

Position Description – Research Associate in Computational Genomics

Updated 27 August 2025

POSITION DETAILS

College	College of Science and Engineering
Organisational Unit	Biological Sciences
Supervisor	Dean, People and Resources (or Delegate)
Classification	Research (Academic) Level A
Employment Type	Fixed-term, full-time

POSITION SUMMARY

The Flinders Accelerator for Microbiome Exploration (FAME) invites applications from highly skilled bioinformatics graduates to join our team in developing next-generation computational tools for genome and metagenome analysis.

This project will leverage AI, protein language models, and structural predictions to annotate unknown proteins from phages and microbes—the so-called “viral dark matter.” The candidate will design and implement HPC-optimized pipelines, incorporating GPU programming, deep learning approaches, and large-scale data integration to process hundreds of thousands of genomes.

You will work with leading-edge methods such as ColabFold, protein embeddings (e.g., ESM, ProtT5), and advanced neural network architectures to predict protein function from structure. This position is ideal for a candidate with strong programming skills (Python, R, or C++), experience in high-performance computing, and a keen interest in AI-driven biology. Familiarity with metagenomic datasets and large-scale computational workflows will be highly valued.

The Research Associate will undertake research in Molecular Science and Technology under the direction of the Chief Investigator. In working with Chief Investigator and research team, the incumbent will assist in leading the design and execution of the research project.

The incumbent may assist in leading students involved in the research Project, according to the University's policies, practices and standards.

UNIVERSITY EXPECTATIONS AND VALUES

All staff at Flinders are responsible for understanding their obligations and responsibilities as set out in the University's code of conduct and are expected to:

- demonstrate commitment to the University's values of Integrity, Courage, Innovation, Excellence and the underlying ethos of being Student Centred;
- contribute to the efficient and effective functioning of the team or work unit in order to meet the University's objectives. This includes demonstrating appropriate and professional workplace behaviours, providing assistance to team members if required and undertaking other key responsibilities or activities as directed by one's supervisor;
- promote and support an inclusive workplace culture which values diversity and embraces the principles of equal opportunity;
- perform their responsibilities in a manner which reflects and responds to continuous improvement; and
- familiarise themselves and comply with the University's Work Health and Safety, Injury Management and Equal Opportunity policies.

KEY POSITION RESPONSIBILITIES

The Research Associate in Computational Genomics is accountable for:

- Assisting in leading the Project by collaborating with the Project Research Team to successfully deliver project milestones and Key Performance Indicators.
- Contribute to the planning and execution of research by offering new ideas, reviewing relevant literature and other sources of information, actively participating in the production of data and attending seminars, meetings and conferences.
- Contributing to the coordinating, planning and executing the project tasks required to collaborate with industry partners.
- Contributing to ethical, high quality and innovative research and evaluation through activities such as scholarship, quality publication, external grant acquisition and presentations that aligns with the College areas of research strength and focus.
- Assisting principal supervisors with supervision of postgraduate students.
- Establishing and maintaining collaborations within the University, and at State, national and international levels in order to improve research outputs, patents and publications.
- Some out of hours work (including weekends) as well as rural SA, interstate and overseas travel, may be required.
- Any other responsibilities in line with the level of the position as assigned by the Supervisor and/or the University.

A Nationally Coordinated Criminal History Check (NCCHC) which is satisfactory to the University will be required by Flinders University before the successful applicant can commence in this position.

KEY POSITION CAPABILITIES

- Completion of a PhD in Bioinformatics or significant progress towards completion of a PhD in Bioinformatics, or a related area.
- Demonstrated emerging research experience in terms of publications and presentations at a national and/or international level in a relevant field.
- Demonstrated experience in qualitative research methodology.
- Demonstrated ability to deliver project targets on time.
- Demonstrated well-developed interpersonal skills and the capacity to collaborate and engage with diverse stakeholders and industry partners.
- Demonstrated ability to critically review the literature in relevant fields.
- Demonstrated ability to undertake collaborative research and establish and maintain effective relationships with staff and industry.
- Demonstrated excellent oral and written communication skills in an academic environment.