



POSITION DESCRIPTION

School of Computing and Information Systems
Melbourne School of Engineering

Research Fellow in Network Science for Biological Data Quality

POSITION NO	0051420
CLASSIFICATION	Research Fellow Level A
SALARY	\$73,669 - \$99,964 (pro rata for part-time)
SUPERANNUATION	Employer contribution of 9.5%
WORKING HOURS	Full-time (1.0 FTE)
BASIS OF EMPLOYMENT	Fixed-term contract for 12 months <i>Applications for part-time or other flexible working arrangements will be welcomed and will be fully considered subject to meeting the inherent requirements of the position</i>
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	Professor Karin Verspoor Email karin.verspoor@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 country throughout Australia. The University recognises the unique place held by Aboriginal and Torres Strait Islander peoples as the original custodians of country and their continued connection to the land, waterways, songlines and culture. The University respects all Aboriginal and Torres Strait Islander People and warmly embrace those students, staff, Elders and collaborators who identify as First Nations.

MSE's Commitment to Diversity and Inclusion

MSE is committed to creating a diverse and inclusive environment that welcomes and values all people. We recognise that diversity is essential in contributing to the success of MSE. Women, Aboriginal and Torres Strait Islanders, the LGBTIQ+ community, people living with disability and those from a culturally and linguistically diverse background, are strongly encouraged to apply. Those seeking support in submitting an application are welcome to contact the Faculty HR team at mse-hr@unimelb.edu.au

Position Summary

The University of Melbourne is recruiting for a 12 month position as a post-doctoral Research Fellow in network science methods applied to analysis of large biological databases. Biological knowledge resources, such as genome sequence databases, are a critical part of biological research and clinical decision making, but contain data of highly variable quality. Manual curation cannot keep pace with the growth of biological databases, thus automated approaches to identifying low-quality data are essential to improve the value of these resources. This project aims to leverage network relationships between knowledge resources to estimate data quality of those resources and to identify low quality records.

The Research Fellow will be based in the School of Computing and Information Systems at the University of Melbourne and will work under the direction of Dr Nicholas Geard and Professors Karin Verspoor and Justin Zobel. This position provides an opportunity for an emerging researcher to build their research career in the context of research with strong practical value.

1. Selection Criteria

1.1 ESSENTIAL

- ▶ A PhD in Computer Science or related field, awarded or submitted for examination.
- ▶ Experience in network or data science methods for the analysis of large-scale network data (thousands to millions of nodes).
- ▶ An emerging research track record and recognition of high quality research outputs, evidenced by publications and the development of research initiatives.
- ▶ Strong programming skills and the ability to implement practical systems.
- ▶ Experience in analysis of genomic and proteomic sequence data and/or interest in acquiring knowledge of the biological domain.
- ▶ Experience in working with minimal supervision, and ability to prioritise tasks to achieve project objectives within timelines.
- ▶ Demonstrated capacity to communicate research concepts to technical and non-technical audiences.
- ▶ Excellent written and verbal communication skills, demonstrated by presentation of research results at conferences, internal forums and through manuscript submissions.
- ▶ Excellent interpersonal skills, including an ability to interact with internal and external stakeholders (academic, administrative and support staff) in a courteous and effective manner.

DESIRABLE

- ▶ One or more of the following:
- ▶ A background in bioinformatics or biology.
- ▶ Specific experience with the construction and analysis of biological network data.
- ▶ Specific experience with gene and protein databases such as GenBank and SwissProt.

2. Key Responsibilities

- ▶ The role of the Research Fellow is to conduct top quality research in network science methods for biological database quality analysis as required by project scope.
- ▶ The successful candidate will assist in preparing data sets, designing executing experiments, and analysing the results of experiments.
- ▶ The successful candidate will have exceptional communication skills and will publish their findings in top quality journals. They will also conduct presentations to a broad audience, including key industry partners.
- ▶ Occupational Health and Safety (OH&S) and Environment Health and Safety (EHS) responsibilities.

2.1 OTHER JOB RELATED INFORMATION

- ▶ This position requires the incumbent to hold a current and valid Working with Children Check.

3. Equal Opportunity, Diversity and Inclusion

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 University's People Strategy and policies that address diversity and inclusion, equal employment opportunity, discrimination, sexual harassment, bullying and appropriate workplace behaviour. All staff are required to comply with all University policies.

All MSE employees are required to behave in a manner that creates; supports and encourages an inclusive and safe work environment for all.

<https://diversity.eng.unimelb.edu.au/#home>

4. 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.

5. Other Information

5.1 SCHOOL OF COMPUTING AND INFORMATION SYSTEMS

<https://cis.unimelb.edu.au/#about>

The School of Computing and Information Systems (CIS) at the University of Melbourne is an international leader in information technology research and teaching.

CIS is one of the highest-profile schools in the country, regularly ranked top in Australia for Computer Science (2020 THE and QS). It is one of only two Australian divisions to be ranked "5 – Well above world standard" in both *Information and Computing Sciences* (FOR 08) and *Information Systems* (FOR 0806). CIS is at the forefront of computing research in Australia and overseas, with close links to major initiatives such as Melbourne Bioinformatics, IBM Research and CSIRO/DATA61 (formerly NICTA).

The School is committed to attracting and retaining the highest-quality staff available in order to produce outstanding and impactful research. CIS has highly successful research teams in the key areas of Computer Science (CS), Artificial Intelligence (AI), Human-Computer Interaction (HCI) and Information Systems (IS).

CIS provides majors in the three-year undergraduate 'Melbourne Model' degrees and has a range of specialist graduate programs in CS (including software engineering), AI, HCI and IS. It also has a large cohort of active graduate research students, both domestic and international, who are regularly publishing in top venues and engaging with the community.

In late 2020 CIS will move to a new home, Melbourne Connect, Melbourne's newest innovation precinct. Through the co-location of talented researchers, scientists, academics and students with private enterprise and government partners, Melbourne Connect seeks to unlock the value and global reach of the University's research and people. The pivotal work to be undertaken in Melbourne Connect will address major societal challenges by identifying solutions that are data driven, digitally enabled and socially responsible.

To find out more visit <https://melbconnect.com.au/>.

5.2 MELBOURNE SCHOOL OF ENGINEERING

Melbourne School of Engineering (MSE) has been the leading Australian provider of engineering and IT education and research for over 150 years. We are a multidisciplinary School organised into three key areas; Computing and Information Systems (CIS), Chemical and Biomedical Engineering (CBE) and Electrical, Mechanical and Infrastructure Engineering (EMI). MSE continues to attract top staff and students with a global reputation and has a commitment to knowledge for the betterment of society.

MSE has never been better positioned as a global leader, anchored in the dynamic Asia Pacific region, creating and curating knowledge to address some of the world's biggest challenges. Through our students and our relationships with communities, we can not only respond to society's needs but anticipate and create engineering and IT solutions for the future.

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

<https://eng.unimelb.edu.au/about/join-mse>

Our ten-year strategy, MSE 2025, is our School's commitment to bring to life the University-wide strategy Advancing Melbourne and reinforce the University of Melbourne's position as one of the best in the world.

To achieve our ambitions, we will continue to build new infrastructure to enable our teaching, research and engagement; we continue to recruit outstanding people from around the world; and we continue to attract high-quality students from across the globe who are at the heart of our enterprise.

<https://eng.unimelb.edu.au/about/mse-2025>

5.3 THE UNIVERSITY OF MELBOURNE

Established in 1853, the University of Melbourne is a public-spirited institution that makes distinctive contributions to society in research, learning and teaching and engagement. It's consistently ranked among the leading universities in the world, with international rankings of world universities placing it as number 1 in Australia and number 32 in the 2020 QS World University Ranking for Computer Science

The University's 10-year strategy, *Advancing Melbourne* will enable the University to contribute to advancing the state and national interest and make vital contributions to Australia's standing on the world stage. We seek to be a leading force in advancing Australia as an ambitious, forward-thinking country while increasing its reputation and influence globally. <https://about.unimelb.edu.au/strategy/advancing-melbourne>

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