

WESTERN SYDNEY  
UNIVERSITY



Research

2017

**UNLIM**

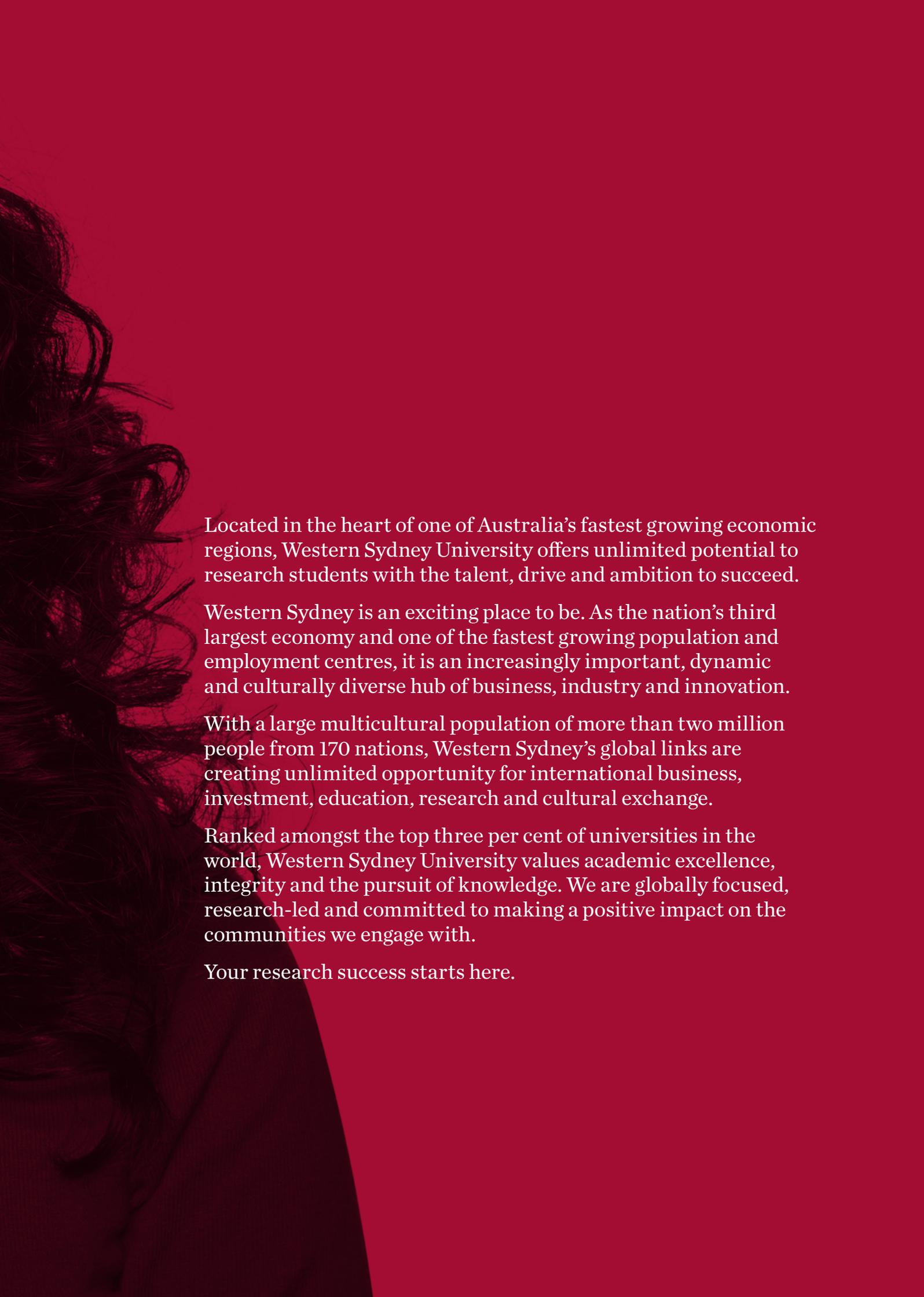
# UNLIMITED.

WE BELIEVE IN A WORLD OF  
UNLIMITED OPPORTUNITY,  
WHERE THE POTENTIAL FOR  
SUCCESS IS UNLIMITED FOR  
THOSE WITH DRIVE, TALENT,  
CONFIDENCE AND AMBITION.

SUCCESS STARTS HERE.



**WE ARE  
WESTERN  
SYDNEY**



Located in the heart of one of Australia's fastest growing economic regions, Western Sydney University offers unlimited potential to research students with the talent, drive and ambition to succeed.

Western Sydney is an exciting place to be. As the nation's third largest economy and one of the fastest growing population and employment centres, it is an increasingly important, dynamic and culturally diverse hub of business, industry and innovation.

With a large multicultural population of more than two million people from 170 nations, Western Sydney's global links are creating unlimited opportunity for international business, investment, education, research and cultural exchange.

Ranked amongst the top three per cent of universities in the world, Western Sydney University values academic excellence, integrity and the pursuit of knowledge. We are globally focused, research-led and committed to making a positive impact on the communities we engage with.

Your research success starts here.

# WHY RESEARCH WITH US?



### → A REPUTATION FOR EXCELLENCE

Western Sydney University is ranked amongst the top three per cent of universities in the world, with a growing international reputation for research-led, student-centred learning.

### → OUR RESEARCH HAS GLOBAL IMPACT

Our research ethos is underpinned by a commitment to make positive change – putting you close to world-leading research that is changing lives in the communities we serve across Western Sydney, Australia and the world.

### → LEADERSHIP IN ONE OF AUSTRALIA'S FASTEST GROWING REGIONS

Western Sydney is Australia's third largest and fastest growing economy. With a large multicultural population and expanding international reach, we are uniquely placed to help research students tap into a global mindset.

### → WE ARE GLOBALLY FOCUSED AND CONNECTED

With our growing international reach and reputation, we offer the opportunity to travel, learn and work in more than 300 destinations around the world through our internship, work experience and overseas study options. Through our Master of Research (MResearch) program, we also encourage international students to undertake Doctor of Philosophy (PhD) studies with us (see page 41).

### → OPPORTUNITIES TO WORK OR COLLABORATE

We invite outstanding graduate researchers, new generation researchers and established researchers to join us or collaborate with us.

### → LEADING RESEARCH FACILITIES

Attracting postgraduates from around the world, our leading research institutes and state-of-the-art facilities provide a research-intensive environment with vibrant, well-resourced hubs for research training.

### → INTERNATIONALLY RECOGNISED MASTERS DEGREE

As an internationally recognised elite research degree that aligns with Asian, European and North American qualifications, our Master of Research allows students to advance their research education and employment opportunities around the world (see page 41).

### → GRADUATE RESEARCH SCHOOL

Supporting all postgraduate research degrees, including the new Master of Research and Master of Philosophy degrees, our new Graduate Research School offers improved services to Higher Degree Research students (see page 40).

# IMPACT

Research with impact.

Western Sydney University is a world-class university with a growing international reach and reputation for academic excellence and impact-driven research.

# AAC T

Located in the heart of one of Australia's fastest growing economic regions with a large and diverse multicultural population, Western Sydney University also offers unlimited potential for graduate research students to participate in research which produces career-ready, solutions-focused students who can solve problems and adapt to new opportunities.

Our research doesn't just happen in the lab. We work with regional, national and international partners to deliver research outcomes that contribute to the economic, social and environmental wellbeing of their communities.

Responding to the challenges faced by those communities, our current research themes are:

- **Urban living and society**  
People, culture, economy and the built environment
- **Health and wellbeing**  
Translation, service and innovation
- **Education and aspirational change**  
Access, equity and pathways
- **Environmental sustainability**  
Climate, agriculture and resources

See page 16 for more information.

Already boasting world-leading research output, we are transforming research education through the development of a frontier research training program. We're also continuing to invest in areas of research strength, our facilities and high-quality research education.

# RESEARCH AT A GLANCE

## GRANTS AWARDED

- \$5.11 million in Australian Research Council (ARC) grants for 2016 including:
  - \$4.02 million for 12 new discovery projects
  - \$1.09 million across three Discovery Early Career Researcher Awards
- Awarded over \$5.3 million for four National Health Medical Research Council (NHMRC) Project Grants, one NHMRC Early Career Development Fellowship Grant and two NHMRC-ARC Dementia Research Development Fellowships

# Top 3%

Times Higher Education  
World University Rankings

# Top 20

for research performance

# \$10.5m

in grants awarded

# 45,000+

students

# 170,000+

graduates

# Engaged Research

**Western Sydney University is committed to working with major funding bodies, including state and federal governments, to translate our research into valuable applications for our stakeholders.**

Our industry peers and government partners acknowledge that Western Sydney University delivers research outcomes that have an impact on regional, national and international communities.

Through strong linkages with other leading research teams around the world, our researchers are opening up connections that can benefit research degree candidates throughout their careers. Visiting researchers and research placements also bring fresh perspectives to research questions.

## **Research Engagement, Development and Innovation**

Our Research Engagement, Development and Innovation (REDI) team supports the University's outward-facing research, consultancy and commercialisation activities.

REDI is a single, high-profile and commercially focused channel for industry, government and the community to engage with the University's expertise.

REDI identifies, supports and administers opportunities for the practical application of the University's research and commercial capacity – ranging from fee-for-service consultancies, to collaborative research projects, and the development and commercialisation of Intellectual Property (IP).

Since its establishment, REDI has driven several strategic initiatives to support the University's mission to promote and conduct research with impact. Together with the Pro Vice-Chancellor (Research and Innovation), REDI is leading the implementation of Easy Access Intellectual Property – a model to support university/industry partnerships by offering partners simple, royalty-free licences to parts of Western Sydney University's IP portfolio.

REDI has also led the revision of the principles underpinning commercial consultancy. The revised principles support our researchers'

engagement in this type of non-traditional academic activity, making it easier for external parties to access the high-quality research and professional expertise available at Western Sydney University.

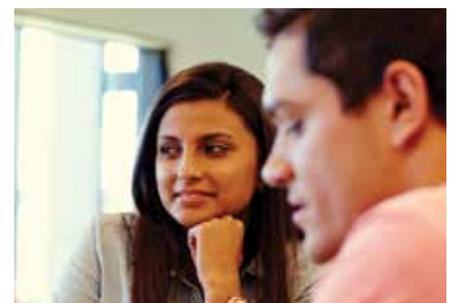
## **Supporting a culture of innovation and entrepreneurship**

One of REDI's primary goals is to support a culture of innovation and entrepreneurship within the University and with its partners. REDI has presented at and been an active participant in Researcher Development Programs, Directors of Research forums and many school and institute research meetings.

The REDI team has facilitated and supported numerous meetings between our researchers and external partners to explore and formalise opportunities to partner across a broad range of research disciplines and sectors.

## **Western Sydney University is a member of the following industry groups:**

- Australasian Research Management Society
- Council of Deans and Directors of Graduate Studies in Australia
- Australasian Research Training Administrators
- Association for Tertiary Education Management.



## Impact snapshot

### Staying on at School Strategies for increasing high school completion rates in low-retention regions of NSW

Research conducted by Western Sydney University into the factors that affect students' decisions to stay at or leave school found that student retention rates to year 12 across NSW can be as low as 50 per cent. After collecting three years of data from 2,000 students in regional areas with the worst retention rates, our researchers mapped young people's pathways through school and identified the roadblocks and ways to keep Western Sydney students in school.

## Impact snapshot

### Less Waste and Cheaper The use of innovative anchors for rehabilitating existing demountable steel

The way things connect is important. Our engineering researchers have been looking at how concrete and steel can be fixed together using 'blind bolts' to allow building materials and entire buildings to be recycled.

An estimated 40% of landfill is created by the construction industry. When you combine this with the cost of new materials, it all fits together: less waste and cheaper construction that benefits industry and the environment.

## Our State-of-the-art Research Facilities

- **SIX STAR GREEN STAR SCIENCE AND PSYCHOLOGY FACILITY**
- **BIOMEDICAL MAGNETIC RESONANCE FACILITY**
- **SECONDARY ION MASS SPECTROMETER**
- **NURSING LABORATORIES**
- **MOOT COURTS**
- **PARRAMATTA COMMUNITY JUSTICE CLINIC**
- **CRIME SCENE HOUSE**
- **MECHATRONICS FACILITY AND FOOD PROCESSING PILOT PLANT**
- **INTERNATIONALLY RECOGNISED RESEARCH INSTITUTES (SEE PAGE 24)**
- **ADDITIONAL COMPLEMENTARY FACILITIES THROUGH OUR RELATIONSHIP WITH OTHER UNIVERSITIES, HOSPITALS, CLINICS AND RESEARCH INSTITUTIONS**

# Our Research Themes

Our research doesn't just happen in the lab. We work with regional, national and international partners to deliver research outcomes that contribute to the economic, social and environmental wellbeing of their communities.

## URBAN LIVING AND SOCIETY

### People, Culture, Economy, and Built Environment

Research within this theme is focused on understanding and guiding economic, social and infrastructure change through the lens of urban living and the social formations that flow from it. Our current and expanding research expertise in urban planning, the digital humanities, infrastructure engineering, innovation networks, social cohesion, cultural studies and globalisation will serve the community as it adapts to the challenges of urban change.

## EDUCATION

### Access, Equity, Pathways and Aspirational Change

We draw on the diversity of Western Sydney to underpin research that explores educational access on a global scale. This research theme respects the economic, social and cultural aspirations of the individuals and communities we support. We are committed to realising the opportunities offered by new pedagogies and transformational technologies for all students.

## HEALTH AND WELLBEING

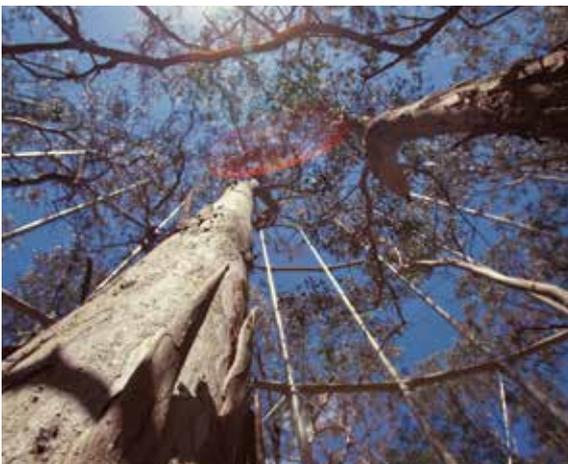
### Translation, Service and Innovation

Western Sydney University's long history as a major educator of health professionals was enhanced with the addition of its medical school in 2007. Our research capacity systematically explores how health initiatives can prevent disease and illness, encourage healthy lifestyles in individuals and communities, and reduce the cost and impact of illness. With a practical focus on translating basic research into community health services and policy, we are primarily concerned with the needs of the individual within a complex health system.

## ENVIRONMENTAL SUSTAINABILITY

### Climate, Agriculture and Resources

Our research in this area explores global problems within local environments, including food security, resource scarcity and climate change. Taking a broad, interdisciplinary approach to sustainability, our research (in any geographical region) will have an impact on these global issues. Research within this theme acknowledges that environmental sustainability is as important in the city as it is in the bush, and that sustainability relies on insights from sociology, the arts, engineering, green IT, education, health and economics as well as the biological and physical sciences.





# Our Research Theme Champions

The Research Theme Champions roles are to lead and promote cross-disciplinary research teams and practices across the University's research themes to build research capacity in these areas.

## EDUCATION AND ASPIRATIONAL CHANGE

- **Professor Kathryn Holmes**  
School of Education
- **Associate Professor Caroline Jones**  
The MARCS Institute

## ENVIRONMENT SUSTAINABILITY

- **Associate Professor Juan Salazar**  
School of Humanities and Communication Arts and Institute for Culture and Society
- **Associate Professor Jeff Powell**  
Hawkesbury Institute for the Environment

## HEALTH AND WELLBEING

- **Professor Caroline Smith**  
School of Science and Health, NICM
- **Associate Professor Amanda Third**  
Institute for Culture and Society

## URBAN LIVING AND SOCIETY

- **Professor Donald McNeill**  
Institute for Culture and Society



## PROFESSOR KATHRYN HOLMES

### School of Education

**Kathryn Holmes** is a Professor in the School of Education based on Kingswood campus. Kathryn's research interests are in Science, Technology, Engineering and Mathematics (STEM) disciplines, where she is interested in investigating reasons for the decline in the number of students studying advanced science and mathematics in secondary school.

"Many students disengage with mathematics in the latter years of primary school, and so it is important that we develop interest and achievement in numeracy from the early years of schooling," she explains. "The topic is currently of national interest as there is a predicted increase in the number of jobs requiring STEM skills in the future."



### **ASSOCIATE PROFESSOR CAROLINE JONES** The MARCS Institute for Brain, Behaviour and Development

**Associate Professor Caroline Jones** is an Australian Research Council Future Fellow within the MARCS Institute for Brain, Behaviour and Development based on Bankstown campus.

Caroline is currently on a federally funded research fellowship and is able to focus on her research full-time. With a team of Indigenous research assistants she has built a new audiovisual database of everyday conversation by adults and children in northern Australia. This is allowing her to chart the language development of Indigenous and non-Indigenous children in remote northern Australian communities and towns where Indigenous children and young adults speak both English and a variety of Kriol, an English-based Creole language.

Caroline has been working on this project for the past three years, but has been collaborating with Indigenous people in the Northern Territory and New South Wales for more than 20 years, and says she enjoys that she is always learning.

“There’s a lot that we still don’t know about language diversity in Australia and how children develop spoken language, especially in more than one language,” she says.



### **PROFESSOR CAROLINE SMITH** National Institute for Complementary Medicine

**Caroline Smith** is a Professor of Clinical Research in the National Institute of Complementary Medicine (NICM) based on Campbelltown campus. Caroline guest lectures in the Masters of Chinese Medicine and contributes to the following health-based Units in complementary medicine, including Clinical Based Research in Acupuncture; Women’s Health in Chinese Medicine; Mental and Neurological Disorders and Chinese Medicine; and Evidence Based Practice in Chinese Medicine.

Caroline has been involved in research in the area of complementary medicine for more than 20 years and is currently involved in a number of interesting research projects.

In one, she is conducting a randomised trial of acupuncture as an aid for women who are undergoing IVF treatment. The trial aims to find out whether undergoing acupuncture during IVF treatment improves live birth rates and whether it is a cost-effective intervention.

# Our Research Theme Champions



## **ASSOCIATE PROFESSOR AMANDA THIRD** **Institute for Culture and Society**

**Associate Professor Amanda Third** is a full-time Principal Research Fellow in digital social and cultural research in the University's Institute for Culture and Society (ICS), based on Parramatta campus. Kathryn Holmes.

Her research focuses on the socio-cultural dimensions of young people's everyday technology use and the potential for digital media to support young people's wellbeing.

Over the last five years, Amanda has led a research program within the Young and Well Cooperative Research Centre, a major entity that has been mapping how young people use technology and how it might be leveraged to support their wellbeing. The program Amanda leads focuses on marginalised young people's technological engagements.

In an ARC Linkage project titled, "Young People, Technology and Wellbeing Research Facility", she worked with cross-sector organisations to generate evidence to plug gaps in policy and practice. The work undertaken in this project was primarily aimed to start conversations in the information-sharing space of the Technology and Wellbeing Roundtable, a cross-sector knowledge brokering entity comprising researchers, health and wellbeing professionals, industry and policy makers. "The idea was to get them all together to discuss the state of the field, to activate research and think about how to best translate the findings," explains Amanda. "It was about impact from the get-go."



## **ASSOCIATE PROFESSOR JUAN FRANCISCO SALAZAR** **School of Humanities and Communication Arts and Institute for Culture and Society**

**Juan Salazar** is an Associate Professor from the School of Humanities and Communication Arts and the Institute for Culture and Society (ICS). Juan can be found on both Werrington and Parramatta campuses teaching Documentary Media to second-year Bachelor of Communication and Bachelor of Screen Media students as well as Environmental Humanities to Master of Research students.

Juan has a particular interest in the Antarctic region, as he grew up in Chile and Argentina. In 2010, he decided to turn his interest into a research and creative endeavour.

His current research project, titled Antarctic Cities and the Global Commons: Rethinking the Gateways, is funded by an ARC Linkage grant in collaboration with researchers from the University's ICS, the University of Tasmania and partners in Hobart, Tasmania; Christchurch, New Zealand and Punta Arenas, Chile.



### **ASSOCIATE PROFESSOR JEFF POWELL** Hawkesbury Institute for the Environment

**Jeff Powell** is an Associate Professor of Ecological Bioinformatics within the Hawkesbury Institute for the Environment.

As well as teaching into three units, Jeff helps run a week-long workshop twice a year for students and staff on 'Data Analysis and Visualisation using R'. He also conducts research.

Jeff's research focuses on the ecological partnerships between microorganisms and plants. "These partnerships hold great potential for enhancing agricultural production, restoring damaged ecosystems, and sequestering carbon from the atmosphere," he explains.

Using state-of-the-art ecological informatics tools – and University facilities including a next-generation sequencing facility and several experimental facilities such as EucFACE, DriGRASS and the Cumberland Plain FLUX site – Jeff works to understand which microorganisms are found where. "We're also developing new ecological concepts relating to how these microorganisms behave differently from plants and animals and, therefore, why they should be managed differently," he says.



### **DONALD McNEILL, PROFESSOR** Institute for Culture and Society

**Professor Donald McNeill** is an Australian Research Council Future Fellow in the Institute for Culture and Society based on Parramatta campus. He is a full-time researcher in the field of 'Governing Digital Cities'.

His work looks at human geography, economic sociology, spatial planning, urban design and architecture with a particular focus on political and cultural economies of globalisation and cities.

Donald's main research project, which he has been working on for four years, examines the nature of the digital economy in several cities around the world, and focuses on those that emulate Silicon Valley. It charts the growing interest that firms such as IBM, Microsoft, Intel and Cisco have in urban governance and service provision, and how they envision urban futures. He is also investigating Australia's digital economy and is exploring technology parks, venture capital, start-up ecologies and the readiness of government to engage with high technology sectors.

"It's becoming clear that digital business models are transforming cities and how they're governed and organised," says Donald on how his interest was piqued in this area. "I'm looking at how major players such as Airbnb and Google play a role in how cities are organised."

# Focus Areas

**Western Sydney University is a research-led university that sees learning and research as connected aspects of the student experience.**

## **Futures**

Through innovative and engaged research training, we are unlocking the potential of the next generation of researchers and practitioners. By undertaking research that engages with the opportunities and potential of its stakeholders, we are influencing policy and practice throughout the region and contributing to scholarship and practice at a national and international level. As a young, flexible and dynamic institution, we can shape our research program and develop new researchers to meet the needs of our communities. In order to respond to a rapidly growing, culturally diverse community in the Western Sydney area, we are committed to collaborating with regional, national and international partners to ensure we adopt best practice research.

## **Impact**

As our international profile and reputation grows, our research capacity expands through financial and non-financial collaborations with external partners. Fast becoming a sector leader in the delivery and measurement of research impact, we are delivering demonstrable benefits to our communities and partners. Our research has diverse impacts beyond the institution on all spheres of public and private endeavour. Acknowledged by our industry peers and government partners as a university focused on delivering research outcomes to its regional, national and international communities, we are committed to working with major funding bodies and state and federal governments to translate our research into valuable applications for our stakeholders.

## **Capacity**

Western Sydney University is deepening its research capacity through strategic investments in research institutes, centres and external network groups. Our selective and concentrated approach to building research capacity at institute and school level ensures a diversified mix of funding including a greater proportion of external income. With a higher proportion of our staff securing external research income, structural reform will enable intensive and open collaboration between all researchers. Researchers are also supported to access external networks, respond to research opportunities and develop impact through an alignment of resources, processes and outcomes.

## Impact snapshot

### Sustained Groundwater Capacity

Improved village scale groundwater recharge and management for agriculture and livelihood development in India

Across India, small-hold farmers rely on groundwater irrigation, but with an increasing capacity to exploit the resource through technology and an expanding population exploiting it, demand has outstripped supply. Our researchers are working with local farmers and communities to improve long-term access to groundwater. Together with an Indian research team and NGOs, the research will deliver new policies to sustain groundwater capacity.



# INSTITUTES

**HAWKESBURY INSTITUTE  
FOR THE ENVIRONMENT**

**INSTITUTE FOR  
CULTURE AND SOCIETY**

**THE MARCS INSTITUTE FOR BRAIN,  
BEHAVIOUR AND DEVELOPMENT**

**AUSTRALIA-CHINA INSTITUTE  
FOR ARTS AND CULTURE**

**TRANSLATIONAL HEALTH  
RESEARCH INSTITUTE**

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## HAWKESBURY INSTITUTE FOR THE ENVIRONMENT

### Hawkesbury campus

Investigating the impact of climate change on native trees and forests

### More information

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- [westernsydney.edu.au/hie](http://westernsydney.edu.au/hie)

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## INSTITUTE FOR CULTURE AND SOCIETY

### Parramatta campus

Research to meet the challenges of our changing social landscape

### More information

- Phone: +61 2 9685 9600
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- [westernsydney.edu.au/ics](http://westernsydney.edu.au/ics)

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## THE MARCS INSTITUTE FOR BRAIN, BEHAVIOUR AND DEVELOPMENT

### Bankstown campus

Dedicated to understanding the scientific basis of human communication

### More information

- Phone: +61 2 9772 6585
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- [westernsydney.edu.au/marcs](http://westernsydney.edu.au/marcs)

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## AUSTRALIA-CHINA INSTITUTE FOR ARTS AND CULTURE

### Parramatta campus

Undertaking research one of the world's oldest and most enduring societies

### More information

- Phone: +61 2 9685 9943
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## TRANSLATIONAL HEALTH RESEARCH INSTITUTE

### More information

- Phone: 0414 973 573
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- [westernsydney.edu.au/thri](http://westernsydney.edu.au/thri)

# Hawkesbury Institute for the Environment

**A rapidly changing climate is imposing increasingly variable conditions on the world's ecosystems, bringing increasing uncertainty about how they will adapt.**

The Hawkesbury Institute's team of scientists are meeting this challenge by using the best scientific technologies to discover how our natural environments are responding to land use change from genetic through to ecosystem levels.

Equipped with leading-edge facilities, the Hawkesbury Institute is the ideal environment for researching our managed and natural ecosystems. For example, an 'ecological time machine' that uses a gigantic structure over an intact mature forest

ecosystem is providing a look into a future, high CO<sub>2</sub> world. The EucFACE experiment allows scientists to study the response to high CO<sub>2</sub> of the entire forest ecosystem. Research at the Hawkesbury Institute is having a global impact and our scientists are renowned for their work in ecology, forestry, and plant, animal and soil sciences.

The Excellence in Research for Australia (ERA) evaluation ranked the institute's research well above world standard (highest possible score of 5) in plant biology and forestry, and above world standard (score of 4) in soil sciences and ecology.

Two areas of specialisation, plant biology and forestry sciences within the institute were characterised by ERA as 'of outstanding performance' and received the highest possible rating of '5'.

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# Institute for Culture and Society

**The way we live is changing at an unprecedented rate. Economic instability, rapid developments in technology, and environmental crises are among the major global trends that are transforming culture and society.**

Western Sydney University is undertaking research to help us understand, interpret and meet the challenges of this changing social landscape. Based at our Parramatta campus, the institute champions interdisciplinary, engaged and collaborative scholarship in the humanities, arts and social sciences. It adopts a future-oriented perspective to bring the opportunities of the digital age into all aspects of its research.

The institute's research themes cover dynamic areas such as intercultural dialogue, transnational culture, institutional governance, economic and cultural globalisation, heritage, creative industries and city cultures.

The institute has the largest concentration of researchers working in the interdisciplinary field of Cultural Studies in Australia. The high calibre of its researchers was recognised in the 2012 Excellence for Research in Australia (ERA) audit, with a '5' rating – indicating 'well above world standard, – in the field of Cultural Studies.

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# Australia-China Institute for Arts and Culture

**China's rapid emergence as a global economic and political power is reshaping the world. Australia – and other Western countries – have to rethink how to engage with it.**

ACIAC aims to position itself as a hub and national resource centre for cultural exchange between Australia, China and the Sinosphere (including Taiwan, Hong Kong, Singapore and other centres of Chinese culture), and for collaborative action in the arts and cultural fields.

It is launching significant new research programs of relevance to the Australia-China relationship and engaging with the local community in Western Sydney (particularly with ethnic Chinese) groups, businesses and individuals in research of relevance to the globalisation of Australian and Chinese cultures.

The institute has been launched with a substantial donation by local businessman Mr Xiangmo Huang who is driven by a passion for building connections between nations. The gift, the largest single donation received by the University, includes funding for a professorial chair, supported by two research fellowships and a postdoctoral fellowship.

The new Institute will be an important point of access to Chinese culture, providing resources, support and expertise for those wishing to study and research one of the world's oldest and most enduring societies. It will also provide opportunities for cultural exchange between Australia and China.

It will also support the development of a Masters program in Chinese arts and literature, with the first students anticipated to commence in 2017. \$500,000 will also be allocated for student scholarships, with this figure matched by the University.

Positioned with Western Sydney University, the institute will consolidate and build on a wide range of existing teaching and research programs across the University, in Chinese literature, translation, interpretation, music composition and history. It will utilise the expertise already within the University's own Institute for Culture and Society, School of Education, and School of Humanities and Communication Arts.

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# MARCS Institute for Brain, Behaviour and Development

## At the MARCS Institute for Brain, Behaviour and Development we study the scientific basis of human communication.

Our interdisciplinary team spans psychology, engineering, linguistics, neuroscience and computer science. Linking the power of social and biological science research methods, we investigate factors influencing perceptual, cognitive, creative and social skills from infancy to adulthood. This includes exploring real and virtual worlds in normal, heightened and degraded contexts, within and across different cultures.

MARCS Institute research on brain, behaviour and development encompasses such areas as how we learn language and handle foreign accents, how to program robots for human interaction, how we can enhance communication with infants (those with hearing impairments, and the elderly), and how music and dance communicate universally.

We apply our work to advanced technology, biomedical engineering, and improving physical and mental health. We do this by designing electronics inspired by neural systems, building better biomedical devices, analysing heightened performance in the creative arts, and addressing impaired performance in developmental delay and sensory deficit.

The MARCS Institute's discipline areas scored at or above world standard rating in disciplines as diverse as cognitive science, linguistics and performing arts and creative writing. The institute is a key partner in the new Australian Research Council Centre of Excellence for the Dynamics of Language.

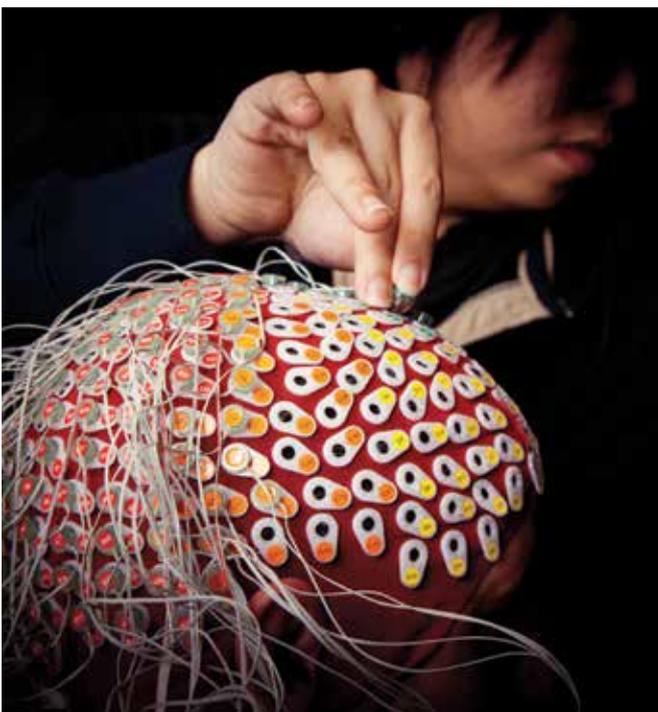
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# Translational Health Research Institute

## Triple Vision

Western Sydney University is creating a new model of healthcare research: THRI.

THRI will be a research institute deliberately situated within, and closely connected to, its community – a grounding which gives it the diverse and vibrant social context necessary to deliver not only research rigour but, most importantly, relevance.

THRI will integrate Western Sydney University's world-class research into best policy and practice, based on government health priorities and the needs of the nation's fastest growing urban population, Western Sydney. We will focus on our community and support seamless healthcare from primary and population health through to acute hospital treatment.

## Triple Focus

The ultimate challenge in healthcare is delivering an integrated system which provides timely access to quality services with limited resources. The challenge is intensifying as demand for quality medical and health outcomes increases exponentially with population growth and demographic shifts.

THRI will overlay health research and strong epidemiological and data analysis with a deep understanding of broader social and economic factors. THRI will deliver health outcomes across a range of health and medical research priorities through the framework of quality, access and value for money.

## Get Involved

Research is most powerful when it is done in partnership. THRI and Western Sydney University are ready to deliver in genuine partnership with the community, government and industry.

If you are seeking to increase access to health services, improve the effectiveness and efficiency of a service or health program, or even seeking innovative solutions to broader long-term health issues in our region, come and talk to us about how we can work together as partners in THRI's new model of health research.

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## FIND OUT MORE

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[westernsydney.edu.au/thri](http://westernsydney.edu.au/thri)





# RESEARCH CENTRES

**NATIONAL INSTITUTE FOR  
COMPLEMENTARY MEDICINE (NICM)**

**CENTRE FOR EDUCATIONAL  
RESEARCH (CER)**

**CENTRE FOR HEALTH RESEARCH**

**CENTRE FOR  
INFRASTRUCTURE ENGINEERING**

**CENTRE FOR RESEARCH  
IN MATHEMATICS**

**WRITING AND SOCIETY  
RESEARCH CENTRE**

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## NATIONAL INSTITUTE FOR COMPLEMENTARY MEDICINE (NICM)

Campbelltown campus

**More information**

- Phone: +61 2 4620 3284
- Email: [nicm@westernsydney.edu.au](mailto:nicm@westernsydney.edu.au)
- [westernsydney.edu.au/nicm](http://westernsydney.edu.au/nicm)

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## CENTRE FOR EDUCATIONAL RESEARCH (CER)

Kingswood campus

**More information**

- Phone: +61 2 4736 0258
- Email: [margaret.somerville@westernsydney.edu.au](mailto:margaret.somerville@westernsydney.edu.au)
- [westernsydney.edu.au/cer](http://westernsydney.edu.au/cer)

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## CENTRE FOR HEALTH RESEARCH

Campbelltown campus

**More information**

- Phone: +61 2 4620 3669
- Email: [chr@westernsydney.edu.au](mailto:chr@westernsydney.edu.au)
- [westernsydney.edu.au/chr](http://westernsydney.edu.au/chr)

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## CENTRE FOR RESEARCH IN MATHEMATICS

Parramatta campus

**More information**

- Phone: +61 2 9852 5222
- Email: [crm@westernsydney.edu.au](mailto:crm@westernsydney.edu.au)
- [westernsydney.edu.au/crm](http://westernsydney.edu.au/crm)

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## WRITING AND SOCIETY RESEARCH CENTRE

Bankstown campus

**More information**

- Phone: +61 2 9772 6780
- Email: [writing@westernsydney.edu.au](mailto:writing@westernsydney.edu.au)
- [westernsydney.edu.au/writing](http://westernsydney.edu.au/writing)

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## CENTRE FOR INFRASTRUCTURE ENGINEERING

Kingswood campus

**More information**

- Phone: +61 2 4736 0106
- Email: [cie@westernsydney.edu.au](mailto:cie@westernsydney.edu.au)
- [westernsydney.edu.au/cie](http://westernsydney.edu.au/cie)



**EXCEL**



**LENCE**

# RESEARCH GROUPS

**DIGITAL HUMANITIES  
RESEARCH GROUP**

**MOLECULAR MEDICINE  
RESEARCH GROUP**

**NANOSCALE ORGANISATION  
AND DYNAMICS RESEARCH  
GROUP (NANO)**

**HUMANITARIAN AND  
DEVELOPMENT RESEARCH  
INITIATIVE (HADRI)**

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## DIGITAL HUMANITIES RESEARCH INITIATIVE

**Parramatta campus**

**More information**

- Phone: +61 2 9685 9401
- Email: [s.burrows@westernsydney.edu.au](mailto:s.burrows@westernsydney.edu.au)
- [westernsydney.edu.au/dhrig](http://westernsydney.edu.au/dhrig)

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## MOLECULAR MEDICINE RESEARCH GROUP

**Campbelltown campus**

**More information**

- Phone: +61 2 4620 3802
- Email: [m.oconnor@westernsydney.edu.au](mailto:m.oconnor@westernsydney.edu.au)
- [westernsydney.edu.au/molecular\\_medicine](http://westernsydney.edu.au/molecular_medicine)

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## NANOSCALE ORGANISATION AND DYNAMICS RESEARCH GROUP (NANO)

**Campbelltown campus**

**More information**

- Phone: +61 2 4620 3336
- Email: [nano@westernsydney.edu.au](mailto:nano@westernsydney.edu.au)
- [westernsydney.edu.au/nanoscale](http://westernsydney.edu.au/nanoscale)

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## HUMANITARIAN AND DEVELOPMENT RESEARCH INITIATIVE (HADRI)

**Penrith campus**

**More information**

- Phone: +61 2 4736 0146
- Email: [n.georgeou@westernsydney.edu.au](mailto:n.georgeou@westernsydney.edu.au)
- [westernsydney.edu.au/ssap/ssap\\_research/humanitarian\\_and\\_development\\_research\\_initiative](http://westernsydney.edu.au/ssap/ssap_research/humanitarian_and_development_research_initiative)

Unlimited opportunities for success.

Western Sydney University is unlocking the potential of the next generation of researchers, global citizens, leaders and change-makers through innovative and engaged research training.

# OPPOR'

With a thriving research training environment supported by dedicated academic and professional staff, our research programs are designed to ensure students achieve success.

Our commitment to the highest standards of research integrity and ethical practices is not simply a matter of compliance. As a deeply social activity, our research enterprise is embedded in the trust between researchers and the emerging researchers they supervise, those who support their endeavour by participating in research and the community which values their creation of new knowledge.

The University encourages candidates to participate in national and international conferences and to publish the results of their work as they progress. We also offer practical support including funds for expenses directly related to research, a conference support scheme, regular free workshops, online workshop resources and expert assistance on mathematical and statistical techniques.



TUNITY

# Graduate Research School

## Western Sydney University's Graduate Research School (GRS) provides centralised services and support for the candidature management of all research degrees at Western Sydney.

The GRS exists to ensure you have a smooth journey into the University and throughout your studies as we look after all aspects of research candidature including:

- student recruitment, admission, enrolment and re-enrolment
- scholarship applications, conditions, stipend, allowances and variations
- candidature progression including confirmation, milestone and progress reports
- submission and examination of thesis (we have an ever-growing 'wall of fame' we are proud of)
- workshop and Seminar series for all HDR candidates
- supervisor training for staff to ensure our students have the best supervisors possible.

Western Sydney's current Higher Degree Research candidates are essential to our increasing international research reputation. All postgraduate research candidates are provided with numerous opportunities to gain superior skills and training through coursework options, seminars and workshops to ensure you are career-ready and highly competitive for global careers in:

- industry and business: researcher, consumer and social research, public relations, publishing, personnel work, training, marketing and human resources
- community and non-profit organisations: administration, overseas aid and development agencies, social research, policy development and lobbying
- government: policy development and analysis, general administration and social research
- academia: after completion of your PhD you will be able to pursue postdoctoral or lectureship positions.

Western Sydney University is also leading the way in postgraduate training by building a scaffolded journey which includes the development of transferable skills such as creativity, mistakability (learning from your mistakes) and interdisciplinary knowledge.

The team at the Graduate Research School, along with your academic supervisors who are leading researchers in their field, are here to assist you to achieve in this vibrant research environment.



## Degrees for Success

With a focus on contemporary social issues and scientific problems, our research degrees are designed to produce career-ready, solution-focused researchers who can solve new problems and adapt to emerging opportunities in a constantly changing world.

## Master of Philosophy

The Master of Philosophy degree is primarily undertaken as a supervised program of original research, though the depth of the research required is less than that required for a PhD.

The degree is an opportunity to develop and enhance analytical and research skills through independent investigation in a specific field. The Master of Philosophy degree is aimed at the professional development of the candidate, with particular emphasis on research methodology appropriate to the field of study. It is intended to provide candidates with the opportunity to develop their potential for research, enhance their skills of problem identification and specification, and their ability to develop and present solutions.

The Master of Philosophy degree is completed within 1-2 years full-time candidature.

## Master of Research

Western Sydney University is transforming research education and training by developing a frontier research training program.

The Master of Research is an elite research training degree. This pathway program will deliver an in-depth research training experience that combines specialist disciplinary knowledge within an interdisciplinary approach, an advanced understanding of research methodologies and a year of independent research conducted under expert supervision. The program provides you with the necessary educational experiences and expert knowledge to enable a confident approach to PhD studies and your future career.

Our vibrant research culture offers a combination of advanced coursework which attracts Commonwealth Supported Places (CSP), followed by a year of Higher Degree Research including a research training place via the Research Training Scheme, which does not attract any tuition fees.

The Master of Research degree is completed in 2 years full-time, or part-time equivalent.

Scholarships for domestic students are available. For further information, please visit [westernsydney.edu.au/MResearch](http://westernsydney.edu.au/MResearch)



## Doctor of Philosophy (PhD)

**The Doctor of Philosophy (PhD) degree provides training and education with the objective of producing graduates with the capacity to conduct research independently at a high level of originality and quality.**

A PhD candidate will uncover new knowledge either by the discovery of new facts, the formulation of theories or the innovative re-interpretation of known data and established ideas.

The award of a PhD is recognition of successful research experience of international standard in the discipline.

PhDs are completed within 3 years full-time candidature, with a maximum enrolment of four years full-time or part-time equivalent.

Candidates undertake their independent research under the expert guidance of a panel of supervisors.

## Professional Doctorate

**These degrees include the Doctor of Education, Doctor of Creative Arts, Doctor of Cultural Research and Doctor of Business Administration.**

Professional Doctorates provide extended and advanced training in professional fields where projects and investigations are more applied in nature and more obviously oriented to professional practice. The Professional Doctorate is designed to equip candidates to be critical consumers of research in a professional setting.

Doctorates are completed within 3 years full-time candidature, with a maximum enrolment of four years full-time or part-time equivalent.

Candidates undertake their independent research under the expert guidance of a panel of supervisors.



# International Research Training Partnerships Scholarships

**Through partnerships with other research institutions around the world, Western Sydney University has established dual awards and joint higher degrees which allow doctoral and research Masters candidates to move between countries under joint supervision and enrolment arrangements.**

Under a dual award doctoral or research Masters thesis submission, candidates follow an agreed single examination process and receive an award from each institution, (qualified by the statement that the degree was obtained under a dual award degree agreement). A dual award degree provides for two degrees to be granted – from both the primary and partner institution. Under a joint doctoral or joint research Masters, a single award and testamur is awarded including the logos of the participating institutions.

Doctoral and research Masters candidates, under both dual award and joint degree arrangements, benefit from the opportunity to work while accessing the latest research equipment, facilities and expertise in more than one institution. You'll also obtain awards that facilitate professional and global mobility.

## International students

International Postgraduate Research Scholarships (IPRSs) cover the full cost of tuition and overseas student health cover, including a living allowance.

The University also offers University-funded equivalent scholarships.

You are invited to apply if you live outside Australia and New Zealand, are enrolling in a research degree (not coursework), have not yet begun that degree program, do not hold an equivalent degree and are not a recipient of an Australian Government-funded Postgraduate Award. These scholarships are awarded competitively based on academic merit.

A range of specialist scholarships are also available. For more information, visit [westernsydney.edu.au/research/scholarships](http://westernsydney.edu.au/research/scholarships)

## Domestic students

Citizens and Permanent Residents of Australia and New Zealand citizens are eligible to apply for prestigious Australian Postgraduate Awards funded by the Australian Government.

The University may also offer University-funded Postgraduate Research Awards each year.

In both schemes, successful applicants will be awarded a funded place in the course, receive a tax-free stipend and may be eligible for relocation and thesis allowances. Additional funding may also be awarded to the highest ranked applicants. All domestic Higher Degree Research candidates at Western Sydney University have a fully-funded place in their course.

## Scholarships and awards

Many competitive research grants also provide the opportunity to undertake research projects and be supported by a stipend scholarship. Industry-funded scholarships often focus on specific research challenges as part of wider research projects.

For more information about scholarships, contact your academic supervisor or view currently available scholarships at [westernsydney.edu.au/research/scholarships](http://westernsydney.edu.au/research/scholarships)



# University Life

**Western Sydney is an exciting place to be. Strategically located within Sydney and the Asia-Pacific region, the fast-growing economic region is home to more than 240,000 businesses including many of Australia's top companies, government agencies and services, major multinationals, small-to-medium enterprises, start-ups, and an emerging high-tech sector.**

With a large multicultural population of more than two million people from 170 nations, Western Sydney's global links are creating unlimited opportunities for international business, investment, education and cultural exchange.

Like many emerging economies around the world, the region's potential is fuelled by a growing young and aspirational population living on the edge of innovation.

## **Lifestyle**

As a student at Western Sydney University, you become part of a dynamic, thriving and culturally rich community. There are diverse opportunities for sport and recreation, entertainment, going out and engaging with the community – both on and off campus.

From the ultra-modern and high-tech to more serene, pastoral environments, each of our nine campuses is different – but all are friendly, multicultural and inclusive.

Our on-campus facilities include libraries, computer laboratories, wireless internet, cafes, bars, gyms, sporting grounds, tennis courts, and lots of open space to hang out in.

With a range of on-campus clubs and associations there are also lots of opportunities to meet new people with similar interests, make friends, and explore a variety of cultural, course-related (and other) activities.

## **Living on campus**

Western Sydney University offers a wide range of high-quality, affordable accommodation options across our campuses. Our residential colleges provide a choice of catered and self-catered rooms – from dormitories and residential halls to cottages, townhouses and villas – on most campuses. Rooms can also be furnished with beds, desks, fridges and more. For more about our accommodation options, call 1300 897 669 (in Australia), +61 2 8760 0012 (outside Australia) or visit [westernsydney.edu.au/village](http://westernsydney.edu.au/village)

## **Living locally**

The Western Sydney region has a vast range of affordable apartments and share housing. Check out the popular real estate listing websites in Australia such as [domain.com.au](http://domain.com.au) and [realestate.com.au](http://realestate.com.au)



# Student Snapshot

**Table 1**

Student Headcount by Residency Status, Onshore and Offshore, 2011-2015 (Includes The College)

RESIDENCY STATUS	2011	2012	2013	2014	2015
Domestic	34,989	35,986	37,596	39,086	40,328
International – onshore	4,021	3,846	3,896	4,306	4,277
International – offshore	451	425	431	391	325
<b>Total</b>	<b>39,461</b>	<b>40,257</b>	<b>41,923</b>	<b>43,783</b>	<b>44,934</b>

Source: Western Sydney University Department of Education Submissions

**Table 2**

Commencing Student Headcount by Residency Status, Onshore and Offshore, 2011-2015 (Includes The College)

RESIDENCY STATUS	2011	2012	2013	2014	2015
Domestic	13,339	13,219	14,288	14,801	15,940
International – onshore	1,928	1,792	1,900	2,218	2,013
International – offshore	163	145	161	125	141
<b>Total</b>	<b>15,430</b>	<b>15,156</b>	<b>16,349</b>	<b>17,144</b>	<b>18,098</b>

Source: Western Sydney University Department of Education Submissions

**Table 3**

Student Headcount by Gender, 2011-2015 (Includes The College)

GENDER	2011	2012	2013	2014	2015
Females	21,852	22,372	23,109	24,073	24,609
Males	17,609	17,885	18,814	19,710	20,322
<b>Total</b>	<b>39,461</b>	<b>40,257</b>	<b>41,923</b>	<b>43,783</b>	<b>44,934</b>

Source: Western Sydney University Department of Education Submissions

**Table 4**

Student Headcount by Course Level, 2013-2015 (Includes The College)

COURSE LEVEL	%	2013	%	2014	%	2015	%
Undergraduate	81.6	34,207	81.6	35,243	80.5	37,041	82.4
Higher degree by coursework	14.1	5,792	13.8	6,144	14.0	5,628	12.5
Higher degree by research	2.4	983	2.3	955	2.2	1,080	2.4
Other*	1.9	941	2.2	1,441	3.3	1,185	2.6
<b>Total</b>	<b>100.0</b>	<b>41,923</b>	<b>100.0</b>	<b>43,783</b>	<b>100.0</b>	<b>44,934</b>	<b>100.0</b>

\*Other includes enabling, non-award and cross-institutional

Source: Western Sydney University Department of Education Submissions

(p): provisional figures only

## Researcher Development Program

All Higher Degree Research (HDR) students at Western Sydney University have access to an extensive workshop program, where you have the opportunity to hone and refine the skills you will require for an ever-changing workforce, no matter where that employment is.

The workshops will train you for a career both within academia and beyond, including areas such as public policy development in government and non-government organisations (NGOs), innovation and entrepreneurship. Designed to compliment the key milestones that are part of your PhD journey, the workshop program also provides you with a scaffolded structure to ensure timely completion of your research degree. By taking advantage of this program, you will become more than a researcher, you will be competitive in an increasingly changing job market and ready for the challenges that lie ahead.

For more information, visit [westernsydney.edu.au/research/workshops](http://westernsydney.edu.au/research/workshops)



## Tuition Fees

The term 'tuition fees' refers to course fees paid by Higher Degree Research (HDR) students for the attendance pattern and discipline area in which they are enrolled.

Please note that 'tuition fees' do not include other expenses associated with university study such as books, equipment, accommodation and living expenses.

### Student Services and Amenities Fee

Research students will be liable for a twice yearly Student Services and Amenities Fee (SSAF). For more information about the fee, visit [westernsydney.edu.au/fees](http://westernsydney.edu.au/fees)

### International Student Tuition Fees

For information on Higher Degree Research Fees, please visit [westernsydney.edu.au/fees](http://westernsydney.edu.au/fees)

### Doctor of Business Administration Tuition Fees

For further information on fees and charges, please refer to [westernsydney.edu.au/fees](http://westernsydney.edu.au/fees)

### Research Training Scheme (RTS)

Candidates who have an RTS place are not required to pay tuition fees.

All commencing Higher Degree Research (HDR) places for Australian citizens, permanent residents and NZ citizens are funded by the Australian Government under the Research Training Scheme (RTS). RTS places are awarded to commencing students for a maximum period of two years full-time equivalent for a Masters student and four years full-time equivalent for a doctoral student. Confirmation of availability of a funded place for eligible students will be made at the time of admission.

There is no stipend attached to a RTS place, however, all research candidates are provided with the resources they need to support their project.

It is Australian Government policy that applicants who have partly completed a research degree previously, at Western Sydney University or elsewhere, may have the previous period of candidature deducted from the maximum time allowed.

### Master of Research

If you are applying for the Master of Research, please visit [westernsydney.edu.au/research](http://westernsydney.edu.au/research) for course-specific information about the entry requirements and unique fee structure which are different to a PhD and Master of Philosophy.



# How to Apply

Before joining our research community and becoming a graduate research student, you should discuss your interests and experience with the relevant institute, centre or group. Alternatively, contact the Graduate Research School.

If you and the relevant academic staff member agree you should apply for Higher Degree Research studies at Western Sydney University, then the next step is to apply for admission to the degree program. This is also the time to apply for a scholarship, if you wish.

## TO FIND OUT MORE, CONTACT:

### Course Information Centre

Phone: 1300 897 669

Email: [study@westernsydney.edu.au](mailto:study@westernsydney.edu.au)

### Graduate Research School

Email: [grs@westernsydney.edu.au](mailto:grs@westernsydney.edu.au)

[westernsydney.edu.au/graduate\\_research\\_school/grs](http://westernsydney.edu.au/graduate_research_school/grs)

## WESTERN SYDNEY UNIVERSITY INTERNATIONAL

### Course Enquiries

Phone: +61 2 9852 5499

Email:

[internationalstudy@westernsydney.edu.au](mailto:internationalstudy@westernsydney.edu.au)

### International Admission Enquiries

Phone: +61 2 9685 9280

Email:

[uwsadmissions@westernsydney.edu.au](mailto:uwsadmissions@westernsydney.edu.au)

### Current Western Sydney University International Student Enquiries

Student Central

SEIS International Liaison Officers

Phone: 1300 668 370

Email:

[studentcentral@westernsydney.edu.au](mailto:studentcentral@westernsydney.edu.au)

### Student Welfare Service

International Student Welfare Coordinator

Student Welfare Officer (International)

## TO APPLY TODAY, VISIT:

[westernsydney.edu.au/applyonline](http://westernsydney.edu.au/applyonline)

for higher degree study at Western Sydney University (PhD, Master of Philosophy, Master of Research, Professional Doctorate).

## FURTHER INFORMATION FOR INTERNATIONAL STUDENTS

For more information about studying at Western Sydney University, including course information, English language requirements, intakes, tuition fees, assessment methods, accommodation options, financial obligations and living in Australia, please visit [westernsydney.edu.au/international](http://westernsydney.edu.au/international) or contact [internationalstudy@westernsydney.edu.au](mailto:internationalstudy@westernsydney.edu.au)

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