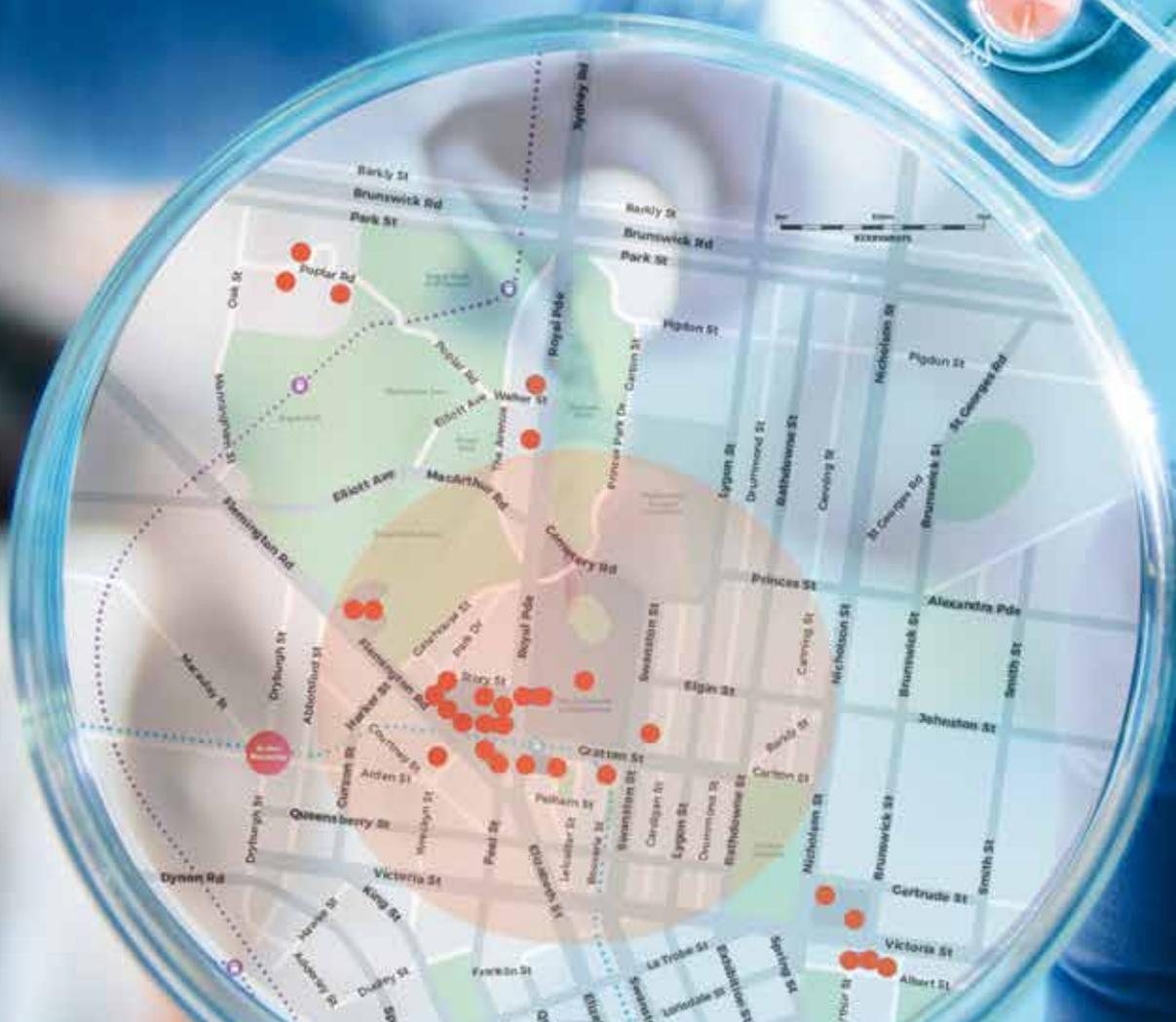




WELCOME TO THE SCHOOL OF BIOMEDICAL SCIENCES



Part of the southern hemisphere's largest biomedical precinct

Collaboration

Computational biology

Big data analysis

Discovery science

Excellence

Clinician scientists

Translation

Biochemistry

Early-Mid Career Researchers Association

Medical research

Human body

Physiology

Microbiology

School of

Biomedical Sciences

University of Melbourne

Bachelor of Biomedicine Awards

Neuroscience

HIV

Cells Biomedicine

Melbourne Biomedical Precinct

Genomics

Postdoctoral researchers

Clinical and population settings

Biomedical sciences

Molecular Biology

Health professionals

Immune system

Advanced imaging

Anatomy

Laboratory

Biomedical Student Society

Therapeutics

Immunology

Global-leaders

World-class

Teaching excellence

Pharmacology

Medicine

Academics

A person in a plaid shirt is holding a glowing, wireframe brain model. The brain is rendered in a translucent, white wireframe style with a bright orange and yellow glow emanating from its center. A network of yellow dots connected by thin lines is overlaid on the brain, suggesting neural connections or data flow. The background is a blurred outdoor setting with green foliage.

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“This is an exciting time for biomedicine worldwide, and the School of Biomedical Sciences is at the forefront of teaching and research with an ultimate aim of advancing human health.”
 – Professor Fabienne Mackay

Meet Head of School, Professor Fabienne Mackay

Does the science behind what creates, sustains and threatens people’s lives intrigue you? Are you interested in discovering the next generation of treatments to help improve the health of our community?

When I began my career in biomedicine in France, these were the things that captured my attention most. I wanted to make a positive difference to human health – as do thousands of others at the School of Biomedical Sciences.

Established in 2015, the School has a strong reputation for research and teaching excellence. It is one of the University’s largest and fastest growing Schools with more than

500 staff and over 2500 equivalent full-time student enrolments each year. Together we are growing the next generation of biomedical scientists, doctors and health professionals.

Pushing boundaries

There has been a revolution in biomedicine in recent years. Innovations in big data analysis, genomics, computational biology and advanced imaging are opening new ways of understanding the human body. Every day, our students and academics push the boundaries of what we see and

Lupus: what's next

More than five million people worldwide are living with a form of lupus – most are women; but men can carry the burden of more severe symptoms.

It starts in the prime of their life, during the 20s and 30s, the symptoms are lifelong and worsen during 'flare events'. There is no cure.

What's more, it's incredibly difficult to treat. In fact, just one new treatment has been approved in the past 60 years – thanks to the fundamental discoveries of Professor Fabienne Mackay, Head of the School of Biomedical Sciences, University of Melbourne. And, Professor Mackay's laboratory remains at the forefront of global lupus research efforts.

In the '90s, Professor Mackay worked at Biogen Inc – an American multinational biotechnology company – where she made the initial critical discovery laying the foundation for the development of a drug that was first approved in the US in 2011 and Australia in 2014.

Now, Professor Mackay's lab at the Doherty Institute is working to take the next step in treating the disease without 'turning off' the immune system.

– Read more at:
<http://go.unimelb.edu.au/fs6r>



understand. We have people who study the intimate workings of cells in real time, others using data from around the globe to try and stay ahead of deadly viruses, and some who focus on major advances in genomics to understand the complex interaction of a person's biology and the environment – and their impact on disease.

To do this, the School has more than 85 research groups in five departments and is the proud recipient of more than \$56 million in research funding annually.

World-class facilities

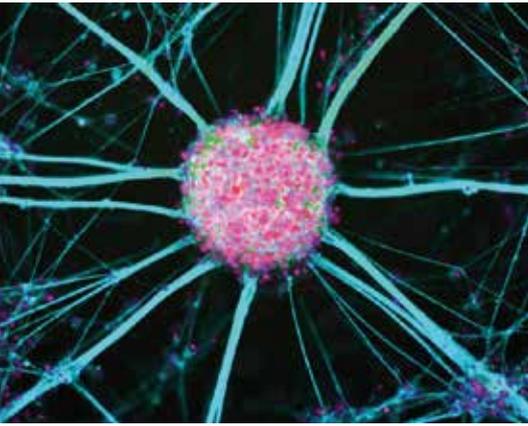
The University of Melbourne has been teaching and researching biomedical sciences for almost 160 years. In this time, it has developed deep and extensive resources for research, training and education. The University continues to lead with an extensive infrastructure agenda. Recently completed projects include Building 125 – Australia's most

sophisticated life sciences teaching and learning facility. It has multiple super-labs, collaborative learning spaces and custom designed facilities in an architecturally inspiring building. There has also been a major redevelopment of the Bio21 Institute – home to more than 140 biomedical researchers, scientists and students.

Furthermore, the School is nested in the largest biomedical precinct in the southern hemisphere – with more than 40 hospitals, research, teaching and biotechnology organisations surrounding us making it a coveted place to study and work (see Around the Biomedical Precinct, p16).

Inclusive culture

As a female Head of School and biomedical scientist I am passionate about advancing diversity and creating an inclusive place for all. The School has championed a range of initiatives to



where the students strive for excellence and support each other in the process. The Bachelor of Biomedicine Student Society plays a major role in this with a mix of social, educational and community minded activities. There is also a Biomedicine Orchestra for our talented students to further their musical interests, and a calendar full of community engagement events (See School news & events, p25). Each year, in partnership with the Gene Technology Access Centre, we invite VCE students from rural and socially disadvantaged communities to visit the University and learn about biomedicine. While Skype a (Biomedical) Scientist takes place during National Science Week, so that our experts can directly share their passion and advice with budding high school science students.

We also hosted the inaugural International Women's Day: My Brilliant Career event in March, where a stellar line-up of female leaders in biomedicine shared their career experience and advice with younger generations.

Whether you are seeking a career in academia or biomedical research, you're a graduate researcher or a student wishing to pursue a career in medicine or professional health, you will find a welcoming and inclusive place here.

Connect with Prof Fabienne Mackay PhD, FAHMS

 @FabienneMackay

 [linkedin.com/in/fabienne-mackay-73336344](https://www.linkedin.com/in/fabienne-mackay-73336344)

support our people. These include the establishment of an Early and Mid-Career Research Association – a vibrant group that supports younger researchers. We have also been fortunate to receive the support of the Gething-Sambrook Family Foundation to establish the MJ Gething Gender Equity Award. This helps those with significant caring responsibilities to maintain research momentum. The School's inclusive approach extends to its teaching programs. The Bachelor of Biomedicine is one of the University's most sought-after undergraduate programs. Through the patient and deliberate work of successive Directors, the program has developed a reputation for delivering a great student experience – one

Our leadership team

Meet those who are inspired to deliver research excellence and innovative teaching across the School.



**Head of School,
Professor
Fabienne Mackay**

"My vision for the School of Biomedical Sciences is to create

an innovative and inclusive environment that enables new generations of biomedical researchers to realise their dream of advancing human health."



**School Manager,
Belinda Bain**

"I have the privilege of working with the academic leadership of the School to make

it a great place for students to study and staff to undertake research into a great many important things. Working with, and for, such talented people is inspiring."



**Deputy School
Manager,
Dr Kate Keech**

"The research experience is no longer all day, every day in

the lab. Big data and all those 'omics' are king, making this an exciting time for biomedicine."



**Biomedicine
Program Director,
Professor
David Williams**

"Opportunities for academic, cultural

and personal growth are invaluable and serve to increase your understanding of the global nature of healthcare and biomedical research."



**Chair of Research
Committee,
Professor
Erica Fletcher**

"It is a privilege to

undertake biomedical research here. There are very few jobs as rewarding, both in terms of the day-to-day challenges and the long-term impact on society."



**Chair of Research
Training Programs
Committee,
Associate Professor
James Ziogas**

"The broad research

choices available through the Melbourne Biomedical Precinct means the majority of the program's structure can be customised and self-directed."

Head of School
Prof Fabienne Mackay

School Manager
Belinda Bain

Deputy School Manager
Dr Kate Keech

Biomedicine Program Director
Prof David Williams

Chair of Research Training Program
A/Prof James Ziogas

Chair of Research Committee
Prof Erica Fletcher

**Head of Department of Anatomy
and Neuroscience**
Prof Jennifer Wilkinson-Berka

**Head of Department of Biochemistry
and Molecular Biology**
Prof Ian van Driel

**Head of Department of Microbiology
and Immunology**
Prof Andrew Brooks

**Acting Head of Department of Pharmacology
and Therapeutics**
A/Prof James Ziogas

Head of Department of Physiology
Prof Matthew Watt



Inside the five departments

Learn more about education and industry insights from our five departments.



**Department of Anatomy and Neuroscience
Head, Professor Jennifer Wilkinson-Berka**

"Without a doubt, this is the most exciting time for biomedical research with new technologies allowing researchers to obtain large and complex amounts of information and use this knowledge in ways that we could only dream about 10 years ago."



**Department of Biochemistry and Molecular Biology
Head, Professor Ian van Driel**

"The Department is located in the Bio21 Molecular Science and Biotechnology Institute leading to opportunities for multi-disciplinary collaboration and access to cutting-edge technology platforms. The Department has existing and developing strengths in structural biology, biomolecules in signalling and cellular dynamics, protein engineering, design and chemical biology, systems and omics biology, computational biology and drug discovery."



Biomedicine Student Society (BSS)

Run by students for students, BSS is one of the most active and inclusive

of the University student groups. For more information on the study groups, mentor programme, charity support and social events, search for Biomed Bear on Facebook.



"I was excited to come to the University of Melbourne. I moved from Sydney and love the Melbourne vibes – brunch, coffee and meeting new people through the biomedicine course and student society." – Co-president, Joanne Liu.



Department of Microbiology and Immunology Head, Professor Andrew Brooks

"We are fortunate to have a large group of absolutely stellar researchers and educators in both the Department of Microbiology and Immunology and the Doherty Institute. It's a privilege to get an inside view as people make great discoveries or develop new ways of teaching particular concepts or subjects."



Department of Pharmacology and Therapeutics Acting Head, Associate Professor James Ziogas

"We research molecular, cellular and tissue actions of drugs and utilise animal models of disease that can lead to clinical studies. Our students learn both theoretical and practical pharmacological principles essential for drug discovery and development."



Department of Physiology Head, Professor Matthew Watt

"Established in 1862 and with a strong record of excellence, our Department's goal is to remain at the forefront of scientific research using novel and imaginative research methods to study metabolism, cardiovascular health, neurophysiology, and muscle and exercise physiology."

Early-Mid Career Researchers Association (EMCRA)

Supporting postdoctoral researchers in the School, EMCRA offers an annual salary guarantee award for research fellows. To find out more about the EMCRA Collaborative Award and networking opportunities visit: <https://biomedsciences.unimelb.edu.au/research/emcra>



"The applications for the EMCRA Collaborative Award are of incredible quality, reflecting the exceptional talent of the postdocs in our School." – Co-chair, Dr Susan Northfield.

#1
University
in Australia
#32 in the
world
.....

#1
in Australia
#14 in the world
for clinical,
pre-clinical
and health
.....

#1
in Australia
#7 in the
world for
graduate
employability

#1
in Australia
#9 in the
world for
Anatomy and
Physiology
.....

#1
in Australia
#17 in the
world for
Medicine *

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



School of Biomedical Sciences at-a-glance

An exhilarating
place to immerse
yourself in
biomedicine.
Here's why.

Undergraduate
Every year around 2500 full-time equivalent students undertake studies in biomedical sciences. At the undergraduate level, the Bachelor of Biomedicine is ideal preparation for a career in medicine and professional health. At the core of the degree is knowledge of the normal structure and function of the body and consideration of the determinants of disease.

Graduate
Research training is a priority for the School with programs at Honours, Masters and PhD level. The Master of Biomedical Sciences is a course work program with a substantial research component that includes a new Enterprise stream offered in collaboration with Johns Hopkins University, USA. International initiatives, such as a PhD exchange program with



85+
research
groups in five
departments

1350+
peer-reviewed
publications
annually

\$56+
million in
research funding
annually

22.4%
of publications in
the top 10% of the
world's most cited

200+
PhD students
each year

Bonn University in Germany, also create opportunities for early career researchers to develop global networks.

Teaching

Award-winning teachers, many who are also researchers or clinicians, inspire the next generation of biomedical professionals. Students are empowered to think conceptually about the problems affecting global human health. Teachers of the School have received the prestigious David White Award for teaching three times, along with other University and national awards for program innovation, excellence in engagement and outstanding contributions to student learning.

Outcomes

The University is proud to be ranked number one in Australia for Graduate Employability.*



STUDENTS

2500+
equivalent full-time students

2000
undergraduate

200
higher degree research

300
higher degree coursework

1900+
Australian and 600+ international

FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES



1700+
academic staff
including 1300+
research academics

\$475m
research income

20 highly-cited researchers – the most of any Australian university

1st among Go8 for student satisfaction with teaching (Source: qilt.edu.au)

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

800+
professional staff

6 schools:

- School of Biomedical Sciences
- Melbourne Medical School
- Melbourne Dental School
- Melbourne School of Health Sciences
- Melbourne School of Population and Global Health
- Melbourne School of Psychological Sciences

The Bachelor of Biomedicine has the flexibility to deliver a range of outcomes. Students are more frequently selected into the Melbourne Medical program than those from any other program in Australia. Others follow pursuits such as dentistry, biomedical research or bioengineering, and a small but growing number combine the degree with graduate law, commerce or management.

Precinct

Imagine studying or working in the largest biomedical precinct in the southern hemisphere. More than 40 hospitals, research, teaching and biotechnology organisations surround the School of Biomedical Sciences – making it a highly sought-after base for global biomedical leaders. The School is actively engaged with industry in a variety of ways and has its own Industry Advisory Board.





Research centres & units

Bridging the gap between discovery science and translation into clinical and population settings.

ARC Industrial Transformation Training Centre for Personalised Therapeutic Technologies



The Centre aims to advance and deploy new technologies

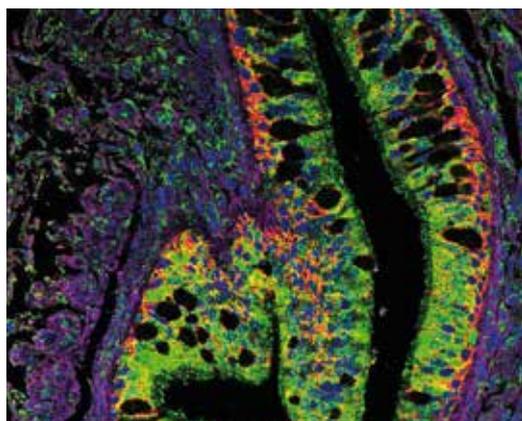
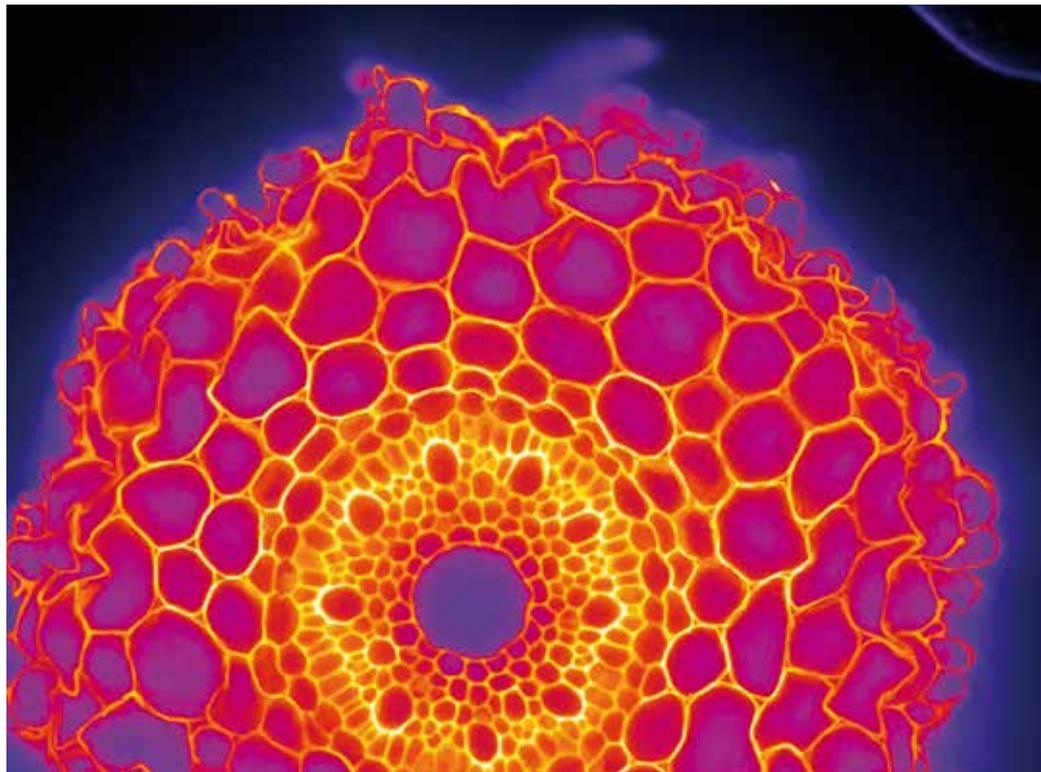
that will remove long-standing barriers to new drug discovery and development. In doing so it provides opportunities for highly effective personalised treatments.

“We are crossing the threshold into a new era of drug evaluation in which clinical trials will use ‘tissue-chip’

technology and allow individualised predictions of drug effectiveness.”
– Director, Professor Alastair Stewart.

Australian Venom Research Unit

Around five million people are bitten by venomous snakes globally each year and the AVRU is part of a coalition of organisations raising awareness about the global impact of snakebite. In particular, the Unit and the World Health Organisation (WHO) in Papua New Guinea are conducting trials of a new antivenom to treat taipan bites.



“Investing in this work not only benefits victims of snakebite, but also works to improve health systems and health outcomes for whole communities.”

– Head of the Unit and Chair of WHO’s Snakebite Envenoming Working Group, Dr David Williams.

Centre for Muscle Research

Investigating the mechanisms underlying skeletal muscle wasting and weakness, the Centre develops and tests therapies to counteract muscle

wasting disorders. It receives industry backing to perform pre-clinical trials on therapeutic compounds for disorders caused by ageing (sarcopenia), muscle diseases (such as the muscular dystrophies) and cancer cachexia.

“The proximity of the Centre to the Precinct’s wealth of world-leading institutes and hospitals provides unrivalled opportunity for collaboration and multidisciplinary translational research.” – Director, Professor Gordon Lynch.

Centre for Stem Cell Systems

Stem cell research spans synthetic and developmental biology, tissue engineering, bioinformatics, ethics, sociology and law. The Centre supports the depth of stem cell research across the University of Melbourne, providing a rich learning experience for undergraduate and postgraduate students, as well as an opportunity for the community to gain a deeper understanding about this emerging field.

“We are using stem cells to understand more about how our bodies develop, what goes wrong during disease and identify new ways to treat incurable conditions.” – Deputy Director, Professor Megan Munsie.

Lung Health Research Centre

Established in 2013, the vision of the



Centre is to improve lung health with a focus on research into severe Asthma, COPD, pulmonary hypertension, interstitial pulmonary fibrosis, recurrent lung infections and most recently cystic fibrosis.



The University expands Melbourne's Biomedical Precinct with the opening of Building 125 in March 2019.



Why Melbourne?

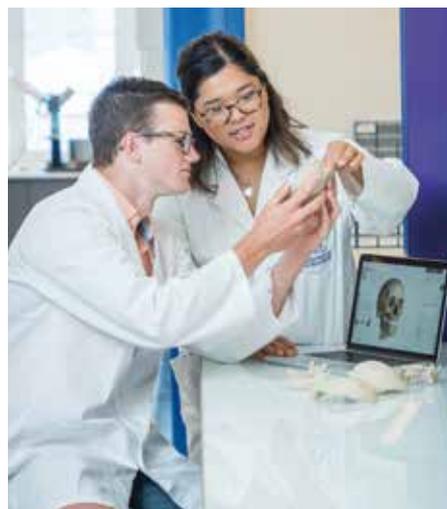
The University of Melbourne is right in the heart of one of the world's most vibrant and liveable cities.

Many people know the University of Melbourne is ranked number one in Australia, but you may not know why.

We are one of the world's finest universities. Employers worldwide seek out our graduates*. Our **students succeed** at the highest levels, and in more than one domain.

Our degrees aren't like most others you will find in Australia. They are aligned with those offered by many top institutions worldwide. We call it the Melbourne Model.

Students start with one of our undergraduate degrees. They can then choose to join the workforce, or specialise at graduate level – gaining a combination of undergraduate and graduate qualifications that will help them stand out from the crowd.



Meanwhile, our reputation as Australia's leading comprehensive **research-intensive university** means we attract and cultivate the most promising researchers from around the world. Collaboration with industry, other institutions and research organisations, the community, government and not-

for-profit organisations means research outcomes can have a global impact.

The Parkville campus is situated right in the **heart of Melbourne** – one of the world's most multicultural cities and a dynamic international business hub.

You can spend time in the famous cobblestone lanes or at world-class theatre productions – and if you don't yet have an Australian Football League (AFL) team, you might want to choose one!

Regional Victoria is world-famous for its iconic beaches, wineries, bushwalking and farm-to-table food, all just a short train or bus ride away.

These are just some of the reasons why many of the world's most ambitious minds choose Melbourne.

Learn more in Around the Melbourne Biomedical Precinct (p16).

*QS Graduate Employability 2019.



ASSOCIATED HOSPITALS



- Austin Health
- Dental Health Services Victoria
- Epworth Healthcare
- Goulburn Valley Health
- Mercy Health
- Northern Health
- St Vincent's Hospital
- The Royal Children's Hospital
- The Royal Victorian Eye and Ear Hospital
- The Royal Women's Hospital
- The Royal Melbourne Hospital
- Western Health

Around the Melbourne Biomedical Precinct

The School of Biomedical Sciences is part of the largest biomedical precinct in the southern hemisphere. Here's why it's a hub of innovation, exceptional collaboration opportunities and cutting-edge facilities.

Melbourne's position as a world leader in biomedical research was strengthened in 2016 when the Victorian State Government established the Melbourne Biomedical Precinct Office.

As the country's leading research University, we are proud to be at the epicentre of this stimulating environment where the next generation of outstanding achievers learn alongside global experts in their field. We share the Precinct's commitment to pioneer the world's best practices in patient treatment and care for the benefit of not only Australians, but people all over the world.

YOUR CITY

Melbourne is one of the most multicultural cities and a dynamic business hub

42.2% of residents are born outside Australia*



RESEARCH INSTITUTES AND CENTRES

- Bionics Institute
- Centre for Eye Research Australia
- Monash Institute for Pharmaceutical Science
- Murdoch Children’s Research Institute
- 📍 Peter Doherty Institute – Named after Melbourne scholar and Nobel Laureate Professor Peter Doherty AC. The Institute offers boundless opportunities for ground-breaking research into immunity and infection.
- Peter MacCallum Cancer Centre
- St Vincent’s Institute
- 📍 The Bio21 Molecular Science and Biotechnology Institute (Bio21 Institute) – A flagship multidisciplinary research facility with specialised platform technologies in medical, agricultural and environmental biotechnology and nano-biotechnology.
- The Florey Institute of Neuroscience and Mental Health
- Walter and Eliza Hall Institute

OTHER PARTNERS

- 📍 BioCurate – A joint venture between Monash and Melbourne universities to catalyse the translation of biomedical and biopharma research towards new therapies.
- CSIRO
- 📍 CSL Ltd. – Australia’s largest biotherapeutics company, worth \$45 billion, headquartered in Parkville and with a global presence in more than 30 countries.
- Gene Technology Access Centre
- Orygen, Youth Mental Health
- Victorian Comprehensive Cancer Centre

1 of the world's top 5 biomedical precincts

10,000+ researchers engaged in breakthrough biomedical and healthcare research

40+ hospitals, research, teaching and biotechnology organisations

28,000 people employed in the Precinct, who contribute **\$3.6 billion** to the Australian economy



World's most liveable city 2011-2018**

1600+ cafes and restaurants***



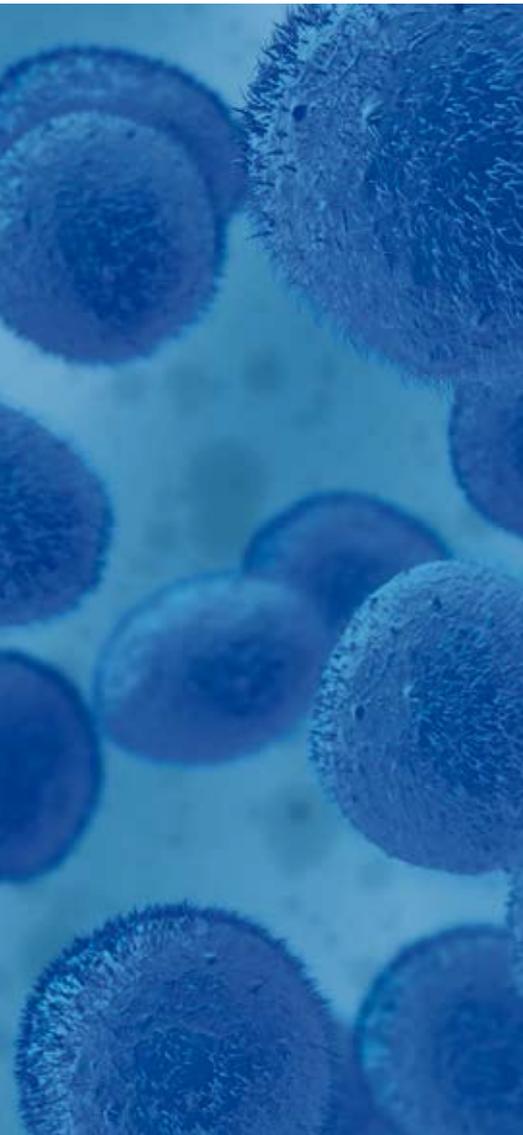
Designer fashion and a shopping mecca

State capital of Victoria



World's Sports City of the Decade ****

* 2016 census data for Greater Melbourne ** Global Liveability Index *** City of Melbourne data **** 2016 SportBusiness Ultimate Sport City Awards



World-class researchers

Outstanding facilities and commitment to discovery makes the School in demand among the brightest minds in biomedical research. Here are just a few.



Professor Jennifer Wilkinson-Berka PhD

Head of the Department of Anatomy and Neuroscience
Head of the Diabetic Retinopathy Laboratory

Enhancing the student experience and generating research outcomes that have an impact in both the pre-clinical and clinical research spaces is what drives Professor Wilkinson-Berka. In her Diabetic Retinopathy Laboratory, researchers are focusing on how the adaptive immune system can be harnessed to prevent vision loss and blindness in pre-term children, diabetes and ageing. Professor Wilkinson-Berka's pre-clinical research led to the discovery that the blockage of the hormone angiotensin II reduces retinal vascular disease, and this research contributed to the largest clinical trial on this topic in diabetic retinopathy.

“Research can be a slow and sometimes frustrating endeavour, but when discoveries are made in the laboratory it makes the hard work worthwhile and these successes should be celebrated.”



Dr Garron Dodd PhD

Senior Lecturer and Head of the
Metabolic Neuroscience Laboratory
Department of Physiology

Dr Dodd is a Neuroscientist with an interest in understanding how the brain controls energy balance and how this underlies

metabolic diseases such as obesity and diabetes. He leads the Metabolic Neuroscience Research Group, which is focusing on the role of insulin signalling to the brain and how this becomes defective in metabolic disease. Dr Dodd says this is an especially exciting era to be an active researcher. Never before have biomedical scientists been able to manipulate, image and re-wire neuronal circuits with such autonomy and precision. Dr Dodd's findings have been published in some of the most prestigious science journals including Cell, Cell Metabolism and eLife.

“Take every opportunity to share and discuss your work and the work of others and don't be afraid to ask senior colleagues for advice as they have weathered all the highs and lows of science.”



Dr Elena Schneider PhD

NHMRC Peter Doherty Fellow, PharmD
Department of Pharmacology
and Therapeutics

As an early career pharmacologist, Dr Schneider's work helps people with cystic fibrosis (CF) to have better lives. With more

than 2000 mutations causing CF and symptoms varying from patient-to-patient, the pathophysiology and treatments are complicated. To help, Dr Schneider's research focuses on the pharmacology, PK/PD mechanisms and potential drug-drug interactions. The aim is to optimise therapy and find new treatment options to combat lung infections caused by multi-drug-resistant Gram-negative 'superbugs' in patients. Dr Schneider is the ASM Young Ambassador to Australia (American Society of Microbiology), and 2019 winner of the TSANZ Peter Phelan Research Award from the Thoracic Society of Australia.

“You never know where biomedical science can take you: my career takes me all over the world: I give talks at international conferences, I've been interviewed by radio stations, I meet Nobel Laureates and many other interesting people.”



1350+ peer-reviewed publications in 2018



Professor Danny Hatters PhD

NHMRC Senior Research
Fellow
Department of Biochemistry
and Molecular Biology

Professor Hatters' laboratory is based at the Bio21 Molecular Science &

Biotechnology Institute. His research investigates the mechanisms underlying neurodegenerative diseases, particularly Huntington's and Motor Neurone Diseases. His interest is in understanding the biology thought to be most closely associated with the mechanisms of disease, including protein quality control. His focus is developing new biosensors and strategies to probe how inappropriate protein aggregation relates to the mechanisms of disease. In collaboration with Professor Gavin Reid, he has developed new methodologies and strategies in proteomics resulting in many publications, including a paper featured in Nature Communications in early 2018.

“I really enjoy the problem-solving aspects of biomedical research and thinking outside the box to solve the challenging problems. I am most satisfied with my accomplishments that ticks those boxes.”



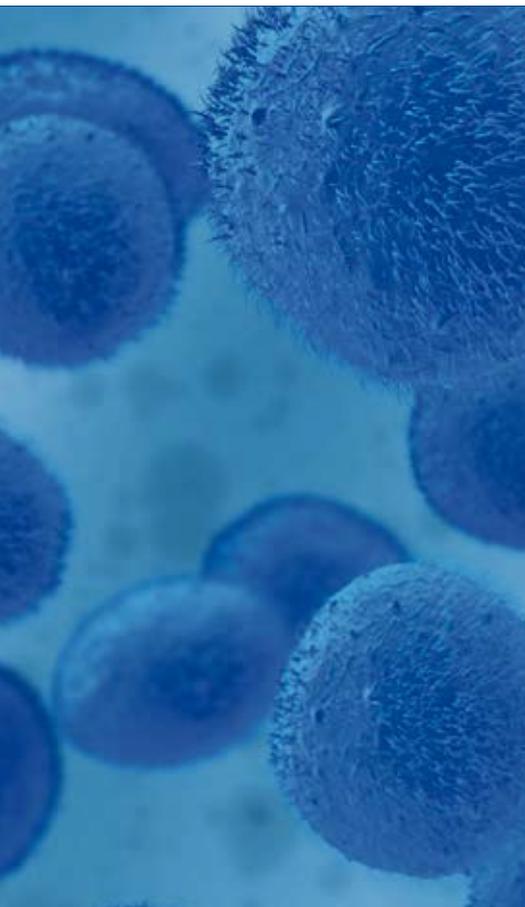
Professor Laura Mackay PhD

Sylvia & Charles Viertel Senior
Medical Research Fellow
HHMI-Gates International Research Scholar
Department of Microbiology
and Immunology

Award-winning biomedical scientist, Professor Laura Mackay joined the School in 2009 and

established her own research group at The Doherty Institute in 2016. Her research focusses on a population of T cells that resides in tissues of the body – termed tissue-resident memory T cells. The aim is to harness these cells for the development of new vaccines and immunotherapeutic strategies. Professor Mackay is also an undergraduate lecturer and presents her laboratory's research around the world. Among her many accolades, she was awarded the 2019 Frank Fenner Life Scientist of the Year Award in the Prime Minister's Prizes, the 2019 Gottschalk Medal by the Australian Academy of Science, the 2018 Michelson Prize for Human Immunology and Vaccine Research and was appointed the first female President of the Federation of Immunological Societies of Asia-Oceania.

“There are so many opportunities to collaborate with world-class scientists and clinicians in the Precinct and I've definitely been able to capitalise on that.”



Teaching talent

Our teachers are passionate, collaborative educators who deliver content in a way that is easily absorbed but also piques curiosity. Here's how.

Associate Professor Terry Mulhern PhD

Director of Teaching and Learning in Biochemistry and Molecular Biology
Department of Biochemistry and Molecular Biology

"I'm excited by where structural biology is heading with techniques such as single particle cryo-electron microscopy and cryo-electron tomography, which are being set up at the Bio21 Institute. To be able to look inside cells and see molecular machines at near atomic resolution is incredible. I wish I was 21 again! I'd sign up for a PhD in this area in a heartbeat."



Associate Professor Heather Verkade PhD

Teaching Specialist, 2nd year Molecular Biology
Department of Biochemistry and Molecular Biology

"I love the fundamental nature of the field of Molecular Biology, and teaching the absolute basis of life. We are trying to understand each individual's genomic makeup, their microbiome, their environmental history, and how all of these interact to influence their health outcomes. This is leading to personalised medicine, but the deeper we delve, the more detail we discover, and the more we need to develop the skills to interpret all this information."



#1 student satisfaction. First among Go8 for student satisfaction with teaching (qilt.edu.au)



Professor Sammy Bedoui MD
 Theme Leader Immunology at the Doherty
 Institute and Director of Melbourne-Bonn
 Graduate School
 Department of Microbiology and Immunology

“The high-quality of immunological research in Melbourne has brought me here from Germany. I am proud of our partnership with the University of Bonn, which involves many researchers in the School that together train over 40 PhD students. My advice to young researchers is to stay curious, never stop asking questions and dream large...There will always be amazing opportunities for bright minds willing to make a difference.”



Rosa McCarty PhD GCUT
 Lecturer in Pharmacology & Therapeutics, Teaching
 Fellow in Stem Cells & Regenerative Medicine at the
 Centre for Stem Cell Systems

“I am the co-ordinator of the Bachelor of Biomedicine third year capstone subject Frontiers in Biomedicine, an interdisciplinary subject that explores current and emerging health issues from individual and population perspectives. In my field, the importance of stem cell research has broadened from cellular therapies to a recognition of the utility of stem cells as tools to understand development, model disease, and develop and personalise therapeutics.”



Dr Charles Sevigny PhD
 Director, Digital Learning Hub,
 School of Biomedical Sciences
 Lecturer, Department of Physiology

“Our Digital Learning Hub is the largest room-scale VR learning studio in Australia. The School has identified VR and other forms of digital learning as a strategic priority, and formed the Digital Learning Hub. Our students are incredible. By the time they reach third-year, they are presenting complex scientific concepts and research in a way that rivals some academics. It’s amazing to watch.”



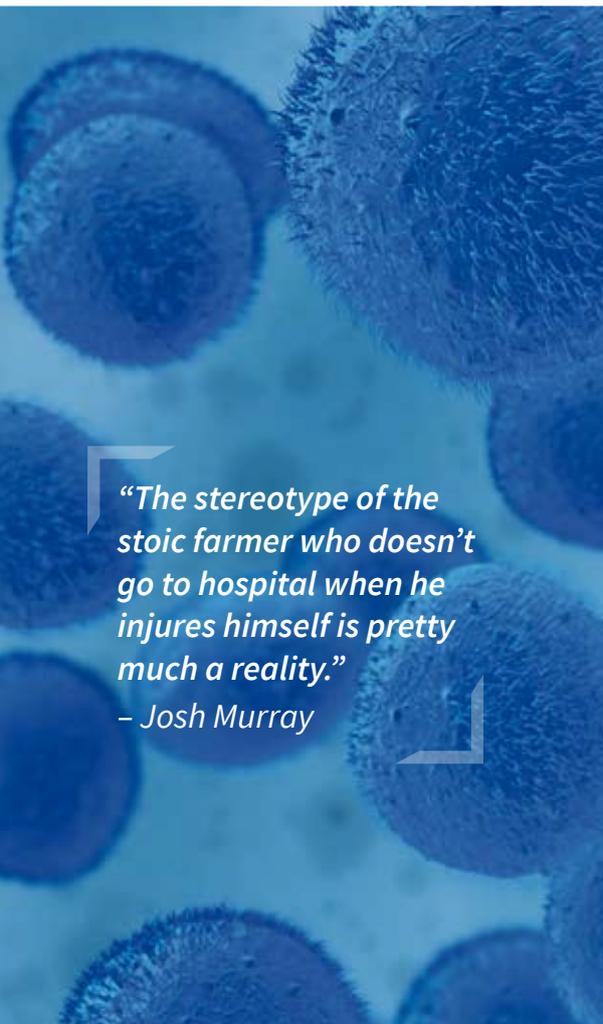
Associate Professor Jason Ivanusic PhD
 Head of Pain and Sensory Mechanisms
 Department of Anatomy and Neuroscience

“With biomedicine rapidly evolving there are so many new and enabling technologies that allow us to answer questions in ways that have not been possible in the past – and start asking new questions that we haven’t been able to conceptualise before. It’s an exciting time to be learning about biomedicine, and an exciting time to be contributing to biomedical research.”

AWARD-WINNING TEACHERS

The School’s teachers have been recognised through multiple awards at Faculty, University and national levels.

- 2018 University of Melbourne David White Award for Teaching Excellence:
Dr Terry Mulhern
- 2017 MDHS Award for Learning and Teaching Achievement:
Dr Terry Mulhern, Dr Heather Verkade, Ms Izabela Szambelanczyk Orval, Ms Irene Koumanelis and Mr Allen Espinosa
- 2017 MDHS Award for Program Innovation:
A/Prof Jenny Hayes
- 2017 University of Melbourne Award for Excellence in Engagement:
A/Prof Jenny Hayes
- 2017 University of Melbourne David White Award for Teaching Excellence:
Dr Charles Sevigny
- 2017 National Citation for Outstanding Contributions to Student Learning:
Dr Jason Ivanusic
- 2016 University of Melbourne David White Award for Teaching Excellence:
Prof Roy Robins-Browne



“The stereotype of the stoic farmer who doesn’t go to hospital when he injures himself is pretty much a reality.”
 – Josh Murray

Where are they now

Find out where these incredible minds have taken their Bachelor of Biomedicine.

Josh Murray

Bachelor of Biomedicine, Doctor of Medicine

Josh Murray’s family has been part of the fabric of Glenthompson’s farming community for five generations. Now that he’s completed his Bachelor of Biomedicine at Melbourne, Josh plans to return to his rural roots as soon as he qualifies as a GP.



Mona Zhang

Bachelor of Biomedicine, Juris Doctor

Mona is combining her two passions: biomedicine and law. Pairing her background in health sciences with an understanding of the law, she plans to make an impact in areas such as intellectual property law, health policy or medical negligence.

“I am inspired by people who selflessly dedicate their lives to helping others; improving the state of the world beyond just their own immediate situation.”

Qiannan Huang

Bachelor of Biomedicine, Doctor of Dental Surgery, Associate Dentist at St Helens Dental, Tasmania

Growing up in rural China, Qiannan Huang had little exposure to preventive dentistry and would have to travel for hours to see a dentist.

“It has always been my dream to pursue dentistry in a developed country. Helping people is a very rewarding experience, their smiles and satisfaction always make me happy.”



Nick Gherardin

Bachelor of Biomedicine (Defence and Disease), Honours (Microbiology and Immunology), PhD Doherty Institute (Immunology), Postdoctoral Research Fellow, Doherty Institute

Having completed a Bachelor of Biomedicine at Melbourne, including a research-based honours year, Nick went on to do his PhD at the Doherty Institute in the Department of Microbiology and Immunology. During this time, he developed a passion for biomedical research and gained a postdoctoral research position at Harvard Medical School in Boston. Nick is now a postdoc research fellow at the Doherty Institute.

“I never anticipated going into research science, but my experience in the Bachelor of Biomedicine really opened my eyes to a career pathway that I previously knew very little about.”

Lauren Story

Bachelor of Biomedicine, Master of Clinical Audiology, PhD in Clinical Audiology

Once finishing her PhD, Lauren hopes to continue developing clinical expertise as a vestibular (balance) audiologist, as well as research and tertiary teaching.

“The University of Melbourne offers so many opportunities to meet people from other fields. This helps you to identify where you fit in the global and professional scene.”



William Abbott

Bachelor of Biomedicine, Master of Engineering, Biomedical Engineer at The Royal Children’s Hospital, Melbourne

As an engineer in the Hugh Williamson Gait Analysis Laboratory at The Royal Children’s Hospital, William works closely with physiotherapists to provide engineering support for the completion of 3D gait analysis of children.

“I have always had an interest in medicine, human performance and engineering. The field of biomedical engineering seemed like the perfect combination.”

**Over 150 years teaching and researching biomedical sciences
at the University of Melbourne**







Professor Matthew Watt shares his research findings with 7NEWS.

School news & events

Whether it's national media coverage of our research breakthroughs, social media campaigns or sell-out events, here's a look at some of the happenings around the School of Biomedical Sciences.



International Women's Day 2019: 'My Brilliant Career'

On the eve of International Women's Day, the School hosted a panel of esteemed female leaders in biomedicine who shared their journey and advice with a sell-out crowd.

 **TWITTER TREND - #UnimelbSBS** was the top hashtag in Australia during the event. Tweets for our event were also featured as top IWD posts in Melbourne.

EAVESDROP ON EXPERTS PODCAST - A national audience tuned into a podcast recording of the panel discussion.

Annual Biomedical Sciences Day

Year 10 and 11 students from rural and socially disadvantaged communities are welcomed to the University to learn about biomedicine thanks to a partnership with the School and the Gene Technology Access Centre (GTAC). The event includes mentoring from current PhD students, a microscopy competition and tours of the Harry Brookes Allen Museum of Anatomy and Pathology and the Digital Learning Hub.



Biomedicine Student Society Ball

Raising thousands of dollars for charity every year.

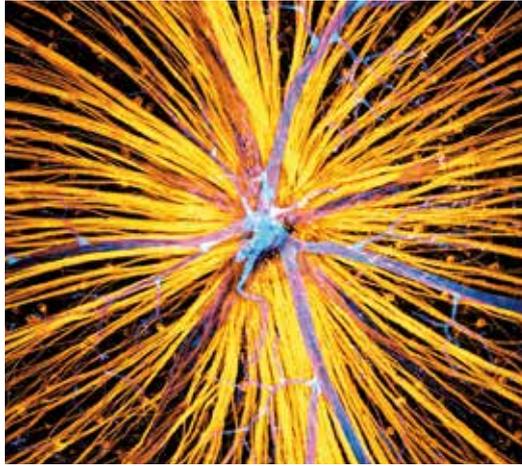
School of Biomedical Sciences Research Mini-Conference

Bringing together researchers from the School's five Departments, EMCRA and industry experts for a day of discovery.



Enterprise Launch

Preparing students to lead in a growing biomedical and biotechnology industry, the Enterprise specialisation focuses on entrepreneurship and commercialisation within biomedical research.



Under the Coverslip



A mesmerising scientific imaging **competition** presented annually by the postgraduate students of the Anatomy Society and Department of Anatomy and Neuroscience.

Welcome to Open Day

More than 28,000 visitors explore the University of Melbourne on Open Day in August – many casting a close eye over the School of Biomedical Sciences.



Body Donor Program Hosts Annual Commemorative Thanksgiving Service

Students and staff of the Department of Anatomy and Neuroscience gather with donor families and friends to celebrate the lives – and altruism – of those who donate their body to science.

Skype a (Biomedical) Scientist

School biomedical scientists share their passion and insights with budding high school science students from metro and regional schools. The live Skype sessions were part of National Science Week.



Biomedical Student Society Facebook Live Series



36K+ topics including student life, studying abroad and exam success.

Melbourne University Biomedical Students' Orchestra

With a strong medical focus through its concerts and volunteering events, MUBSO plays close to the heart and fosters students' love of music.



My New Normal: Moving away from home to study

My New Normal  **ABC AUSTRALIA**

Esperance Fyfe, Bachelor of Biomedicine student, appears on ABC TV to discuss what it's like moving regionally to study.

Different Fat Cell Types May be Key to Obesity

Professor Matthew Watt, Head of the Department of Physiology, leads a world-first fat cell discovery.

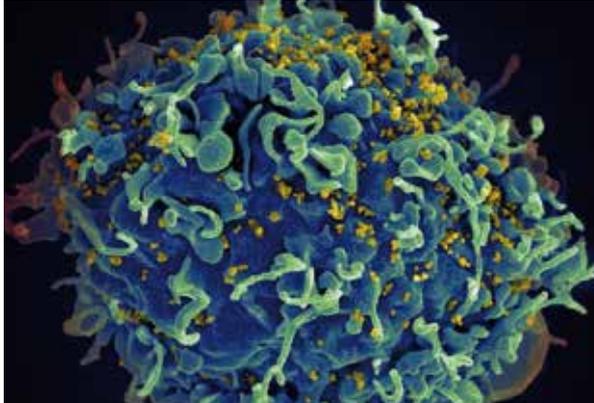


 **Popular podcast**

Visiting for the Grimwade Medal Oration, Nobel Laureate Professor Randy Schekman discussed the value of scepticism, and why the scientific method needs to be defined now more than ever.

Snakebites: Like Having my Hand Smashed by a Hammer

Dr David Williams, of the Department of Pharmacology and Therapeutics, tells BBC News about his role in developing a new WHO strategy to reduce the death and disability burden of snakebite.

Lifting the Lid on HIV

School of Biomedical Sciences researchers are opening up HIV to expose new treatment targets that could help eradicate the deadly disease.



FIGHTING MND

MND Breakthrough

A highly sought-after expert, Associate Professor Peter Crouch appears on Channels 7, 9, 10 and ABC to speak about Motor Neurone Disease. The lack of an effective treatment haunts sufferers, but now, after 10 years of work by researchers at the University of Melbourne, Bio21 Molecular Science and Biotechnology Institute and the Florey Institute of Neuroscience and Mental Health, a human trial for a drug that could fight this devastating disease has begun.

For more news and events visit: <https://biomedicalsciences.unimelb.edu.au/>

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