

POSITION DESCRIPTION

Australian BioCommons
Faculty of Medicine, Dentistry and Health Sciences

Data Engineer

CLASSIFICATION	UOM 8
SALARY	\$125,191 - \$135,504 per annum (pro rata for part-time)
SUPERANNUATION	Employer contribution of 17%
WORKING HOURS	Full-time (1 FTE)
BASIS OF EMPLOYMENT	Fixed Term — end date 30 June 2028, with the possibility of extension subject to funding and operational requirements. (externally funded)
OTHER BENEFITS	https://about.unimelb.edu.au/careers/staff-benefits
HOW TO APPLY	Online applications are preferred. Go to http://about.unimelb.edu.au/careers , select the relevant option ('Current Opportunities' or 'Jobs available to current staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Alex Spezza Alex.spezza@unimelb.edu.au <i>Please do not send your application to this contact</i>

For information about working for the University of Melbourne, visit our website:
about.unimelb.edu.au/careers

Acknowledgement of Country

The University of Melbourne acknowledges the Traditional Owners of the unceded land on which we work, learn and live: the Wurundjeri Woi Wurrung and Bunurong peoples (Burnley, Fishermans Bend, Parkville, Southbank and Werribee campuses), the Yorta Yorta Nation (Dookie and Shepparton campuses), and the Dja Dja Wurrung people (Creswick campus).

The University also acknowledges and is grateful to the Traditional Owners, Elders and Knowledge Holders of all Indigenous nations and clans who have been instrumental in our reconciliation journey.

We recognise the unique place held by Aboriginal and Torres Strait Islander peoples as the original owners and custodians of the lands and waterways across the Australian continent, with histories of continuous connection dating back more than 60,000 years. We also acknowledge their enduring cultural practices of caring for Country.

We pay respect to Elders past, present and future, and acknowledge the importance of Indigenous knowledge in the Academy. As a community of researchers, teachers, professional staff and students, we are privileged to work and learn every day with Indigenous colleagues and partners.

The University of Melbourne

Established in 1853, the University of Melbourne is a leading international university with a tradition of excellence in teaching and research. The main campus in Parkville is recognised as the hub of Australia's premier knowledge precinct comprising eight hospitals, many leading research institutes and a wide range of knowledge-based industries. With outstanding performance in international rankings, the University is at the forefront of higher education in the Asia-Pacific region and the world.

The University of Melbourne employs people of outstanding calibre and offers a unique environment where staff are valued and rewarded.

Further information about working at The University of Melbourne is available at <http://about.unimelb.edu.au/careers>

Strategy 2030: Resilience

As set out in the University of Melbourne's Strategy 2030, our purpose is to benefit society through the transformative impact of our education and research. This can only be achieved by building a resilient institution, empowering our people, and working toward shared ambitions.

Our aspiration for 2030 is to be a world-leading, globally connected Australian university with students at the heart of everything we do. Strategy 2030 provides a sharp focus to advance our shared ambitions and guide us through to 2030.

It elevates three core ambitions:

- **Exceptional Education:** Educating our outstanding students to thrive in complexity
- **Transformational Research:** Creating knowledge, fostering innovation and transforming lives
- **Our Resilient University:** Serving and connecting Country, people and community

The strategy identifies our University's distinctive capabilities including Indigenous scholarship, world-class curriculum, our diverse community and our global research networks and precincts.

Position Summary

At Australian BioCommons, our vision is to enhance Australia's life science research and research translation through world-class, collaborative, and distributed bioinformatics infrastructure. The Human Genome Informatics division advances this vision by developing the data platforms that provide researchers secure, connected pathways to discover, access and analyse sensitive human genomics and multi-omics data. In this role, you will help create the trusted foundations that enable responsible collaboration and open new opportunities to generate evidence about health and disease.

We are seeking a motivated Data Engineer to support the delivery and operation of human genomics and multi-omics data commons. Working across the GUARDIANS portfolio of flagship research projects from multiple domains of human health and disease — including precision health and medicine, cardiovascular disease, pre-clinical psychiatry, dementia, cancer, and others — the role will help make research data discoverable, usable and appropriately governed through high-quality data models, standardised data transformation workflows, and researcher-facing data commons platforms.

This is an excellent opportunity for an adaptable early-career technical professional with an interest in data engineering, research data management, and data platforms. You will work across the product lifecycle: understanding data and stakeholder needs; designing and harmonising data dictionaries; transforming, validating and loading data; configuring and operating Gen3 data commons; and documenting repeatable processes and tooling.

As part of a highly collaborative and supportive team, you will develop broad capability while contributing to national research infrastructure. We value technical aptitude, initiative, task ownership, willingness to learn, and teamwork. You do not need to arrive as a specialist in human genomics or Gen3: we will support you to build subject-matter expertise in the complex and rewarding work of research data services.

1. Key Responsibilities

- Design, maintain and improve data dictionaries, submission templates and harmonisation approaches for human genomics and multi-omics data.
- Work with researchers, data managers and project teams to understand incoming data, clarify data requirements and provide practical feedback on data quality, consistency and readiness.
- Develop, run and improve data transformation, validation, quality-control and migration workflows for sensitive research datasets.
- Configure and operate data platforms and data services, including dictionary deployment, data submission, indexing, as well as exploration interfaces and user-facing facets and filters.
- Develop and maintain fit-for-purpose technical tools, scripts, notebooks, documentation and standard operating procedures that support repeatable data operations and reduce manual effort.
- Investigate and resolve issues affecting data quality, linkage, ingestion and indexing, escalating or collaborating with relevant technical teams and data custodians when needed.
- Contribute to data governance activities, including data management plans, data access processes, and data retention and archiving requirements.
- Collaborate with internal and external stakeholders across distributed projects; communicate clearly about technical work, provide demonstrations or training where needed, and contribute to a constructive, quality-focused team culture.

2. Selection Criteria

2.1 ESSENTIAL

- Bachelor's degree in data science, computer science, information systems, bioinformatics or a related field, or equivalent demonstrated practical experience.
- Experience with data management, data analysis, data engineering, software development or a closely related technical discipline.
- Demonstrated technical aptitude and ability to learn and apply unfamiliar software, data platforms and domain concepts.
- Demonstrated ability to work carefully with structured data, including data modelling, transformation, validation, harmonisation or quality assurance.
- Demonstrated understanding of the data security and privacy issues involved in the retention, access, and use of potentially sensitive human data.
- Experience using shell, Python, R, SQL or other relevant languages in cloud and local server command-line environments to manage, transform, query and analyse data.
- Demonstrated understanding of sound software and data engineering practices, such as version control, testing, documentation and reproducible workflows.
- Strong analytical and problem-solving skills, with the ability to investigate complex issues, work methodically and seek support appropriately.
- Demonstrated initiative, ownership of tasks and a commitment to continuous learning.
- Excellent communication skills, and the ability to work effectively and respectfully with technical and non-technical collaborators.

2.2 DESIRABLE

- Experience with data governance processes, research data management, bioinformatics, genomics, health data or other sensitive research data.
- Experience with knowledge modelling, ontologies, and metadata standards.
- Experience with ETL/data pipelines, workflow orchestration, cloud services, relational or non-relational databases, data lake architecture.
- Experience with research data platforms and developing or configuring data exploration and submission interfaces.
- Experience working in collaborative software, data or research-infrastructure projects, preferably using agile or iterative delivery practices.

2.3 OTHER JOB-RELATED INFORMATION

- ▶ Occasional work out of ordinary hours, domestic and international travel in support of projects and collaborations may be required.
- ▶ This position requires the incumbent hold a current and valid Working with Children Check. The University of Melbourne is dedicated to safeguarding the welfare of all community members, especially those most vulnerable. As part of our commitment to child safety and in line with the Victorian Child Safe Standards, this position will be required to hold a valid Employee WWCC, regardless of where in the University an employee may work or what work they do.

3. Job Complexity, Skills, Knowledge

3.1 LEVEL OF SUPERVISION / INDEPENDENCE

The successful candidate will work under broad supervision with a degree of autonomy. It is expected that they will demonstrate initiative, establish their own work plans and engage with the role in a collaborative and results-oriented manner. They will demonstrate the ability to document and share technical knowledge with other team members.

This position will be located at Australian BioCommons, the University of Melbourne. It reports to the Technical Lead (Human Genome Informatics) and requires liaising with teams based at institutions around Australia.

3.2 PROBLEM SOLVING AND JUDGEMENT

The role demands sound technical judgement, cognitive flexibility, and the ability to make clear, timely decisions to support delivery of project outcomes. It also requires a level of systems thinking, technological leadership and negotiation skills to align diverse stakeholders and achieve project milestones and deliverables.

3.3 PROFESSIONAL AND ORGANISATIONAL KNOWLEDGE

The position requires the ability to solve complex problems based on a significant level of professional expertise and acquired knowledge.

The incumbent will be required to navigate a wide range of organisational and systems boundaries and synthesise technical and domain-specific information to identify specific solutions of various levels of complexity.

3.4 BREADTH OF THE POSITION

This position will interface with key individuals and organisations in research infrastructure within Australia and internationally. The position will work across the product lifecycle from understanding stakeholder needs through designing, deploying, and operating systems, to documenting processes and tooling.

4. Equal Opportunity, Diversity and Inclusion

The University is an equal opportunity employer and is committed to providing a workplace free from all forms of unlawful discrimination, harassment, bullying, vilification and victimisation. The University makes decisions on employment, promotion, and reward on the basis of merit.

The University is committed to all aspects of equal opportunity, diversity and inclusion in the workplace and to providing all staff, students, contractors, honorary appointees, volunteers and visitors with a safe, respectful and rewarding environment free from all forms of unlawful discrimination, harassment, vilification and victimisation. This commitment is set out in the Advancing Melbourne strategy that addresses diversity and

inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

The University values diversity because we recognise that the differences in our people's age, race, ethnicity, culture, gender, nationality, sexual orientation, physical ability and background bring richness to our work environment. Consequently, the People Strategy sets out the strategic aim to drive diversity and inclusion across the University to create an environment where the compounding benefits of a diverse workforce are recognised as vital in our continuous desire to strive for excellence and reach the targets of Advancing Melbourne.

5. Occupational Health and Safety (OHS)

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

<https://safety.unimelb.edu.au/people/community/responsibilities-of-personnel>

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.

6. Other Information

6.1 ORGANISATION UNIT

<https://www.biocommons.org.au/>

The University of Melbourne is host to the Australian BioCommons, a major NCRIS-funded research infrastructure program for life science research (2023-2028). It is the mission of BioCommons to:

- sustain strategic leadership in the provision and use of bioinformatics and bioscience data infrastructures at a national scale
- actively support life science research communities with community scale digital infrastructure developed and maintained in concert with international peer infrastructures
- Provide access to platforms and services that:
 - provide sophisticated analysis capabilities, including software and hardware platforms that underpin world class science
 - support digital asset stewardship and management, retention, integration and publication solutions as they evolve
 - enable researchers to observe best-practice data standards, management, interoperability and publication approaches as they evolve
 - provide enduring access to digital techniques, data and tools that are needed by world-class environmental, agricultural and biomedical research

- provide training and support solutions that enable the rapid and broad-based adoption of the above.

6.2 BUDGET DIVISION

<https://mdhs.unimelb.edu.au/>

The Faculty of Medicine, Dentistry & Health Sciences has an enviable research record and is the University of Melbourne's largest faculty in terms of management of financial resources, employment of academic and professional staff, teaching of undergraduate and postgraduate (including research higher degree) students and the conduct of basic and applied research. The Faculty's annual revenue is \$630m with approximately 55% of this income related to research activities.

The Faculty has a student teaching load in excess of 8,500 equivalent full-time students including more than 1,300 research higher degree students. The Faculty has approximately 2,195 staff comprising 642 professional staff and 1,553 research and teaching staff.

The Faculty has appointed Australia's first Associate Dean (Indigenous Development) to lead the development and implementation of the Faculty's Reconciliation Action Plan (RAP), which will be aligned with the broader University – wide plan. To enable the Faculty to improve its Indigenous expertise knowledge base, the Faculty's RAP will address Indigenous employment, Indigenous student recruitment and retention, Indigenous cultural recognition and building partnerships with the Indigenous community as key areas of development.

6.3 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at <https://about.unimelb.edu.au/strategy/governance>