# Position Description

## Research Projects – CSOF3

The following information is for applicants

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| Advertised Job Title**:** | Diagnostic Scientist Next-Generation Sequencing |
| Job Reference: | 61233 |
| Relocation Assistance**:** | Will be provided to the successful candidate if required. |
| Applications Are Open To: | Australian Citizens Only |
| Percentage of Client Focus - Internal: | 50% |
| Percentage of Client Focus - External: | 50% |
| Reports to the: | Team Leader, Agent Characterisation |
| Number of Direct Reports: | 0 |
| 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  |
| Contact details to discuss this position: | Dr Frank Wong, frank.wong@csiro.au (03) 5227 5000*Please do not email your application directly to Dr Wong. Applications received via this method will not be considered.* |
| If you have difficulty applying please contact: | Call 1300 984 220 or email csiro.online@csiro.au between 8.30 am and 5 pm Australian east coast time. |

## 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 laboratory-based activities.

The Diagnosis, Surveillance and Response Program at the Australian Animal Health Laboratory (AAHL) provides diagnostic and research capability required to investigate and respond to high impact and newly emerging diseases affecting livestock and other animals, including zoonotic agents. The molecular diagnostic scientist will play a key role in delivering diagnostic sequencing services as part of the Molecular Diagnostics and Agent Characterisation Teams at AAHL.

Molecular diagnostics underpin AAHL’s front-line routine and Emergency Animal Disease (EAD) diagnostic capability and encompass both PCR and state-of-the-art DNA sequencing methodologies. The Research Technician will be based in the microbiologically secure diagnostic sequencing laboratory. The primary focus will involve the day-to-day operation of the Illumina MiSeq and other Next-Generation Sequencers (NGS) for delivery of quality assured diagnostic services. The Research Technician will contribute to the evaluation and refinement of sequencing protocols, and to application-specific viromic or metagenomics pipelines for animal disease investigations and pathogen characterisation. In addition, the Technician will undertake after-hours diagnostic duties as required and contribute to research projects and other test development activities.

## Duties and Key Result Areas:

* Work within PC3 laboratories to perform DNA sequencing and molecular testing under NATA/ISO 17025 accreditation for routine and emergency disease investigation, for commercial clients, and for Reference Laboratory activities.
* Cross-train and participate in a range of technical activities within the AAHL Agent Characterisation Team, as well as contribute to laboratory house-keeping and maintenance activities.
* Contribute to QA requirements, including reporting test results, maintaining up-to-date and accurate test records, annual updates of Standard Operating Procedures and proficiency testing.
* As required, work independently or collaboratively with colleagues on assigned research and development activities, including experimental design, implementation and timely completion of this work.
* Assist the team leader and veterinary investigation team by providing oral and written advice upon request.
* Contribute to the effective functioning of the AAHL molecular diagnostic teams and sequencing laboratory and other diagnostic teams in the Diagnosis, Surveillance and Response Group, to meet Annual Performance Goals and other objectives as advised by line management.
* Respond courteously and efficiently to client requests, maintaining clear communication regarding mutual expectations and monitoring client satisfaction.
* Undertake and complete tasks under technical direction, working with discretion to decide on the timing of operations within the work team’s plan and planning ahead to meet experiment and/or project demands.
* Under technical direction undertake experiments, laboratory analyses or technology development activities (some non-routine) using a range of techniques, often working on a number of parallel and competing tasks.
* Oversee the activities of less experienced staff and provide guidance on experimental/ technological techniques and protocols.
* Design new processes or apparatus by adapting existing techniques and components to meet special circumstances or undertake modifications to methods requiring some innovation.
* 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.

## 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.

## Selection Criteria:

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

1. Bachelor of Science (Hons) degree or equivalent experience in Biological Sciences or a related discipline.
2. Demonstrated knowledge and technical skills in relation to processing RNA and DNA samples and template libraries for Next-Generation Sequencer (NGS) sequencing using one of the currently available NGS platforms.
3. Demonstrated knowledge and technical skills in relation to conventional and real-time PCR, ideally within an accredited diagnostic laboratory environment.
4. Ability to work as a member of a larger project team and to form and maintain effective and respectful relationships with a range of colleagues and collaborators.
5. Good interpersonal and written and verbal communication skills including the ability to document results and communicate effectively with colleagues and clients in order to meet project goals and timelines.

## Desirable Criteria:

1. Knowledge and experience in DNA sequence analysis, including the use of software for massively-parallel sequence assembly, sequence alignments, and similarity matching analysis.
2. Knowledge and experience with phylogenetics or systematics software and analysis including the application of ML and/or Bayesian methods.
3. Experience with LIMS (Laboratory Information Management System).

## Special Requirements:

**Security Assessment and Microbiological Security Requirements for Personnel Working on the Australian Animal Health Laboratory (AAHL) Site:**

1. Rostered duties and after hours work will be required.
2. The nature of our work requires that each person working on site must comply with the conditions described below.
3. The appointee is required to pass a security clearance at a level appropriate to duties of the position. Confirmation of the appointment is subject to obtaining that clearance.
4. It is essential that all work on exotic or emerging diseases carried out at AAHL is conducted in a safe manner to prevent the escape of the disease agents used, and to this end, all activities and personnel will be subject to appropriate microbiological security measures. Consequently, while working at AAHL, you may not reside on a property on which are kept any of the following animals: sheep, cattle, pigs, goats, horses, asses, mules and camelids, any other cloven-hoofed animal, fowls, turkeys, geese, domestic ducks, caged birds, emus or ostriches. Personnel working with diseases of aquatic animals may not keep aquarium fish at their place of residence and personnel working with cane toad material must avoid contact with amphibians.
5. In addition, for a period of seven days after working in the microbiologically secure area of AAHL, personnel may not have close contact with any of the above animals, amphibians or birds or the actual places where these animals are held, or visit any aquatic animal farm or aquatic animal hatchery.
6. Working in the barrier maintained Small Animal Facility requires avoidance of additional animals such as mice, rats, guinea pigs, rabbits and poultry 3 days prior to arrival.
7. It is usual practice in laboratories where work with infectious disease agents is carried out, to collect a blood sample from personnel and store serum for future reference. This is a safety precaution, so that if any person becomes ill in the future, serum samples are available for testing.
8. Certain positions will require medical assessment and vaccinations against various agents.
9. Positions working at PC4 will also require a psychological assessment.
10. Given AAHL’s role in the International Regional Program, there will be a requirement for personnel to travel internationally and therefore hold a current valid passport
11. Should an emergency response situation arise, AAHL may be required to implement the Emergency Animal Disease Response Plan and personnel will be expected to be prepared to assist with the response requirements
12. Personnel must abide by Occupational Health, Safety and Environment regulations. Safety signs and directives issued by CSIRO personnel must be complied with at all times.
13. Access restrictions apply to the Werribee Animal Health Facility (WAHF) site that is associated with, but remote from, the AAHL site.

## About CSIRO:

At CSIRO we solve the greatest challenges through innovative science and technology. See more [online](http://www.csiro.au/)!

Find out more about the CSIRO [Australian Animal Health Laboratory](https://www.csiro.au/en/Research/Facilities/AAHL)