



THE UNIVERSITY OF  
MELBOURNE

# Faculty of Medicine, Dentistry and Health Sciences





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This publication has been developed on Wurundjeri Country, upon which the University of Melbourne (Parkville campus) is built. The Faculty of Medicine, Dentistry and Health Sciences acknowledges the traditional custodians, the Wurundjeri people of the Kulin Nation, and we pay our respects to Wurundjeri community and Elders, past and present. We also pay our respects to all Indigenous nations upon whose land other campuses sit and where our students, staff and partners undertake teaching and learning, research and clinical activities, including those globally.

# Message from the Dean of Medicine, Dentistry and Health Sciences



**Since 1862, the University of Melbourne has contributed to the health and wellbeing of society – training excellent clinicians and producing high-impact research that makes a real difference to people’s lives.**

At fourteenth place on the Times Higher Education (THE) 2020 rankings for clinical, pre-clinical and health disciplines, the Faculty of Medicine, Dentistry and Health Sciences attracts some of the best and brightest minds in Australia and overseas.

At the Faculty, our primary responsibility is to our students and their careers. Students come to the University of Melbourne to be inspired, and sometimes transformed, by talented teachers. Our teaching academics do more than impart information – they help students realise their potential, spark their curiosity, and embody a commitment to the health and wellbeing of society and its citizens.

Healthcare is always evolving. Our graduates must be able to adapt to new technologies while treating changing patterns of disease and an ageing population. So we must help them cultivate the skills, knowledge and character they need to shape and respond to a rapidly changing world. We have long excelled at traditional classroom teaching but we are increasingly embracing more interactive models of education that focus on the solution of problems rather than simply the transmittal of knowledge. And to help us create future leaders in healthcare we are embedding leadership skills in our courses, including ethics, communicating with patients and how to work in a team to achieve the best outcomes.

Research is also fundamental to the Faculty. Our strength is reflected not only in our ranking, but in the breadth of our expertise and endeavour. We support a broad spectrum of activity, from basic biomedical science through to clinical and epidemiological research, and have a long history of achievement in tackling some of society’s most important health and social challenges.

Despite an increasingly challenging environment, it is an exciting time to be involved in health and medical research in Australia. The \$20 billion Medical Research Future Fund and recent changes to NHMRC funding programs provide us with a potentially transformative opportunity to bolster our research, innovation and impact. Greater collaboration between departments and disciplines will become increasingly important as we expand our research emphasis to include more patient-focused and commercial outcomes.

Since inception the Faculty has always worked in collaboration with its partners – with hospitals and medical research institutes, with governments, the community, and with the health-related industries. For more than 150 years the Faculty and its antecedents have worked to establish respectful and mutually beneficial relationships with partners – relationships that have formed the basis of Australia’s greatest concentration of healthcare, biomedicine and higher education.

In the coming decade, these partnerships will become even more fundamental to our work. Programs such as the Medical Research Future Fund (MRFF) will promote even greater collaboration between researchers and healthcare professionals to deliver improvements to patient, system or commercial outcomes.

The University’s position in the Melbourne Academic Centre for Health (MACH) gives us and our partners the collective strength to coordinate activity where there are shared goals and engage more effectively with government to support health policy reform. And together, with our healthcare partners and our state, we aim to become one of the leaders in the use of data and informatics for improving health.

It gives me great pleasure to present our Faculty to you.

**Professor Shitij Kapur**  
Dean, Faculty of Medicine,  
Dentistry and Health Sciences  
*Assistant Vice-Chancellor (Health)*

# 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. We are committed to being one of the finest universities in the world, contributing to society in ways that enrich and transform people's lives. Ranked as the number 1 University in Australia and 32 in the world<sup>1</sup>, The University of Melbourne offers a uniquely Australian experience helping graduates become well-rounded, thoughtful and skilled professionals capable of making a positive and global impact. Situated in the heart of Australia's second largest city, Melbourne has a fast-growing population of approximately four million. It is an international cultural hub characterised by friendly people, festivals, sporting events, architecture, art, cuisine, an outdoor lifestyle, green spaces and beaches.



<sup>1</sup> Times Higher Education World University Rankings 2020

# At a glance

## Global rankings



**#1**  
in Australia



**#32**  
in the world



**#7**  
in graduate employability  
worldwide

Times Higher Education World University Rankings 2020/QS Graduate Employability 2020

**8983 staff (FTE)**



**Research  
income**



**\$460 M**

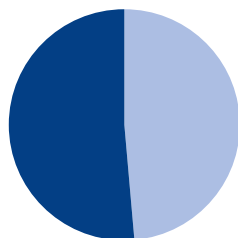
**33 highly cited  
researchers**

**Most of any  
Australian  
university**



**52 000+ equivalent full-time students**

**51% u/grad**



**49% grad**

**Grants**

**\$137 M**

**in NHMRC, ARC and MRFF grants**

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

# Melbourne Biomedical Precinct

**Melbourne has biomedical capabilities unparalleled in Australia and the Melbourne Biomedical Precinct ranks as one of the best facilities of its kind in the world. Located on the edge of the CBD, the precinct is a hub of innovation, home to an exceptional network of skilled workers, quality education providers and leading research institutes and hospitals.**

A Melbourne Biomedical Precinct Office was established by the Victorian state government in late 2016 to drive economic development in the precinct, and to strengthen its position as a world leader in biomedical research, development and innovation.

The Office collaborates with stakeholders in three main areas: developing a strategic plan to identify and prioritise actions for the state and precinct partners over the next 20 years to maximise the potential of the precinct; advising government, agencies, precinct partners, investors and biomedical organisations locally and globally; and promoting the precinct as an opportunity for research collaboration, investment and employment.

The precinct has established itself as one of the world's top five biomedical precincts. The 30 precinct partners and some 10 000 researchers are engaged in breakthrough biomedical and healthcare research, particularly in child and adolescent health, cancer, mental health and neurosciences, infectious diseases and healthy ageing. In total, precinct partners employ around 28 000 people and contribute approximately \$3.6 billion to Victoria's gross regional product.

The University of Melbourne, Australia's leading research university, is the dynamic hub of the precinct with the University's research in biomedical and health sciences led by the Faculty of Medicine, Dentistry and Health Sciences, in collaboration with research activities in Engineering, Law, Science and Veterinary Science.

The Bio21 Molecular Science and Biotechnology Institute (Bio21 Institute) is a \$140 million core research and development facility belonging to the University. This multidisciplinary research centre specialises in medical, agricultural and environmental biotechnology and is one of the largest biotechnology research centres in the country.

The Bio21 Institute is being expanded to house CSL's Global Research and Translational Medicine Hub. The \$36.4 million, 5000-square-metre expansion allows for further development of

major technology platforms that underpin personalised medicine and the development of new diagnostics. CSL expects to double the presence of its research scientists at the Institute.

The University's biomedical and health sciences research places great emphasis on translational research and improving clinical outcomes. Teams of interdisciplinary scientists collaborate on a wide spectrum of activities – from fundamental research and exploring specific health problems to the development of new preventative and treatment methods and the evaluation of the most effective and cost-efficient ways for reconfiguring whole health systems.

The Faculty of Medicine, Dentistry and Health Sciences has strong collaborative links within the Melbourne Biomedical Precinct and with many leading national and global research institutes, clinical centres and health-related industries.

The Faculty is proud to be part of a Melbourne Biomedical Precinct that nurtures the next generation of outstanding achievers. We share the Precinct's commitment to pioneering the world's best practices in patient treatment and care, for the benefit of not only Australians, but people everywhere.



200 km



30 km

## KEY FACTS

- 49,000+ employees
- 10,000 researchers
- 24.28% share of NHMRC funding
- 24% of Australia's output in academic journals
- AUD \$3.6 billion contribution to the Australian economy
- CSL Ltd. Australia's largest biotherapeutics company, worth \$45 billion headquartered in Parkville and a global presence in more than 30 countries
- Full range of tertiary care Australia's only cluster with leading hospitals covering all tertiary care for children, women and adults

## Australia's leading university at the heart of Australia's premier biomedical cluster

### HOSPITALS

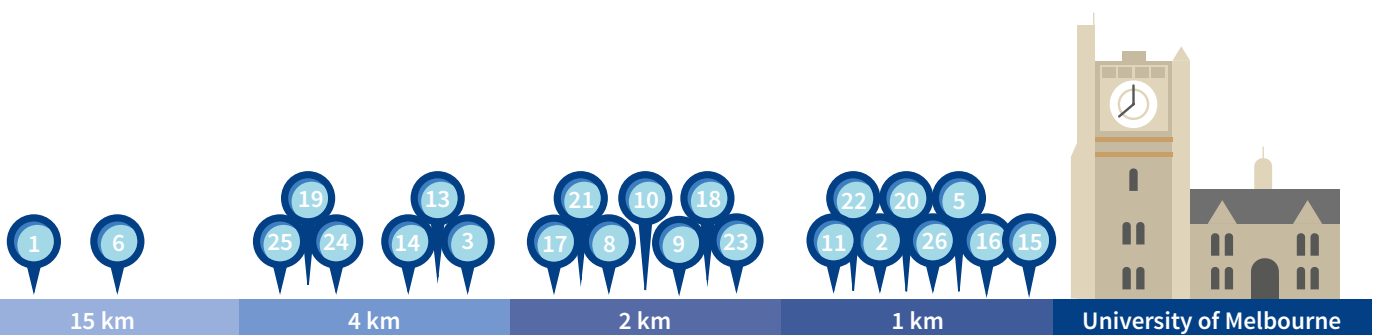
1. Austin Health
2. Dental Health Services Victoria
3. Epworth Healthcare
4. Goulburn Valley Health
5. Melbourne Health
6. Mercy Health
7. Northern Health
8. St Vincent's Hospital
9. The Royal Children's Hospital
10. The Royal Victorian Eye and Ear Hospital
11. The Royal Women's Hospital
12. Western Health

### RESEARCH INSTITUTES AND CENTRES

13. Bionics Institute
14. Centre for Eye Research Australia
15. Doherty Institute
16. Florey Institute
17. Monash Institute for Pharmaceutical Science
18. Murdoch Childrens Research Institute
19. National Ageing Research Institute
20. Peter MacCallum Cancer Centre
21. St Vincent's Institute
22. Walter and Eliza Hall Institute

### OTHER PARTNERS

23. CSIRO
24. CSL
25. Orygen, Youth Mental Health
26. Victorian Comprehensive Cancer Centre
27. Rural partnerships, Ballarat, Bendigo and Wangaratta and Dental at Gippsland (Not indicated on this diagram)



# Faculty at a glance

## Australia's leading health and medical faculty

### SCHOOLS



Melbourne Dental School

Melbourne Medical School

Melbourne School of Health Sciences

Melbourne School of Population and Global Health

Melbourne School of Psychological Sciences

School of Biomedical Sciences

### EDUCATION



Total students: 8800+

Undergraduate: 1700+

Postgraduate (coursework): 4800+

Higher degree research students: 2300+

International students: 1600+ from over 100 countries

160+ courses covering the breadth of health and biomedicine

Professional staff: 800+

### RESEARCH



Annual research income of more than AUD \$280 million

4000+ peer-reviewed publications each year

Over 50% of publications in top 10% of journals

Over 20% of publications in top 10% of world's most cited

Academic staff: 1700+ including 1300+ research academics

Honorary academics: 3500+ including 2000+ hospital-based honorary staff

### OUR RESEARCH STRENGTHS

#### RESEARCH PILLARS



Cancer



Child Health



Infection and Immunity



Neurosciences and mental health

#### MAJOR PRIORITIES



Disease burdens  
such as cardiovascular, ageing and  
metabolic disease



Community priorities  
such as Indigenous Health, Family  
Violence

## CENTRES



Melbourne Poche Centre for Indigenous Health

Melbourne Research Alliance to End Violence Against Women

University of Melbourne Centre for Cancer Research

Centre for Health, Exercise and Sports Medicine

Centre for Youth Mental Health

Centre for Stem Cell Systems

Centre for Health Policy

This shows select research centres within the Faculty.  
Please visit the MDHS website for more information on all our centres.

**#1 Australia**  
**#14 Globally**  
in clinical, pre-clinical and health

*Melbourne, Australia*

## OUR CONTRIBUTIONS



**Nobel Laureates in Physiology or Medicine and Peace** have taught, studied and researched at the University of Melbourne including:

- Lord Howard Florey (1945)
- Sir Frank Macfarlane Burnet (1960)
- Sir John Eccles (1963)
- Professor Bert Sakmann (1991)
- Professor Peter Doherty (1996)
- Professor Elizabeth Blackburn (2009)
- Associate Professor Tilman Ruff (2017)

- Discovery of lithium therapy as an effective treatment for bipolar disorder (Dr John Cade)
- Development of the bionic ear (Professor Graeme Clark AC)
- Development of Recaldent to help prevent and reverse dental decay (Professor Eric Reynolds AO)
- Discovery of the human Rota virus and development of a vaccine for infants and young children (Professor Ruth Bishop AO, Professor Julie Bines)
- Road trauma injury research leading to life-saving safety control measures (Professor Donald Hossack)
- Identification of the first gene implicated in the development of epilepsy (Professor Ingrid Scheffer)
- Eye health research and policy recommendations resulting in halving the gap in the rates of blindness in Indigenous communities (Professor Hugh Taylor AC)

# Partners in excellence

In education, research, transformation of healthcare and the development and delivery of new healthcare services and products, the Faculty of Medicine, Dentistry and Health Sciences is intrinsically tied to its partners.

Our students benefit from our longstanding relationships with many of the country's leading health research institutes including the Walter and Elizabeth Hall Institute of Medical Research (WEHI), Royal Melbourne Hospital (RMH), The Peter Doherty Institute for Infection and Immunity (PDI) and the Victorian Comprehensive Cancer Centre (VCCC).

These institutes have fostered outstanding scientists and offer extraordinary opportunities for our researchers to assist in finding solutions to the world's great health challenges. Staff working in our affiliated hospitals assist our students in their transition into the clinical hospitals and make significant contributions to our teaching and research programs.



## Walter and Elizabeth Hall Institute of Medical Research

Australia's oldest medical research institute, WEHI was founded in 1915 with the intent of being the 'birthplace of discoveries rendering signal service to mankind in the prevention and removal of disease and the mitigation of suffering'. Today the institute has:

- 1077 staff and students
- 100 national and international trials based on Institute discoveries
- 50+ diseases impacted by institute research.

WEHI is affiliated with The University of Melbourne and The Royal Melbourne Hospital in its offering of undergraduate (honours) and graduate research training opportunities through the Faculty's Department of Medical Biology. Additionally, collaborative research is undertaken in the thematic areas of cancer, chronic inflammatory diseases and infectious diseases in laboratories based in Parkville and Bundoora.



## Austin Health

Austin Health comprises the Austin Hospital, Heidelberg Repatriation Hospital and the Royal Talbot Rehabilitation Centre. The organisation's vibrant research precinct includes Hospital and University of Melbourne Departments. This partnership brings together 800 innovative researchers working within eight independent institutions conducting research into cancer, diabetes, respiratory disease, liver disease, heart disease, stroke, epilepsy and psychiatry.

Alongside research endeavours, the Austin Clinical School is a strong collaboration between the Melbourne Medical School and the Austin Health Service. Students spending their clinical years at the Austin Hospital are provided an excellent opportunity to gain knowledge, be inspired by leaders in the profession and gain exposure to an abundance of medical career options.

# Our commitment to the national population

The Faculty of Medicine, Dentistry and Health Sciences is committed to providing first-class education and resources to rural Victorians as well as leading Australia in its efforts to train the next generation of Indigenous and Torres Strait Islander health professionals. There are a number of pathways, programs and supports in place to recruit and mentor rural and Indigenous students through to graduation and beyond.

We are also making efforts to close the health gap for Indigenous Australians outside of classrooms and campuses. Our researchers are working in partnership with Indigenous communities and organisations to improve Indigenous health outcomes in the areas of greatest need.

## Rural Clinical Schools

Our Rural Clinical Schools have campuses at Ballarat, Bendigo (in partnership with Monash), Shepparton and Wangaratta and associations with over 40 smaller towns in rural Victoria. The Schools aim to provide an integrated approach to rural health education and training while improving health service provision and outcomes for people living in rural and regional Victoria. Close relationships with local hospitals and other rural health services and the sharing of resources and staff enable an integrated approach that tremendously benefits both our students and the rural communities.



## The Melbourne Poche Centre for Indigenous Health

Created in 2014 through the generosity of Greg Poche and Kay van Norton Poche, the Melbourne Poche Centre for Indigenous Health is Australia's preeminent training and development program for emerging and established Indigenous health leaders.

One of its key initiatives, the PhD Familiarisation Program, supports the enrolment and graduation of Indigenous PhD candidates and postdoctoral Fellows in health. The Centre's Leadership Fellows Program supports and develops emerging Indigenous leaders in academic, policy, clinical and research roles through structured engagement with Elders, Sponsors and Mentors.

## The Melbourne Dental School

The Melbourne Dental School developed a partnership with Miwatj Health, an Aboriginal community-controlled health service based in Nhulunbuy, Eastern Arnhem Land (EAL) in the Northern Territory as part of the University of Melbourne's collaboration with the Yothu Yindi Foundation. This teaching, research and engagement partnership is developing and testing a new model of care. The program will prevent dental disease, improve oral health literacy and promote health by providing sustainable and accessible dental services and increasing the oral health workforce in the region through student clinical rotations.

# Key research themes



Professor Mike McGuckin

**‘The Faculty’s real strength is reflected not in its rankings but in the breadth of its research and the commitment to excellence and discovery’  
– Professor Mike McGuckin,  
Associate Dean Research.**

The Faculty’s continued research leadership depends on a research culture that is positive, collaborative, accountable and focused on excellence. The Faculty’s annual research income is more than \$280 million, which is around 55 per cent of the University of Melbourne total.

Over the coming decade, the Australian Government will almost double its investment in medical research through the new Medical Research Future Fund (MRFF). The MRFF is a major opportunity and it will drive a major transformation of the Faculty’s research agenda.

The Faculty is positioning itself to benefit from this once-in-a-generation new investment in medical research by working with its partners to develop compelling funding proposals. We are finding new ways to collaborate across disciplines, Schools and organisations and we want to focus on proposals that prioritise clinical/patient/commercial - facing outcomes.

The Faculty has four major research pillars:

**Cancer:** cancer research encompasses prevention, detection, treatment, care, and health system transformation to address this most significant burden of disease.

**Child Health:** our research in child health includes the whole-of-life continuum, from the early life environment through adolescence and reproductive potential to optimise whole life health.

**Infection and Immunology:** our research in this area investigates immunology and infection including basic research, translation and public health. Research is informed by diseases that have a global and significant burden.

**Neuroscience:** this includes research in the fields of neuroscience, psychiatry, mental health and the study of basic psychological processes.

The Faculty is making new investments that underpin excellence in these four pillars and that also support major priorities such as disease burdens (cardiovascular, ageing and metabolic disease) and community concerns including Indigenous health and family violence.

Business Development Directors within each Faculty provide commercial advice and support and generate new research income through the identification, establishment and management of commercial relationships and the translation and commercialisation of intellectual property. The Faculty’s Business Development team is looking at ways to expand research income through domestic and international grants, revenues from contract research and industry collaboration, consultancy fees and major public and private sector tenders. Developing an entrepreneurial culture is essential to accelerate the commercialisation of our research and teaching expertise.

We are constantly improving how we invest in, and manage, cutting-edge research technology platforms as the Faculty works to cement its position as Australia’s leading health and biomedical university.

# Teaching and learning



Professor Marilys Guillemain

**Over the coming decades, healthcare will be transformed by new technologies, complex and changing patterns of disease and an ageing population. At the forefront of these changes will be healthcare professionals dedicated to quality and innovation.**

Educating future generations of our health workforce is an important responsibility. To best adapt to changing community needs, the Faculty is committed to providing learning environments that stimulate, challenge and develop the potential of students to become the leaders of tomorrow.

We focus on the student lifecycle and provide opportunities for undergraduate and postgraduate learning and for continuing professional development.

We are developing a curriculum that recognises students want more interactive and engaging experiences to support their learning. Integrating new technologies with face-to-face learning is the best way to achieve this. We are moving towards online and blended learning and using different teaching modalities.

“Sometimes we deliver in didactic lecture mode but increasingly we use other forms of delivery, such as the ‘flipped classroom’ where students do pre-reading or watch a lecture online before class, so when they do come to class they can have a very different learning experience and an opportunity to extend their knowledge,” says Professor Marilys Guillemain, Associate Dean Learning and Teaching.

“In anatomy, students learn where different parts of the body are through body painting and volunteers become living canvases. This is an effective example of using a sensory method to impart and embed knowledge, rather than simply memorising that information from a textbook.”

The University has also invested in student spaces. Learning doesn’t only occur in lecture theatres and libraries, our students learn in purposely designed informal learning spaces where they can meet, talk and work on assignments.

“We are investing in resources and facilities that recognise people learn in different ways and we must accommodate those different needs,” says Professor Guillemain.

The Faculty is also placing a greater focus on interprofessional learning and will expand the opportunities for students to work with partners and communities.

“The next stage is to bring different professional discipline groups together so students aren’t taught in a silo. We want to foster interprofessional engagement,” says Professor Guillemain.

The Faculty’s partnerships are pivotal to the quality and strength of the teaching programs and provide valuable opportunities for students in industry, clinical programs and on placements in hospitals and community health centres.

We are a strong teaching Faculty, as well as a research Faculty, and we spend a great deal of time supporting the professional development of our teachers. Our systematic peer review teaching program ensures teachers constantly learn new ways of doing things and are part of a continuous quality improvement cycle. We are focusing on teaching that best prepares our students for tomorrow, and we recognise and reward our teachers who excel in supporting this goal.

Graduates of our Faculty should leave the University equipped not only to excel in their professions of choice, but they should also be well-placed to lead the changing nature of the health landscape.

# Melbourne Dental School



Professor Mike Morgan

**Melbourne Dental School is the oldest dental school in Australia and in recent years it has attracted more research funding than any other dental school in the country.**

“We are well connected to professional associations, speciality societies and to the Australasian College of Dental Surgeons and many of our staff have senior roles on committees, associations and specialty groups,” says Professor Mike Morgan, Head of Melbourne Dental School.

**Our Teaching and Learning:** the School is the only dental school in Australia teaching orthodontics, periodontics, paediatric dentistry and oral surgery. The 2019 QS World University Rankings recognises Dentistry at Melbourne as number one in Australia and 30th in the world.

Dental practitioners provide students with realistic insights into the dental profession through teaching and mentoring programs.

“Our students have access to people working in the real world who are at the top of their game. That is a priceless contribution,” says Professor Morgan.

The School is at the forefront of teaching technologies. Students receive pre-clinical training in three-dimensional Haptic Virtual Reality Simulation Laboratories where they can virtually undertake surgical procedures on teeth. Histopathology laboratories have also harnessed virtual reality and students learn to use three-dimensional printers to print teeth, dentures and crowns.

**Our Research and Impact:** Melbourne Dental School is a research-intensive School that hosts the Oral Health Cooperative Research Centre. There is great breadth of research across the School determining the causes of oral diseases at population, individual, cellular and molecular levels. This knowledge is being applied to develop new technologies, materials and changes to clinical practice to improve oral health.

Translation of this research into practice is enhanced by our close working relationships with industry, government and institutional partners. This approach is exemplified by Professor Eric Reynolds and his team who are developing a world-first vaccine for the treatment of periodontitis (gum disease). Periodontitis is the leading cause of tooth loss in adults and is linked to a range of systemic diseases including rheumatoid arthritis and cardiovascular diseases.

**Our Engagement:** the front line of community engagement is the Melbourne Dental Clinic. The 50-chair facility in the city is a private clinic staffed by final year Doctor of Dental Surgery and Bachelor of Oral Health students. Doctor in Clinical Dentistry students who are specialists-in-training also provide more complex dental treatment to private patients. Students provide oral healthcare to public patients in the dental hospital and community centres in metropolitan and rural Victoria.

“We are close to the clinical coalface. From their first year, students engage with patients providing clinical care and behavioural management through the Royal Dental Hospital of Melbourne and other Community Health Centres,” says Professor Morgan.

Doctor of Dental Surgery and Bachelor of Oral Health students are placed in Indigenous communities to identify effective models of oral health and dentistry care. The School has an Indigenous Oral Health Partnership with Rumbalara Aboriginal Cooperative in Mooroopna and Miwatj Health, an Aboriginal community controlled health service in East Arnhem Land in the Northern Territory. Doctor of Dental Surgery and Bachelor of Oral Health students are also rostered to clinics and hospitals in Shepparton and the La Trobe Valley.

# Melbourne Medical School



Professor John Prins

**The Melbourne Medical School was the first school to graduate doctors in Australia. Founded in 1862 by Sir Anthony Colling Brownless, it has a reputation nationally and internationally for its teaching, research and engagement in the health sector.**

The School encompasses all major fields of medicine with Departments of: Clinical Pathology, General Practice, Medical Education, Medicine and Radiology, Obstetrics and Gynaecology, Paediatrics, Psychiatry, Rural Health and Surgery. These Departments are embedded within clinical health services throughout metropolitan Melbourne and rural Victoria.

“All members of the Melbourne Medical School remain committed to the long-standing mission of working with the communities we serve to improve health and advance healthcare. Our programs of learning and teaching, research, clinical care and advocacy are central to the successful delivery of our mission,” says Professor John Prins, Head of Melbourne Medical School.

**Our Teaching and Learning:** the School’s flagship degree is the professional entry masters-level Doctor of Medicine (MD) that graduates doctors with the skills and knowledge required to serve the health system now and in the future.

The MD is currently undergoing major redevelopment. This will ensure that the Melbourne Medical School maintains its position as a curriculum leader, being contemporary and flexible, utilising the best evidence-based teaching and assessment methodologies. Responsive, modular, technology-enhanced learning underpins the state-of-the-art curriculum delivery the new Melbourne MD will offer.

The School also has a continually expanding portfolio of vocationally oriented programs. These teach research skills, leadership and continue professional development in specific disciplines e.g. the Excellence in Clinical Teaching (EXCITE) program that is building medical training capacity throughout Australia and internationally.

An emphasis on the clinician-scientist career trajectory, with training, support and ongoing career path formation for clinician-scientists, at graduate and postgraduate levels, is central to the School’s development of future leaders in all aspects of healthcare, education, research and policy.

**Our Research and Impact:** Melbourne Medical School is committed to facilitating partnerships with national and international health services and medical research institutes. Current research themes include cancer, cardiometabolic health, child health, critical care medicine, neuroscience, musculoskeletal health and women’s health.

“It is vital that we work with research institutes to deliver clinical support, and partner with hospitals to provide research and teaching expertise, in order for the translation of medical advances into clinical practice to occur as rapidly as possible,” says Professor Prins.

**Our Engagement:** the School is well recognised for its global partnerships however it also leads a number of local community events and activities.

The Teddy Bear Hospital is the largest student volunteer activity at the University with over 1200 medical and allied health students participating in fundraising to support the Royal Children’s Hospital Good Friday Appeal. Children bring their teddy bears and interact with students who, under medical supervision, play the role of teddy doctors. As well as raising significant funds for the hospital, it normalises healthcare interactions for the children, and students can practice valuable communication skills as part of the experience.

Students also work in school-based and rural programs, sports clubs and student clinics across Melbourne and Victoria. The School has a strong commitment to closing the gap in Indigenous health. In a well-established partnership with Rumbalara Football and Netball Club in Shepparton, students participate alongside the Indigenous community in this important health and wellbeing activity.

The clinical schools and departments of the Melbourne Medical School are well distributed throughout northwest Melbourne and northeast Victoria. Close linkages to local health service partners enable the School to connect with local communities. Medical students learn a great deal from involvement in diverse local communities, and the community benefits from world-class research taking place in their neighbourhood.

The School participates locally and globally in public debate and advocacy around key health issues and policy based on its values of commitment, integrity, compassion, respect and service.

# Melbourne School of Health Sciences



Professor Linda Denehy

**Since its inception in July 2009, the Melbourne School of Health Sciences has created an interprofessional learning community at the forefront of leadership in health sciences education, clinical research, scholarship, professional practice, workforce training and community engagement.**

The School has five departments: Audiology and Speech Pathology, Nursing, Social Work, Physiotherapy, and Optometry and Vision Sciences, and more than 1300 graduate students.

“Our highly skilled team and outstanding students are discipline leaders contributing to local, national and global efforts to improve health and wellbeing. We have also built supportive and innovative programs of study for Indigenous students that will academically prepare the next generation of leaders in Aboriginal and Torres Strait Islander scholarship,” says Professor Linda Denehy, Head of School.

**Our Teaching and Learning:** teaching and graduate learning focuses on evidence-led, patient-centred care, health promotion across the lifespan, and working to prevent illness and to enhance wellness.

An example of innovation in teaching and learning is a collaborative project involving an augmented reality system for learning functional anatomy in physiotherapy. Technology allows students to look inside the human body by projecting layers of muscles and bones over the top of a volunteer ‘patient’. It provides an inside view of how the body works as it moves in real time.

The School also offers flexible online education to deliver globally relevant curricula to graduate health professionals, locally and internationally, in all departments. It has developed an Indigenous Curriculum Framework that will see all students engaged with Indigenous health.

**Our Research and Impact:** the School has developed research of national and international significance in areas ranging from ageing and cancer to chronic diseases and family violence. It has an NHMRC Centre for Research Excellence in musculoskeletal disorders studying the best way to manage osteoarthritis. Researchers from the Departments of Physiotherapy and Nursing are studying premature and newborn babies, their neurological developmental progress and how to best measure their vital signs. This new system of measurements has been implemented in 75 hospitals in Victoria.

The Department of Optometry and Vision Sciences is leading research on novel ophthalmic imaging techniques to visualise biomarkers of disease within the retina of the eye, such as Alzheimer’s and diabetes. The Department of Audiology and Speech Pathology is examining the use of stem cells in auditory function and is investigating links between age-related cognitive decline and hearing loss.

The Department of Social Work is currently working on 12 research projects through the Domestic Violence and Family Research Program. Key projects include STACY (Stay Safe and Together Addressing Complexity), the ‘Motherhood and Me’ study on child protection, and the DFAT/UNFPA funded kNowVAW project on family violence in East Asian and Pacific countries.

Leveraging off a \$1.3 million research fund investment, the Department of Nursing has initiated a broad range of projects centred on systems, quality and safety revolving around patient care. This includes an Australian first with the introduction of the Safewards care model targeting conflict avoidance in emergency departments.

**Our Engagement:** the School is an active participant in programs such as the Royal Children’s Hospital Teddy Bear Hospital, and the Victorian government’s Glasses for Kids, which provides vision screening in schools in disadvantaged areas.

The Department of Audiology and Speech Pathology and UMEyecare clinics provide best practice, evidence based, patient-centred specialised services in the areas of communication, hearing, balance and eyecare.

Internationally, the Departments of Physiotherapy, Optometry and Vision Sciences, Audiology and Speech Pathology have partnered with several highly regarded allied health institutions in India to share learning, increase student mobility, co-develop courses, establish mentor programs, and initiate collaborative research. This includes CMC Vellore, the Manipal Academy of Higher Education and the Medical Research Foundation based in Chennai.

Enabling vital research on the effects of colonisation on indigenous people around the world, the Department of Social Work has partnered with the University of Canterbury’s Department of Maori Research to establish the Indigenous Global Health Network.

# Melbourne School of Population and Global Health



Professor Terry Nolan

**The Melbourne School of Population and Global Health was founded in 2001 and was the first school of its kind in Australia. It has grown rapidly in size, scope and reputation. The School's vision is to make a difference by advancing population or public health in communities nationally and internationally.**

“As the School has grown and matured, we have worked towards our goal by attracting new staff with new discipline strengths who uphold that same vision,” says Professor Terry Nolan, Head of the Melbourne School of Population and Global Health.

There are five centres and institutes within the School: the Centre for Epidemiology and Biostatistics, the Centre for Health Equity, the Centre for Health Policy, the Centre for Mental Health, and the Nossal Institute for Global Health. The School also incorporates two partnership groups – the Global Burden of Disease Group and the Vaccine and Immunisation Research Group.

**Our Teaching and Learning:** the flagship Master of Public Health program has over 500 enrolments complementing a suite of specialist graduate coursework programs in Biostatistics, Epidemiology, Sexual Health and Health Informatics and Digital Health. The School coordinates the newly introduced Master of Ageing – an online degree that brings together teaching staff and researchers from faculties across the University and engages with different community sectors for whom ageing is an important issue.

The School's teaching staff includes over 50 subject coordinators for 60-plus electives with world-renowned researchers bringing students a research-informed learning experience. There are more than 600 graduate coursework enrolments with around 20 per cent of those being international students. The School has exchange relationships with universities and public health organisations in countries including Sweden, Canada and India.

**Our Research and Impact:** the School's research strengths focus on four priority areas: disparities, disadvantage and effective healthcare; data science, health metrics and disease modelling; screening and early detection of disease; and prevention and management of non-communicable diseases, including cancer, and promotion of mental health.

Some of the School's recent major research projects have included the work of the Bloomberg Philanthropies Data for Health Initiative, led by Professor Alan Lopez AC. The key technical leadership of the program is based in Melbourne with the aims of the program seeking to raise consciousness and awareness with government policymakers of the importance of reliable and timely information about who is dying of what in their country. This information can help form the basis of health policies and programs that then accelerate health improvements in populations.

**Our Engagement:** strong community engagement is a feature of population and global health programs. For example, researchers and students are examining the experiences of Aboriginal and Torres Strait Islander children and mothers from preconception until two years of age to support better maternal and child health. To ensure a collective impact, the project brings together Aboriginal and Torres Strait Islander Elders, researchers, community members, front-line workers and policy makers. Improving Indigenous eye health in remote communities is also part of the School's work.

On an international level, the School's Twins Research Australia is recognised as a world leader in facilitating and leading twins research in institutes and hospitals nationally and globally. The Centre for Epidemiology and Biostatistics, under the leadership of Professor Mark Jenkins, is also the epicentre of the International Mismatch Repair Consortium, an international collaboration investigating Lynch syndrome and its connection to some cancers.

# Melbourne School of Psychological Sciences



Professor Sarah Wilson

**The Melbourne School of Psychological Sciences is one of the oldest and largest psychology schools in Australia and has been consistently recognised as one of the finest in the world. It provides high-quality teaching and research supervision to over 5000 undergraduate students, 220 graduate diploma students, 110 fourth-year students and 280 students enrolled in our masters and PhD programs.**

“Our School prides itself on being engaged with the community. Our academics are gifted science communicators who make research come alive and bring psychology to bear on matters of significant public interest and concern,” says Professor Sarah Wilson, Head of School.

“We have also built supportive and innovative programs of study for Indigenous students that will academically prepare the next generation of leaders in Aboriginal and Torres Strait Islander scholarship,” says Professor Wilson.

**Our Teaching and Learning:** The School offers undergraduate and postgraduate courses. Our APAC(1)-accredited undergraduate course allows students to major in psychology via the Bachelors of Arts, Biomedicine(2) and Science. Graduates seeking an accelerated psychology major can study an accredited graduate diploma program.

1) Australian Psychology Accreditation Council (APAC). 2) Subject to APAC approval.

The postgraduate courses include Master of Psychology (Clinical Psychology) and Master of Psychology (Clinical Neuropsychology). These train future clinical specialists. The School also offers a non-accredited Master of Applied Psychology that, alongside our PhD program, leads to career pathways in research, academia, business, policy and leadership. They do not lead to registration as a psychologist.

**Our Research and Impact:** the School’s research concentrates on three key areas or hubs – complex human data, decision science, and ethics and wellbeing.

“The Complex Human Data Hub applies mathematical and computational modelling to human mind and behaviour. The School is internationally recognised for its cutting-edge work in mathematical psychology and we want to apply this expertise to understanding links from the level of cells to society; from decoding neural processes and cognition through to social processes and cultural change,” says Professor Wilson.

The Decision Science Hub aims to understand the neural and cognitive processes that underly the choices that we make and how the brain evaluates reward and punishment, illuminating problematic behaviours like obesity or addiction.

Equally, our Ethics and Well-being Hub brings a unique international focus by examining what it means to live well; personal happiness that is socially and environmentally sustainable. It focuses on applied ethics research, interpersonal behaviour, emotion dynamics and ‘moral

psychology’ – how people evaluate right or wrong and resolve social conflict.

Intersecting the hubs, the School has identified translational research initiatives to support the research strategy of the School. This includes the proposed Melbourne Centre for Behaviour Change (MCBC) which will have its base in the School but will have strong connections throughout the University.

Another initiative is the Clinical Neuroscience Translation Group (CNT), which builds on the School’s excellence in clinical and neuroscience research examining the psychological, cognitive, and neurobiological mechanisms of clinical and neurological disorders, with an emphasis on utilising this knowledge to develop and implement innovative interventions.

**Our Engagement:** the Melbourne Psychology Clinic is central to our professional training and provides low-cost, high-quality clinical services to the community. It has been running since the 1970s, providing approximately 200 clinical assessments and 1500 psychological treatment sessions each year. Postgraduate students, working towards a Master of Psychology (Clinical Psychology) or a Master of Psychology (Clinical Psychology)/PhD, work with patients under the supervision of the Faculty’s senior clinicians and registered clinical psychologists.

The clinic has been re-established as a research and research training clinic, with the integration of a research program and establishment of a large database to support a “precision psychology” approach. This will provide a platform for sustainable clinical translation research, neuropsychology training opportunities and support the submission of grants for randomised controlled trials.

The School also has clinical connections at hospitals across Melbourne including the Royal Melbourne Hospital, Austin Hospital and St Vincent’s Hospital, as well as research connections with many prestigious international institutions.

# School of Biomedical Sciences



Professor Fabienne Mackay

**The School of Biomedical Sciences was established in 2015, but its roots stretch back to the appointment of the first Professor of Anatomy, Physiology and Pathology in 1862. Today the School has a strong reputation for research and teaching excellence, and a focus on creating an innovative and inclusive environment for staff and students alike.**

“This is an exciting time for biomedicine, with revolutions in genomics, computational biology and advanced imaging opening up new ways of understanding the human body. The School of Biomedical Sciences is helping advance these revolutions through teaching and research, with the aim of improving human health locally and globally,” says Professor Fabienne Mackay, Head of School.

The School has five departments: Anatomy and Neuroscience, Biochemistry and Molecular Biology, Microbiology and Immunology, Pharmacology and Therapeutics and Physiology, several research centres and over 80 research groups. Each year it teaches more than 2500

full-time equivalent students and graduates more than 200 doctoral students.

**Our Teaching and Learning:** the School has a large teaching program at both undergraduate and graduate levels. The highly popular Bachelor of Biomedicine has close to 2000 students, many of whom will go on to be doctors, medical researchers and health professionals. The School also offers majors through the Bachelor of Science, and teaches into several of the Faculty’s graduate professional programs including the prestigious Doctor of Medicine.

Research training is a priority for the School with programs at honours, masters and PhD level. The Master of Biomedical Sciences is a coursework program with a substantial research component that includes a new and exciting Enterprise stream offered in collaboration with Johns Hopkins University.

“Our teachers are passionate, collaborative educators who deliver content in a way that is easily absorbed. They are keen to innovate in their teaching,” says Professor Mackay.

This talent has been recognised through multiple awards at Faculty, University and national levels. For three consecutive years teachers from the school have won the prestigious David White Award for Teaching Excellence.

**Our Research and Impact:** the School has a strong research program that attracts significant research funding each year. Areas of research strength include infection and immunity, neuroscience, cancer, cardio-respiratory, metabolic disorders, cellular imaging and structural biology, therapeutics and translational medicine.

The School has several University Research Centres including the Lung Health Centre, the Centre for Stem Cell Systems, the Muscle Research Centre and the Australian Venom Research Unit (AVRU). Centres help bridge the gap between discovery science and translation into clinical and population settings. A good example of this is the work undertaken by AVRU in Papua New

Guinea where trials have been carried out of a new antivenom to treat taipan bites. AVRU’s work has led to the establishment of a Global Snakebite Initiative that is dedicated to improving access to safe, effective antivenoms in the world’s poorest communities.

Industry ties are also very important to the School. The ARC Industrial Transformation Training Centre for Personalised Therapeutics Technologies aims to advance and deploy new technologies that will remove long-standing barriers to new drug discovery and development, and provide opportunities for highly effective personalised treatments.

**Our Engagement:** The School has strong connections through its researchers with universities across the globe. There is a formal doctoral student exchange program with Bonn University in Germany, and the School hosts students from China in partnership with the Walter and Eliza Hall Institute.

Locally, the School runs an annual program with the Gene Technology Access Centre (GTAC). Students from rural and socially disadvantaged communities visit GTAC and the University to undertake fun science activities, and find out about study and career opportunities in biomedical science. The event includes mentoring from current PhD students, a microscopy competition and a tour of the Harry Brookes Allen Museum of Anatomy and Pathology.

The Residential Indigenous Science Experience (RISE) brings Indigenous high school students to the University for a week-long STEM intensive program and, as part of this, the School’s Department of Physiology offers a ‘Doctor for a Day’ workshop. The School encourages Indigenous students to study and then use their knowledge and skills to improve health in their local communities.

The School is actively engaged with industry in a variety of ways, and has its own Industry Advisory Board. Members of the School have played a key role in the establishment of Biocurate, the SPARK Melbourne program, and other important cross-sector initiatives.



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