# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants |
| Advertised Job Title | Research Scientist (GHG modeller) |
| Job Reference | 97518 |
| Tenure | Specified Term of 3 years Full-time  |
| Salary Range | AU$110,038 to AU$119,080 pa + up to 15.4% superannuation |
| Location(s) | Canberra, ACT (preferred, other locations can be considered) |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * All Candidates
 |
| Position reports to the | Team Leader Accounting & Function |
| Client Focus – Internal | 20% |
| Client Focus – External | 80% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Senani Karunaratne via email at senani.karunaratne@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. |

### Acknowledgment of Country

CSIRO acknowledges the Traditional Owners of the land, sea and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

**Child Safety**

### CSIRO is committed to the safety and wellbeing of all children and young people involved in our activities and programs. View our [Child Safe Policy](https://www.csiro.au/en/about/policies/child-safe-policy).

### Role Overview

### Contributing to research within CSIRO Agriculture and Food, this role supports sustainable transformation in Australia's food and fibre industries and informs the global response to climate change and soil security for sustainable food systems.

### As a Research Scientist within the Footprints & Credentials Group, you will use your skills in spatial and temporal greenhouse gas (GHG) modelling to address national and global challenges in sustainable land management and develop scalable observation systems. With a focus on landscape-scale carbon and GHG accounting, you will collaborate with CSIRO, government, and industry partners to develop new tools and metrics to inform monitoring and accounting frameworks. You will also benefit from a range of career development opportunities within Australia’s national science organisation.

### The role of the Research Scientist at CSIRO involves conducting innovative research leading to scientific achievements aligned with CSIRO’s strategies. You may engage in activities ranging from fundamental research to investigating specific industry or community problems. You will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership, and pursue new ideas and approaches that create new concepts.

### As a core part of the team working on Australia's national land sector greenhouse gas model improvement project and next-generation GHG model development project, the Research Scientist will contribute to GHG modelling and accounting. The focus will be on using a suite of process-based models to quantify the dynamics of GHGs across the Australian continent, considering both above- and below-ground dynamics.

### Duties and Key Result Areas:

* Conduct innovative research in landscape-scale GHG modelling and accounting using process-based model/s that incorporate original concepts and adapt to new application contexts to further CSIRO's research standing in sustainable land management.
* Design and lead improvement and development of sub-components of Australia’s national land sector greenhouse gas model, FullCAM, and next-generation GHG and nutrient model development.
* Perform process-based model testing, calibration, validation, true-up, and model uncertainty assessment.
* Undertake regular reviews of relevant literature and patents.
* Participate and contribute to engagement with peers and key stakeholders to obtain feedback and guidance on the project and ensure outputs produced are not only scientifically sound but also 'fit for purpose' and therefore impactful in terms of having large uptake.
* Engage with industry to secure research funding by understanding stakeholder needs through client liaison/networking and identifying and adapting to changes.
* Produce high-quality scientific papers suitable for publication in quality journals and presentation at national and international conferences.
* Represent CSIRO externally at scientific, industry and Government events, and at public forums, acting as a trusted advisor, providing advice to policy makers, and transferring knowledge to scientific and non-scientific audiences.
* 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.
* 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.
* Work collaboratively as part of a multi-disciplinary, geographically dispersed, research team to carry out tasks in support of CSIRO’s scientific objectives.
* Other duties as directed.

## **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 teams as well as industry colleagues.
* **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.
* **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.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate response by adapting/creating and testing alternative solutions.
* **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.
* **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**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed. Please ensure that your application demonstrates in writing how your research experiences and outputs support each of the selection criteria.*

1. A doctorate in a relevant discipline area, such as GHG modelling, process-based modelling and model integration, environmental engineering, ecology
2. Simulation modelling (process-based): Demonstrated competency in the use of GHG and nutrient biogeochemical cycling models with experience in applications in both quantification of above- and below-ground dynamics (e.g., FullCAM/RothC, LPJ-GUESS, ORCHIDEE, APSIM, etc.), model calibration, uncertainty assessment and their application considering different spatial and temporal supports to inform sustainable land management practices and accounting frameworks.
3. Scientific programming: Demonstrated experience and excellent skills in programming, including (but not limited to) R, Python, and/or Fortran, MATLAB and data manipulation (FAIR principles), and the ability to use high-performance computing (HPC) facilities.
4. Cutting-edge research: A clear record of scientific innovation and creativity, including the ability and willingness to incorporate novel ideas and approaches into scientific investigations.
5. Publication record and research network: A strong publication record of high-quality research outputs in international journals, reflecting enduring national and international research networks.
6. Effective teamwork and time management: Ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.

**Desirable:**

1. Demonstrated experience and skills in modern data science (statistical/machine learning analysis).
2. Ability to remain productive, positive and resilient in complex, ambiguous and/or uncertain environments.
3. A current Australian driver's licence or the ability to obtain an Australian drivers' licence.

**Special Requirements**

Appointment to this role is subject to provision of a pre-employment background check and may be subject to other security/medical/character clearance requirements.

* The successful candidate will undertake a pre-employment background check. Please note that individuals with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* If the successful candidate is not an Australian Citizen or Permanent Resident, they 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 solve the greatest challenges through innovative science and technology. Visit [CSIRO Online](http://www.csiro.au/) and [Agriculture and Food](https://www.csiro.au/en/Research/AF) 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:

* People First
* Further Together
* Making it Real
* Trusted