# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Research Scientist in Quantitative Pest Management (Feral Vertebrate Ecology and Control) |
| Job Reference | 70485 |
| Tenure | Specified Term of 3 years |
| Salary Range | AU$98 735 to AU$106 848 pa (pro-rata for part-time) + up to 15.4% superannuation |
| Location(s) | Australian Tropical Sciences and Innovation Precinct (ATSIP) Townsville, QLD |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian/New Zealand Citizens and Australian Permanent Residents * Australian temporary residents currently residing in Australia with full work rights for the length of the term without the need for sponsorship by CSIRO. This does not include bridging and other visas which are dependent on the successful approval of future visas. |
| Position reports to the | Team Leader (Adaptive Biosecurity Management) |
| Client Focus – Internal | 20% |
| Client Focus – External | 80% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Andrew Hoskins via email at [Andrew.Hoskins@csiro.au](mailto:Andrew.Hoskins@csiro.au)  *Please do not email your application directly to Andrew Hoskins. Applications received via this method will not be considered.* |
| 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](mailto:careers.online@csiro.au) or call 1300 984 220. |

### Role Overview

The role of Research Scientist Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. You may be engaged in scientific activity ranging from fundamental research to the investigation of 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.

The Research Scientist in Quantitative Pest Management will join the Managing Invasive Species and Diseases program, as a member of the Adaptive Biosecurity Management team. The role will undertake innovative research into the ecology and management of large feral vertebrates (pigs, buffalo and cattle) to enhance our capability to limit the economic, environmental and social impacts of these species. Based in Townsville, the role will primarily undertake research which delivers into a large, multi-organization project that will develop enhanced outcomes for the efficient management of large feral vertebrates on Indigenous properties in remote Northern Australia. Currently, Indigenous communities gain little benefit from the management of feral herds on their lands, rather these herds damage biodiversity, cultural assets, water resources and ground cover.

Working with CSIRO scientists, university partners (James Cook University and Charles Darwin University), four Indigenous organizations (NAILSMA, Aak Puul Ngantam, Mimal Land Management and South Cape York Catchments) and global satellite communications company, Kineis, the Research Scientist in Quantitative Pest Management will help to develop the next generation of land management tools by integrating large scale animal tracking datasets, high resolution environmental mapping and anthropogenic accessibility data to optimize animal management activities through space and time. This position will involve working in remote northern Australia with Indigenous ranger groups and other stakeholders to co-develop research products that support better informed feral animal management strategies.

### Duties and Key Result Areas

* Under the direction of senior research scientists, develop novel analytical pipelines for the enhanced management of large feral vertebrates in Northern Australia.
* Contribute to the development and application of science which underpin next-generation land management tools and apply these into Indigenous Land Management systems.
* Work with internal and external stakeholders to co-develop research products that support better informed feral animal management strategies.
* Contribute to the development of the next generation of land management tools by integrating large scale animal tracking datasets, high resolution environmental mapping and anthropogenic accessibility data to optimize animal management activities through space and time.
* Build analytical pipelines to translate near real-time animal movement data into dynamic predictions of herd abundance, movement and connectivity through space and time.
* Assist project partners in large scale deployments of animal tracking equipment at sites in Northern Australia.
* Contribute to the integration of multi-modal environmental, ecological and anthropogenic data streams into feral herd management scenario tools, including the cost vs benefits of different management strategies, to support on-ground decision making.
* Assist in the development of interactive planning tools which translate analytical outputs into easily interpreted end-products for use by non-scientific stakeholders.
* Maintain confidentiality when dealing with commercially sensitive information.
* Select the most profitable line of attack upon a problem, prepare detailed research and design proposals and experimental protocols.
* Draw on professional expertise, knowledge of other disciplines and research experience to recognise opportunities for innovation and generate new theoretical perspectives by pursuing new ideas/approaches and networking with scientific colleagues across a range of disciplines.
* Participate in identification of further opportunities which arise from their research and may initiate new lines of research.
* Apply discretion to decide and implement strategies appropriate to the successful completion of their work.
* Liaise with clients to determine their needs and take personal responsibility for client satisfaction.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Address problems promptly and in a constructive manner.
* Undertake experimental and/or observational research activities and may supervise and/or train others to ensure experiments are established in accordance with research design.
* 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, regionally dispersed research team to carry out tasks in support of CSIRO’s scientific objectives.
* Adhere to the spirit and practice of CSIRO’s Values, Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* 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 responses 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 change.

## **Selection Criteria**

#### Essential

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

1. A PhD (or an equivalent combination of qualifications and research experience) in a relevant field such as invasion biology, quantitative ecology, applied mathematics, statistics, data science.
2. Demonstrated expertise in developing novel statistical and/or machine learning techniques for addressing complex spatially-explicit problems in ecology or invasive species management.
3. Proven expertise in scientific computing languages such as R and Python.
4. Demonstrated experience working with spatiotemporal data-streams.
5. Strong written and oral communication skills including the ability to write reports and make scientific presentations to audiences with scientific and non-scientific backgrounds.
6. Demonstrated ability to cultivate productive working relationships with internal and external stakeholders.
7. Demonstrated ability to undertake original, creative and innovative research by generating and pursuing novel ideas and solutions to scientific research problems.
8. A demonstrated publication history of authorship on scientific papers in peer reviewed journals and/or reports, grant applications or inventorship on patent applications.
9. A current driver’s licence.

## **Desirable**

1. An ability to transform complex, multi-model data-streams into easily interpreted end products for communication to non-scientific stakeholders
2. Expertise in High Performance and/or cloud computing systems
3. Experience working within Northern Australian land management systems.
4. Demonstrated interest in invasive species management and/or biosecurity science
5. Experience of working with animal movement and behaviour datasets.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

* The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people 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/
* Travel: The willingness and ability to travel throughout Australia and internationally, which will require occasional extended trips away from home and occasional weekend work.

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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

Find out more about CSIRO [Health and Biosecurity](https://www.csiro.au/en/Research/BF)