# Position Details

## Research Projects – CSOF3

The following information is for applicants

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| Advertised Job Title**:** | Operating System Engineer |
| Job Reference: | 62229 |
| 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 Research Engineer |
| Number of Direct Reports: | 0 |
| Name and Contact Details For Applicant Enquiries | **Dr. Ihor Kuz**  Email: [ihor.kuz@data61.csiro.au](mailto:ihor.kuz@data61.csiro.au)  Phone: =61 2 9490 5882 |
| 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 Dr Kuz.   Applications received via this method will not be considered by the selection panel. |

## 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.

Operating System Engineers within Data61 develop and expand operating systems (seL4 and eChronos) and their surrounding infrastructure to bring a software platform with an unprecedented level of trust to the world. As an OS engineer, you will collaborate with researchers, external companies, and the open-source community.

## Duties and Key Result Areas:

* Under guidance, develop, maintain, and test projects and infrastructure on and around the seL4 operating system, including the static Camkes platform, dynamic user-level libraries, virtual machine managers, on a variety of ARM, x86 and RISCV hardware.
* Contribute to our growing set of documentation, tutorials and other resources for internal team members and the open-source community as a whole.
* Interact with our collaborators, including open-source, external companies and researchers, via our mailing list and other communication channels.
* Work collaboratively with colleagues as part of an agile and semi-autonomous team of OS engineers to carry out tasks in support of scientific research.
* Work collaboratively as part of a multi-disciplinary team, often regionally dispersed, including proof engineers, the broader business unit and across CSIRO to reach objectives.
* Communicate 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, Health, Safety and Environment plans and policies, Diversity initiatives and Zero Harm goals.

Other duties as directed.

## Competencies:

1. **Teamwork and Collaboration: Proactively seeks and considers the ideas and opinions of others from within and outside the team to help form decisions, plans or actions.**
2. **Influence and Communication: Puts forward ideas by presenting factual information supported by data, definitions, examples, illustrations or other aids, which will assist in conveying meaning.**
3. **Resource Management/Leadership: Provides instruction and assists other staff to complete allocated tasks and activities.**
4. **Judgement and Problem Solving:** Identifies and considers the implications of a range of available alternatives in order to select the most appropriate response to problems of a familiar or recurring nature.
5. **Independence: Recognise and makes immediate changes to improve performance (faster, better, lower cost, more efficiently, better quality, improved client satisfaction).**
6. **Adaptability:** Willingness to change ideas or perceptions based on new information, contrary evidence or other people's points of view. Prepared to try out different approaches.

## Essential Criteria:

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

1. Experience in Computer Science, Mathematics, Electrical Engineering, or similar*.*
2. Programming experience in low-level, unmanaged languages (C, assembler).
3. Programming experience in scripting languages.
4. Experience with current engineering practices including version control, continuous integration, issue tracking and code review.
5. Basic knowledge of operating systems and concepts (virtual memory, process management, etc).
6. The ability to understand current research in computer science.
7. Demonstrated ability to tackle complex problems.
8. The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out tasks autonomously in support of scientific research.
9. Demonstrated ability & willingness to contribute novel ideas and approaches in support of scientific investigations.

**Desirable Criteria:**

1. Relevant Bachelors/Masters Degree &/or equivalent experience in Computer Science, Mathematics, Electrical Engineering, or similar.
2. The ability to read and program assembler or to learn it quickly.
3. Experience writing or porting device drivers in an operating system environment.
4. Programming experience in functional languages (Rust, Haskell, ML, Erlang)
5. Experience working in an agile team.
6. Familiarity with software verification.

## 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/)