Forest Stewardship Council (FSC®) is a globally recognised certification overseeing all fibre sourcing standards. This provides guarantees for the consumer that products are made of woodchips from well-managed forests, other controlled sources and reclaimed material with strict environmental, economical and social standards.
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Discover
Research is your gateway

Our research programs are designed to help you advance your research interests while also developing professional skills and networks.

We produce the next generation of global leaders who conduct diverse work internationally in research, industry, business and more.

Research is an incredible opportunity for you to extend your knowledge, build practical skills and pursue your passion in a specialist subject.

In today’s workplace postgraduate research graduates are increasingly valued for their analytical talents, time management, problem-solving skills, independence and acumen. Our graduates end up in incredibly diverse fields, from research to policy, industry, management, government, business and international development, just to name a few.
A global perspective

We have a global reputation for research excellence, top international rankings and award-winning research staff who are among the best in their fields. As a postgraduate student you will work alongside world leaders in research, have the opportunity to conduct studies overseas, and develop a comprehensive perspective of applying research in the real world.

Links with industry

Many graduates from our research programs work in applied research. You can develop your ability to identify needs in the market and understand the practical applications of research through your degree. Many of our research groups work with industry and business partners. As a result, you will have the opportunity to be at the forefront of innovation and development, while gaining valuable professional networks. You will also learn how to take a multidisciplinary approach to provide industry solutions, and be able to work in diverse environments.

Become a research leader

You will have access to a wide range of opportunities to cultivate professional skills through workshops, seminars, career development opportunities, international research symposia and networking events. You will be equipped with the skills to become a well-rounded confident leader.

Flexible options

Whatever your research background and future goals, you can select a research degree to suit you – from a one-year graduate diploma to a full doctorate. You can choose research programs that are clinical, theoretical or applied, or a combination of these. Our articulated programs allow you to start your research with a short qualification, with the flexibility to extend into a more advanced research degree if you choose.
Discover
Why choose us?

Our degrees offer more than knowledge. You’ll join Australia’s largest postgraduate community and a global network of leading thinkers to challenge the known and explore the unknown.

Research excellence

The University of Sydney is ranked first in Australia and 11th in the world for veterinary science, ranked 19th in the world for life sciences and medicine, ranked 24th in the world for psychology, and ranked 31st in the world for mathematics (QS Rankings 2015).

In the Australian Government’s most recent Excellence in Research for Australia review, all of our research ranked at world standard or above.

Our reputation for scientific excellence attracts the best researchers, significant research funding and prestigious prizes.

The Division of Natural Sciences is home to numerous centres of excellence and is an integral part of new multidisciplinary research hubs at the University such as the Charles Perkins Centre, the Australian Institute for Nanoscale Science and Technology, the Centre for Carbon Water and Food and the Australian Centre for Microscopy and Microanalysis.

Excellence in teaching and learning

We attract some of the best students in Australia and the world. We provide the highest quality learning and teaching, and foster intellectual inquiry, academic freedom and integrity, as well as ethical practice in academic endeavours. At the heart of all of this is an exciting and stimulating student-centred learning and teaching environment.

Supporting our students

We also offer a number of programs and options that will really add value to your course and career prospects, such as professional development activities, specialist postgraduate study skills workshops, and networking events. We also want to ensure you are supported, so we offer a range of services including: the Careers Centre, accommodation services, financial assistance and disability services, to name a few.

Rich, vibrant student life

With hundreds of clubs and societies, cafes, bars, bands, theatre productions, sports, three sporting complexes, and Australia’s oldest student newspaper, Honi Soit, you will be a part of Australia’s most vibrant and active student community.

Our campus

As a research student in the natural sciences you will have access to the latest research facilities and specialist equipment. Choose from facilities located across several campuses and centres. Take advantage of the University of Sydney’s beautiful campus, which combines a rich heritage and modern architecture within one of the world’s most livable cities.

We create leaders

Many of our graduates have gone on to become inspirational leaders, making a positive difference in Australia and around the world. Our alumni have changed the face of global science and continue to shape our national and worldwide agendas.
Discover
Affiliations

The University of Sydney is one of the world’s top research universities and a proud member and affiliate of the following organisations.

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**Group of Eight**
The University of Sydney is a member of the Group of Eight (Go8), a coalition of leading Australian universities, intensive in research and comprehensive in general and professional education. The Go8 exists to enhance the contribution of its member universities to the nation’s social, economic, cultural and environmental wellbeing and prosperity. Currently the Go8 receives more than 70 percent of national competitive research grants, conducts more than 60 percent of Australian university research, has produced all Australian-educated Nobel Prize winners and dominates university links with industry.

- [www.go8.edu.au](http://www.go8.edu.au)

**National Health and Medical Research Council (NHMRC)**
The NHMRC is a government organisation that administers both research funding and development of recommendations relating to this research. It aims to raise the health standards of all Australians and fosters the development of consistent health standards between states.


**The Association of Pacific Rim Universities**
This association includes 36 universities from 16 countries located on the Pacific Rim, with the diversity of nations represented ensuring a beneficial exchange of ideas. All member universities are deemed to be at the forefront of higher education in their own countries and deliver pioneering programs across their range of disciplines. Research and an international focus are critically important to association members as they service local and global communities.

- [www.apru.org](http://www.apru.org)

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**Australian Research Council (ARC)**
The ARC was established to enable the Australian Government’s vision of improving the lives of Australians through research. The organisation is responsible for furthering quality and ethical research through the dissemination of substantial research grants, while also nurturing partnerships between educational institutions and industry.

- [www.arc.gov.au](http://www.arc.gov.au)
Climate change and a growing human population are putting pressure on global food, water and soil security. Modern agricultural and environmental science responds to these challenges by providing the knowledge and skills to improve nutrition and human health and develop markets in new commodities such as carbon trading.

Researchers in the Faculty of Agriculture and Environment are addressing these challenges through a range of exciting graduate programs tailored for the modern application of science in this changing world.

**About us**

Our interdisciplinary approach presents exceptional opportunities to develop your research, and broaden your interests and learning experience. Our emphasis on innovation and applied research has placed us at the forefront of the field.

Our students have access to some of the world’s best-equipped and newest specialist research facilities, including the Centre for Carbon, Water and Food. The faculty runs the IA Watson Grains Research Institute located in Narrabri, NSW, which is the biggest centre of its kind in Australia, spanning 2268 hectares.

Current research collaborations are focusing on managed forests, the health of rangelands and the sustainability of the surrounding environments. Our Plant Breeding Institute is a world leader in biotechnology, genetics, specialist plant breeding and horticulture, and makes a major contribution to national and international agricultural developments.

Our postgraduate students are a valued part of our research community and we offer students the opportunity to work alongside world experts in their professional fields.

The faculty is committed to your professional development and support. Opportunities for professional networking, seminars, skills workshops, social events and career evenings will enable you to develop your talents beyond your PhD.

− sydney.edu.au/ agriculture
“Outcomes of my research will enable better understanding of soil carbon, which is vital to the management of natural resources in an effective and sustainable manner.”

Senani Karunaratne
PhD student in Agriculture

“My area of research is investigating a disease caused by an exotic pathogen that is affecting native vegetation in the Greater Blue Mountains World Heritage Area.”

Zoe-Joy Newby
PhD student in Plant Pathology

Research strengths
- The faculty is consistently ranked highly at an international level by the Australian Research Council in its Excellence in Research for Australia assessment.
- Our world-renowned Plant Breeding Institute is one of the largest field research stations in Australia, with thousands of hectares of farmland and modern laboratory, glasshouse and field facilities.
- Other field sites support enviable amenities for large-scale field studies in agricultural science, food science, environmental studies, ecology, bushfire research and more.
- We have excellent collaborative relationships with CSIRO, national and state government departments and corporate stakeholders in agriculture, which present opportunities for interdisciplinary research.
- We maintain strong international linkages, which are supported by leading government and industry organisations, including the Grains Research and Development Corporation.

Specialisations
The Faculty of Agriculture and Environment specialises in the research challenges associated with food, water and soil security.

Our scientific expertise includes plant breeding and genetics, soil science (chemistry, physics and biology), hydrology, biogeochemistry, plant biology and pathology, and spatial information systems.

These disciplines and skills are applied in fields such as precision agriculture and agronomy, sustainable horticulture, management of forest and rangelands, and management of air and water quality.

Through our links with the School of Economics, we provide an additional focus on the economics of agricultural and water markets, foreign aid and foreign investment, land and water reform and policy, bioeconomics and resource management, natural resource accounting and measures of sustainability.
Study Biology

Our research community is recognised internationally for its outstanding programs, particularly in evolution, behavioural ecology, conservation, plant science and molecular biology. We focus on unique Australian flora and fauna to make fundamental contributions to life as we know it, and our work spans the breadth of Australia, from the Simpson Desert to the tropical north and coral islands.

About us

The School of Biological Sciences is renowned for its postgraduate research supervision. Seven of our supervisors have been awarded prestigious Vice-Chancellor’s awards for Excellence in Postgraduate Research Supervision.

The school has a strong group of academics that support PhD students through their candidature, ensuring that individual students can access the resources and expertise they need.

Research students travel to conferences in Australia and overseas, often with periods of research in partner laboratories around the world.

Our students regularly win prizes for their conference presentations and are sought after by potential employers. Students routinely publish papers during and immediately after their studies at the University, and several have published in the prestigious peer-reviewed journals, *Nature* and *Science*.

We have a strong postgraduate student network that coordinates a range of social and academic events. These include two career mentoring weekends per year at our nearby field station, attended by leading national and international biologists.

You will have access to equipment for modern biology including confocal and fluorescence microscopes; PC2 laboratories for work with recombinant organisms; glasshouses and growth cabinets for plant biology; insect-rearing facilities; an animal house; fresh water and marine aquarium facilities for animal and algal biology; and a suite of imaging and video facilities for monitoring animals.

− sydney.edu.au/science/biology

− sydney.edu.au/science/biology

− sydney.edu.au/science/biology
“I am studying a group of deep-sea crustaceans — the asellota — which have great diversity in both family and species number. This group of isopods is present in many basins in the world, but little is known about their evolution, including the processes that led to their current distribution.”

**Luana Lins**
PhD student in Biology

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**Research strengths**

- Leading researchers, nine of whom hold prestigious research fellowships.
- Published more than 300 research papers in 2014, with $8.33 million in research funding.
- Research links with leading international organisations (including universities in Oxford, Cambridge, and Princeton, the Chinese Academy of Sciences, and EMBL Germany) and local groups (such as Australian Museum, National Herbarium and Botanic Gardens, and CSIRO).
- Field stations at One Tree Island (Great Barrier Reef), Warrah (Pearl Beach, NSW central coast), Fogg Dam (Northern Territory) and the Simpson Desert.
- Member of Sydney Institute of Marine Science on Sydney Harbour, partner in Centre for Mathematical Biology, and the University’s Charles Perkins Centre, which addresses the global burden of obesity, diabetes, cardiovascular disease and related conditions.

**Specialisations**

The school’s research covers a broad range of areas encompassing ecosystems, physiology and behaviour, evolution and genetics and molecular biology, including:

- Ecology
- Conservation
- Physiological ecology
- Nutrition
- Animal behaviour
- Plant function
- Development, phylogenetics and systematics
- Evolutionary genetics
- Education.

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“The microscopes I work with will help bridge the gap between light and electron microscopy, so that researchers can make medical observations in greater detail and clarity than previously possible.”

**Dr Laurence Cantrill**
PhD graduate
Head of Microscopy
Kids Research Institute, Westmead
The School of Chemistry has a well-deserved international reputation for excellence in research and teaching. It is consistently placed in the top echelon of chemistry departments in Australia.

About us

As a postgraduate student, your training is intimately linked with research activities. You will be able to take advantage of the school’s strong collaborative links with industry through the Advanced Catalysis for Sustainability Lab and the Key Centre for Polymers and Colloids.

In 2014, members of the school received more than $5.3 million in new research funding, leading to a total of 26 Discovery Grants, four ARC Future Fellows, six other Fellowships and five Linkage Grants from the Australian Research Council, totalling (with other grants) $11.7 million in competitive research funding.

We greatly value our postgraduate community and provide you with academic and professional support through your candidature. You will have access to modern research instrumentation including major research facilities for nuclear magnetic resonance spectroscopy, mass spectrometry, vibrational and optical spectroscopy, X-ray crystallography, separations, thermophysical properties and high-performance computing.

Our research infrastructure – underpinning and supporting all research programs – includes in-house mechanical and electronic workshops.

The SciTech Library (a branch of the main University Library) holds all of the main chemistry titles and provides online access to national and international databases. All students have access to the latest instruments, and work in newly renovated laboratories and offices.

Your choice of university is crucial – it provides your networking framework and support base, which you will call upon throughout your working life.”

Dr Joseph Bevitt
PhD graduate
Head of the Bragg Institute User Office, ANSTO
“My project involves renewable fuels and chemicals. I design sulfur-resistant bimetallic catalysts that have the potential to process biomass into renewable fuels. I test other catalysts with green reagents to make valuable chemicals normally sourced from crude oil. I like to think that I am doing my part to save the planet.”

Jessica Stanley
PhD student in Chemistry

“Chemistry has the potential to contribute to all areas of scientific research and I am particularly interested in how it can help us understand biology.”

Dr Liz New
PhD graduate
Researcher and Lecturer, School of Chemistry, University of Sydney
Study
Geosciences

The School of Geosciences encompasses study in geography, geology and geophysics. Our long tradition of rigorous postgraduate research is complemented by an active geophysical program. We will reward you with valuable skills, enabling you to launch a career with the potential for outdoors work in exotic locations, international travel, and opportunities to contribute to a sustainable future.

Geography

As the need to find solutions to issues of environmental sustainability, population changes and globalisation becomes more challenging, the skills and knowledge of geographers have come to the forefront.

Graduate training in geography provides a toolkit to think critically about the relationships between people, environments and places, and work towards resolving complex real-world problems.

The University of Sydney’s expertise in geography encompasses a breadth of research fields including:
- the challenges of managing environment and development in the Asia-Pacific region
- making our cities sustainable places to live
- understanding the restructuring of populations and economies across the world
- forging sustainable futures for communities in rural Australia
- creating knowledge about the ways that populations adapt to the uncertainties of climate change and food insecurity.

Our geographers are key participants in the Sydney Southeast Asia Centre at the University and various forums and institutions connected to sustainability, urban futures and global development.

You will have the opportunity to work alongside academic staff with high-profile international reputations, in a tight-knit and supportive research community.

Our geographers have extensive linkages to government departments, other universities and research institutes within Australia and overseas. Our research community is richly diverse, comprising postgraduate students from Thailand, Laos, the Philippines, Nepal, India, Vietnam, Iran, Germany, the Netherlands, Taiwan, Tonga, Indonesia and Cambodia.

Research strengths

- Extensive international collaborations, with particular expertise in South Asia and Southeast Asia.
- Strong interdisciplinary relationships across the University and with industry and government.

Specialisations

- Natural hazards and disaster risk reduction
- Natural resource management and its governance in Southeast Asia
- Geographies of development, globalisation, and global value chains
- Environmental histories and climate change adaptation
- Sustainability, citizenship and cultural spaces in urban environments
- Social, economic and environmental sustainability in regional Australia, water management and farm futures
- Environmental and ethical issues associated with animal industries
“My research focused around coupling the (high-performance computer modelling) Underworld code to a seismic simulation code called RSF Madagascar, and in doing so I was able to use my programming skills to solve real scientific problems.”

*Luke Mondy*

PhD student, Earthbyte group

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**Geology and geophysics**

You will have the opportunity to take advantage of a well-established and interdisciplinary research community. Our research spans a wide range of fields and has established collaborations across the world.

We are a leader in the development and application of advanced computational solutions for geoscientific research. Under the direction of Australian Laureate Fellow Dietmar Müller, the EarthByte group leads the development of the GPlates Paleo-Geographic Information software (www.gplates.org). It has become the global standard for analysing Earth’s evolution in a plate tectonic context and is being used in 137 countries.

We have international research collaborations in China, France, Norway, Portugal, Switzerland, Japan, Germany, Canada, the United Kingdom, India, Indonesia, South Korea, Singapore, Vietnam, Taiwan, Thailand and the United States.

The school supports the scientific and policy development activities of the United Nations Environment Programme through an association with an implementing agency.


**Research strengths**

- The EarthByte Group, one of the world’s leading research groups for global and regional plate tectonic reconstructions and for studying the interplay between the deep earth and surface processes.
- The Mekong Research Group, a resource centre that promotes research, discussion and debate on development and environmental issues in the Mekong region.
- The Geocoastal Research Group, which focuses on the full spectrum of coastal sedimentary environments.
- Strong integration with the University of Sydney Institute of Marine Science, which connects geocoastal research with the related fields of coastal marine ecology, marine robotics and coastal engineering.

- A foundation member of the Sydney Institute of Marine Science, a flagship interdisciplinary facility located on the picturesque shores of Sydney Harbour (see page 17).
- The Natural Hazards and Disaster Risk Research Group, which focuses on a wide range of natural and technological hazards.

**Specialisations**

- Marine processes
- Natural hazards
- Global food security
- Asia-Pacific geographies
- Early Earth evolution
- Environmental geology and geochemistry
- Mineral and petroleum resources
- Geophysics
- Geocoastal research
- e-research
- Tectonics
About us

The researchers associated with this unit have excelled in developing interdisciplinary, new, innovative approaches to investigating and analysing developments in science, medicine and technology.

Our staff’s active research records have attracted significant funding from both Australian and international sources. Publishing widely and enjoying international recognition, they bring the latest scholarship to their teaching and research.

Our unit regularly hosts international researchers who contribute new insights and innovative thinking. Both our researchers and postgraduate students are involved in international collaborative research projects.

Our program emphasises self-motivated learning, with close, personalised guidance from academics who are active researchers in the field.

The program is designed so that you develop your knowledge of the field and practical skills, such as how to structure research projects that manage your time efficiently and effectively. You will also develop expertise in a particular research area of interest.

Research strengths

- Our community of active researchers in this field is one of the largest in the world, and the unit’s research attracts significant funding from both Australian and international sources.
- Our researchers are actively engaged in international research projects and have a broad range of international connections.

Specialisation

- History and philosophy of science and medicine
- Early modern science
- Science and technology studies
- Colonial and post-colonial science and medicine (with a focus on Asia)
- History and philosophy of the human sciences

Study

History and Philosophy of Science is a fascinating discipline situated at the crossroads of science and arts.

It examines past and current developments in all areas of science, technology, and medicine from a range of humanistic perspectives, using socio-historical and philosophical techniques to explore their social, political, cultural, and conceptual ramifications. This discipline is an ideal way to critically engage with science and its social and cultural significance.

- sydney.edu.au/science/hps
“I enjoy the fact that my work is in that area between the sciences and the arts, talking to psychologists and physicians about the history of medicine and philosophy of science, and examining what approaches from the humanities can tell us about science.”

Hans Pols
Associate Professor,
History and Philosophy of Science
Study
Marine Science

The University of Sydney Institute of Marine Science provides a cross-disciplinary focus for undergraduate and graduate teaching, and training in marine science. Having connections to a wide range of disciplines in biological, geographical and earth sciences enhances training opportunities for our students.

Graduate students are supervised in individual departments under the institute. Staff liaise closely with several research units (where most of the graduate training occurs), including the Ocean Sciences Institute, the Coastal Studies Unit and the Centre for Research on Ecological Impacts of Coastal Cities. This multidisciplinary approach to marine research training is a unique feature of our marine sciences program.
I grew up by the sea in England and have always loved the ocean. Australia seemed like the perfect place to study a PhD in marine science. So I chose the Centre for Research on Ecological Impacts of Coastal Cities at the University of Sydney due to its excellent facilities and the opportunity to work alongside world-class researchers.

Rebecca Morris
PhD student in Biology
Study
Mathematics and Statistics

The School of Mathematics and Statistics is one of the largest mathematics schools in Australia. We pursue a vigorous program of teaching and scholarship, and our postgraduate research is varied and flexible, catering for students from many backgrounds.

About us
Since 2010 the school has published more than 639 papers in refereed journals, 22 book chapters and four books. Moreover, 30 staff from the school received ARC Discovery Grant funding of about $15 million via 34 distinct projects, plus an ARC Linkage award of $165,000 with the NSW Institute of Sport to study the dynamics of diving.

The school values your professional development and holds regular seminars, workshops and conferences that ensure you stay abreast of latest developments. It also supports an active program of long-term and short-term visits by distinguished international academics, to broaden your global outlook.

− sydney.edu.au/science/maths

Research highlights
− The school has extensive collaborations with China, Canada, France, Germany, Japan, Russia, the UK and the United States.
− We developed MAGMA, a world-class computational algebra and number theory package which is used both in industry and by many branches of pure and applied mathematics.
− The school has three Fellows of the Australian Academy of Science, one Georgina Sweet Australian Laureate Fellow, two Future Fellows and five ARC Discovery Early Career researchers.

Specialisations
− Algebra and representation theory
− Applied mathematics
− Bioinformatics
− Financial mathematics
− Computational algebra
− Non-linear analysis
− Geometry, topology and analysis
− Statistics
“As a Postgraduate Teaching Fellow I am also getting the opportunity to develop the many skills required to be a successful teacher of mathematics while I complete my degree. I hope to continue on to have a career in academia, actively involved in both teaching and research.”

Andrew Crisp
Postgraduate Teaching Fellow
PhD student in Pure Mathematics

“Science knowledge and the ability to progress and adapt can take you beyond the confines of science and into the real world. Once you learn how to apply the theory to real-life applications you begin to see things in a new light.”

William Tong
PhD student in Applied Mathematics
“I am fascinated by this world of organisms that were invisible to the naked eye and were beneficial to humans but could cause destructive and devastating disease at the same time.”

Dr Anna Lau
PhD graduate
Scientist, Microbiology Service, National Institutes of Health, USA

“I hope to continue down the road of academia and investigate cognitive training as an intervention to improve cognition in various brain-related disorders and illness.”

Harry Hallock
PhD student in Neuroscience
Study
Medical Sciences

The School of Medical Sciences is part of the University of Sydney Medical School. We teach a range of disciplines to medical and dental students. We are also part of the Faculty of Science, where we teach many discipline-based courses in the sciences.

Our research arm is the Bosch Institute, a major centre for medical science research at the University of Sydney. If you are interested in honours or any higher degree (PhD, Master of Philosophy [MPhil], graduate diploma) research in the medical sciences, check the Bosch Institute website (sydney.edu.au/medicine/bosch) or any of the specific discipline websites (at right) to get more information.

Please note that PhD and MPhil programs are administered by the Sydney Medical School. For administrative enquiries for honours and graduate diplomas in science, please contact the Faculty of Science.

− sydney.edu.au/medicine

Specialisations

Anatomy and histology
Anatomy and histology has internationally renowned researchers offering exciting research projects for students wishing to undertake postgraduate programs. The research labs within the discipline are well funded and have an outstanding track record of research being published in top international journals. The discipline is one of the largest in the University, and indeed the largest of its type in Australia.

Biomedical science
Biomedical science, located at the Cumberland Campus, Lidcombe, is active in a broad range of research areas including: anticancer drug discovery and therapy, antimicrobial resistance, cardiovascular control, cellular and reproductive toxicology, elite music performance, neurophysiology (including molecular neuroscience and neurodegeneration), respiratory motor control, sensory systems, shoulder function and dysfunction, and vision and visual neuroscience. All of these areas reflect the diverse interests and expertise of staff.

Pharmacology
Pharmacology is a vibrant and research active department. Research groups use the latest technology to understand how drugs affect the body and also to develop new drugs to treat disease. The discipline attracts research funds from the National Health and Medical Research Council (NHMRC) and other similar bodies.

Physiology
Physiology has a strong tradition in research and this commitment to understanding the function of the human body is reflected in the discipline’s high research profile.

Pathology
Pathology has very active research groups investigating a large number of human diseases. To investigate disease causes and processes, a wide variety of modern techniques are used on both human tissue and experimental animals.

The discipline has a highly regarded science honours offering and a large number of students in the PhD program.

− sydney.edu.au/medicine/anatomy
− sydney.edu.au/medicine/biomedical-science
− sydney.edu.au/medicine/pharmacology
− sydney.edu.au/medicine/physiology
− sydney.edu.au/medicine/pathology

Study
Medical Sciences
Study
Molecular Bioscience

The school’s mission is to unravel the biology of living organisms at the molecular level and to advance our understanding of cell and tissue function, development and whole body metabolism in health and disease.

About us
The School of Molecular Bioscience enhances your research achievements by supporting interdisciplinary research, collaborative research with an international scope, and proactive student and postdoctoral recruitment.

Our research efforts are strengthened by the presence of 21 postdoctoral research fellows funded by various organisations that include the Australian Research Council, the NHMRC and the Royal Society of London.

Our research impacts on our understanding of fundamental biomolecular processes, the molecular mechanisms of infectious and genetic diseases, metabolic disorders, and environmental health.

The school houses high-quality infrastructure for a wide range of experimental approaches, including recombinant DNA technology, the generation of transgenic animals, tissue and cell culture facilities and mass spectrometry, as well as excellent facilities for the study of metabolism and nutrition.

As a postgraduate student you will have access to a superb range of major instrumental facilities. Particular strengths include biochemistry, cell biology, structural biology (x-ray and nuclear magnetic resonance) and proteomics, microbiology, molecular biology and genetics, and nutrition and metabolism.

− sydney.edu.au/science/
molecular_bioscience

Research strengths
The school has 67 academics – 17 Fellows including four Fellows of the Australian Academy of Science, a Fellow of the Australian Academy of Technology and Engineering, a Fellow of the Royal Society of Chemistry, 21 postdoctoral fellows and 36 general staff.

In 2014, the school received in excess of $6.6 million in competitive research grants from government, industry and charity and published more than 170 research papers.

Specialisations
Our areas of research include:
− Biochemistry
− Bioinformatics
− Biotechnology
− Cell biology
− Microbiology
− Molecular biology
− Molecular genetics
− Nutrition and metabolism
− Nuclear magnetic resonance spectroscopy
− Proteomics and mass spectrometry
− Structural biology.
“My passion for science led me to choose it when I started uni. Science is one of those disciplines that attracts people who are genuinely interested in it.”

Pearl Lee
PhD student in Molecular Bioscience

“I initiate research to design fast and reliable computer programs which analyse large amounts of human genetic data to identify likely disease-causing genetic mutations, and predict how these mutations may cause diseases.”

Dr Joshua Ho
PhD graduate
Head, Bioinformatics and Systems Medicine Lab, Victor Chang Cardiac Research Institute

“In my mind science is a great big puzzle, and it’s our job to solve it.”

Dr David Jacques
PhD graduate
Postdoctoral Fellow, Medical Research Council Lab of Molecular Biology, Cambridge, UK
Study
Physics

The School of Physics at the University of Sydney is the leading physics department in Australia, with outstanding staff and students undertaking teaching and research that pioneers new ways of thinking and innovative approaches.

About us
You will have the opportunity to learn from internationally recognised experts, contribute to original research, and become part of our community of scientists and scholars.

Our academic staff are leaders of their fields, providing you with the opportunity to learn physics from the dynamic individuals and groups who are defining the discipline.

The quality of research within the school is recognised by its hosting of six ARC-funded Centres of Excellence and one NHMRC Centre of Excellence. In addition, prominent domestic and international collaborations with the United States, Europe, and Asia – funded through multi-year competitive awards – present a range of opportunities that are unmatched in the region.

You will have invaluable opportunities to study and be involved in research projects focused on nanoscience. The Australian Institute for Nanoscale Science and Technology (AINST), which opened in mid-2015, is our major new research and teaching facility, which builds on our existing world-class facilities.

Research strengths
Our research leads the nation and the world through high-profile research projects and substantial research and infrastructure funding that supports the following initiatives:

- major programs in astrophysics and space physics including University-operated telescopes and linkages with the Square-Kilometre Array.
- leading international projects in both experimental and theoretical quantum physics, including one of the top 10 world-changing experiments selected by the BBC.
- large-scale efforts on photonics and optical science for next-generation communications technology.
- innovative interdisciplinary efforts in biological and medical physics, spanning computational physics, materials science, brain dynamics, and clinical application.
- a leading role in international research efforts at the Large Hadron Collider, contributing to fundamental tests of nature and work towards the discovery of the Higgs Boson.

With access to supercomputers, modern laboratory facilities and observatories – locally, nationally and internationally – this is the premier environment for physics education and research.

-- sydney.edu.au/science/physics
“My work on biomaterials gives me a rich and diverse experience. It also provides endless opportunities to learn new things, through interactions with my wonderful colleagues in the life sciences, chemistry and engineering.”

Professor Marcela Bilek
Professor of Applied Physics

“It’s been an absolutely great experience undertaking research at the University of Sydney. I work with a brilliant team and I really enjoy every fantastic moment here.”

Pengju Bian
PhD student in Physics

Specialisations
- Astrophysics, space and solar physics
- Biological and medical physics and systems neuroscience
- Condensed matter and materials physics and nanotechnology
- Energy and sustainability
- High energy and particle physics
- Photonics and optical sciences
- Quantum science
“My time studying at the University of Sydney was crucial in preparing me for my work with children and adolescents with complex difficulties such as anxiety, depression, deliberate self-harm and eating disorders.”

**Dr Amanda Green**  
Doctor of Clinical Psychology,  
Master of Science graduate  
Clinical Psychologist, Northern Beaches Child and Adolescent Mental Health Service

“I really enjoy high-stakes, big issue research.”

**Professor Iain McGregor**  
The Lambert Initiative for Cannabinoid Therapeutics, School of Psychology
### About us

The School of Psychology currently has more than 130 research students who make up part of our vibrant and diverse community. Postgraduate research students coming into the school will enjoy a supportive environment both within their area of research specialisation and the wider school community.

Graduate students experience a well-resourced and stimulating intellectual environment for research, which includes competitive top-up scholarships, teaching fellowships, and financial support to attend national and international conferences and other aspects of professional development.

While all research students entering the school have direct access to discipline-specific research facilities, you are also encouraged to participate in the University’s broader research student community, and develop your methodological and professional skills. There are weekly seminars, colloquia and social events, which graduate students attend.

There is also a highly successful Annual Postgraduate Conference, organised entirely by research students.

- sydney.edu.au/science/psychology

### Research strengths

Our research is internationally renowned. The School of Psychology currently holds more than $7 million in competitive research funding from government and industry sources, and many of our staff are supported by prestigious research fellowships.

Added to this, our school recently received a donation of nearly $34 million to study the medicinal use of cannabinoids. This donation has placed us at the forefront of medicinal cannabinoid research, and makes Australia an international leader in this field.

Our school and its researchers have been brought together with other disciplines into Special Priority Areas for Collaboration (SPARCs). We have strong connections with three SPARCs:

- the Brain and Mind Centre, where researchers work together on mental health, cognition and brain sciences.
- the Charles Perkins Centre, which tackles the global burden of obesity, diabetes, cardiovascular disease and related conditions.
- the oncology SPARC, where our world-leading research group on psycho-oncology is based.

We have a large number of well-equipped research laboratories and many of our current graduate students have been incorporated into the existing research collaborations, both international and local, of their mentors.

Many past students maintain professional contacts with their former mentors in the school.

### Specialisations

- Clinical psychology (including anxiety and eating disorders)
- Cognitive psychology
- Developmental psychology
- Psycho-oncology
- Learning and behavioural neuroscience
- Psychopharmacology
- Perception
- Health psychology
- Organisational and coaching psychology
- Social psychology
- Personality and intelligence
- Human factors
About us

The Faculty of Veterinary Science is one of a small elite group of veterinary schools outside North America to receive accreditation from the American Veterinary Medical Association (AVMA). This accreditation encourages support from international students interested in studying at the faculty.

The faculty has an international research profile and provides opportunities to undertake research in a variety of preclinical, paraclinical and clinical disciplines along with a wide range of research areas supporting production animal industries, wildlife and animal welfare.

We encourage high-level research performance, providing strong guidance, inclusion and support for our postgraduate students at both personal and professional levels. The faculty encourages students to support one another, develop high-level communication skills and present their research for international recognition.

Once they finish their studies with us, our postgraduate research students continue to excel in their own right in a wide variety of research and higher education endeavours. The faculty has established strong links to the production animal industries, welfare organisations and the veterinary profession. These networks support our students’ development and extend their career opportunities.

Research strengths

The two faculty clinics (Camperdown and Camden) have world-class facilities and support research in feline and canine epidemiology, disease diagnosis and control. The Camden clinic is used for research on equine physiology, infectious diseases, behaviour and welfare, as well as livestock, avian, reptile and exotic animals research. Research in the faculty has attained world recognition in many areas.

Specialisations

- Animal production industries (dairy, sheep, poultry, pigs and fish)
- Wildlife research
- Farm animal health
- Poultry and dairy technologies
- Animal production research

Study Veterinary Science

For more than 100 years we have developed outstanding research, clinical facilities and strong reciprocal links with academic peers around the world. We were recently classed as number one in Australia and equal 11th in the world by the QS World University Rankings by Subject.
“In my home country – the Republic of Ghana – I work as a tutor in the animal health and production college and am also a veterinary surgeon. I am undertaking postgraduate study at the University of Sydney because it offers me the unique opportunity to acquire new skills and knowledge that I can apply to practices when I return.”

Daniel Essel Junior
Cobbinah research student

“My project measures and records behavioural and health attributes in farm dogs. Modern canine genomic technologies will allow us to identify genetic markers that are predictive of working dog trainability and success.”

Jonathan Early
PhD student in Veterinary Science
Pathway to research

As part of our community, you join one of the world’s top research universities and contribute to ground-breaking work that crosses new frontiers of knowledge, across a wide range of disciplines.

Our research degrees require in-depth study in a specialised area. They have two purposes:
- for you to prepare a substantial piece of work that represents a significant contribution to a particular field of study
- to train you in general research methodology and equip you with transferable research skills to pursue an academic career, or take to a career in industry, business or elsewhere.

There are specific admission requirements for entering a postgraduate research degree. Please check our website for more information.
- sydney.edu.au/courses

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<tr>
<th>CRICOS code</th>
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Master of Philosophy (Science)

The Master of Philosophy (Science) is a research degree in which you will undertake supervised research leading to the production of a thesis. In most cases you will be required to undertake some coursework to support your studies. High-achieving students, who have not yet completed research studies (for example, an honours year), are able to apply for this program and gain research experience.
PhD scholarships

We offer many scholarship opportunities for research students. The table opposite outlines some of the most popular scholarships for domestic and international students. However, we strongly recommend that you review the scholarships website for specific details.

Domestic students
Domestic students should contact the University Scholarships Office.
- sydney.edu.au/scholarships/research

International students
International student scholarships are listed at the University’s scholarships for international postgraduate students page:
- sydney.edu.au/scholarships/prospective/international_postgraduate_scholarships.shtml

If you wish to apply for a scholarship, please check the criteria, application details and closing dates carefully:

For the complete list of scholarship opportunities please check the relevant website.

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<th>Domestic students</th>
<th>International students</th>
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<tr>
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<td>N</td>
<td>Y</td>
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<tr>
<td>Brazil Scholarship – Science Without Borders (SWB)**</td>
<td>All</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

* Offered by the Commonwealth/Australian Government
^ Offered by an international funding body/government
Join us
How to apply - domestic and international students

To be eligible for admission to a Doctor of Philosophy in the natural sciences, you need to have undertaken a significant research project or thesis in your previous university-level studies. Examples include the equivalent of an Australian honours degree, a master’s by research degree, or a master’s by coursework degree with a thesis component.

If you do not have this experience, then you should consider applying for honours, a Master of Philosophy or master’s by coursework.

Application deadline
Domestic students apply directly to the University following the steps below, while international students can either apply directly to the University following the steps below or apply through a University representative (agent).

Applying for entry into a research degree requires some time and preparation. You need to take the following steps to apply:

1. Identify and establish an academic contact/potential supervisor
Firstly you need to contact a suitable member of the academic staff and present them with an initial proposal outlining your proposed topic of research. If you need help, use our Research Supervisor Connect tool:

- sydney.edu.au/research-opportunities.shtml

When you contact the academic staff member, you should provide them with some initial details to help them advise you on your study plans.

For example, you could outline your educational background, relevant work experience and the research area you are interested in pursuing.

2. Develop and submit an initial research proposal
Once you have initiated discussions with an academic contact, you should prepare an initial research proposal. Your proposal should be around 2-4 pages in length and be developed in conjunction with your potential academic supervisor. Your initial proposal should include the following information:

- Title: Working title for the project
- Academic staff contact: Name(s) of the academic staff with whom you have discussed your proposal and, if relevant a potential supervisor
- Area: The subject area of your proposed research
- Objectives: What aims does the work have?
- Synopsis: Briefly describe the key aspects of what you will be investigating.
- Background: Describe what research has already been done in relation to your topic.
- Significance: Why is the topic important?
- Methodology: The approach or methodology to be used in the research.
- Resources: Provide details of the resources required for you to carry out your research project.
- Work plan: An initial plan for completion, with annual milestones.
3. Revise and finalise your research proposal

In conjunction with your academic contact(s), refine your research proposal ready for submission with your formal application.

4. Identify and contact two academic referees

To support your application, we will need to receive references from two academic referees who are familiar with your previous academic qualifications and achievements.

Ensure they are available and willing to complete a reference for you, and acquire their correct and current contact details. They will need to complete the academic referee report and submit it to the University. Instructions are provided within your online application.

5. Complete the application form

All research applications are made online through the ‘Find a course’ database at: sydney.edu.au/courses

- For PhD applications, go to the Doctor of Philosophy (PhD) page sydney.edu.au/courses/phd/Doctor-of-Philosophy-PhD and pick your faculty. Click the ‘apply now’ button and follow the instructions precisely.
- For all other research applications, go to the ‘Find a course’ website and search for your research course. Click the ‘apply now’ button and follow the instructions precisely.

To ensure that your application is complete and can be processed as quickly as possible, please ensure you have included all of the required supporting documentation.

If you are sending a copy of an official document (such as an academic transcript), the copy needs to be correctly certified by an appropriate authority. More details are available on the application website.

International applicants need to include the application processing fee of $100 for your application to be processed. Staff members of the University of Sydney often meet future students at overseas exhibitions and interview programs.

These staff are authorised to waive the application processing fee. Applicants with a fee waiver can upload this with their application.

Some international students are exempt from the fee - see:

- sydney.edu.au/study/admissions/apply/how-to-apply.html

Please note:
Incomplete or ill-prepared applications will take longer to process and may be rejected by the relevant faculty or school. If you have any questions about preparing your application, please contact:

Domestic
1800 SYD UNI (1800 793 864)
sydney.edu.au/ask-domestic

International
1800 SYD UNI (1800 793 864)
(in Australia)
+61 2 8627 1444 (outside Australia)
sydney.edu.au/ask-international

6. Submit your application

Once you have completed the proposal and had it reviewed by your supervisor, you’re ready to submit your application.
Postgraduate research is your gateway

Our research programs are designed to help you advance your research interests while also developing professional skills and networks.

We have a global reputation for research excellence, top international rankings and award-winning research staff who are among the best in their fields.

As a postgraduate student you will work alongside world leaders in research, have the opportunity to conduct studies overseas, and develop a comprehensive perspective of applying research in the real world.