# Position Description

## Research Scientist/Engineer – CSOF5/CSOF6

The following information is for applicants

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| Advertised Job Title**:** | Research Scientist/Senior Research Scientist in Systems |
| Job Reference: | 59721 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | All Candidates |
| Percentage of Client Focus - Internal: | 50% |
| Percentage of Client Focus - External: | 50% |
| Reports to the: | Senior /Principal Research Scientist |
| Number of Direct Reports: | 0 |
| Name and Contact Details For Applicant Enquiries | Prof. Gernot Heiser  Email: [Gernot.Heiser@csiro.au](mailto:Gernot.Heiser@csiro.au) |
| Contact Details For Applying | Call 1300 984 220 or email [careers.online@csiro.au](mailto:careers.online@csiro.au). |
| 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  Please do not email your application directly to June Andronick.   Applications received via this method will not be considered by the selection panel. |

## Role Overview:

The role of Research Scientist in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO's strategies.

Within Trustworthy Systems, we aspire to world leading research excellence, underpinned by a long-term vision and driven by practical results and deployment.

The role of the Research Scientist/Senior Research Scientist in Systems is to play a lead role in securing project funds, and to develop and pursue research agendas within the context of our vision for fundamentally transforming the safety and security of computer systems for the better.

This position is initially for 3 years, with possibility of conversion to indefinite, subject to funding and strategic alignment.

## Duties and Key Result Areas:

* Pursue research to advance the state of the art in lowering the cost and time for producing high-performance, formally verified software.
* Produce high quality scientific and/or engineering papers suitable for publication in high quality international conferences and journals.
* Work effectively as part of a multi-disciplinary research team, to undertake independent scientific investigations and carry out associated tasks under the guidance of more senior Research Scientists/Engineers.
* Assist in leading research projects
* Provide coaching and on-the-job training to technical staff and students.
* 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.

**For appointment at the higher salary level (CSOF6), duties will also include:**

* Lead research projects, including the negotiation of resource requirements.
* Supervise research students

## Competencies: Do not delete

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: Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.**
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 doctorate in Computer Science in Systems, or Programming Languages or Security with a strong Systems focus.
2. A track record of publications in top Systems venues (SOSP, OSDI, NSDI, ASPLOS, EuroSys, Usenix ATC).
3. Excellent written and oral communication skills including the ability to publish research results, prepare reports and present the results of scientific investigations at international conferences and stakeholder meetings, evidenced by a **solid record of publication in top-tier conference proceedings.**
4. Strong track record of developing/improving large code bases implemented in systems languages (assembly, C, C++, Rust, Cogent).
5. Willingness and demonstrated ability of alignment with the Trustworthy Systems group’s research activities in highly robust real-world systems.
6. A record of science innovation and creativity plus the ability & willingness to incorporate novel ideas and approaches into scientific investigations.

***Additional Essential Criteria for CSOF6 Appointment***

1. Demonstrated experience in project research leadership.
2. Demonstrated experience in research student supervision.

## Desirable Criteria:

1. Strong track record in operating systems design and implementation.
2. Track record of applying formal methods or programming-language techniques to Systems security and safety.
3. Track record of improving security or safety of systems in real use.
4. Experience with one or more interactive or automated proof tool such as Isabelle, Coq, PVS, SMT solvers, model checking, Dafny, VCC.

## Special Requirements:

Appointment to this role may be subject to conditions including security/national police/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- <https://ielts.com.au/>

## About CSIRO:

We imagine. We collaborate. We innovate. To find out more visit us [online](http://www.csiro.au/)!

Find out more about the CSIRO [Data61](https://www.data61.csiro.au/)