

## POSITION DESCRIPTION

**Title of Position:** Research Bioinformatician  
(appointed as Scientist, Postdoc or Research Scientist based on qualifications and experience)

**Reporting to:** Manager Metabolomics SA

**Overview:** As part of Metabolomics SA and the Omics Accelerator team funded under the National Collaborative Research Infrastructure Strategy (NCRIS), this role is focused on building and delivering bioinformatics services, supporting applied research, and translating data from a range of omics technologies into practical outcomes for industry, SMEs, and the broader research community.

The Research Bioinformatician will identify, evaluate and adopt existing bioinformatics tools and develop new computational approaches and workflows to enhance data fusion and integrated analysis across multiple omics domains.

The Research Bioinformatician will also assist with design of research projects and service delivery to clients of Metabolomics South Australia and the Omics Accelerator at the Australian Wine Research Institute (AWRI).

The Research Bioinformatician will support outreach through: publications, presentations and posters; participation at conferences and workshops; and other activities for building and improving multi-omics capabilities across the South Australian research sector.

**Qualifications:** A PhD with a focus on computational metabolomics, bioinformatics, statistics or a related field; or a BSc or MSc in data science, software engineering, computational sciences or similar fields, with a minimum of three years' experience in relevant projects.

**Required experience:**

- Practical experience in analysis of multiple omics data types (e.g., RNA-seq, WGS/WES, ChIP-seq, ATAC-seq, proteomics, metabolomics, lipidomics).

Corner of Hartley Grove and Paratoo Road, Urrbrae  
Correspondence:  
PO Box 46  
Glenside SA 5065  
Australia

- Experience working with public databases for model organisms (e.g. NCBI, ENCODE, TCGA, Pubchem, KEGG, UniProt, LipidMaps)
- Experience with existing multiomics packages (e.g. MixOMICs, MOFA, PaintOmics4)
- Sound knowledge of statistical and machine learning methods for evaluating high dimensional data
- Proven track record of engaging in highly collaborative research across multiple disciplines. Excellent communication skills and prior publications will be viewed favourably.
- Proficient in a scripting languages such as R, python and Bash
- Strong proficiency with working in Linux/Unix environments
- Familiarity with high-performance computing (HPC) environments and cloud computing platforms
- Familiarity with a version control system such as Git
- Proficient in at least one visualization library (e.g. D3JS, ggplot, matplotlib, plotly)

**Desired experience:**

- Basic domain knowledge or interest of a biological organism or system, and/or domain knowledge in specialised analytical chemistry methods
- Expertise with proteomics data is desirable
- Familiarity with a flow control management systems (Snakemake, nextflow)
- Proficiency with SQL, and experience with RDBMS (postgres, mysql, sqlite) or NoSQL databases (MongoDB)
- Experience with AWS or Azure
- Interest in AI and cyber security

**Principal Accountabilities:**

1. Provide bioinformatics and multi-omics expertise to staff and clients of Metabolomics SA and the 'Omics Accelerator.
2. Plan, execute, complete and report projects in a timely fashion and to a standard expected by the AWRI.
3. Design, extend, and maintain scalable data aggregation pipelines, tailored tools, workflows, and databases to support omics research and translation activities.
4. As directed, extend, integrate, develop and maintain appropriate data storage and data analysis systems, new tailored tools and workflows, databases and end user documentation.
5. Collaborate with researchers and industry to design and support the bioinformatic aspects of their projects.
6. Provide training to collaborators and clients, conduct data analyses for metabolomics projects, assist in the preparation of reports and manuscripts.
7. Contribute to metabolomics systems software development projects.
8. Use best practice to record, on a daily basis, details of all coding and experimental work and details and outcomes of data processing and interpretation.
9. Maintain accurate, complete and auditable records of all activities, including reproducible workflows, code repositories, data provenance, analysis

- parameters, outputs and interpretations, in accordance with the AWRI Quality Management System (QMS) and ISO 9001 requirements.
10. Contribute to the effective operation, maintenance and continuous improvement of the QMS by complying with documented procedures, supporting documentation updates, participating in audits, and assisting with corrective and preventive actions where required.
  11. Support operational activities of the Metabolomics Australia Facility, including collaborations with nodes of Metabolomics Australia in other states, other NCRIS facilities, AWRI Commercial Services and other AWRI research teams.
  12. Assist in the development of services and the client base of the SA Metabolomics Facility.
  13. Undertake other duties as directed by the Lead Data Engineer, Manager Metabolomics SA, Research Manager - Molecular Biology, Director of Research or the Managing Director.
  14. Accept that all intellectual property, patents and discovery arising during the course of employment at the AWRI remain the property of the AWRI.
  15. Promote the general well-being of the AWRI by ensuring that all contact with clients, staff or the public is performed in a professional and confidential manner.

#### **Person Specification:**

16. Practical understanding of and experience in scientific research.
17. Ability to work and communicate successfully within a multi-disciplinary environment and across research and industry groups.
18. Ability to maintain effective working relationships and contribute positively in a team environment.
19. Superior oral and written communication skills.

#### **Workplace Health and Safety Responsibilities:**

Employees and students must take reasonable care to protect their own health and safety, and have responsibilities to:

1. Ensure that they do not increase the risk to the health, safety or welfare of others through any act or omission.
2. Obey reasonable instructions that are designed to protect their health, safety and welfare.
3. Use, in the appropriate manner, equipment that is provided to protect their health, safety or welfare.
4. Not wilfully interfere with, or misuse, items or facilities provided in the interest of health, safety or welfare of employees.
5. Ensure that they are not affected by alcohol or any other drug to such an extent that they endanger themselves or others.
6. Report promptly, any hazards, incidents or injuries to their Manager.