# Research Projects – CSOF5

Role summary for potential applicants

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| Advertised Job Title**:** | Full stack developer |
| Reference Number**:** | 57466 |
| Classification**:** | CSOF5 |
| Salary Range: | AU $97,276 to AU $105,269 plus up to 15.4% superannuation |
| Location**:** | Black Mountain, ACT |
| Tenure: | Specified Term of 3 years and 6 months |
| Relocation assistance**:** | Will be provided to the successful candidate if required. |
| Applications are open to: | Australian/New Zealand Citizens and Australian Permanent Residents Only |
| Functional Area**:** | Research Projects |
| % Client Focus - Internal: | 20% |
| % Client Focus - External: | 80% |
| Reports to the: | Team Leader |
| Number of Direct Reports: | 0 |

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| **Role Overview:** |
| We are seeking a qualified Software Engineer to expose the research team’s state-of-the-art computational simulation platform in customer-facing software applications.The DYMEX simulation system has been developed within CSIRO over several decades as a powerful tool to model the population dynamics of organisms, such as pest species, in response to environment conditions. We are now seeking to integrate some of those models with pest surveillance data and weather projections to provide real-time assessment of the risks of pest outbreaks. We are seeking a full-stack developer to assist with automating the procedure of applying DYMEX models to incoming data streams, and displaying the summarised results on a dashboard to allow rapid assessment of the current and projected status of pest populations. It is anticipated that the CSIRO-developed Workspace and Senaps platforms will provide the basis for the overall workflow and infrastructure. This work is part of a larger project examining better ways to collect pest data and provide up-to-the-minute information to stakeholders in agricultural and horticultural production systems. Within CSIRO, this project involves three business units: Agriculture & Food, Health & Biosecurity and Data61.The role of Research Projects staff in CSIRO is to collaborate in scientific activities with other research staff usually by assisting with detailed planning, undertaking or assisting with experimental and observational work, and in carrying out the more practical aspects of the work. At senior levels, Research Projects staff may be involved in providing consulting services, science management and/or industry liaison.  |

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| **Duties and Key Result Areas:** |
| * Elicit and analyse customer requirements, and develop automated workflows using CSIRO’s Senaps platform to use pest surveillance data and weather projections to inform DYMEX models.
* Design a “dashboard” to interface with the software and display status reports from the results of model runs.
* Translate the software interface into a web-based system.
* Modify the DYMEX software (C++) as needed to facilitate these workflows.
* Think independently, act quickly and refocus following change.
* Communicate effectively and respectfully with all staff, clients and suppliers in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Work as part of a multi-disciplinary, regionally dispersed research and development team, to carry out tasks autonomously in support of scientific research.
* Work collaboratively with colleagues within your team, the business unit and across CSIRO, to reach objectives.
* Choose appropriate management strategies and communication styles to maintain high levels of motivation and productivity, give feedback for development purposes and provide support and direction for improvement, as required.
* Adapt and/or develop original software in support of existing and further research.
* 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.
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| **Selection Criteria:** |
| *Under CSIRO policy only those who meet all essential criteria can be appointed****Pre-Requisites:***1. **Education/Qualifications:** Arelevant tertiary degree (e.g. computer science, software engineering, physics or mathematics), or equivalent working experience.
2. **Communication:** High-level communication skills, both written and oral, including the ability to anticipate the interests and knowledge level of an audience and present information and feedback accordingly.
3. **Behaviours:** A history of professional and respectful behaviours and attitudes in a collaborative environment.
4. **Adaptability:** The ability to effectively manage a number of competing priorities simultaneously, and carry out non-routine tasks independently.
5. **Problem Solving:** Proven ability to investigate underlying issues of complex and ill-defined problems and develop appropriate responses by adapting/creating and testing alternative solutions**.**

***Essential Criteria:***1. Solid engineering and software coding skills, with experience writing production quality code, preferably with 3 or more years of experience.
2. Demonstrated proficiency in C++.
3. Demonstrated proficiency in web-based user interface design, including prerequisite technologies such as Javascript/HTML/CSS.
4. Demonstrated proficiency in the use of version control and defect tracking systems.
5. Familiarity with developing and using REST APIs.

**Desirable Criteria:**1. Proficiency in Python.
2. Proficiency in use of Docker.
3. Familiarity with GIS systems.
4. Familiarity with relational database systems.
5. General understanding of insect development and horticulture.

**As Australia’s Innovation Catalyst, CSIRO has strategic actions underpinned by behaviours aligned to**:* Excellent science
* Inclusion, trust & respect
* Health, safety & environment
* Delivery on commitments.

**In your application and at interview you will need to demonstrate alignment with these behaviours.*****Special requirements:***Appointment to this role may be subject to conditions including security/medical/character clearance requirements. Applicants who are not Australian Citizens or Permanent Residents may be required to undergo additional security clearance processes; which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- <http://www.ielts.org/default.aspx> |

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| **Other Information:** |
| **How to Apply**Please apply for this position online at <https://jobs.csiro.au/> and enter requisition number **57466**. Internal applicants please apply via ‘Jobs Central’ in SAP (click ‘Recruitment’) Please load your CV (Maximum 2MB). You may also be required to respond to some screening questions.  If you experience difficulties applying online call 1300 984 220 for assistance. Outside Australian business hours please email: careers.online@csiro.au. **Referees**: Please provide contact details of two previous supervisor or academic/professional referees in your resume/CV. We will ask your permission before making contact. **Contact:** If after reading the position details above you require more information please contact: **Dr Darren Kriticos**via email: Darren.Kriticos@csiro.au or phone: **+61 2 6246 4252**Please do not email your application directly to Dr Kriticos. Applications received via this method may not be considered by the selection panel.**About CSIRO**Australia is founding its future on science and innovation. Its national science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a powerhouse of ideas, technologies and skills for building prosperity, growth, health and sustainability. It serves governments, industries, business and communities across the nation. Find out more! [www.csiro.au](http://www.csiro.au). We work flexibly at CSIRO, offering a range of options for how, when and where you work. Talk to us about how this role could be flexible for you. Find out more! [CSIRO Balance](https://www.csiro.au/en/Careers/A-great-place-to-work/Work-life-balance) **CSIRO Health and Biosecurity** Working with our partners, we're assembling strong multidisciplinary research teams to tackle major national and international health and biosecurity challenges. In doing so we're protecting the health of our farming sector, environment, people, and our way of life. |