Higher degree research 2020

MACQUARIE University

When your potential is multiplied
by a university built for collaboration,
anything can be achieved.

That's **YOU** *to the power of us*

Contents

COVER PHOTO: PhD candidates Yilian Guo and Ognjen Kovacevic with supervisor Associate Professor Vito Mollica from the Department of Applied Finance.

PHOTOS: Joanne Stephan, Chris Stacey and Robert Harcourt

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Foreword

Macquarie University has a proud reputation for world-leading research that is recognised internationally. As one of Australia's premier teaching and research institutions, Macquarie is your best choice for a higher degree research program. If you complete your higher degree research at Macquarie, you'll be rewarded with an exceptional research training experience in an environment of the highest quality.

Macquarie's world-leading research with world-changing impact has been recognised in the results we achieved under the Australian Government's 2018 Excellence in Research for Australia evaluation. Results from the evaluation highlighted Macquarie's impressive research profile, with 100 per cent of our research ranked as performing at world standard or higher at the broad discipline level.

Macquarie's Strategic Research Framework 2015–2024 *World-Leading Research; World-Changing Impact* has firmly established the University's approach to world-leading research with world-changing impact. We are intent on building and reinforcing areas of research strength that provide solutions to the world's most pressing problems.

Our considerable research expertise is focused on the priorities of Healthy People, Resilient Societies, Prosperous Economies, Secure Planet and Innovative Technologies. These priorities are buttressed by four research objectives: Accelerate world-leading research performance, Prepare world-ready higher degree research candidates, Engage as a world-recognised collaborator of choice and Deliver research with world-changing impact.

As a prospective candidate, our second objective – Prepare world-ready higher degree research candidates – is the key that unlocks opportunities and places you at the forefront of our research vision.

We attract candidates of the highest potential and provide them with outstanding supervision, superior mentoring and an exceptional placement within one of our areas of research strength.

Macquarie provides opportunities for career-enhancing exposure to industry, government and communities, and our degrees are internationally aligned and globally relevant.

Macquarie's commitment to international research excellence is exemplified by our research training program – the Master of Research – which is fully aligned with research training in Asia, Europe and North America. We were the first university in Australia to align internationally, and you can rely on Macquarie to ensure you have greater international recognition for your qualifications.

At Macquarie, we value our higher degree research candidates and recognise the vital contribution our research candidates make to the University, to the nation and to the world. One way we show our appreciation to you is through our research excellence scholarship program. To encourage excellence in higher degree research, we have expanded this program to enable well-prepared candidates to undertake doctoral studies at Macquarie.

I readily welcome your interest in undertaking a higher degree research program at Macquarie and urge you to contact our staff to investigate the opportunities available to you. At Macquarie, you'll gain an advanced research degree of the highest international standing, and we will support you every step of the way.

Professor Sakkie Pretorius
DEPUTY VICE-CHANCELLOR (RESEARCH)

A proud tradition of discovery

RESEARCH AT MACQUARIE

Our Strategic Research Framework 2015–2024 *World-Leading Research; World-Changing Impact* is brought to life by our renowned researchers, whose intrepid solutions to issues of global significance benefit the world we live in.

Recognised globally for our pre-eminence in key research disciplines, we pursue excellence in a broad range of research areas, including in those that are cross-disciplinary.

In applying our research, our discoveries translate into real improvements for local, national and global communities. Discoveries such as wi-fi, which our researchers co-developed with CSIRO, have world-changing impact. Our discoveries yet to come, such as cures for motor neurone disease and Parkinson's disease, will change the world.

In looking to the future, we have developed five research priorities that provide a focal point for the cross-disciplinary research approach that is at the heart of our ethos.

These priorities are Healthy People, Resilient Societies, Prosperous Economies, Secure Planet and Innovative Technologies.

We are ranked among the highest-performing research universities in Australia. In the 2018 Excellence in Research for Australia (ERA) evaluation, we achieved the highest rating of 5 – outstanding performance well above world standard – in agricultural and veterinary sciences, biological sciences, environmental sciences and physical sciences. In total, 100 per cent of our research activity at the two-digit level was rated as performing at world standard or higher.

Macquarie is also ranked among the top 50 institutions in the world for linguistics and philosophy, and in the top 100 for accounting and finance, earth and marine sciences, education, English language and literature, geography, law, performing arts and psychology (QS World University Rankings by Subject, 2019).

By undertaking a research degree at Macquarie, you'll have the opportunity to make an important contribution to the development of new knowledge while working alongside world-leading researchers and using some of the region's most outstanding facilities.

Pursuing excellence

MACQUARIE AT A GLANCE

5
future-shaping research priorities

14
research themes and 69 research streams

$200 MILLION
in research funding received from 2014 to 2016

$1 BILLION
invested in infrastructure and facilities in recent years

$116 MILLION
invested in higher degree research scholarships from 2015 to 2017

FIRST
university in Australia to introduce the Master of Research

MORE THAN 30
researchers in the top 1% of scientific authors in the world

LEAD INSTITUTION
for two ARC Centres of Excellence and a major node in two

MORE THAN 2800
institutions have benefited from research collaborations with Macquarie since 2013

MORE THAN 160
researchers have published research that is in the top 1% of publications worldwide

1 OF ONLY 2
universities in Australia rated at the highest level for environmental sciences research in all four ERA evaluations

1 OF ONLY 5
universities in Australia rated at the highest level for physical sciences research in all four ERA evaluations

A new ERA for Macquarie's researchers

EXCELLENCE IN RESEARCH FOR AUSTRALIA

Excellence in Research for Australia (ERA) is the Australian Government initiative that evaluates the quality of research being conducted by Australia's higher education institutions, with research quality evaluated in groups defined by two-digit and four-digit Fields of Research (FoR) Codes and rated on a five-point scale.

In the 2018 round, Macquarie achieved a stellar performance at the two-digit level in agricultural and veterinary sciences, biological sciences, environmental sciences and physical sciences, with each being rated 5 out of 5 – outstanding performance well above world standard. Environmental sciences and physical sciences have now been rated as well above world standard in ERA 2010, 2012, 2015 and 2018.

Additionally, chemical sciences; earth sciences; education; engineering; information and computing sciences; language, communication and culture; mathematical sciences; medical and health sciences; and philosophy and religious studies were rated 4 out of 5 – performance above world standard.

In total, 100 per cent of Macquarie's research activity at the two-digit level was rated as performing at world standard or higher.

At the four-digit level, Macquarie increased its areas of research rated at well above world standard from 14 to 21. This includes three areas that Macquarie submitted in for the first time – macromolecular and materials chemistry, materials engineering and horticultural production, with the latter area recently receiving a $2.5 million New South Wales Government grant to establish a biofoundry in synthetic biology.

Areas that have been the focus of long-term strategic investment, such as computing, education, engineering and medicine, have performed exceedingly well. Outstanding results for research in areas such as cardiovascular medicine and haematology, clinical sciences, neuroscience, and oncology and carcinogenesis underpin MQ Health – Australia's first university-led fully integrated health sciences centre that combines excellence in clinical care with teaching and research.

Our world-leading research in biomedical engineering, communication, linguistics and psychology support Macquarie's unique *Hearing Strategy 2030*. Our research in analytical chemistry, applied ethics, genetics, horticultural production, medicinal and biomolecular chemistry, microbiology, neurosciences and plant biology provides strong foundations for Macquarie's rapidly emerging strength in bioinnovation.

The ERA ratings are a vital indicator of Australia's research excellence and performance. Macquarie's results show that taking a collaborative and innovative approach – with a focus on how research improves lives – achieves far-reaching, world-changing results.

Additionally, the results achieved by Macquarie in the inaugural Australian Research Council's Engagement and Impact Assessment – a companion exercise to ERA – demonstrate our commitment to industry, community and government engagement.

More than 90 per cent of Macquarie's impact case studies were deemed to have made a significant contribution beyond academia. Further, 100 per cent of our research is characterised by effective or highly effective interactions between researchers and research end users outside academia.

Macquarie's case studies achieved the highest possible rating in diverse areas, such as Aboriginal and Torres Strait Islander research, agricultural and veterinary sciences, biomedical and clinical sciences, earth sciences, education, philosophy, psychology, and public and allied health sciences.

5 WELL ABOVE WORLD STANDARD

MACQUARIE'S TWO-DIGIT 5s

- Agricultural and veterinary sciences
- Biological sciences
- Environmental sciences
- Physical sciences

MACQUARIE'S FOUR-DIGIT 5s

- Analytical chemistry
- Astronomical and space sciences
- Atmospheric sciences
- Clinical sciences
- Computation theory and mathematics
- Ecological applications
- Ecology
- Electrical and electronic engineering
- Environmental science and management
- Evolutionary biology
- Genetics
- Horticultural production
- Macromolecular and materials chemistry
- Materials engineering
- Neurosciences
- Oncology and carcinogenesis
- Optical physics
- Philosophy
- Plant biology
- Pure mathematics
- Zoology

MACQUARIE'S ERA RATINGS

100 per cent of research at the two-digit level rated by ERA 2018 at or above world standard	Achieved a 5 rating in the two-digit areas of physical sciences and environmental sciences across all ERA rounds (2010, 2012, 2015, 2018)	Achieved a 5 rating in horticultural production, macromolecular and materials chemistry, and materials engineering – all research areas assessed for the first time	One of only a few universities to have all two-digit units of evaluation rated at 3, 4 and 5	Among the top four universities in computation theory and mathematics	Among the top five universities in philosophy	Among the top six universities in atmospheric sciences	Among the top seven universities in horticultural production	Among the top nine universities in analytical chemistry	Among the top 10 universities in genetics, and pure mathematics

Real-world impact

OUR FUTURE-SHAPING RESEARCH PRIORITIES

Our five interdisciplinary strategic research priorities – Healthy People, Resilient Societies, Prosperous Economies, Secure Planet and Innovative Technologies – respond to globally significant challenges and opportunities to improve the lives of millions. Together, these priorities provide a focal point for research, with discoveries translating into real improvements for communities everywhere.

Our unique approach is making us increasingly the partner of choice for leading organisations, including Johnson & Johnson, Cochlear and Optus. These partnerships give organisations access to pioneering researchers and talented students. In turn, our academics, researchers and students benefit from the opportunity to collaborate on game-changing initiatives.

The breadth and depth of research at Macquarie also informs our approach to teaching and learning, and adds significant value to a student's university experience, as they learn about the latest breakthroughs in their field from the world-renowned researchers who made them.

WORLD-LEADING RESEARCH

WORLD-CHANGING IMPACT

Pioneering Research
HEALTHY PEOPLE

PIONEERING HEALTH, INTEGRATED HEALTHCARE AND LIFELONG LEARNING FOR WELLNESS IN OUR AGEING WORLD

Pioneering Research
RESILIENT SOCIETIES

UNDERSTANDING CULTURES IN OUR CHANGING WORLD AND BUILDING ETHICAL, JUST AND INCLUSIVE COMMUNITIES

Pioneering Research
PROSPEROUS ECONOMIES

STRENGTHENING ECONOMIC PRODUCTIVITY TO PROMOTE PROSPERITY IN OUR DIVERSE WORLD

Pioneering Research
SECURE PLANET

SUSTAINING OUR INTERDEPENDENT WORLD AND EXPLORING OUR PLACE IN THE UNIVERSE

Pioneering Research
INNOVATIVE TECHNOLOGIES

ADVANCING OUR INTERCONNECTED WORLD WITH FRONTIER TECHNOLOGIES, SYSTEMS, DESIGNS AND CREATIVE PRACTICE

ARTS | BUSINESS | HUMAN SCIENCES | MEDICINE AND HEALTH SCIENCES | SCIENCE AND ENGINEERING

Driving the research agenda

OUR RESEARCH OBJECTIVES

We are an open, engaged and audacious research community with ambitious research endeavours. Such endeavours – which seek to expand the frontiers of knowledge for a better world for everyone – are driven by four key objectives designed to connect our faculties, researchers and higher degree research candidates with Macquarie's research-intensive aspirations.

DELIVER RESEARCH WITH WORLD-CHANGING IMPACT

"Many stars in our galaxy are part of a binary system, in which two stars orbit a common centre of mass. These binary systems undergo some of their most dramatic changes at the end of their lives. Current observations have revealed the presence of high-velocity outflows of gas, commonly referred to as jets, from dying stars that are interacting with a companion star. My research is investigating the origin and dynamics of these high-velocity outflows, which have a significant impact on the system as a whole."

Dylan Bollen
COTUTELLE PHD CANDIDATE
DEPARTMENT OF PHYSICS AND ASTRONOMY,
MACQUARIE UNIVERSITY AND KU LEUVEN, BELGIUM
INTERNATIONAL MACQUARIE UNIVERSITY
RESEARCH EXCELLENCE SCHOLARSHIP RECIPIENT

ENGAGE AS A WORLD-RECOGNISED RESEARCH COLLABORATOR OF CHOICE

"With a growing ageing population, there's an increasing need for acute and aged care. This brings about unprecedented challenges for hospitals, so improving their efficiency and productivity while maintaining excellent levels of quality is vital. In my research, which is set in operating theatres – one of the most critical and costly units of any hospital – I'm using a qualitative approach to examine the impact of efficiency improvement programs on staff and their work conditions."

Zeyad Mahmoud
COTUTELLE PHD CANDIDATE
AUSTRALIAN INSTITUTE OF HEALTH INNOVATION,
MACQUARIE UNIVERSITY AND UNIVERSITY OF NANTES, FRANCE
INTERNATIONAL MACQUARIE UNIVERSITY
RESEARCH EXCELLENCE SCHOLARSHIP RECIPIENT

ACCELERATE WORLD-LEADING RESEARCH PERFORMANCE

"Children with bigger oral vocabularies tend to be better readers, but why is unclear. So, in miniature learning environments, I'm teaching children new oral vocabulary. The effect of that learning is then evaluated using innovative eye-tracking technology that provides insight into 'online' processing as it's happening. Having found evidence for a causal link between the two, we anticipate effective reading interventions being built based on these exciting learnings."

Signy Wegener
MASTER OF RESEARCH GRADUATE AND CURRENT PHD CANDIDATE
ARC CENTRE OF EXCELLENCE IN COGNITION AND ITS DISORDERS
RESEARCH TRAINING PROGRAM SCHOLARSHIP RECIPIENT
AUSTRALIA

PREPARE WORLD-READY HIGHER DEGREE RESEARCH CANDIDATES

"In clinical practice I was frequently consulted by teenagers with non-specific spinal pain. Many of these cases were seemingly linked to too much time spent on electronic devices and excessive sedentary behaviour. With my research, I hope to be able to guide chiropractors – who are well positioned to play a positive role in the education, prevention and treatment of spinal pain – about how to best help young people with this type of spinal pain."

Laura Montgomery
MASTER OF RESEARCH CANDIDATE
DEPARTMENT OF CHIROPRACTIC, MACQUARIE UNIVERSITY
CA-ANZMUSC MASTER OF RESEARCH SCHOLARSHIP RECIPIENT
AUSTRALIA

Your path to higher degree research

MASTER OF RESEARCH

INTENSIVE RESEARCH PREPARATION

The Master of Research – regarded by the Australian Council of Learned Academies as the most innovative newly developed research entry pathway – provides you with intensive research preparation before you begin doctoral study. Consistent with the internationally recognised Bologna model, the program prepares you to complete a Doctor of Philosophy (PhD) in three years – well short of the national average.

PROGRAM STRUCTURE

The two-year program is available in all of Macquarie's research areas, allowing you access to a variety of disciplines, so you can construct a program relevant to your specific interests – subject to academic approval.

In the first year, you'll undertake advanced coursework units, including the study of research frontiers in your area of interest. If you successfully complete Year 1 and decide not to continue, you can exit the program with a Bachelor of Philosophy.

The second year is a masters-level postgraduate research training program. You'll specialise in research preparation and focus on a specific research topic. You're required to submit a thesis of 20,000 words for completion.

ADMISSION REQUIREMENTS

You must have a bachelor degree from a recognised institution at a specified level of performance – usually the equivalent of a credit average (65 per cent) in your final year (or 300 level). Some disciplines may have extra admission requirements, such as a portfolio of work or a higher level of performance of bachelor study. If you hold an honours degree or a master degree, you may apply for recognition of prior learning (RPL) of up to 32 credit points (Year 1). This may allow you to complete the Master of Research in less than two years.

EXCHANGE PROGRAM

The Master of Research Exchange Program provides you with opportunities to undertake international experiences during your studies. If you continue on to a PhD, opportunities include research collaboration with international universities under our cotutelle and joint PhD programs.

mq.edu.au/research/master-of-research

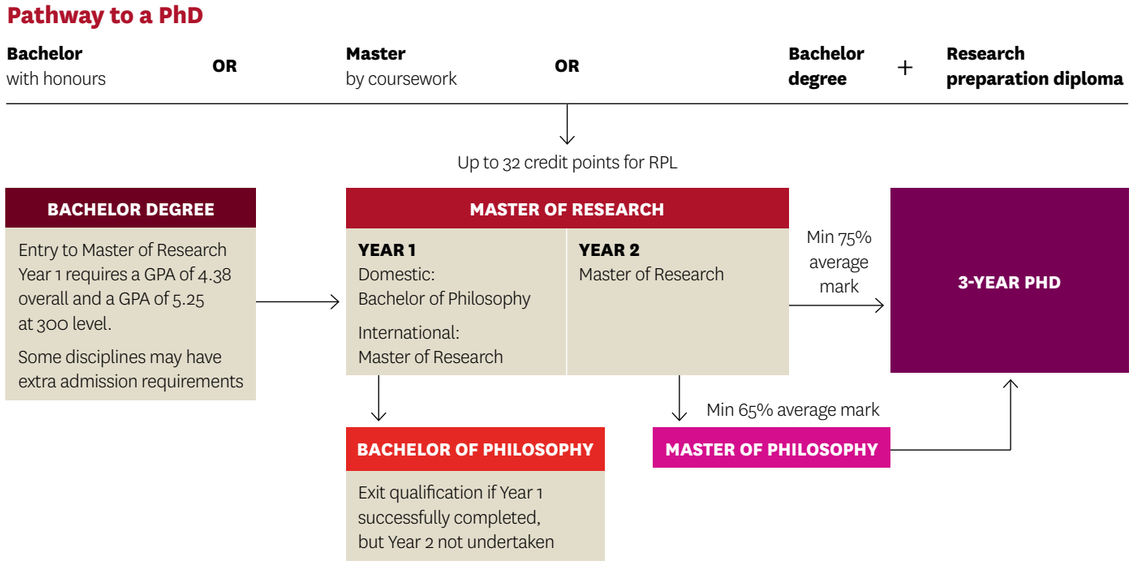
mq.edu.au/mres-advisers

Yilian Guo – Master of Research graduate and current PhD candidate in Macquarie's Department of Applied Finance, Capital Markets CRC PhD scholarship recipient and International Macquarie University Research Excellence Scholarship recipient from China – is researching the pricing and liquidity of various non-common equity funding instruments issued by Australian banks. Her research findings are relevant to regulators and industry practitioners as they review the recent international reforms to improve the loss-absorbing capacity of banks and address problems associated with implicit government guarantees in the banking industry.

Vera Kisse – Master of Research exchange candidate (University of Hamburg, Germany) in Macquarie's Department of Anthropology – is undertaking an ethnographic analysis of the extent the use of digital self-measuring devices, such as smart watches and fitness bracelets, are able to influence body concepts and, therefore how they can change personal relations to the body.

Huong Ly Tong – Master of Research candidate in the Australian Institute of Health Innovation and International Macquarie University Research Excellence Scholarship recipient from Vietnam – is researching how social features in mobile health can be used to promote physical activity. She anticipates her research will facilitate the delivery of public health programs and provide an innovative direction for the development of next-generation health informatics.

Pathway to a PhD



Change your future

DOCTOR OF PHILOSOPHY AND MASTER OF PHILOSOPHY

DOCTOR OF PHILOSOPHY

The Doctor of Philosophy (PhD) enables you to undertake extensive independent research that forms a distinct contribution to the knowledge of your chosen subject. Your work should afford evidence of coherence and originality shown by the discovery of new facts.

Successful progression to the PhD from the Master of Research is conditional upon availability of appropriate supervision and resources, submission of a PhD research proposal and your suitability to undertake higher degree research.

MASTER OF PHILOSOPHY

The Master of Philosophy is awarded for research that contributes to knowledge in a particular field of study by presenting new facts or by demonstrating an independent critical ability to evaluate existing material in a new light. You may be eligible to upgrade from the Master of Philosophy to a PhD, with time spent on the Master of Philosophy counting towards the total candidature of the PhD.

For either program, your research will be supervised by at least two academics and will normally be carried out on campus. There is, however, provision for you to carry out some of your program off campus with academic approval.

Macquarie's Higher Degree Research Rules can be found in the *Calendar of Governance, Legislation and Rules*.

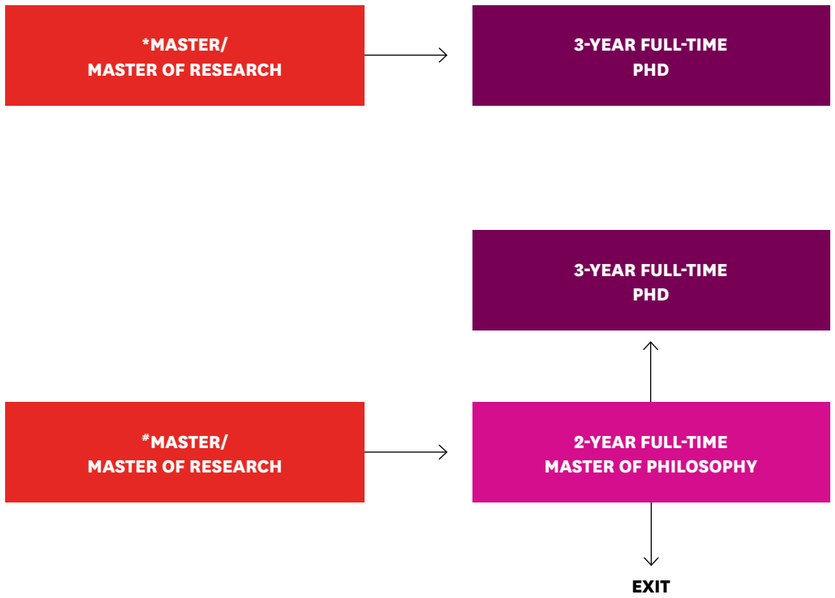
universitycouncil.mq.edu.au/legislation

INTELLECTUAL PROPERTY

staff.mq.edu.au/work/intellectual-property

RESEARCH INTEGRITY AND ETHICS

mq.edu.au/research/integrity-and-ethics



DIRECT ENTRY ADMISSION REQUIREMENTS AND PROGRAM SNAPSHOT

DOCTOR OF PHILOSOPHY mq.edu.au/doctor-of-philosophy	MASTER OF PHILOSOPHY mq.edu.au/master-of-philosophy
1. Completed Macquarie's Master of Research with at least 75 per cent in Year 2 or 2. Completed a Master of Philosophy or 3. Completed a master degree (at least two years) from another institution with a major research component (approximately 50 per cent thesis, 20,000 words) at distinction level (75 per cent or greater).	1. Completed Macquarie's Master of Research with at least 65 per cent in Year 2 or 2. Completed a master degree (at least two years) from another institution with a major research component (approximately 50 per cent thesis, 20,000 words) at credit level (65 per cent or greater).
Additionally, all other peer-reviewed research output may be taken into consideration under Rule 7 (10) of Macquarie's Higher Degree Research Rules.	Additionally, all other peer-reviewed research output may be taken into consideration under Rule 7 (10) of Macquarie's Higher Degree Research Rules.
*If you haven't completed the Master of Research and do not meet the above criteria, you may be asked to undertake the degree as a research training pathway to the PhD. If you've previously studied at bachelor honours or master level, you may receive credit towards the Master of Research of up to 50 per cent of the program.	*If you haven't completed the Master of Research and do not meet the above criteria, you may be asked to undertake the degree as a research training pathway to the Master of Philosophy. If you've previously studied at bachelor honours or master level, you may receive credit towards the Master of Research of up to 50 per cent of the program.
The period of candidature is three years, full-time equivalent.	The period of candidature is two years, full-time equivalent.
Depending on your area of study, you're required to submit a thesis of 75,000 to 100,000 words.	You're required to submit a thesis of 50,000 words.

Spread your wings

COTUTELLE AND JOINT PHD

OUR GLOBAL PERSPECTIVE
Macquarie is proud to have high-quality research training partnerships with universities in Asia, the United Kingdom, Europe, the United States and South America. We have hosted more than 350 cotutelle and joint PhD candidates from more than 110 universities across 35-plus countries.

JOINTLY SUPERVISED PHD PROGRAMS
Macquarie participates in two modes of international co-enrolment – cotutelles and joint degrees – with universities whose research activity strongly aligns with ours. Under both joint supervision models, you're enrolled at two universities with a principal supervisor at each. You'll spend around 50 per cent of your candidature at each university.

mq.edu.au/cotutelle-and-joint-phd

RESEARCH COLLABORATOR OF CHOICE
Macquarie is the first non-European university to be accepted as a partner in the International Doctorate for Experimental Approaches to Language and Brain (IDEALAB) consortium. Partners include the University of Groningen, Netherlands; Newcastle University, United Kingdom; the University of Potsdam, Germany; and the University of Trento, Italy.

em-idealab.com/consortium.html

INTERNATIONAL FUNDING OPPORTUNITIES
Macquarie's global perspective – executed through partnership and collaboration – has created funding opportunities with some of the world's leading funding bodies, including:

- **ANII:** National Research and Innovation Agency of Uruguay
- **BOLASHAK:** JSC Center for International Programs, Kazakhstan
- **CONACYT:** National Council on Science and Technology, Mexico
- **CONICYT:** National Commission for Scientific and Technological Research, Chile
- **CSC:** China Scholarship Council
- **DAAD:** German Academic Exchange Service
- **European Commission:** Erasmus+ Programme
- **HEC:** Higher Education Commission, Pakistan
- **VIED:** Vietnam International Education Development

mq.edu.au/externally-funded-scholarships

"Artificial intelligence agents, for example robots, are entities capable of receiving information from and interacting with the environment they are situated in. The information they receive is used to keep their knowledge fresh. Maintenance of knowledge presupposes an account of how an agent should change its knowledge in response to any new information it receives. It's assumed that a specific language/logic is used in the background to represent knowledge and reason from it. In my research, I'm exploring the use of a type of temporal logic as the background logic for belief revision and examine what modifications in the mechanisms involved need to be carried out."

Jandson Santos Ribeiro Santos
COTUTELLE PHD CANDIDATE
DEPARTMENT OF COMPUTING, MACQUARIE UNIVERSITY AND UNIVERSITY OF SÃO PAULO, BRAZIL
INTERNATIONAL MACQUARIE UNIVERSITY RESEARCH EXCELLENCE SCHOLARSHIP RECIPIENT

Funding your potential

HIGHER DEGREE RESEARCH SCHOLARSHIPS

BACHELOR OF PHILOSOPHY

First-year, full-time domestic candidates who enter the program with a Macquarie University GPA of 6 out of 7 receive a tax-free scholarship stipend of $4000 in Session 1. To receive a further $4000 in Session 2, a grade of 75 or above for Session 1 must be obtained.

mq.edu.au/scholarships/master-of-research

MASTER OF RESEARCH SCHOLARSHIPS

Master of Research Year 2 candidates who are highly ranked may be eligible for a stipend equivalent to the Research Training Program (RTP).

mq.edu.au/scholarships/master-of-research

PHD SCHOLARSHIPS

MACQUARIE UNIVERSITY RESEARCH EXCELLENCE SCHOLARSHIP (MQRES)

On successful completion of the Master of Research, domestic and international candidates are competitively ranked based on performance. Three-year, full-time PhD scholarships are awarded to the highest-rated candidates. A tax-free stipend at the Research Training Program (RTP) rate is available to domestic candidates for up to three years of full-time on-campus study.

INTERNATIONAL MACQUARIE UNIVERSITY RESEARCH EXCELLENCE SCHOLARSHIP (IMQRES)

A tax-free stipend at the Research Training Program (RTP) rate will be matched with tuition fees coverage for international candidates for up to three years of full-time on-campus study.

CO-FUNDED IMQRES

An individually packaged scholarship is available to China Scholarship Council award holders and other externally funded award holders. Cotutelle and joint PhD candidate packages include a return economy airfare between partner universities, a tax-free stipend while at Macquarie and up to three years tuition funding.

POSTGRADUATE RESEARCH FUND

Up to $5000 of additional funding is offered on a competitive basis.

AUSTRALIAN GOVERNMENT-FUNDED SCHOLARSHIPS

RESEARCH TRAINING PROGRAM (RTP)

A tax-free stipend is available to domestic candidates of exceptional research promise for up to three years of full-time study.

INTERNATIONAL RESEARCH TRAINING PROGRAM (IRTP)

Available to high-calibre international candidates, the IRTP covers tuition fees for up to three years. Successful candidates will also be provided with a tax-free living allowance equivalent to the Research Training Program (RTP) stipend.

OTHER GOVERNMENT AWARDS

Australia Awards are prestigious international scholarships and fellowships funded by the Australian Government, offering the next generation of global leaders an opportunity to undertake study, research and professional development.

australiaawards.gov.au

EXTERNALLY FUNDED SCHOLARSHIPS

Externally funded scholarships support domestic students who are planning to conduct research outside Australia. These include Fulbright Postgraduate Scholarships, John Monash Scholarships, Sir Robert Menzies Memorial Scholarships and Rhodes Scholarships. Other scholarships fund research in specific areas.

mq.edu.au/research/externally-funded-scholarships

MACQUARIE UNIVERSITY INDIGENOUS RESEARCH PATHWAY PROGRAM

This program provides scholarship support to Indigenous Australians who wish to enrol in the Master of Research, the Master of Philosophy or the Doctor of Philosophy.

Successful scholarship recipients are expected to have a record of excellent academic performance, a history of scholarship or prizes at undergraduate or postgraduate level, and evidence of peer-reviewed research, such as publications or conference presentations.

mq.edu.au/research/scholarships

Lara Mottee
Cotutelle candidate with the University of Groningen, Netherlands and Australian Government Research Training Program Scholarship recipient, from Australia, is investigating what constrains and influences social impact assessment and management practice in the decision-making, planning and approval processes for transport infrastructure projects.

Diego Ocampo Herrera
National Research and Innovation Agency of Uruguay and Macquarie University co-funded scholarship recipient, from Uruguay, is studying formal verification and correctness in WebAssembly programs.

Wasin Praditsilp
Australian Government Research Training Program Scholarship recipient, from Thailand, is studying how a nation manages and creates its soft power.

Ognjen Kovacevic
International Macquarie University Research Excellence Scholarship recipient and Capital Markets CRC PhD scholarship recipient, from Montenegro, is analysing how the behaviour of traders and exchanges affects the quality of financial markets, identifying the behaviour having adverse impact, and proposing solutions to keep the markets healthy and competitive.

Embark on a research journey

HIGHER DEGREE RESEARCH CANDIDATURE

1
Macquarie offers individualised support and assists you at every academic and administrative stage

↓

2
You'll receive careful direction from your academic supervisors – all of whom have well-established reputations in their own research fields

↓

3
You can complete the program full-time (40 hours per week) or part-time (20 hours per week)

→

4
You'll be enrolled as an internal candidate. Special approval may be given for completion of the program off campus

↑

5
You'll be required to participate in two mandatory commencement programs to ensure you have the best start

↑

6
Academic progress and scholarship continuation are monitored annually through your Annual Progress Report

→

7
Your Candidature Management Plan will keep you on track for completion with progression milestones

↓

8
Macquarie recognises your rights to intellectual property. From enrolment, you'll agree to it being managed at Macquarie, giving you equal rights

↓

9
The quality of your research is completed in compliance with the Australian Government and Macquarie University codes for the responsible conduct of research

Invest in your future

TUITION FEES

Tuition fees for higher degree research vary depending on whether you're a domestic or international candidate.

DOMESTIC CANDIDATE FEES – MASTER OF RESEARCH
Commonwealth supported places are available for the first year of the program. If you continue into the second year, you'll be supported by the Australian Government through the Research Training Program (RTP).

DOMESTIC CANDIDATE FEES – PHD AND MASTER OF PHILOSOPHY
All eligible domestic higher degree research candidates are granted places under the Research Training Program (RTP), which provides an exemption from tuition fees.

The RTP guidelines require that you submit your thesis within the RTP-funded period – three years, full-time study (or part-time equivalent) for the PhD and two years, full-time study (or part-time equivalent) for the Master of Philosophy. If you're transferring from another university in Australia or you have an incomplete research degree, you'll have your prior study period in the research degree deducted from your total program enrolment period at Macquarie.

education.gov.au/research-training-program

INTERNATIONAL CANDIDATES
All international candidates undertaking the Master of Research, the Master of Philosophy or the PhD are required to pay tuition fees. If you're a scholarship holder with a tuition component as part of your award, you're exempt from paying tuition fees for the period of your scholarship. Refer to your offer letter for details of the duration of your tuition component.

As an international candidate, you're also required by the Australian Government to purchase Overseas Student Health Cover for your entire visa period in Australia.

mq.edu.au/research-degrees-fees

"My research focuses on literary depictions of journalists and journalistic work. We tend to think of the news as representing the world through facts, but what happens when fact and fiction are fluid categories? Novelists have long interrogated journalism's efforts to define our shared social reality, much before 'fake news' was a household term. When reporters appear in novels, they often disrupt assumptions about the public's version of truth and how we might know the world through fictions as well as facts. During my time at Macquarie, I have benefited from being part of the University's intellectual community of scholars."

Alexander Luft
COTUTELLE CANDIDATE, MACQUARIE UNIVERSITY AND UNIVERSITY OF ILLINOIS AT CHICAGO, USA
INTERNATIONAL MACQUARIE UNIVERSITY RESEARCH EXCELLENCE SCHOLARSHIP RECIPIENT

We're here for you

HIGHER DEGREE RESEARCH SUPPORT AND DEVELOPMENT

Macquarie's Higher Degree by Research (HDR) Support and Development team offers research training that is flexible, diverse and candidate driven. Our initiatives will assist you to enhance your professional, research communication and leadership skills through access to mentoring and development opportunities.

WHAT WE DO
Our programs will equip you with the knowledge and confidence to conduct your research and communicate your insights to broad audiences, and they'll help you develop sustainable, transferable skills that are attractive to employers across all sectors of society. We run more than 200 face-to-face and online workshops, courses and seminars each year, which will provide you with opportunities to engage with other HDR candidates and employer representatives.

THE BENEFITS
Higher degree research is a transformative experience – academically, professionally and personally. We'll support you to become an independent, resilient and empathic researcher who can reflect on – and understand – how your work contributes to the broader community. Regardless of your field of research, you'll benefit from learning well-rounded strategies and practices for success in the workplace.

HOW WE SUPPORT YOU
We offer three programs that connect you with Macquarie's research community and faculties, as well as industry partners, to create meaningful and exciting opportunities for your research journey.

HDR MENTORS PROGRAM
Enhances, through peer-to-peer mentoring, your research quality, capability and experience.

students.mq.edu.au/training-support/mentoring

HDR LEARNING SKILLS
Provides a range of support and training to equip you with essential research skills.

students.mq.edu.au/training-support/learning-skills

HDR PROFESSIONAL DEVELOPMENT
Assists you to develop your professional and employability skills, and to gain industry experience.

students.mq.edu.au/training-support/professional-development

RESEARCHER DEVELOPMENT CALENDAR
Provides you with access to development opportunities at Macquarie. The calendar lists events that support a range of research activities, such as research writing, methods, funding, project management, publishing, partnerships, commercialisation, wellbeing and career management.

MyRDC.mq.edu.au

"It is great to see Macquarie taking action [with regard to HDR supervision]. I look forward to an era where this is ubiquitous across universities."

Professor Alan Finkel AO FAA FTSE
AUSTRALIAN CHIEF SCIENTIST

"Enhancing the economic viability and energy efficiency of chemical transformations is of fundamental importance in industry. My research interests are centred on the design and use of new catalysts to improve reaction efficiency, thereby saving energy and decreasing waste produced during industrial chemical processes. The research team I have been working with at Macquarie collaborates with research groups around the world in catalysis, surface science, NMR and DFT studies. Our research group includes undergraduate, Master of Research and PhD candidates – including international visiting students – who work together with postdoctoral research fellows. I very much enjoy working together with them all to achieve exciting and novel chemistry outcomes. We run regular biannual symposia with research groups working in our research area at other leading universities, led by the students and postdoctoral fellows. This gives our research students the opportunity to discuss their projects with students and academics from other institutions."

Professor Barbara Messerle
EXECUTIVE DEAN, FACULTY OF SCIENCE AND ENGINEERING

Seeking intrepid solutions

RESEARCH CENTRES AND INSTITUTES

Macquarie is home to more than 115 research centres and groups, of which a selection of health and defence groups follows.

AUSTRALIAN INSTITUTE OF HEALTH INNOVATION

The Australian Institute of Health Innovation is a world-leading healthcare system innovator and research-intensive institute located at Macquarie. Proudly supported by the vibrant and rapidly growing Faculty of Medicine and Health Sciences, the institute conducts world-class research to catalyse performance improvement in healthcare services and systems in Australia and overseas.

mq.edu.au/australian-institute-of-health-innovation

CENTRE FOR THE HEALTH ECONOMY

The Macquarie University Centre for the Health Economy was established in 2014 as a strategic initiative to undertake innovative research on health, ageing and human services. The centre's vision is to create a world where decision makers are empowered with applied, trusted and influential research into health and human services policy and systems. Its mission is to deliver leading innovative research by operating professionally, collaboratively and sustainably.

mq.edu.au/centre-for-the-health-economy

DIGITAL HEALTH CRC

The Digital Health Cooperative Research Centre believes research and innovation in digital health offer Australia significant economic and business development opportunities, as well as great promise for the better health of our community.

digitalhealthcrc.com/#university-partners

DEFENCE INNOVATION NETWORK

The Defence Innovation Network (DIN) is an association of seven leading universities in New South Wales. The DIN brings together industry, universities, the New South Wales Government and the Defence Science and Technology Group to address Australia's defence needs. The DIN also supports business innovation in the global defence market by harnessing world-class research capabilities available within the region's universities.

defenceinnovationnetwork.com

Find out more
mq.edu.au/research-centres

Build your networks

INTERNSHIPS

Internships are an invaluable opportunity to get your foot in the door – and get ahead of your peers.

INDUSTRY MENTORING NETWORK IN STEM

Macquarie has engaged with the Industry Mentoring Network in STEM (IMNIS) program since 2017 under two streams: Med-Tech-Pharma and Energy-Minerals.

WHAT IS IMNIS?

The IMNIS is an award-winning industry-led initiative of the Australian Academy of Technology and Engineering. IMNIS connects motivated PhD candidates (mentees) in science, technology, engineering and mathematics (STEM) with outstanding high-level industry leaders (mentors) in a one-year industry mentoring program.

WHAT DOES IMNIS AIM TO DO?

- Break down barriers and foster a culture of innovation and collaboration between industry and academia – increase workforce mobility.
- Extend professional networks.
- Allow students to gain soft skills and become more informed about opportunities beyond academia.
- Facilitate opportunities for future STEM leaders to develop an understanding of research translation, innovation and commercialisation alongside basic research.

imnis.org.au

APR.INTERN

Macquarie works closely with the APR.Intern program, which supports the industry-based training of PhD candidates to increase employability and broaden business and university collaborations.

With an emphasis on gender equity, this not-for-profit program encourages the placement of domestic, regional, Indigenous and disadvantaged PhD candidates into STEM internships.

WHAT INTERNSHIPS CAN I APPLY FOR?

You can apply directly for internships on the APR.Intern website. Alternatively, you can be hosted by an existing Macquarie partner who you or your supervisor already work with.

ARE INTERNS PAID?

Interns under the APR.Intern program are paid. The APR.Intern program is funded by the host industry organisation, and costs to participate in the program include:

- $3000 per month paid to the student for the duration of the internship
- $5500 paid to the academic mentor
- $5500 paid to APR.Intern for administration of the internship and case management.

Information for candidates

aprintern.org.au/student-info

Information for academic mentors

aprintern.org.au/academic-mentors

Key foundations

INTERNATIONAL RESEARCH TRAINING PARTNERSHIPS

*Since 1999
*Macquarie – Fudan – Hamburg, Jilin – Macquarie – Justus Liebig and Nanjing – Göttingen – Macquarie

370+
cotutelle and joint PhD candidates*

150+
cotutelle and joint PhD collaborating partners*

35+
countries involved in cotutelle and joint PhD arrangements*

220+
cotutelle candidate completions*

76
priority partners

3
regional partnership tiers – strategic, developing and emerging

33
disciplines involved in current programs

51
universities with Academic Senate approval for joint PhDs

132
current cotutelle and joint PhD candidate enrolments

57%
of current candidates with European universities

26%
of current candidates with Chinese universities

14
Master of Research exchange partners established (a pathway to cotutelle/joint PhD)

3
strategic tri-lateral partnerships: MQ-FU-HAM, JLU–MQ–JLU and NU-UG-MQ*

ONLY
Australian university participating in IDEALAB joint PhD

15
joint funding agreements with key international funding agencies

45
IDEALAB PhD candidates (including current enrolments)

World-leading research starts with you

HOW TO APPLY

PRE-APPLICATION
If you're a Doctor of Philosophy or Master of Philosophy candidate, you're required to investigate a research topic. You must then consult with academic staff in your chosen research field to discuss your research interests and potential topic to ascertain the feasibility of your project. To learn more about our research and identify potential supervisors, visit our research portal PURE.

researchers.mq.edu.au

If you're a Year 1 Bachelor of Philosophy candidate, your supervision arrangement will be confirmed when you commence Year 2 of the Master of Research. If you're applying for direct entry into Year 2, your supervision arrangement will be made based on a one- to two-page research proposal and available supervision.

PREPARING A RESEARCH PROPOSAL
If you're a Doctor of Philosophy or Master of Philosophy candidate, your proposal should define your chosen area of study, identify a research question, clarify its importance and outline a framework for further investigation. Sufficient detail is required for us to determine if we are able to support your candidature.

APPLICATION SUBMISSION
You must complete an online higher degree research application. There are no set closing dates for direct entry into the Doctor of Philosophy and the Master of Philosophy. Specific deadlines do, however, apply to the Bachelor of Philosophy/Master of Research and scholarship applications.

mq.edu.au/information-about/how-to-apply

ENGLISH LANGUAGE PROFICIENCY
Proficiency in English is a requirement for admission to all higher degree research and research training programs at Macquarie. Higher degree research applicants (domestic and international) whose academic qualifications were obtained from a country where English is not the official language are required to provide evidence of English language proficiency. Macquarie accepts both IELTS and TOEFL.

mq.edu.au/information-about/how-to-apply

Innovation through ingenuity

RESEARCH EXCELLENCE

Macquarie is recognised across the world for its strengths and performance in key research disciplines. A hallmark of our research activity is that we pursue projects across a wide range of research areas, including those that are cross-disciplinary. You can undertake research in any of the following areas.

- Accounting, management and marketing
- Actuarial studies, applied finance and economics
- Biological sciences
- Chemical and biomolecular sciences
- Creative arts, literary studies, communication and culture
- Earth sciences
- Education
- Engineering
- Environmental sciences
- Health sciences
- History and archaeology
- Human society
- Information and computing sciences
- Languages and linguistics
- Law and legal studies
- Mathematical sciences
- Medical sciences
- Philosophy
- Physics and astronomy
- Psychology and cognitive science
- Urban and regional planning

KEY DATES

31 JULY 2019
Closing date for all Australian Government-funded and International Macquarie University Research Excellence Scholarships (IMQRES) for 2020 commencement.

31 AUGUST 2019
Closing date (candidature only) for international non-scholarship applications for 2020 commencement.

31 OCTOBER 2019
Closing date for all domestic applications and scholarships for 2020 commencement.

CONTACTS

The Office of HDR Training and Partnerships is responsible for the management and administration of candidature and scholarships for domestic and international candidates.

ADDRESS
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Level 3 East, 17 Wally's Walk
Macquarie University
NSW 2109 Australia
T: +61 2 9850 7987

HDR APPLICATIONS AND ENROLMENTS
E: hdr.admissions@mq.edu.au

HDR SCHOLARSHIPS
E: hdrschol@mq.edu.au

COTUTELLE AND JOINT PHDS
E: hdrcotutelle@mq.edu.au

HDR INDUSTRY ENGAGEMENTS AND PLACEMENT
E: ProfDevHDR@mq.edu.au

HDR SUPPORT AND DEVELOPMENT
E: HDR_Development@mq.edu.au

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