Monash Graduate Research Programs and Collaborative Projects

Prof. Nellie Georgiou-Karistianis
Deputy Dean, Academic and Graduate Affairs
22 November 2019
Monash is a global university with a presence on four continents and ambitious plans for the future.

- Ranked in the world’s top 100 universities
- #75 globally (Times Higher Education World University Ranking 2020)
- #59 global university employability ranking (Times Higher Education 2019)
- 77,000+ students from more than 170 countries
### Monash University Overall

<table>
<thead>
<tr>
<th>Year</th>
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<td>2019</td>
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<td>2018</td>
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<td>2020</td>
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### Clinical, Pre-clinical & Health

<table>
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### Biomedical Engineering

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### Nanoscience & Nanotechnology

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### Biotechnology

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### Clinical Medicine

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### Immunology

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### Microbiology

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### Molecular Biology & Genetics

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### Neuroscience & Behaviour

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### Pharmacology & Toxicology

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### Psychiatry/Psychology

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### Social Sciences & Public Health

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</table>
The Faculty of Medicine, Nursing and Health Sciences is Monash University's largest faculty and a leading provider of health care education in Australia.

- $213m+ annual research income (2018)
- 1700+ Researchers
- 1400+ PhD students
- #1 in Australia for NHMRC funding (NHMRC 2019)
FACULTY VISION

RESEARCH
TRANSLATION
IMPACT

A research-intensive faculty that improves human health and wellbeing by significantly advancing the knowledge of humankind and educating future practitioners and researchers

► Conduct internationally-competitive biomedical and clinical research
► Train world class, highly skilled medical researchers and health practitioners
► Translational research to improve the practice of health care and health outcomes
► Inform government policy and influence public debate
WORLD CLASS DISCOVERY & CLINICAL RESEARCH

- 10 schools, strong interdisciplinary research links with other Faculties
- *Discovery*: led by four institutes and various specialist centres
  - Monash Biomedicine Discovery Institute, Australian Regenerative Medicine Institute, Turner Institute for Brain and Mental Health and Monash Institute of Medical Engineering
- *Clinical*: in partnership with network of hospitals and institutes
  - Monash Health Partners Academic Health Science Centre
- A total of 53% of research outputs published in Q1 journals

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<td>Clinical, Pre-clinical &amp; Health</td>
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<td>46</td>
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<tr>
<td>Clinical Medicine &amp; Pharmacy</td>
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<td>101-150</td>
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<tr>
<td>Life Sciences &amp; Medicine</td>
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RESEARCH STRENGTHS

- Cancer & Blood Diseases
- Cardiovascular Disease
- Critical Care, Trauma & Perioperative Medicine
- Development, Stem Cells & Regenerative Medicine
- Healthy Aging
- Infection, Inflammation & Immunity
- Medical Technologies & Engineering
- Metabolism, Obesity & Men's Health
- Neurosciences & Mental Health
- Public Health, Allied Health & Health Systems Improvement
- Therapeutic Target Discovery
- Women's, Children's & Reproductive Health
Core facilities or capabilities providing specialist infrastructure, services and expertise to the academic research community and to industry

Approx. 30 platforms incl. 3 integrated pipelines for research translation

- 80+ dedicated expert staff and 160+ world class instruments
- 100,000+ services delivered annually to academia and industry
- ISO certification
OUR VISION

We aspire to achieve excellence in graduate research training and that our graduates are work-ready to succeed in a range of careers

Achieved through:

► quality recruitment and selection practices
► professional development and enhancement of graduates’ skills
► timely completions, with aspiration of 75% by 2020
► excellence in supervision practice
► international partnerships and exchange opportunities
► industry placements/internships
PATHWAYS INTO THE MONASH DOCTORAL PROGRAM

Bachelor Degree with Honours (or equivalent) in a relevant field

Graduate Diploma in Health and Science Research

Masters by Coursework (with 25% Research Component)

Masters by Research

Relevant Research Experience/ Outputs

PhD
Monash Doctoral Program
SUPERVISOR CONNECT

START YOUR RESEARCH JOURNEY

- Find a research project
- Find out more about what our researchers’ interests are
- Find out about our research capabilities
- Find out from our research students what they are researching
- Find out more about our degrees
- How to apply

www.monash.edu/medicine/research/supervisorconnect
GRADUATE RESEARCH SHOWCASE

Some of our current PhD students and their research topics

- Development of potent anticancer activities from Malaysian snake venom in human colorectal cancer cells
- Paramedic exposure to cardiac arrest: does practice make perfect?
- Developing a new combination cell-based therapy to improve chronic kidney disease
- Exploring prehospital care in Indonesia
- Investigating what happens to two subacute wards at mealtimes
- Mothering with mental illness in a rural context: Gender, identity & connectedness in personal recovery
- Depression & Help seeking in the Sri Lankan Australian & Anglo-Australian community
- The Attention Training Program: a non-pharmaceutical intervention aimed at improving attention deficits resulting from a developmental disability

Some of our current PhD students and their research topics
## OUR GRADUATE RESEARCH DEGREES

The MONASH DOCTORAL PROGRAM is a PhD degree and has 3 MODES OF DELIVERY

<table>
<thead>
<tr>
<th>Professional Development Mode</th>
<th>Course Work Mode</th>
<th>Industry Partnerships</th>
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</thead>
<tbody>
<tr>
<td>Excellence in Research &amp; Teaching&lt;br&gt;  - Research Methods and Analysis&lt;br&gt;  - Publishing and Funding&lt;br&gt;  - Teaching in Higher Education</td>
<td>Translational Research&lt;br&gt;  - Delivers the skills to bring work from bench-to-bedside.</td>
<td>Interdisciplinary research activity in collaboration with industry partners</td>
</tr>
<tr>
<td>Professionalism, Innovation &amp; Career&lt;br&gt;  - Leading Self and Others&lt;br&gt;  - Communication and Collaboration&lt;br&gt;  - Innovation and Enterprise&lt;br&gt;  - Career Success</td>
<td>Public Health &amp; Preventive Medicine&lt;br&gt;  - Study epidemiology and biostatistics to conduct and interpret health-related data.</td>
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**OUR GRADUATE RESEARCH DEGREES**

In addition to the Monash Doctoral Program, we offer:

<table>
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<th>Psychology PhD Programs*</th>
<th>Research Masters Degrees</th>
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<tbody>
<tr>
<td>Doctor of Philosophy</td>
<td>Master of Philosophy</td>
</tr>
<tr>
<td>(Clinical Neuropsychology)</td>
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</tr>
<tr>
<td>Doctor of Philosophy</td>
<td>Master of Biomedical Science</td>
</tr>
<tr>
<td>(Clinical Psychology)</td>
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*Accredited degrees that include coursework and clinical placements
Competency mapping of eight key competencies that we believe are fundamental for our graduates upon completion.

Identified gaps and developed new modules to support each competency designed to up-skill students in core employability skills.
Monash Medicine, Nursing and Health Sciences has a range of international partnerships, joint PhD and PhD exchange programs. Take the opportunity to benefit from these connections and graduate with a truly global outlook.

Joint PhD programs include:
- Indian Institute of Technology Bombay (IITB), India
- Justus Liebig Universitat Giessen, Germany
- University of Warwick, UK
- Radboud University, Netherlands
- Newcastle University, UK
- Southeast University, China

PhD Exchange programs include:
- Newcastle University, UK
- Kings College London, UK
- Chinese University of Hong Kong, Hong Kong
- Tel Aviv University, Israel
- Justus Liebig Universitat Giessen, Germany
- Rikagaku Kenkyuiyo (RIKEN), Japan
Monash-JLU Joint PhD Program

Training the next generation of research experts in men’s reproductive health

IRTG-Monash 2017-2022
- 6 PhD completions
- 11 PhDs currently enrolled
  (5 Monash and 6 JLU)

Offering specialised training in:
- Infertility/Fertility
- Immunology and Inflammation
- Reproductive Hormones and Local Factors
- TGFβ/Activin Superfamily Biology.
"After completing my undergraduate and postgraduate degrees in Germany, I liked the idea of undertaking my PhD in a new country. Being based at Monash BDI, I’m a regular user of Monash’s Micro Imaging facility, which latest instrumentation provides me with great microscopes and optical setups to investigate my research questions. The team there are amazing and have been a great help in the progression of my project."
RAOUDA SGAIER
Hudson Institute

“My research project looks at finding better ways to accurately diagnose certain forms of male infertility, for which the only definitive diagnosis method available today is a testicular biopsy, a highly invasive procedure.

Coming to Monash, I was pleasantly surprised by both the research facilities and resources available to PhD students.”
“I am hopeful that my research will contribute to the elimination of hepatitis C in Australia. Having an understanding of what drives or prevents the virus can lead to greater health awareness and prevention efforts.

Being based at the Burnet Institute (within the Alfred Hospital precinct) means I’m at the heart of great research and part of a multidisciplinary team, where I can ask anyone for advice. There are regular seminars to attend, lots of cross-institutional collaboration and many opportunities to pick up new knowledge beyond my own area of expertise.”
JLU-Monash RNA IRTG PhD – new proposal

Addressing the big questions in RNA biology

JLU-Monash RNA IRTG PhD

‘The dynamic RNP: post-transcriptional gene control in response to stimulus’

Exploring diverse areas of RNA biology to understand:
- Cellular response in steady-state and in response to stress
- Development and cell fate transitions
- Infection and immunity
- Cell signaling