POSITION DESCRIPTION

The University of Melbourne 
(logo)

Department of Clinical Pathology

Faculty of Medicine, Dentistry and Health Sciences

Research Officer – Bioinformatics

|  |  |
| --- | --- |
| Position No | 0058905 |
| Classification | UoM Level A |
| Salary | $83,468 – $113,262 |
| Superannuation | Employer contribution of 17% |
| WORKING HOURS | Full time |
| BASIS OF EMPLOYMENT | Fixed term for 12 months (externally funded) |
| Other Benefits | <http://about.unimelb.edu.au/careers/working/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 Lachlan Coin Tel +61 3 8344 3831 Email lachlan.coin@unimelb.edu.au  Please do not send your application to this contact |

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

Position Summary

We are seeking a highly motivated Research Officer to join the Department of Clinical Pathology, in collaboration with The Peter Doherty Institute for Immunity and Infection, Department of Microbiology and Immunology. The Department of Clinical Pathology sits within The University of Melbourne Centre for Cancer Research (UMCCR) which seeks to improve cancer patient outcome through Cancer Genome Discovery, Translation and Personalised Medicine.

The applicant should have postgraduate degree in computer science, bioinformatics or another relevant discipline. Previous experience in genetics, genomics, computational biology or bioinformatics is essential and strong programming skills are required, particularly in the R programming language.

The research officer will join the NHMRC-funded project *Developing novel therapeutic strategies and predictive biomarkers in Pancreatic Cancer* to identify pancreatic tumour biomarkers by implementing a machine learning approach based on the use of genomic, transcriptomic and drug response data generated from organoids in pancreatic cancer patients. The aim will be to develop clinically meaningful markers that allow matching of individual patients with drugs that are the most likely to prove effective in treating their tumour.

The candidate will develop a strong program of collaborative projects with other researchers in the Doherty Institute. The incumbent will be self-motivated, conduct independent and collaborative research and develop a strong publication record, including primary papers in leading specialist journals. They will be responsible for initiating new areas of investigation and developing an independent program of research.

The role will also contribute to the University of Melbourne's partnership with international genomics company Illumina. The University has entered a long-term strategic partnership with Illumina, a global leader in genomics technology, to jointly foster the development of world-leading genomics research and innovation activities and to accelerate the translation of these innovations through to adoption in the healthcare system. Together, Illumina and the University have established The Advanced Genomics Collaboration (TAGC), a Victorian Government funded initiative which aims to support a pipeline of commercially focused genomics innovation projects to deliver a cluster of new high growth, high-tech start-ups within the Melbourne Biomedical Precinct.

# Key Responsibilities

## research and research training

* Contribute to the development of a strong program of research in bioinformatics in cancer biomarkers.
* Independently plan and carry out experiments focused on completion of research project aims.
* Maintain accurate and detailed records of all experiments conducted.
* Develop effective timelines and milestones based on goals of the research programme.
* Be responsible for qualitative and statistical analysis of research data and to communicate this information to the Chief Investigators and collaborators.
* Assist other researchers in carrying out experiments to work as a team and further the laboratory’s research output.
* Perform other duties as requested by the appointee’s immediate supervisors.

## ENGAGEMENT

* Write up experimental results for publication in peer-reviewed journals.
* Attend and contribute to lab meetings.
* Present experimental results at local, national and international forums.
* Attend and actively participate in departmental seminars, meetings and/or committee memberships.

## teaching and learning

* Assist other researchers in carrying out experiments in order to work as a team and further the department’s research output.

## Service and Leadership

* Undertake other duties as requested by the supervisor and the Head of the Department.
* Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in section 4.
* Lead the preparation of manuscripts related to the research project.
* Lead the preparation and submission of fellowships and competitive grant applications.

# Selection Criteria

Essential

* Postgraduate training in bioinformatics, mathematics, computer science or a related field
* Experience in running bioinformatics workflows on high performance computing clusters.
* Experience working with high throughput transcriptome sequence data sets.
* Proficiency in the R programming language
* Experience in machine learning or statistics
* Excellent ability in analysing data, problem solving and maintaining accurate research records.
* Strong organisation skills and accurate recording and analysis of data generated from research undertaken.
* Experience with Unix and Linux
* Demonstrated experience in using initiative, working with minimal supervision and ability to prioritise tasks to achieve project objectives within timelines.
* Excellent written and verbal communication skills, demonstrated by presentation of research results at conferences, internal forums and through manuscript submissions, inclusive of manuscripts posted to preprint servers.
* Demonstrated ability to work as a member of a research team and interact in a courteous and effective manner with academic, administrative and support staff.

## Desirable

* Completion of a PhD in bioinformatics, mathematics, computer science or a related field
* Experience in developing bioinformatics software.
* Experience in machine learning or statistics.
* Demonstrated ability in attracting grant or fellowship support.

## other JOB-RELATED information

* 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.

# 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.

# 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.

# Other Information

## Department of Clinical Pathology

<http://medicine.unimelb.edu.au/school-structure/clinical-pathology>

The Department of Clinical Pathology focuses on graduate learning and teaching, research and engagement in the clinical discipline of pathology. The Department is located at the Parkville campus with offices in the state of the art Victorian Comprehensive Cancer Centre (VCCC) building.

The Department of Clinical Pathology collaborates broadly with other Departments, Centres, Schools and Faculties of the University of Melbourne, health services and medical research institutes to generate new knowledge in cancer research to improve the outcomes of patients. Initial programs of research will specifically focus on the molecular defects of tumours and the utility of applying the knowledge of these defects to prognostication and treatment of patients with cancer. The Department of Clinical Pathology also provides specialist laboratories for cancer cell biology, DNA bio-banking, rapid large scale, next generation sequencing and organoid generation and testing.

Whilst the initial research focus of the MMS Department of Clinical Pathology is cancer research it also has a more generalist remit for graduate learning and teaching and engagement across the broader areas of clinical pathology.  The Department of Clinical Pathology teaches into the Melbourne Medical School’s flagship course, the Doctor of Medicine and has thriving Honours, Masters and PhD student cohorts.

The university of melbourne Centre for cancer research

[www.mdhs.unimelb.edu.au/umccr](http://www.mdhs.unimelb.edu.au/umccr)

The University of Melbourne Centre for Cancer Research is located within the Victorian Comprehensive Cancer Research Centre and is focused on improving cancer outcomes through genome-directed medicine and discovery. The UMCCR has strong involvement with Melbourne teaching hospitals, research institutes and VCCC alliance partners. The Centre is also actively engaged in several large international consortia.

DePartment of Microbiology & Immunology

The Department of Microbiology & Immunology is one of the departments within the School of Biomedical Sciences in the Faculty of Medicine, Dentistry and Health Sciences. Further information is available at <http://www.microbiol.unimelb.edu.au/> and <http://bsac.unimelb.edu.au/>.

## Melbourne Medical School

[www.medicine.unimelb.edu.au](http://www.medicine.unimelb.edu.au)

Established in 1862, Melbourne Medical School (MMS) in the Faculty of Medicine, Dentistry and Health Sciences at The University of Melbourne is the oldest medical school in Australia. It is internationally renowned for global leadership in teaching and training, health research, policy and practice. MMS is ranked 14th in the world (Times Higher Education World University Rankings 2022 for clinical, pre-clinical and health), has strong academic partnerships and ground-breaking collaborative research programs with leading public and private hospitals, as well as leading medical research institutes and centres in Australia and internationally.

Under the leadership of Professor Sarath Ranganathan, MMS spans all major fields of medicine and is comprised of thirteen clinical departments:

Baker Department of Cardiometabolic Health;

Clinical Pathology;

Critical Care;

General Practice and Primary Care;

Medical Education;

Infectious Diseases;

Medicine;

Obstetrics, Gynaecology and Newborn Health;

Paediatrics;

Psychiatry;

Radiology;

Rural Health; and

Surgery.

MMS has more than 1,200 academic and professional staff members located at the Parkville campus or embedded within health services throughout metropolitan Melbourne and rural Victoria. Staff are privileged to work alongside more than 2,296 honorary appointees from the health sector who generously contribute their time, knowledge, research and clinical expertise.

MMS is committed to improving community wellbeing through the discovery and application of new knowledge. With annual research income of $165 million, the School’s research effort is highly collaborative, spanning research programs from basic to translational. The School has research collaborations across the 47 partner organisations in the vibrant Melbourne Biomedical Precinct, as well as nationally and internationally. These partnerships enable medical advances to impact healthcare delivery as rapidly and seamlessly as possible.

The School’s flagship Doctor of Medicine (MD) degree was the first Masters level entry-to-practice qualification of its kind developed in Australia, setting a new benchmark in medical education. Now, the new curriculum launched in 2022 has created more responsive, modular, technology-enhanced learning for state-of-the-art curriculum delivery. Continuous research and discovery options, and an ability to tailor the degree, allows each student to gain deeper experience in areas of greatest interest. The MD Rural Pathway offers students the opportunity to undertake their entire program in rural Victoria, with a $6.5 million expansion of facilities in Shepparton to accommodate this. There is also an expanded range of joint degree pathways on offer. The School utilises the Department of General Practice and Primary Care’s continually expanding network of general practitioners and primary healthcare providers in the community to ensure that MD students are also provided with quality community-based medical education.

In addition to the MD, MMS has an ever-expanding portfolio of other vocationally oriented programs. These teach research skills, leadership and continuing professional development in specific disciplines. An emphasis on the clinician-scientist career trajectory – with training, support and ongoing career pathways at graduate and postgraduate levels – is central to the School’s development of future leaders in all aspects of healthcare, education, research and policy. MMS has over 600 higher degree by research candidates located both within Departments and across its network of partners.

School staff and honorary appointees lead and participate in public debate and advocacy around key health issues and policy based on the MMS values of commitment, integrity, compassion, respect and service. The School also offers a range of initiatives and programs in support of its diverse and inclusive culture: <https://medicine.unimelb.edu.au/about/diversity-and-inclusion> MMS is always looking to recruit talented individuals across a wide range of medical disciplines which include leadership roles. This presents a wonderful opportunity for appointees to help drive the strategy, growth and continued excellence of Australia’s leading medical school.

## Faculty of Medicine, Dentistry and Health Sciences

[www.mdhs.unimelb.edu.au](http://www.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 $628m 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.

## 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 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>

## ADVANCING MELBOURNE

The University’s strategic direction is grounded in its purpose. While its expression may change, our purpose is enduring: to benefit society through the transformative impact of education and research. Together, the vision and purpose inform the focus and scale of our aspirations for the coming decade.

Advancing Melbourne reflects the University’s commitment to its people, its place, and its partners. Our aspiration for 2030 is to be known as a world-leading and globally connected Australian university, with our students at the heart of everything we do.

We will offer students a distinctive and outstanding education and experience, preparing them for success as leaders, change agents and global citizens.

We will be recognised locally and globally for our leadership on matters of national and global importance, through outstanding research and scholarship and a commitment to collaboration.

We will be empowered by our sense of place and connections with communities. We will take opportunities to advance both the University and the City of Melbourne in close collaboration and synergy.

We will deliver this through building a brilliant, diverse and vibrant University community, with strong connections to those we serve.

The means for achieving these goals include the development of the University of Melbourne’s academic and professional staff and the capabilities needed to support a modern, world-class university. Those means require a commitment to ongoing financial sustainability and an ambitious infrastructure program which will reshape the campus and our contribution to the communities we engage with. This strategy, and the priorities proposed, is centred around five intersecting themes; place, community, education, discovery and global.

## 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>