rata for part-time), plus up to 15.4% superannuation |
| Location(s) | Marsfield (Sydney) NSW, Canberra, ACT, or Adelaide, SAOther locations may be considered |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian Citizens and Permanent Residents.
* New Zealand Citizens who usually reside in Australia.
* Australian temporary residents who are currently residing in Australia and have the right to work for the expected duration of the term (at least to end of June 2023), with no requirement for sponsorship.
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| Position reports to the | Space Technology Future Science Platform Leader |
| Client Focus – Internal | 85% |
| Client Focus – External | 15% |
| Number of Direct Reports | 0 |
| Enquire about this job | Dr Kimberley Clayfield via email Kimberley.Clayfield@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. |

### Role Overview

The Space Systems Engineer role is a new position focused on supporting the CSIRO Space Technology Future Science Platform (Space FSP). The Space FSP seeks to achieve impact through novel, multi‐disciplinary and collaborative science and engineering across Business Units in CSIRO and with external collaborators. This role supports the Space FSP by providing technical expertise on space system design and engineering on a portfolio of projects. The activities of the Space FSP span small satellite technologies, Earth observation, robotics, remote operations and resource utilisation, communications and signal processing, and space life sciences. A number of these projects will seek to achieve spaceflight readiness within two years, and will be a key focus of the Space Systems Engineer.

The Space Systems Engineer may also provide support on spacecraft design to the AquaWatch Australia Mission. CSIRO is developing AquaWatch Australia as part of its emerging Missions portfolio, in partnership with the SmartSat CRC and other organisations. The aim of this Mission is to establish an integrated ground-to-space national water quality monitoring system to provide decision-ready information to water agencies, local communities, agricultural and commercial water users.

CSIRO Astronomy and Space Science is committed to providing a safe and inclusive workplace culture and implementing initiatives to improve diversity and equity within our workplace. This role is offered on a full-time, part-time (minimum 0.8 FTE) or job share (if circumstances permit) basis.

### Duties and Key Result Areas

* Provide technical coordination and advice on space systems engineering and mission design and requirements, including regulatory requirements, for projects within the Space FSP being developed for spaceflight, and for the CSIROSat-1 project and AquaWatch Australia Mission pathfinders.
* Work with the Space FSP Leader, the Space FSP Program Manager and support staff (including an Administration Officer and staff from communications, finance, legal and business development specialties) to deliver the strategic objectives of the Space FSP, particularly in relation to achieving spaceflight readiness for a number of technologies currently under development.
* Provide technical advice on space system design to a multi-disciplinary program of discrete research projects.
* Support the Project Leaders to de-risk and deliver on the technical goals of their projects, by assisting them to design and develop technology demonstration payloads which are “flight-ready” and consistent with their project plans, contracts, schedules and budgets.
* Provide space systems engineering advice for the CSIROSat-1 CubeSat project.
* Provide support to the Space FSP Leader, contributing high-level input on strategic program development, negotiation, business development, reporting, communications.
* Apply specialist expertise to solve complex technical problems across a diverse range of projects.
* Address ill-defined problems and make critical choices between options that require knowledge of the most recent scientific and/or technological developments or novel methodologies in relation to space systems engineering.
* Maintain an awareness of trends in research, technology and cross-functional technological/scientific innovations related to space systems.
* Participate in regular project reviews through the contribution of technical expertise*.*
* Build relationships with external clients, partners and service providers to determine strategic and technical requirements, tailoring solutions to potentially conflicting requirements, and promptly correcting problems or facilitating solutions.
* Act as the primary technical interface between Space FSP Project Leaders and external launch providers and regulators.
* Negotiate work requirements with clients or project teams, ensure that client or end-user needs are met and typically have a leading role in the effective transfer of new technology to industry/community.
* Identify and adapt quickly to changes in client or project needs and changes in the external environment.
* Maintain confidentiality and appropriately manage commercially sensitive information of CSIRO and/or research or commercial partners.
* Assist in selection and establishment of new space projects in consultation with clients or CSIRO project teams, and secure necessary resources where relevant.
* Contribute to project scoping, planning and engineering design for new space projects where relevant, making significant contributions to the research or technological direction, and take responsibility for the overall technical architecture of spacecraft/payloads and the overall development plan, from initial concept definition through on-orbit operations.
* Be accountable for the quality of the results delivered.
* Lead or coordinate CSIRO’s contribution to collaborative projects involving other organisations, as required.
* Where relevant, be responsible for activities such as developing and delivering novel technologies, developing and implementing project plans, analysing, validating and reporting results within the constraints of various project plans.
* Act as a trusted advisor and demonstrate creativity to determine and anticipate client or project 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.
* Represent CSIRO in relevant internal and external activities as required, for example conferences, workshops, school visits, hosting delegations.
* Work collaboratively as part of a multi-disciplinary, regionally dispersed team to carry out tasks in support of CSIRO 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.

## **Selection Criteria**

#### Essential

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

1. Minimum bachelor-level qualifications in a relevant engineering or applied physics discipline together with at least 5 – 10 years’ experience in spacecraft engineering.
2. A technical understanding of key spacecraft subsystems and their associated components, including demonstrated expertise in at least one of the following: attitude determination and control, spacecraft electrical power systems, space-ground communications, on-orbit command and data handling, and thermal control.
3. Proven technical understanding of the space environment, orbital mechanics, and rigid body dynamics.
4. Strong knowledge and understanding relevant NASA, ESA or other international space system design standards, requirements and implementation processes.
5. Demonstrated capability to apply the Systems Engineering approach to the development of space technology/missions.
6. Excellent interpersonal skills, including high quality written and oral communication skills.
7. **A strong history of working effectively in teams.**

## **Desirable**

1. Experience working on dual-use or defence-related projects.
2. An understanding of the Australian space regulatory regime.
3. Project management experience which has successfully delivered projects to time, budget and scope.
4. Experience in external engagement and strategic relationship development to meet strategic objectives.

## **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 team as well as industry colleagues.
* **Influence and Communication:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious, proposals / ideas.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to and manages the increasing rate of organisational change by adjusting strategies, goals and priorities.

Special 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 should be willing and eligible to obtain, if required, a security clearance at the Secret (NV1) level.

This role has child safety obligations. Accordingly, the successful candidate will be required to obtain or provide evidence that they hold a working with children check prior to confirmation of appointment.

The successful candidate must be able and willing to travel approximately two-monthly, within Australia (consistent with local travel restrictions).

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [CSIRO Astronomy and Space Science](https://www.csiro.au/en/Research/Astronomy) 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:

1. People First
2. Further Together
3. Making it Real
4. Trusted