



Curtin University



# RESEARCH FOR A BETTER TOMORROW

A Guide for Prospective International Students

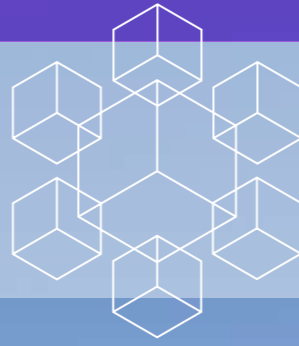




# Excellence in Research

## AT CURTIN

RESEARCH STRENGTHS	2
BUSINESS	6
HEALTH SCIENCES	16
HUMANITIES	24
SCIENCE AND ENGINEERING	34
RESEARCH CENTRES AND INSTITUTES	44
SCHOLARSHIPS	46
SUPPORT FOR RESEARCH STUDENTS	47
APPLYING FOR YOUR RESEARCH DEGREE	48



FACILITIES >> FLEXIBLE LEARNING >> INNOVATIVE TEACHING >> INDUSTRY LINKS

**CURTIN UNIVERSITY IS A LEADING RESEARCH INSTITUTION WITHIN THE INTERNATIONAL MARKET. THE UNIVERSITY IS RECOGNISED AS THE LARGEST AND THE MOST CULTURALLY DIVERSE OF WESTERN AUSTRALIA'S UNIVERSITIES WITH OVER 17,000 INTERNATIONAL STUDENTS FROM 105 COUNTRIES. WITH A REPUTATION AS A UNIVERSITY DELIVERING RELEVANT, WORLD-CLASS STUDIES, CURTIN ATTRACTS HIGH-CALIBRE RESEARCH PROFESSIONALS AND STUDENTS WHO WORK TOGETHER ON THE LATEST RESEARCH PROJECTS.**

Curtin offers a vibrant and stimulating environment in which to work. Students have access to innovative advancements in research and development in health sciences, science and engineering, humanities and business. The University has made significant investments in the latest facilities and technology and provides a wide range of support services to research students.

Curtin has established regional campuses in Western Australia that specialise in research in mining, agriculture, agribusiness and viticulture. These campuses are situated in key regional areas and allow for direct interaction with industry professionals. This is a unique study opportunity for students interested in furthering their knowledge within these areas.

Curtin conducts high quality research, as judged against the international arena, notably in areas of chemistry, earth sciences, education and cultural studies. Curtin maintains strong networks with industry, government and community groups both within Australia and internationally. We believe that quality, high-impact research is relevant in all aspects of life and we promote collaborative projects that contribute to the sustainable environmental, economic and cultural development of communities worldwide.

[research.curtin.edu.au](http://research.curtin.edu.au)





# Research Strengths

The multidisciplinary and collaborative nature of Curtin's research programs is made possible not only by the university's solid research partnerships with industry, but also by the diversity of high-impact research centres and institutes. As a result, Curtin has established four areas of research strength:

- Health
- ICT and Emerging Technologies
- Minerals and Energy
- Sustainable Development.

These key research areas capture the multidisciplinary nature of our research programs that are accessible across all of the University's four academic faculties – business, science and engineering, health sciences and humanities – and give Curtin's postgraduate research students a clear advantage.

Strong, strategic partnerships and the recruitment of world-class research leaders have been important in the establishment and growth of Curtin's highly relevant research programs. This approach enables us to provide outstanding opportunities for research students who are seeking to engage in academically rigorous and internationally relevant research.

## Health

Research students in Health Sciences have excellent opportunities to join programs within the new Curtin Health Innovation Research Institute (CHIRI). CHIRI takes a unique approach to addressing the burden of chronic conditions and lifestyle diseases that impact on the social and economic sustainability of communities worldwide, and is developing programs that respond to the shifting health care patterns of ageing populations and of societies that suffer from chronic illnesses such as diabetes, obesity, cancer and cardiovascular diseases.

Curtin is providing more than A\$60 million for new infrastructure and for research programs investigating evidence-based solutions to challenges in:

- Chronic disease management
- Population health research
- Australian Indigenous health
- Mental health
- Ageing.

The Institute's outstanding research capabilities draw from a range of Curtin's respected research groups based in the Faculty of Health Sciences. These include the Centre for Research into Disability and Society, Curtin-Monash Accident Research Centre, Centre for Developmental Health, Centre for International Health, Centre for Behavioural Research in Cancer Control, WA Centre for Cancer and Palliative Care and the National Drug Research Institute.

The University's health focus also includes a number of research programs that contribute to healthy communities and healthy lifestyles through quality research outcomes. The Food Science and Technology Program is focussed on grain foods, nutrition and human health impacts of food, while the Centre of Excellence in Seafood Health focuses on the impacts of seafood in our diets. Research into postharvest technology for fruit and vegetables that deliver high-quality produce to consumers is an important research area within the Department of Agriculture and Environment. These research groups work closely with industry and research funding agencies to achieve a range of innovative outcomes.

## ICT and Emerging Technologies

The exploration and development of next-generation information and communication technologies offer exciting possibilities for research students, as Curtin continues with research initiatives across areas as diverse as radio astronomy, spatial science, wireless telecommunications, digital humanities, e-business, e-health and digital ontologies.

Amazing opportunities have resulted from Curtin's continued expansion into radio astronomy to help Australia secure the world's largest radio astronomy project: the A\$2 billion Square Kilometre Array (SKA) that promises to be one of the most illuminating scientific endeavours of this century. The University has recruited world-class researchers to establish the Curtin Institute of Radio Astronomy and help guide Curtin's contribution to the International Centre for Radio Astronomy Research.

Curtin's Institute for Multi-Sensor Processing and Content Analysis (IMPCA) is a sought-after location for postgraduate research. The Institute's advanced research, in collaboration with industry partner Digital Technology International, is working with intelligent systems that improve industrial

efficiency and enhance security in complex environments such as public transport. Other pioneering work—including pattern recognition and anomaly detection—is resulting in a number of patents and commercialised products.

Curtin is a key partner in Western Australia's supercomputing facility, iVEC. The facility will soon be boosted by an A\$80 million investment in the Pawsey Centre: a joint effort between the Federal Government and iVEC partners. Curtin's research students will have direct access to these powerful facilities that are making significant headway in areas such as chemistry modelling and data visualisation, radio astronomy, data integration and theoretical physics.

With the increasing pervasiveness of technology in society, the Curtin Centre for Culture and Technology focuses on the impact of new media and technologies on humankind. An example of research in this area is work in participative democracy where researchers are investigating the ability of online media to be used as a tool for community participation in regional development decision-making.





## RESEARCH STRENGTHS (CONT)



### Minerals and Energy

Curtin postgraduate research students seeking top-level careers in minerals and energy are ideally positioned to take advantage of the unprecedented global demand for applied research. Curtin's research capabilities in minerals and energy-related fields are comprehensive and well recognised and the University attracts many strategic partnerships with industry leading to postgraduate opportunities in high-impact research programs. These include hydrocarbon and minerals exploration, engineering, environmental science, applied chemistry, materials science, geoscience and nanochemistry.

Curtin's leading role in minerals and energy research is most clearly demonstrated by its largest research facility: the Resources and Chemistry Precinct. This state-of-the-art development is the result of a partnership between the University, BHP Billiton, the Chemistry Centre (WA) and the Australian and Western Australian Governments. The Precinct will host the southern hemisphere's largest group of researchers and research students working within resources, minerals and chemistry.

The expertise of Curtin's Corrosion Centre for Education, Research and Technology is in demand by oil and gas companies needing research into corrosion assessment and control. For that reason, Woodside Petroleum and Chevron Australia have jointly funded a Chair in Corrosion Research at Curtin.

Curtin's capacity to establish partnerships with major international companies is further demonstrated by the Rio Tinto Centre for Materials and Sensing in Mining, which undertakes strategic research for optimising open pit mining operations.

The Western Australian Organic and Isotope Geochemistry Centre has many research students contributing to the Centre's pioneering work with sedimentary biomarkers and isotopes. These have applications not only in petroleum geochemistry, but also in helping to understand past climate change. These remarkable research opportunities have developed from the Centre's international reputation for innovative research and its collaborations with organisations such as the Institut Francais du Petrole, Chevron and CSIRO.

Excellent prospects for industry-supported projects are also available in minerals exploration and processing. Major industry groups, including Placer Dome Pacific and BH Coal, are supporting the Centre for High Definition Geophysics' research into the development of new seismic technologies to detect mineral resources.

The Centre for Research in Energy and Minerals Economics provides a platform for advanced careers in energy research. The Centre's expertise spans the entire oil and gas supply chain, from upstream exploration activities through to forecasting the demand for end products, and enhances Curtin's comprehensive knowledge in minerals and energy.

### Sustainable Development

Sustainable development is one of the core concerns of governments and communities worldwide. Through the Australian Sustainable Development Institute, Curtin offers research opportunities in sustainable development, built environment, climate change, environmental ecosystems, biodiversity, sustainable tourism and sustainable resource processing.

The Curtin University Sustainability Policy Institute makes a critical contribution with research that examines transport, urban planning and development scenarios in a constrained carbon economy. Complementing this work, the Curtin Research Centre for Stronger Communities offers highly relevant, multidisciplinary projects that investigate the physical, social, economic and cultural conditions of communities.

Curtin is enhancing its research programs in sustainability and biodiversity with its Curtin Institute for Biodiversity and Climate. Another major research hub for sustainability at Curtin is the Sustainable Engineering Group. The Group focuses on sustainable technologies, industrial ecology and life cycle assessment that



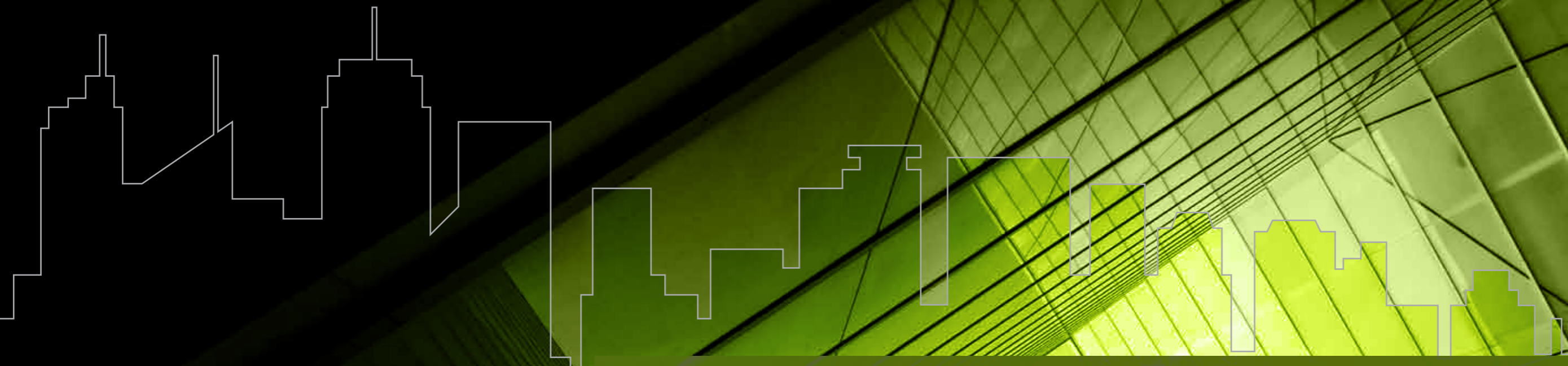
deliver products, processes and services that can balance economic, social and environmental performance.

The Curtin Water Quality Research Centre focuses on water quality, reuse and desalination technologies. Curtin is also a member of the WA Centre of Excellence in Geothermal Technologies. The key demonstrator project will be delivered through geothermal temperature control of the Pawsey Centre in supercomputing as part of the national thrust for the SKA.

The Fuels and Energy Technology Institute has a focus on clean coal technologies and the development of novel energy solutions using biomass. New energy storage systems, fuel cell and natural gas conversion technologies are also key areas of research.

At the Centre for Research in Applied Economics, new research is informing the sustainable economic development of industry, governments and local communities, while the John Curtin Institute of Public Policy (JCIPP) is engaged in collaborative projects that inform economic development. JCIPP investigates policy institutions and processes, regulation and competition, social-economic capital analysis and public sector governance. Knowledge and research expertise in these areas are urgently needed by many of the world's fast-growing economies.

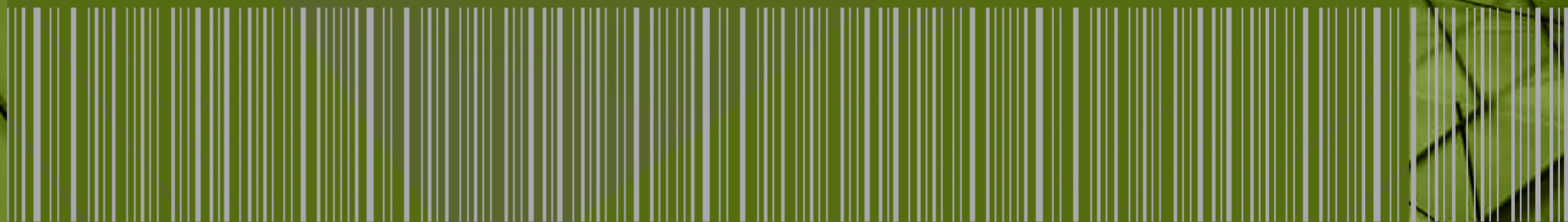




123.10	1.20%	132.05	3.32	2.58	128.73	16.08
180.24	2.70%	187.35	4.78	1.87	134.90	14.24
165.70	1.98%	162.38	2.56	1.28	148.73	13.17
126.16	5.1%	128.86	5.64	2.98	143.86	16.76
130.14	2.70%	177.32	6.76	1.17	156.90	11.24
123.10	1.20%	132.05	3.32	2.58	128.73	16.08

## Business

CURTIN BUSINESS SCHOOL OFFERS MASTER BY RESEARCH, DOCTOR OF PHILOSOPHY AND DOCTOR OF BUSINESS ADMINISTRATION DEGREES. STUDENTS HAVE ACCESS TO INDUSTRY AND A STRONG ACADEMIC SUPPORT NETWORK AT THE LARGEST BUSINESS SCHOOL IN WESTERN AUSTRALIA.



[business.curtin.edu.au](http://business.curtin.edu.au)



# Business Research

## OVERVIEW

Curtin Business School (CBS) is the largest business school in Western Australia with more than 15,000 students. The CBS mission is to prepare its graduates for business careers anywhere in the world. CBS excels in applied research that produces substantial benefits for both business and the general community by contributing to economic growth and development.

The school works to further the discussion and understanding of contemporary business issues. These include issues of corporate governance and social responsibility, labour market trends, the use of information and communication technologies in business and the evolution of electronic markets.

Research programs at CBS include master by research and doctor of philosophy degrees, as well as a doctor of business administration. Students have access to some of the best facilities and resources available. The CBS higher degree by research unit is open 24 hours a day, seven days a week and features secure access with the latest computers and software. Students have access to a self-contained common room and each receives an allowance to be used for photocopying, interlibrary loans, local travel costs, data processing and transcriptions.

The following research areas describe studies in each school, however students are encouraged to conduct cross-disciplinary research.



## RESEARCH AREAS

### Accounting

The School of Accounting takes an applied approach to research, maintaining relevance to contemporary business practices. There are opportunities for research students in the areas of financial accounting, management accounting and auditing, accounting education and accounting information systems.

Academics from the School have their research published in quality accounting and business journals. The School also documents the latest developments in financial reporting, regulation and corporate governance issues in their online journal, *Financial Reporting, Regulation and Governance*. Researchers from the School also collaborate on projects with the private and public sectors, both nationally and overseas.

In 2010, the School of Accounting was successful in receiving funding for its research cluster group, Audit and Accountability.

### KEY RESEARCH THEMES

- **Financial accounting:** accounting standards, corporate governance, earning management, environmental and social accounting, measurement and disclosure and accounting in developing countries
- **Management accounting and auditing:** performance management, management control systems design, ethical values and auditor judgments
- **Accounting education**
- **Public sector accounting**
- **Capital markets.**

### INDUSTRY LINKS

- CPA Australia
- Institute of Chartered Accountants in Australia
- National Institute of Accountants
- Accounting and Finance Association of New Zealand
- Office of the Auditor General.

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### Business Law and Taxation

The School of Business Law and Taxation delivers courses that have practical applications in the world of commerce. The School's research reflects the changes and evolution of businesses and organisations. Our research on legal practices and policies has practical relevance for industries such as mining, retail, allied health and real estate. It has been cited in parliament and has influenced government policies. As a result, the School caters for industry trends, regulatory practices and emerging areas of law.

The Applied Law and Policy Research Group (ALAP) is based in the School, bringing together a wide range of expertise. ALAP is characterised by an interdisciplinary approach involving specialists with interests in areas that include taxation law, workplace law, education law, intellectual property, torts and media law. The strength of the ALAP lies in its capacity for collaborative research.

### KEY RESEARCH THEMES

- **Contract law**
- **Commercial law**
- **Competition and consumer law**
- **Education law**
- **Employment law**
- **Intellectual property law**
- **International business law**
- **Media law**
- **Occupational health and safety law**
- **Taxation law**
- **Torts law.**

### INDUSTRY LINKS

- The Taxation Institute of Australia
- CPA Australia.

### MORE INFORMATION

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### Farming for the Future [business.curtin.edu.au/research](http://business.curtin.edu.au/research)

In a project supported by the Australian Centre for International Agricultural Research, academics from Curtin's School of Management are working with partners in the Philippines to link smallholder vegetable farmers to supermarkets and food processors. The farmers are organised into collaborative marketing groups that plan their planting schedules and harvest, grade and pack their fresh produce to meet the standards of their buyers. One of Mindanao's largest supermarket chains will source the majority of their vegetables from the clusters, provided that the farmers' practices are safe, environmentally friendly and sustainable.

### Digital Ecosystems and Business Intelligence

The Digital Ecosystems and Business Intelligence Institute (DEBII) is one of Australia's largest ICT research centres and a Curtin University Tier One Research Institute of Excellence with more than 75 researchers. Our research is focused on the intersection of IT and different business application domains. We are a multidisciplinary institute that researches and produces solutions to real-world problems using diverse technologies, approaches and domains, and are involved in many industry projects in the fields of business, health, education, transport and logistics; and oil, gas and resources, both in Australia and abroad. Our ambition is to become the leading institute in interdisciplinary, domain-driven collaborative research, empowered and enriched by cutting-edge technology.

DEBII higher degree by research students can enjoy top-quality supervision by our outstanding research fellows and professors, as evidenced by the fact that four of our research graduates were recently awarded the Chancellor's Award for their work. Our staff and students consistently publish quality, providing them with the opportunity to establish themselves as serious researchers with a solid international profile. DEBII staff and students rank among the University's best in terms of the number and quality of academic publications they produce. Our research programs, with both pure academic and industrial research tracks, offer an excellent springboard for researchers who wish to pursue a career in academia, as well as for those who are working towards a career in industry.

#### KEY RESEARCH THEMES

- Data mining
- Semantic technology
- Cyber physical systems
- Cloud computing
- Service-oriented architectures
- Information security
- Anti-spam
- Stringology
- Health informatics
- Learning technologies
- Smart grid
- Trust, privacy and risk
- Business intelligence and applications.

#### INDUSTRY LINKS

- Verizon
- Statoil
- Fleetwood Corporation
- IBM Research
- ABB
- Fremantle Ports
- Schneider Electric
- Department of Transport
- Department of Health
- Department of Education
- Main Roads.

#### MORE INFORMATION

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### Economics and Finance

The School of Economics and Finance is the strongest research school within CBS in terms of scholarly publications in international and national journals, and competitive research grants from organisations that include the Australian Research Council. The School also actively participates in joint research ventures with government and industry bodies, covering areas such as economic forecasting, regional economics, econometrics, housing affordability, migration, communications economics and fiscal federalism. The School is home to two major CBS research centres: the Centre for Research in Applied Economics, which is the research arm of the School, and the Centre for Communication Economics and Electronic Markets.

The School's research informs many aspects of Australia's business and public policy decisions and greatly enhances its ability to provide up-to-date and innovative lectures and tutorials to students. In addition, staff from the School undertake contract research and consulting for external organisations and government, strengthening our industry networks and placing the School in a position to shape Australia's economic future.

#### KEY RESEARCH THEMES

- **Economics and econometrics:** applied economics, international economics, public policy, fiscal relations and competition, public infrastructure, energy economics, sustainable growth, labour market, taxation, trade and investment, microeconomics, political economy, consumer behaviour, time series analysis, financial econometrics and forecasting

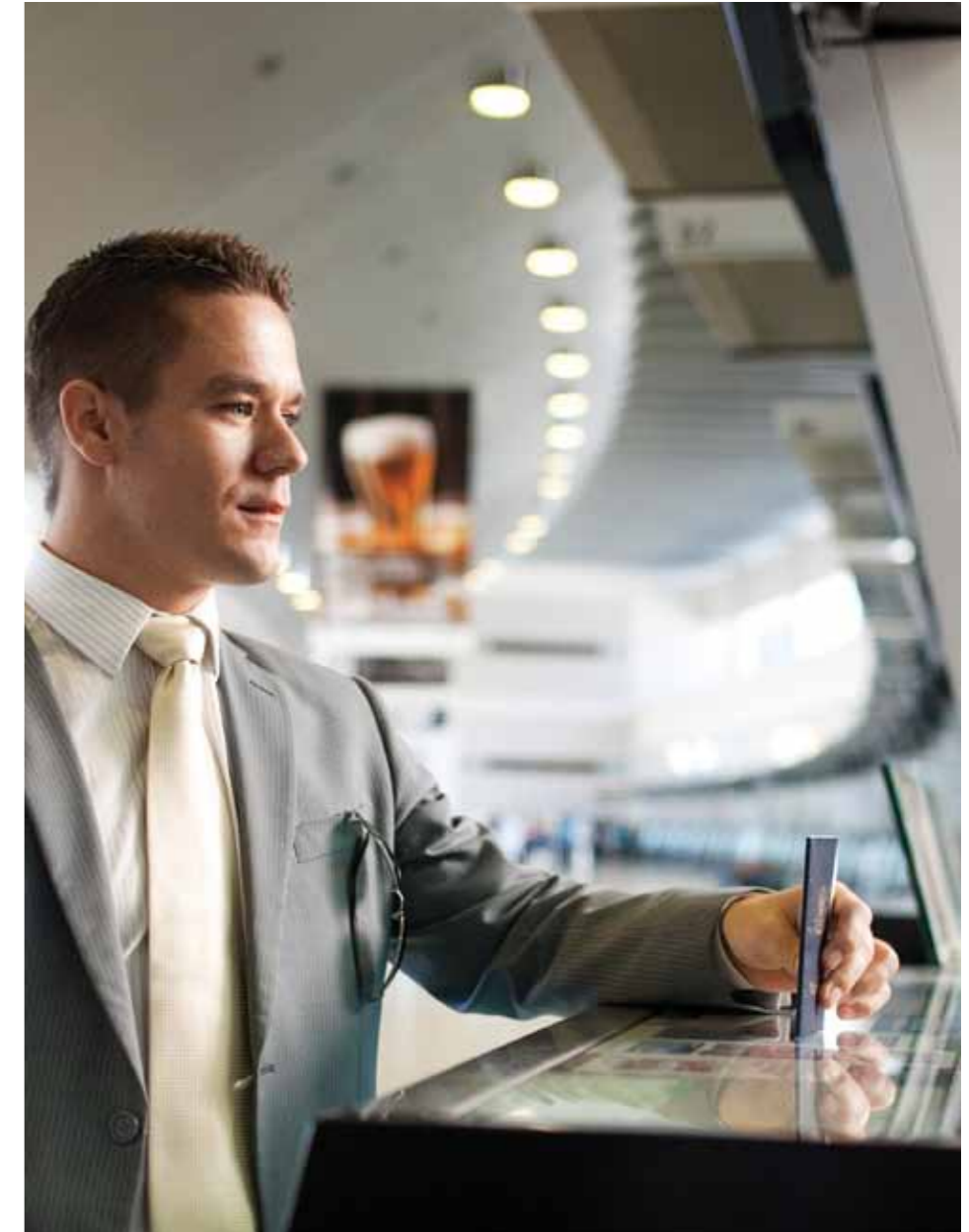
- **Finance and banking:** corporate finance and governance, empirical finance, financial modelling, financial econometrics, fixed income management, investment analysis and personal financial planning
- **Property studies:** corporate real estate management, housing finance and economics, property investment analysis, property valuation, real estate development, real estate market analysis and forecasting.

#### INDUSTRY LINKS

- AusAID
- Commonwealth Grants Commission
- State Government Department of Trade and Finance
- Western Australian Chamber of Commerce and Industry
- Western Australian Department of Housing
- Government of Thailand
- Department of Trade and Industry, South Africa.

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### The Economics of Immigration

[business.curtin.edu.au/research](http://business.curtin.edu.au/research)

Australian Research Council Professorial Fellow and Professor of Economics at Curtin University, Dr Paul Miller, has been researching the absorption of immigrants into the Australian labour market for more than 25 years. He is working on a four-year project with his research partner, Professor Barry Chiswick from George Washington University, Washington D.C., to develop an absorption model suitable for the study of highly skilled immigrants. The model will have worldwide significance, informing immigration settlement policy and helping to guide the mix of immigrants.



# Business

## RESEARCH AREAS

### Graduate School of Business

High-quality research is a key priority at Curtin's Graduate School of Business (CGSB). CGSB aims to contribute ethical, innovative insights to theory, policy and practice for business, government and the community. Researchers at the School have broad academic and industry experience, as well as extensive links to recognised research networks, community-based not-for-profit organisations and public and private organisations in Australia and overseas. Our researchers are recognised as experts in their fields and are regularly approached to participate in collaborative research projects and provide public comment on current policy issues.

The high profile of the School's researchers attracts postgraduate students from around the globe. Students selected as doctoral research candidates are supervised by academics with expertise in their area of business research and form part of a diverse and vibrant research community.

CGSB hosts several research units and programs that produce specialised publications. The School regularly presents specialist seminars and public forums that communicate research

findings to the broader community, including industry and practitioner groups. Our research students are encouraged to discuss their own research programs at CGSB seminars and national and international conferences.

#### KEY RESEARCH THEMES

- Leadership
- Work, equity and diversity
- Corporate social responsibility and sustainability
- Strategy and organisations
- Regions
- Health
- Energy and minerals
- Government.

#### INDUSTRY LINKS

- AusAID
- Australian Human Rights and Equal Opportunity Commission
- Australian Institute of Management
- Cooperative Bulk Handling
- Department of Treasury and Finance
- Leadership Western Australia
- Main Roads Department
- Water Corporation
- Western Australian Department of Health
- Woodside Petroleum.

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### Information Systems

Curtin's School of Information Systems offers a broad range of research opportunities for students, ranging from technical areas through to more business-oriented themes. Our research strengths and interests include logistics and supply chain management, information technology and information systems. Our staff are highly qualified to supervise research students using a wide range of research methods. Many have had work published in top international journals and have received numerous awards.

Research conducted by the School involves collaboration with both private and government sectors, as well as not-for-profit organisations. A recent award-winning project with electrical and computer engineering researchers investigates the teaching of networking skills to blind and vision-impaired students. Some research outcomes have resulted in the manufacture of products that benefit the community, such as an automated essay grading system that reduces the time that it takes for teachers to mark assignments.

The School has established a research wiki that contains considerable information on the School's professors and research projects, including a special section for higher degree by research students. For more information, visit [www.is-cbs.wikispaces.net/School+of+IS+Research+Wiki](http://www.is-cbs.wikispaces.net/School+of+IS+Research+Wiki)

#### KEY RESEARCH THEMES

- Accessible technology taught through the Curtin University Centre for Accessible Technology
- Business process modelling and improvement
- Decision support systems
- Digital ecosystems
- Information systems development
- Management information systems
- Information systems management
- Information and knowledge management
- Computer networking
- Oil and gas management
- Organisational issues
- Problem solving
- Software engineering
- Semantic analysis
- Supply chain management
- System development methodologies
- Technology transfer.

#### INDUSTRY LINKS

- Computer Science Corporation
- Department of Education
- Department of Industry and Resources
- IBM
- The Asthma Foundation of Western Australia
- The Western Australian Association for the Blind.

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### John Curtin Institute of Public Policy

The John Curtin Institute of Public Policy (JCIPP) is a pre-eminent body of public sector expertise. Researchers from the Institute undertake high-quality research of national and international significance on current and emerging public policy and governance issues.

The Institute adopts an interdisciplinary approach, drawing on expertise from fields such as political science, economics, sociology, anthropology and management.

The JCIPP has three principal activities: education and training, research and public discussion. In doing so, the Institute encompasses two complementary aspects of public policy:

- Structural policy, which deals with the structures, processes and operations of the public sector and including such issues as public administration, public sector management, regulation, intergovernmental relations, public governance and law
- Applied public policy, which deals with particular areas of public policy debate, development and formulation such as economic policy, regional policy and education policy.

JCIPP has conducted research for a wide range of international, national and local organisations, including several Western Australian Government Departments, the Australian Technology Network of Universities and the Ottawa-based Forum of Federations.

JCIPP also runs an extensive public affairs program, including regular breakfast forums with high profile speakers and a weekly seminar with speakers from across Curtin and the wider community.

#### KEY RESEARCH THEMES

- Federalism and intergovernmental relations
- Rural and regional development
- Corporate social responsibility
- Higher education policy
- Policy practice and service delivery with a special focus on housing
- Science, innovation and technology policy
- Socio-economic policy and performance with particular emphasis on labour markets and skill shortages in Western Australia.

#### MORE INFORMATION

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5.1% 128.86 5.64 2.98 143.86 16.76 39.75

## Business

### RESEARCH AREAS



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.75 4693.86 BUY +04.58 126.16 5.1% 128.86 5.64 2.98 143.86 16.76 39.75 4693.86 BUY +04.58



### Management

The research activities at Curtin's School of Management are enhanced by collaborative links with many external research partners from industry, government and community stakeholders. Our staff have expertise in supervising research students, are regularly present at major national and international conferences, published in leading journals and have been successful in obtaining a number of research grants. Our research activities are aligned with our four main teaching areas: agribusiness, international business, management and human resources.

The School also publishes the international peer-reviewed *Journal of Research and Practice in Human Resource Management*, and is home to two research clusters: the Change, People and Organisational Wellbeing Research Cluster and the Tourism Research Cluster.

#### KEY RESEARCH THEMES

- **Business and society:** corporate social responsibility and business ethics, relationships between businesses and sustainability, communities, capacity building and social capital
- **Business networks and agility:** inter-firm relationships, knowledge management and creativity, clusters and networks, entrepreneurship, strategic agility and innovation

- **Development and institutional change:** change management, local government and the public sector, international business, remote labour markets and regional development
- **Human resource and organisational studies:** international and comparative HRM, industrial relations, work-life conflicts, organisational change, strategic HRM, women workers and leadership
- **Agribusiness, food and tourism:** whole food management process from production to consumption via supply chains and retail, sustainable tourism, particularly of coastal areas, tourism policy, events management and volunteering, leisure and tourism.

#### INDUSTRY LINKS

- Australia Post
- Australian Human Resource Institute
- Botanic Gardens and Parks Authority, Western Australia
- Cooperative Research Centre for Remote Economic Participation
- Department of Agriculture and Food, Western Australia
- Main Roads Western Australia
- Perth Convention Bureau
- Tourism Western Australia
- Financial Academy of the Russian Government, Moscow
- Volunteering Western Australia
- Western Australian Department of the Premier and Cabinet
- Western Australian Department of Environment and Conservation.

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### Marketing

Curtin's School of Marketing has a strong research focus that incorporates a variety of research activities and publications. Research from the School has been published in some of the world's best-known journals, which is a testament to the quality of our research and academic staff. Their published work has appeared in the international top five journals for marketing research: the *Journal of Marketing*, *Marketing Science*, *Journal of Services Research*, *Psychology and Marketing* and the *Journal of Retailing*.

Through the School's strong industry links, research students can win prizes, appear in publications and develop career networks. An example of this is the School's exclusive endorsement by the Emerald Publishing Group for its honours and higher degree by research programs, which has led to publication opportunities for students.

Both staff and students from the School of Marketing have won a number of research awards from publications and conferences worldwide. Some of these awards have included the CBS Researcher of the Year, Curtin Student Guild Supervisor of the Year, Emerald Best Journal Paper Award, EIRASS Best Paper Award and ANZMAC Best Conference Paper Award.

#### KEY RESEARCH THEMES

- **Advertising:** nostalgia, guilt appeals and beauty types
- **Branding**
- **Customer relationship management**
- **Social marketing**
- **Stakeholder theory.**

#### INDUSTRY LINKS

- Araluen Botanic Park
- Blackberry RIP
- BHP Billiton
- Department of Information and Resources Western Australia
- Hugo Boss Australia
- Tourism Western Australia.

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## Health Sciences

CURTIN'S FACULTY OF HEALTH SCIENCES IS ONE OF THE LARGEST CENTRES OF MULTIDISCIPLINARY HEALTH SCIENCE TRAINING AND RESEARCH IN AUSTRALIA. MANY OF THE FACULTY'S TEACHING STAFF ARE LEADING PRACTITIONERS, ENSURING A STRONG INTEGRATION OF THEORY, RESEARCH AND PRACTICE FOR STUDENTS.

[healthsciences.curtin.edu.au](http://healthsciences.curtin.edu.au)



# Health Sciences

## OVERVIEW

Curtin's Faculty of Health Sciences is one of the largest centres of multidisciplinary health science training and research in Australia, offering nearly 100 educational programs. It is a leader in health education and research in Australia and the Asia-Pacific region and follows a long tradition of discipline-based course delivery to meet the needs of existing health professions.

We employ many leading health practitioners as teaching staff, ensuring there is an integration of theory, research and practice for our students. The strong practical focus of our courses provide students with a clear pathway into the career of their choice and opportunities for employment in health agencies, research centres, public health institutions, health administration and private practice, both in Australia and overseas.

The Faculty has established the Curtin Health Innovation Research Institute (CHIRI) – a unique and innovative integration of researchers, educators and health professionals. Special emphasis is placed on six specific themes: ageing and dementia, population health and health services, chronic conditions, indigenous health, mental health and biomedical and clinical sciences. Higher degree by research students who are being supervised by researchers at CHIRI will also be affiliated with schools within the faculty.

The following research areas describe the studies in each school, however potential research students are also encouraged to contact researchers as potential supervisors in the Faculty's research institutes:

- CHIRI: [chiri-enquiries@curtin.edu.au](mailto:chiri-enquiries@curtin.edu.au)
- The National Drug Research Institute: [ndri@curtin.edu.au](mailto:ndri@curtin.edu.au)



## RESEARCH AREAS



### Biomedical Sciences

The School of Biomedical Sciences educates and trains scientists in the biomedical and biotechnological sciences and offers Master and Doctor of Philosophy degrees. The School is acknowledged for its drug discovery, molecular modelling and biotechnology research, and is capturing international attention with the emergence of new spin-out companies in these fields.

We offer a stimulating and supportive environment for students with highly qualified research staff who are experts in their fields. The development of new, multimillion-dollar research facilities—due for completion in 2012—promise to enhance the research capabilities of the School. Key strengths include biotechnology, molecular modelling, diabetes, environmental and medical microbiology, cellular and molecular immunology and molecular genetics. The School is also a founding member of the Western Australian Biomedical Research Institute and, along with the Curtin Health Innovation Research Institute, makes a significant contribution towards the prevention and management of chronic diseases such as cancer and diabetes.

#### KEY RESEARCH THEMES

- **Molecular modelling and rational drug discovery:** protein-protein and ligand-protein interactions, protein hydration, nanoparticles in drug delivery, biological membranes and aqueous solutions
- **Applied bioinformatics**
- **Diabetes and other metabolic disorders:** molecular studies of insulin and its receptor; nutrient, immune and endocrine regulation of pancreatic beta cell function and integrity metabolic adaptations to exercise, lipid metabolism and associated disorders
- **Cancer:** immune responses and novel therapies

- **Conservation biotechnology:** cryopreservation of endangered plant species of importance in post-mining restoration, molecular genetics of cryotolerance
- **Glycosaminoglycans:** drug design and role in allergic inflammatory disease, wound healing, cancer, and tissue engineering
- **Drug resistance and virulence in bacteria**
- **Molecular genetics**
- **Medical microbiology**
- **Vaccine Biotechnology**
- **Environmental microbiology and microbial ecology**
- **Biosecurity for emerging infectious diseases.**

#### INDUSTRY LINKS

- Epichem
- Proteomics International
- Glycan Biosciences
- SciVentures Pty. Ltd.
- Parker Cooperative Research Centre for Integrated Hydrometallurgy Solutions
- BHP Billiton
- Worsley Alumina
- Alcoa of Australia
- Biodiversity Conservation Centre.

#### MORE INFORMATION

T: +61 8 9266 7375  
E: [researchstudents@health.curtin.edu.au](mailto:researchstudents@health.curtin.edu.au)  
W: [biomed.curtin.edu.au](http://biomed.curtin.edu.au)

### Nursing and Midwifery

Curtin's School of Nursing and Midwifery aims to promote a quality research culture and a flexible academic environment for both students and staff. The School provides education for nurses and midwives, ongoing consultancy with industry partners, research into health care practices and the development of best practice standards in nursing and midwifery. In addition, the School is a leader in postgraduate research programs offering innovative and exciting study opportunities.

We have strong ongoing collaborative links with industry partners in the areas of mental health, community, women's and child health and aged care. Specific grants obtained by staff have also contributed significantly to research into adolescent pregnancy and drug abuse. In addition, the Western Australian Centre for Evidence-Based Practice in Nursing and Midwifery is based at Curtin.

#### KEY RESEARCH THEMES

- **Adult rehabilitation:** physical and psycho-social issues focusing on client problems and nursing leadership skills
- **Aged care:** health care of the frail older person or the older person with dementia and support for the family carer

- **Family and community health:** cross-cultural health care provision, principles of community development, research into population health, lifespan development, research methodologies
- **Infection control:** prevention, surveillance, policy development, population behaviour change, national and international infection control guidelines
- **Medical surgical:** leadership in acute medical, surgical, clinical and critical care nursing
- **Mental health:** mental health nursing, acute inpatient mental health nursing, community contexts and policy directions, developmental health
- **Nurse practitioner:** diagnostics, quality use of medicines, managerial effectiveness, pharmacotherapeutics
- **Perioperative nursing:** skills and knowledge for perioperative nursing.

#### MORE INFORMATION

T: +61 8 9266 2070  
E: [researchstudents@health.curtin.edu.au](mailto:researchstudents@health.curtin.edu.au)  
W: [nursingandmidwifery.curtin.edu.au](http://nursingandmidwifery.curtin.edu.au)





### International Health

The aim of research in the Centre for International Health is to initiate and support research that has a positive impact on vulnerable and fragile communities in lower, middle and higher income countries. The Centre achieves this through encouraging and supporting collaborative approaches to research that emphasise the health, social, cultural, human and economic dimensions of vulnerable populations. The Centre offers a Graduate Certificate, Graduate Diploma and Masters in International Health, and offer higher degrees by research through a Doctorate in International Health and a PhD program.

Specific areas of research expertise include Health of Aboriginal and Torres Strait Islanders, economics of health financing, international health policy, maternal and child health, refugee and migrant health, gender and health (HIV, domestic violence & including women in improving health), health and wellbeing in post-conflict societies and capacity-building in vulnerable communities in resource-rich and developing countries.

#### MORE INFORMATION

T: +61 8 9266 1263  
E: [cihevents@curtin.edu.au](mailto:cihevents@curtin.edu.au)  
W: [cih.curtin.edu.au](http://cih.curtin.edu.au)

### Occupational Therapy and Social Work

The Centre for Research into Disability and Society (CRDS) provides administrative and academic support to the School's research activities and to higher degree by research and honours students. The overall research program aims to initiate and support research that makes a positive contribution to the lives of vulnerable people, their families and the wider community.

CRDS aims to contribute to inclusive, healthy societies and find innovative solutions to real world problems.

The Centre works towards these aims through:

- Carrying out research and development that is collaborative and seeks partnerships with vulnerable groups, families and organisations and individuals who provide support and services
- Encouraging and supporting interdisciplinary approaches that cross sectors (such as disability, ageing and mental health)
- Recognising our place in the Asia-Pacific rim and the need to promote cultural understanding and diversity.

#### KEY RESEARCH THEMES

The School of Occupational Therapy and Social Work and the CRDS work to promote the inclusion and participation of vulnerable populations in communities in order to achieve health, social justice and an acceptable quality of life. Our objectives are reflected by three themes:

- **Living:** how people live in their homes and their diverse communities. Research activities focus on areas such as families, transitions, supported or assisted accommodation and housing
- **Doing:** how people engage in life and devote their time. Research focuses include work, employment, occupation, leisure and recreation, community involvement and travel
- **Learning:** what people do for their human development. Research focuses on lifelong learning, education, training, communication, technology and teaching and learning.

#### MORE INFORMATION

T: +61 8 9266 4651  
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W: [ot.curtin.edu.au/research](http://ot.curtin.edu.au/research)

### Pharmacy

Curtin's School of Pharmacy has a strong national and international reputation in teaching and research established over almost 35 years. Our dedicated team of staff is experienced in supervising a wide range of postgraduate projects, both scientific and clinical. With high-quality research facilities, we are committed to research excellence through collaborative projects with other research institutions, the pharmaceutical and biotechnology industries, healthcare providers and government.

The School focuses its research activities on key areas of the pharmaceutical sciences and the professional practice of pharmacy. This innovative research is grouped into three main clusters: pharmaceutical science, pharmaceutical biology and clinical and professional practice. Opportunities exist for research students to undertake studies in fundamental aspects of drug discovery, drug action, drug delivery and formulation science, or applied areas of healthcare delivery.

#### KEY RESEARCH THEMES

- **Nanoparticle drug delivery:** developing smart surface nanoparticles for organ specific delivery of small drugs, peptides, proteins and vaccines and the evaluation of risk associated with particulate carriers
- **Targeted delivery to the skin:** delivery both to and through the skin to develop optimised delivery systems for small drugs, peptides and cosmeceuticals
- **Implantable delivery systems:** developing novel systems for the controlled release of naltrexone to aid in the management of dependence
- **Molecular modelling and computational chemistry:** investigating the molecular forces that determine the stability and activity of biomolecules, the behaviour of polymeric drug delivery systems, and the specificity and strength of drug-protein interactions
- **Natural products and traditional medicines:** isolating and identifying bioactive compounds from natural sources
- **Pharmaceutical, medicinal and structural chemistry:** synthesis and physical-chemical characterisation of organic molecules with specific therapeutic activities

- **Pharmacogenetics:** aetiology and pharmaceutical treatment of cancer and inflammatory diseases
- **P-glycoprotein and multiple drug resistance:** transport characteristics of pharmaceutically-relevant compounds through the body's barrier mechanisms
- **Pharmacokinetics and pharmacodynamics:** pharmacokinetic-pharmacodynamic studies of antimalarial drugs
- **Pharmacy education:** education of pharmacists and inter-professional education.

#### MORE INFORMATION

T: +61 8 9266 3941  
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W: [pharmacy.curtin.edu.au](http://pharmacy.curtin.edu.au)

### Partnerships for International Health

[cih.curtin.edu.au](http://cih.curtin.edu.au)

The HIV and AIDS epidemic is an important global public health issue. In 2010, Ngo Thi Thanh Huong, a Vietnamese public health practitioner, lecturer and researcher at Hanoi Medical University, worked alongside researchers from Curtin's Centre for International Health to further her research into the socio-economic impacts of AIDS on household security in Vietnam. Dr Huong was awarded a prestigious Endeavour Scholarship by the Australian Government and worked closely with Associate Professor Jaya Earnest, who has extensive experience in the social and cultural aspects of AIDS and more than 24 years' experience working in countries such as India, Kenya, Uganda, Rwanda and East Timor.





### Physiotherapy

Curtin's School of Physiotherapy is an international leader in physiotherapy education and research. The School has excellent facilities that, together with established relationships with other research and community organisations, support unique research opportunities. Current research activities include laboratory-based studies (using 3D real time kinematics and kinetics, 24 channel EMG, isokinetic dynamometry, DEXA, real time diagnostic ultrasound and expired gas analysis), hospital and clinical facility research, and community research involving thousands of participants.

The School has a mix of highly successful, internationally recognised researchers and early career researchers. Our staff and research students have strong links with clinical and industry partners and with the university sector both nationally and internationally.

#### KEY RESEARCH THEMES

- **Cardiovascular-pulmonary:** physiological responses to exercise tests, exercise training, self management and other interventions to reduce the healthcare burden for people with chronic obstructive pulmonary disease, asthma, heart and lung transplants
- **Neurological:** intervention for people with spinal cord injury or traumatic brain injury and those in intensive care units. Motor control and stretch shortening reflex
- **Spinal pain:** development, classification and management of spinal pain and motor control dysfunction in adolescents, workers and adults

- **Bone and joint health:** prevention of falls and osteoporosis, as well as maintenance in osteoarthritis
- **Musculoskeletal pain:** pain receptor modulation, tissue sensitivity testing
- **Manual therapy:** mechanisms and efficacy of movement-based interventions to minimise musculoskeletal pain and enhance movement
- **Sports injuries:** biomechanical risk factors and injury interventions for people engaging in physically demanding sporting activities such as tennis, water polo, rowing, cricket and gymnastics
- **Gender health and incontinence:** pelvic floor control and intervention
- **Ergonomics:** prevention of musculoskeletal disorders related to computer use and manual tasks. Impact of electronic games on children's physical activity and motor competence
- **Physical activity:** use of physical activity for groups with diabetes, obesity, dementia and cerebral palsy as a means of preventing or minimising morbidity. Minimising sedentary behaviours for office workers and overweight adolescents.

#### MORE INFORMATION

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W: physiotherapy.curtin.edu.au

### Psychology and Speech Pathology

Curtin's School of Psychology and Speech Pathology actively encourages students to pursue research within the field. Many of our staff are leaders in their fields and publish their work in influential journals. The School also holds an annual conference where students share their ideas and study developments. By providing a mentoring program and excellent staff and facilities, the School is able to ensure the best outcomes for students.

In addition to teaching and research activities, the School also runs a speech pathology clinic and a psychology clinic. These clinics give students the opportunity to learn and conduct research in real settings while also delivering a service to members of the public. They represent part of our commitment to the community and to the professions of psychology and speech pathology.

#### KEY RESEARCH THEMES

- **Attachment and mental health:** exploring the role of mother-child relationships in the context of early environmental stressors
- **Prevention of depression:** developing and evaluating of a universal family intervention to prevent the development of internalising problems in younger adolescents
- **Psychotherapy research:** qualitative study of client's views on which factors in therapy account for change

- **Health psychology:** willpower and self control in relation to alcohol behaviour and smoking cessation
- **Cognitive-behaviour therapy research:** randomised controlled trial of cognitive behavioural therapy for the treatment of anxiety and depression in Parkinson's Disease
- **Indigenous mental health and cross-cultural research:** exploration of Nyongar womens' explanatory model of stress during pregnancy and the development of a culturally sensitive assessment tool
- **Community psychology:** social-relational study of south-west coastal governance
- **Speech and hearing research:** issues in service delivery to school-aged children with language and literacy delays.

#### INDUSTRY LINKS

- Commonwealth Scientific and Industrial Research Organisation
- Princess Margaret Hospital for Children
- Woodside Energy Ltd
- Department of Health
- Department of Education.

#### MORE INFORMATION

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W: psych.curtin.edu.au



### Public Health

The School of Public Health was established in 1979 and since then it has grown to become a regional leader in public health education and research. Our focus is on identifying the risks to wellbeing, exploring methods to prevent disease and promoting good health.

We have a large number of staff with diverse cultural backgrounds and more than 400 postgraduate students from 30 different countries. At the postgraduate level, we offer programs in health policy and management, health promotion, environmental health and occupational health and safety, food science and technology, nutrition, epidemiology and biostatistics and sexology. International students are encouraged to undertake research that is relevant to their own country.

Academic staff and students in the School are actively involved in innovative research across areas such as health promotion and research, health impact assessment, metabolic fitness, nutrition and food science, accident research and cancer prevention and intervention.

#### SELECTED RESEARCH PROJECTS

- Peer outreach program for same sex attracted youth
- Food law, policy and communications to improve public health

- The effects of dietary macronutrients on chylomicron metabolism and cardiovascular disease risk
- The effects of dietary fats on the development of Alzheimer's Disease
- Feeding the very preterm infant
- Defining the wheat quality requirements for Indian whole wheat chapatti
- Modelling the impact of extrusion on red and white sorghum starch digestibility
- Satiety and food intake in insulin resistance
- Quality evaluation of low temperature vacuum drying of seafood products for sale in Asia
- Utilisation of waste streams from the seafood industry in new food products
- Banana value-addition and waste utilisation
- Road crashes and injury of bus and taxi drivers in Hanoi
- Impact of bilateral cataract surgery on quality of life, depression, falls and other injuries in Vietnam
- Clinicians attitudes toward patient safety in the Saudi Hospitals
- Receptivity of Perth's gay and bisexual men's networks as change agents for HIV prevention.

#### MORE INFORMATION

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W: publichealth.curtin.edu.au

### Lupins Hold the Key to Global Health

[publichealth.curtin.edu.au/news/research.cfm](http://publichealth.curtin.edu.au/news/research.cfm)

Professor Vijay Jayasena from Curtin's School of Public Health has developed a range of lupin-based foods with health benefits that can also be used to address hunger and malnutrition. Lupins are high in dietary fibre, protein and bioactive compounds, and reduce the risk of obesity, type two diabetes and cardiovascular diseases. Lupin is a low-cost crop and a nitrogen-fixing plant. Professor Jayasena's research is supported by the National Grain Foods Cooperative Research Centre and the Centre for Food and Genomic Medicine, as well as numerous international industry and science groups.

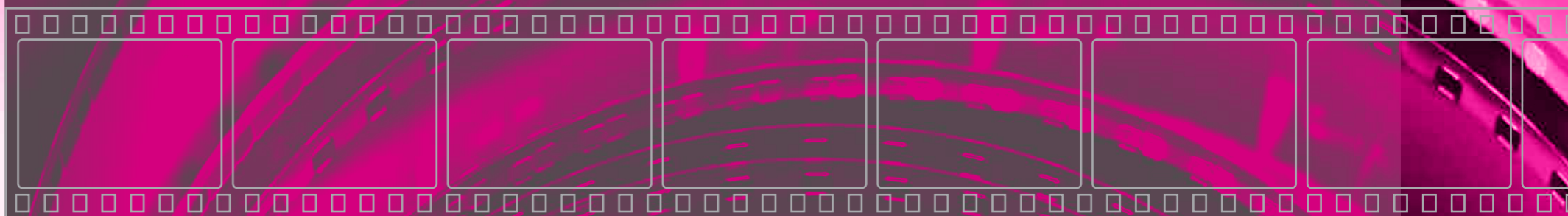




# Humanities

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CURTIN'S FACULTY OF HUMANITIES CONDUCTS PURE AND APPLIED RESEARCH IN AREAS OF THE ARTS AND SOCIAL SCIENCES, EDUCATION AND BUILT ENVIRONMENT. OUR STAFF MEMBERS COLLABORATE WITH NATIONAL AND INTERNATIONAL UNIVERSITY PARTNERS, GOVERNMENT ORGANISATIONS AND INDUSTRY TO DEVELOP PRACTICAL SOLUTIONS.



[humanities.curtin.edu.au](http://humanities.curtin.edu.au)



# Humanities

## OVERVIEW

Curtin's Faculty of Humanities finds solutions to real-world problems by undertaking research with practical and social applications. The Faculty conducts a wide range of pure and applied research in the areas of the arts and social sciences, education and built environment. Many of our staff members undertake collaborative research with national and international university partners, government organisations and industry. The Faculty is also actively involved in creative production in the areas of art, film and television, performance studies and literature. In areas such as architecture and design, research and creative production activities frequently overlap.

The research and creative production activities of the Faculty are expanding rapidly, with perhaps the most notable recent development being the newly established Centre for Culture and Technology, which will profile and develop research in the digital arts and humanities. Other significant initiatives include the Curtin University Sustainability Policy Institute and the Australia-Asia-Pacific Institute that will open in mid-2011. The South Asia Research Unit coordinates and provides a focus for teaching and research on South Asia in the humanities and social sciences.



## RESEARCH AREAS

### Design and Art

Curtin's School of Design and Art is a unique centre for postgraduate research in the Asia Pacific region. The School encourages emerging artists and designers to fully develop their creativity, versatility, knowledge and research capabilities in a world where visual technologies have become a key element of life.

The School is a leader in research. All of the School's staff are practising professional artists and designers with significant research experience in their specialist disciplines.

The Department of Design provides support for multidisciplinary study and research in design and innovation at postgraduate level, and supports students to undertake research in all areas of design. Staff have international profiles in design research across a range of areas, from creative arts to engineering and business.

The Department of Art has a national and international profile in the area of creative production research. It supports a number of research areas that are tailored to the individual interests of its students.

### KEY RESEARCH THEMES

#### DEPARTMENT OF DESIGN

- Design studies, philosophy, history and promotion
- Cultural heritage and material culture studies
- Electronic arts
- Multimedia design
- Fashion and textile design
- High performance textiles and garments
- Complex socio-technical systems
- Design processes and optimisation
- Way-finding systems
- Signage systems
- Crime prevention and anti-terrorism design
- Transport systems
- Business process design
- Information systems design
- Organisation design
- Design of e-learning systems
- Health systems and products
- Colour theory.

#### DEPARTMENT OF ART

- Material culture
- Jewellery production
- Painting
- Photography
- Print media
- Sculpture
- Electronic arts
- Visual arts
- Creative arts
- Contemporary art practices
- Art history and theory
- Fashion.

### INDUSTRY LINKS

- John Curtin Gallery
- Perth Institute of Contemporary Arts
- National Association for the Visual Arts
- Bureau of Ideas
- Australian Council of University Art and Design Schools.

### MORE INFORMATION

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W: humanities.curtin.edu.au/schools/DA/

### Asian Languages and Asian Studies

Staff from Curtin's Department of Asian Languages have expertise in linguistics and language studies with a particular focus on Chinese, Indonesian, Japanese and Korean languages. Research areas include semantics, pragmatics and syntax of the four languages, and the acquisition of second language (L2) studies. The Department also specialises in Asian studies, emphasising intercultural and cross-cultural analysis to achieve a better understanding of the diverse cultures of Asia. Its strengths are in sociolinguistics, discourse analysis, translation studies and socio-cultural analysis. In recent years, the Department has devoted special attention to the study of Asian religions and belief systems.

### KEY RESEARCH THEMES

- Vague language: important functions of vague language in business negotiations
- Request strategies: how do we request and what strategies do we employ?
- Chinese synonyms
- Bilingualism
- Expression of emotion in Japanese
- Semantic analyses of Japanese synonyms (NSM Theory)
- Implications of left-branching language processing (Korean)

- Korean language and thought
- Language typology
- Asian religions: Islam, Taoism, Buddhism, Hinduism and Christianity
- Belief systems not covered by the universal religions: Shintoism, Javanism and ancestor worship
- Chinese philosophy and religion
- Indonesian politics and social change
- Asian business culture.

### INDUSTRY LINKS

- Australia-Indonesia Business Council of Western Australia
- Westralian Indonesian Language Teachers Association
- Education Department of Western Australia (TEE boards) for Chinese, Indonesian, Japanese and Korean languages.
- Korea Australia Research Centre at the University of New South Wales
- Academy of Korean Studies, Seoul, Korea.

### MORE INFORMATION

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W: humanities.curtin.edu.au/schools/SSAL/asian\_languages/





### Built Environment

The research community and research degree programs at Curtin's School of Built Environment are recognised for their high level of quality, scholarly endeavour and discipline engagement.

Staff and students at the School are directly engaged with innovative questions that inform new knowledge and understanding of built and designed forms, construction and urban space, and contribute to the needs of the built environment professions and the community.

The School provides opportunities for Master and Doctor of Philosophy students to study via theoretical, experimental or applied modes of research, or undertake projects with a creative practice component in architecture, interior architecture, urban and regional planning, construction management and cultural heritage.

We welcome domestic and international research students into our energetic and inspiring postgraduate research community, which is supported by our experienced research supervisors.

#### KEY RESEARCH THEMES

##### DEPARTMENT OF ARCHITECTURE AND INTERIOR ARCHITECTURE

- Architectural history and theory
- Architectural heritage and conservation
- Architectural design
- Architectural science, technology and sustainability
- Digital environments and innovation
- Interior design
- Cultural heritage
- Heritage management
- World heritage.

##### DEPARTMENT OF CONSTRUCTION MANAGEMENT

- Building science, techniques and sustainability
- Building construction management and project planning
- Procurement
- Quantity surveying.

##### DEPARTMENT OF URBAN AND REGIONAL PLANNING

- Community planning
- Housing markets, development, management
- Land use and environmental planning
- Regional analysis and development
- Transport planning
- Urban sustainability
- Urban design
- Urban analysis and development.

#### INDUSTRY LINKS

- Australian Institute of Architects
- Design Institute of Australia
- Building Management and Works, WA Government
- Department of Treasury and Finance, WA Government
- Heritage Council of West Australia
- National Trust of Australia (WA)
- Master Builders Association
- Australian Institute of Builders
- Australian Institute of Quantity Surveyors
- Project Management Institute
- Australian Institute of Project Management
- Planning Institute of Australia
- The Returned and Services League of Australia (RSL, WA)
- Department of Planning, WA Government
- Australian Housing and Urban Research Institute.

#### MORE INFORMATION

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### Cultural Heritage

The field of contemporary cultural heritage studies theorises and critiques material culture expressions of local and national identity. It works to protect tangible and intangible heritage and to empower marginalised groups to express their identity through memory. The field emerged as a response to widespread anxiety that the price of modernity has been a huge cultural loss of the concepts of the past.

Curtin's research strengths within this field are:

- History and contemporary management of architecture, art and movable heritage resources; interpretation of Australian art and architecture; international links
- Heritage management: community development through heritage and community healing following trauma
- Museology: a rapidly developing field as the previously assumed transparency of museum work has been discredited.

#### KEY RESEARCH THEMES

- **Trauma and cultural healing:** research that tries to move beyond the usual commemorative response to trauma that has been either to foreground the dominant position, or to put forward two (or potentially more) view points as if they were equal
- **World heritage:** examining the way that western themes structure a site, even when it is intended that Indigenous themes do so
- **Globalisation:** elements of globalisation's twin themes of homogenisation and local resistance have been present in museums for a long time. Research into the way western cultural imperialistic interpretation continues even though many museums claim to resist it

#### Heritage management:

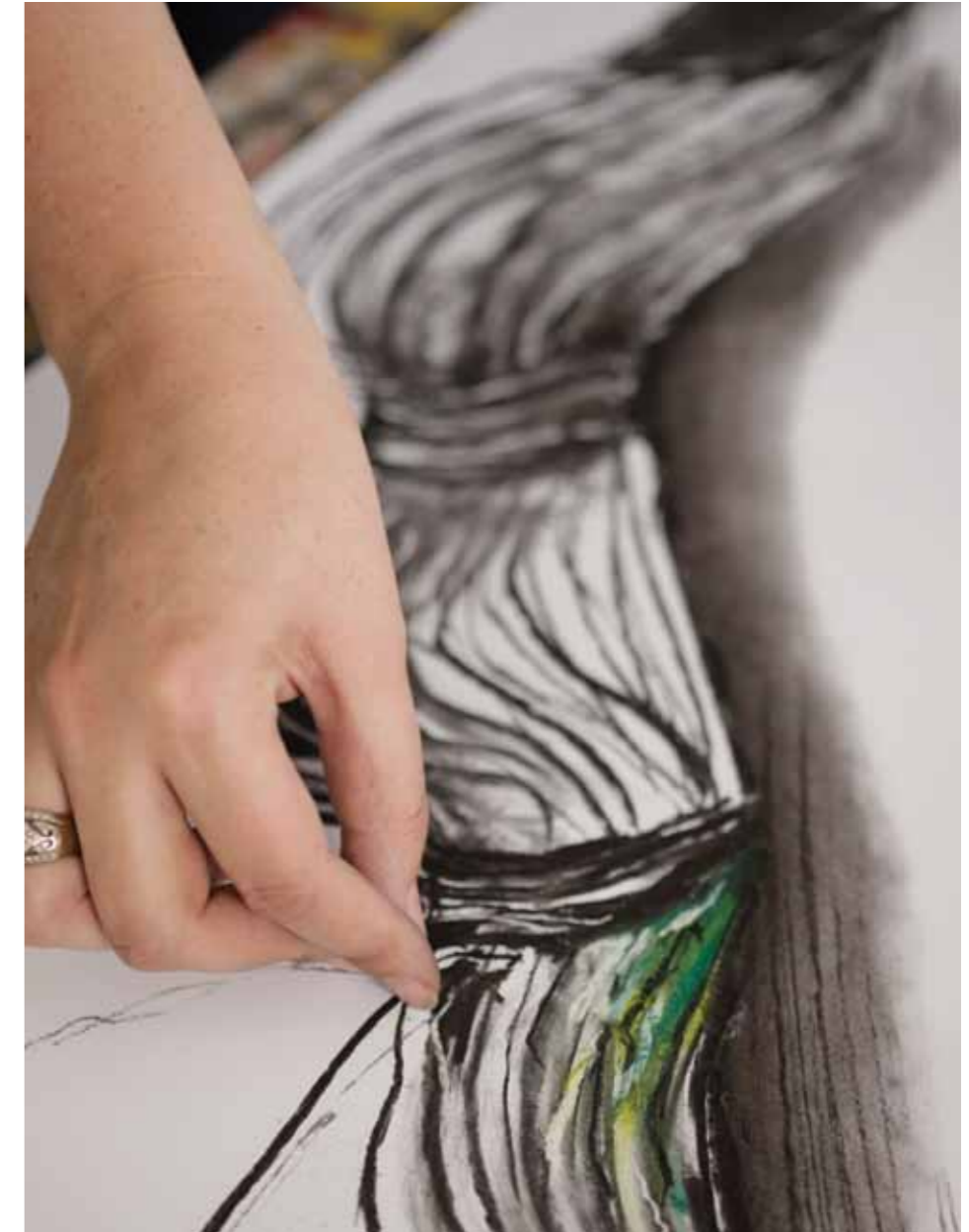
protection of the community's interest and investment in its heritage in the context of commercial pressures and globalisation.

#### INDUSTRY LINKS

- Art Gallery of Western Australia
- Engineers Australia
- Fremantle Arts Centre
- Heritage Council of Western Australia
- International Council of Museums, Australia
- ICOFOM: the Museology Committee of the International Council of Museums
- Museums Australia
- National Trust of Australia (Western Australia)
- Perth City Council
- Perth Zoo
- Western Australian Maritime Museum
- Western Australian Museum.

#### MORE INFORMATION

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W: culturalheritage.curtin.edu.au



### Creativity, Violence and Trauma

[research.humanities.curtin.edu.au/centres/casaap/projects\\_perera.cfm](https://research.humanities.curtin.edu.au/centres/casaap/projects_perera.cfm)

Associate Professor Suvendrini Perera and Dr Antonio Traverso are undertaking research into creative responses to experiences of social and political violence. A cluster of projects and publications explore new cultural forms and creative media as responses to terror and violence in various transnational and transdisciplinary contexts.



# Humanities

## RESEARCH AREAS

### Education

Curtin's School of Education has made a significant impact in research and consultancy both locally and worldwide. Attractive opportunities for cutting-edge research and postgraduate studies come from strong links with government and private organisations, in addition to affiliations with national and international research groups.

Staff from the School currently hold national competitive grants in the areas of student participation and retention, learning technologies, teacher attraction and retention, ICT and mathematics education for rural and regional Australia, applied linguistics, TESOL, indigenous education and education for sustainability.

The doctoral research program provides students with advanced, in-depth knowledge related to their profession and the opportunity to get involved in research work that is closely related to improving their professional practice.

#### KEY RESEARCH THEMES

- Animations and learning
- Computer assisted learning
- Curriculum development and implementation

- Educational change
- Educational leadership and teacher change
- Language and literacy development
- Learning environments
- Policy development and mapping
- Special education
- Mathematics education and numeracy development
- Student retention
- Sustainability
- Science, mathematics and ICT in rural locations.

#### INDUSTRY LINKS

- Western Australian Department of Education
- Western Australian College of Teaching
- Participation Directorate of the Western Australian Department of Education
- Australian Association of Independent School
- Catholic Education Office
- Australian Research Council
- Australian Teaching and Learning Council
- Cambridge University Examinations Syndicate, UK
- Australian Council of Educational Leaders
- Australian College of Teaching.

#### RESEARCH AFFILIATIONS

- Western Australian Institute for Educational Research
- Science Teachers' Association of Western Australia
- Mathematics Education Research Group of Australia
- Australian Association for Educational Research
- British Educational Research Association
- American Educational Research Association
- International Centre for Adaptation Science
- International Council of Associations for Science Education
- International Objective Measurement Workshop
- Pacific Rim Objective Measurement Symposium.

#### MORE INFORMATION

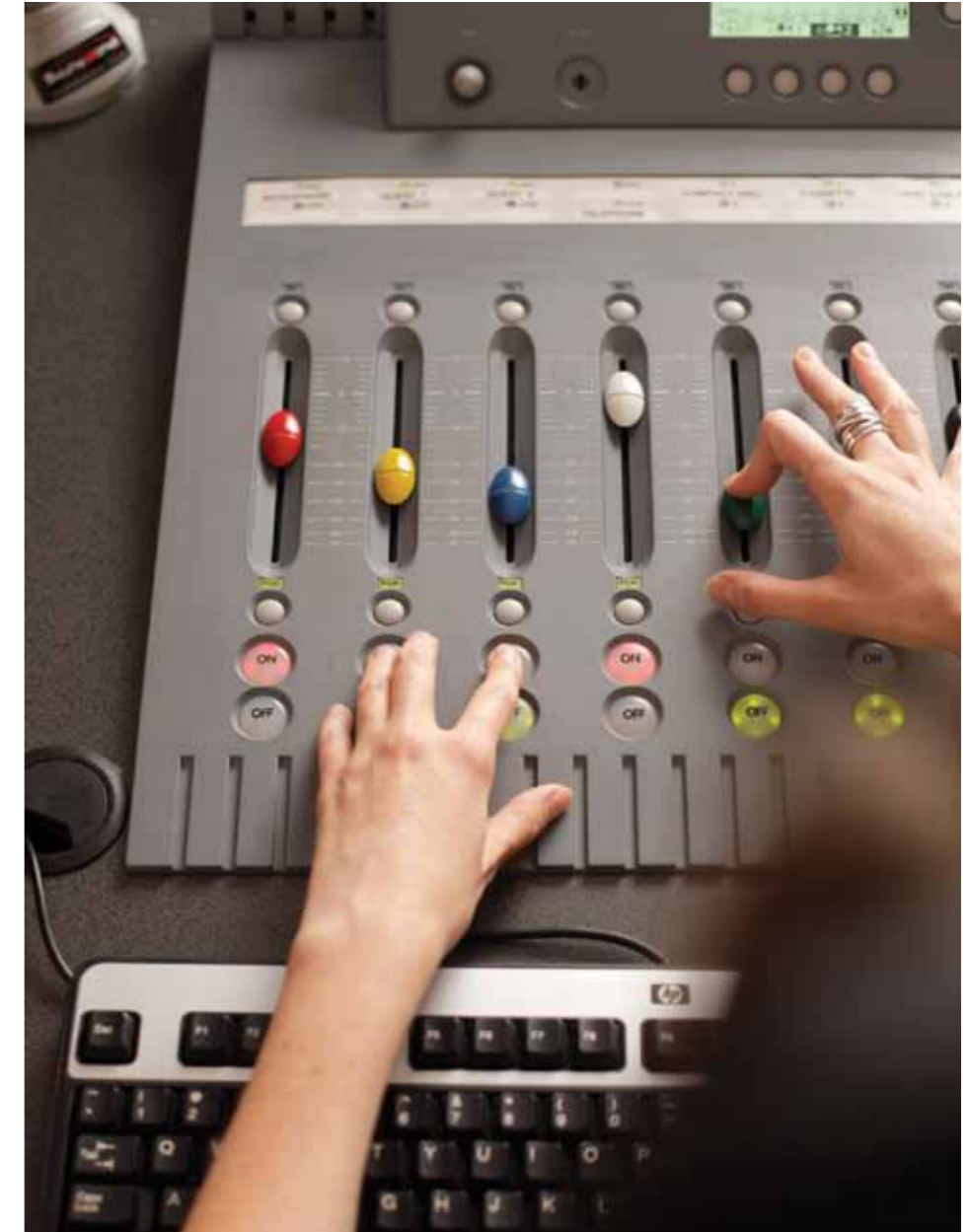
T: +61 8 9266 1000  
E: [humanities.postgrad@curtin.edu.au](mailto:humanities.postgrad@curtin.edu.au)  
W: [education.curtin.edu.au](http://education.curtin.edu.au)

### Media, Culture and Creative Arts

Research programs in Curtin's School of Media, Culture and Creative Arts (MCCA) build on its outstanding reputation as a provider of high-quality education and world-class research in the fields of cultural and literary studies, media studies, journalism, internet studies, film and television, librarianship and corporate information management, creative writing and mass communication.

MCCA supports a vibrant postgraduate research culture that provides many opportunities for students to interact with leading researchers. MCCA currently undertakes research supervision for a diverse and talented group of students, provided by internationally recognised staff. In the recent ranking of Research Excellence in Australian Universities (ERA), cultural studies has achieved the ranking of above world standard, while a number of other disciplines in MCCA were ranked at world standard.

MCCA research engages with and responds to the range of digital technologies that are transforming all aspects of media, communication and creative practice. All MCCA research projects are supported by access to industry-standard equipment and highly trained and experienced technical staff. The School supports various forms of scholarly enquiry, including pure academic research, practice-based research and research with a creative component. There is a focus on the use of technology to produce imaginative and sustainable outcomes and solutions in a range of professional, industry and creative contexts.



#### KEY RESEARCH AREAS

- Cultural and literary studies
- Creative writing
- Performance studies
- Information and library studies
- Film and television
- Journalism
- Internet studies
- Media studies
- Mass communication.

#### INDUSTRY LINKS

- Australian Society of Authors
- Australian Library and Information Association
- Internet Society of Australia
- Australian Journalists Association
- Australian Film Commission.

#### MORE INFORMATION

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E: [hum-postgrad@curtin.edu.au](mailto:hum-postgrad@curtin.edu.au)  
W: [humanities.curtin.edu.au/schools/MCCA/](http://humanities.curtin.edu.au/schools/MCCA/)





### Social Sciences

Research at Curtin's School of Social Sciences covers the discipline areas of anthropology, development studies, geography, history, international relations, politics and sociology.

The School encourages the examination of diverse fields that affect cultures ranging from remote communities in Australia to those in Asia, Western Europe, Papua New Guinea and South Africa.

A core strength of the School's research is our diverse student and staff population. We have developed a research community of engaged and recognised scholars who are working on innovative and creative research projects, often in partnership with external bodies.

Most recently, staff and students from the school have entered into innovative teaching and research partnerships with members of the Curtin University Sustainability Policy Institute to develop new ways of researching and teaching sustainability and development issues.

#### KEY RESEARCH THEMES

- Australian politics and history
- Biography and autobiography
- Demography
- Environmental management
- Health and illness
- Gender and ethnic relations
- Indigenous issues
- Industrial history

- International development
- Local history
- Media
- Memory studies
- Migration
- National security
- Natural resource management
- Oral history
- Regional studies
- Refugees and human rights
- Sustainable living
- Technology and work
- Terrorism
- Tourism, sport and recreation studies
- Urban, rural and regional development planning.

#### SELECTED INDUSTRY LINKS

- AusAID
- Bangladesh Institute of Development Studies
- Bangladesh Institute for Ocean Management
- Bangladesh Maritime Research Centre
- Cocoa and Coconut Institute of Papua New Guinea
- Commonwealth Scientific and Industrial Research Organisation
- Department of Environment and Conservation
- Department of Sport and Recreation
- Heritage Council
- Institute of Development Studies, Kolkata, India
- International Institute for Environment and Development, London
- International Institute for Climate Change Adaptation and Development, Dhaka, Bangladesh
- Outback Areas of South Australia Community Trust
- Papua New Guinea Oil Palm Research Association
- Tata Institute of Social Sciences, Mumbai
- World Bank.

#### MORE INFORMATION

T: + 61 8 9266 1000  
 E: hum-postgrad@curtin.edu.au  
 W: humanities.curtin.edu.au/schools/SSAL/social\_sciences

### Sustainability

The Curtin University Sustainability Policy Institute (CUSP) aims to be an innovative provider of frontline research, teaching and policy advice on sustainability policy. CUSP undertakes key research activities and offers exciting multi-level and multi-disciplinary sustainability programs, drawing on the expertise of renowned scholars and practitioners. These programs provide students with the tools to develop a solution-focused approach to the challenges posed by major environmental issues.

Curtin is recognised for its work on sustainable cities and sustainability innovation policy. CUSP's research also focuses on sustainable regions and coasts and the implementation of sustainability through policy strategies and community engagement.

CUSP has attracted a number of research grants from prestigious funding bodies such as the Australian Research Council, National Research Centre for Sustainable Built Environments, CSIRO Coastal Collaboration Cluster and the United Nations Environment Program. The Institute also has a partnership arrangement with Parsons Brinckerhoff: one of the world's leading planning, engineering, program and construction management organisations. The staff at CUSP also collaborates with the University of Science and Technology of China in Hefei.

#### KEY RESEARCH THEMES

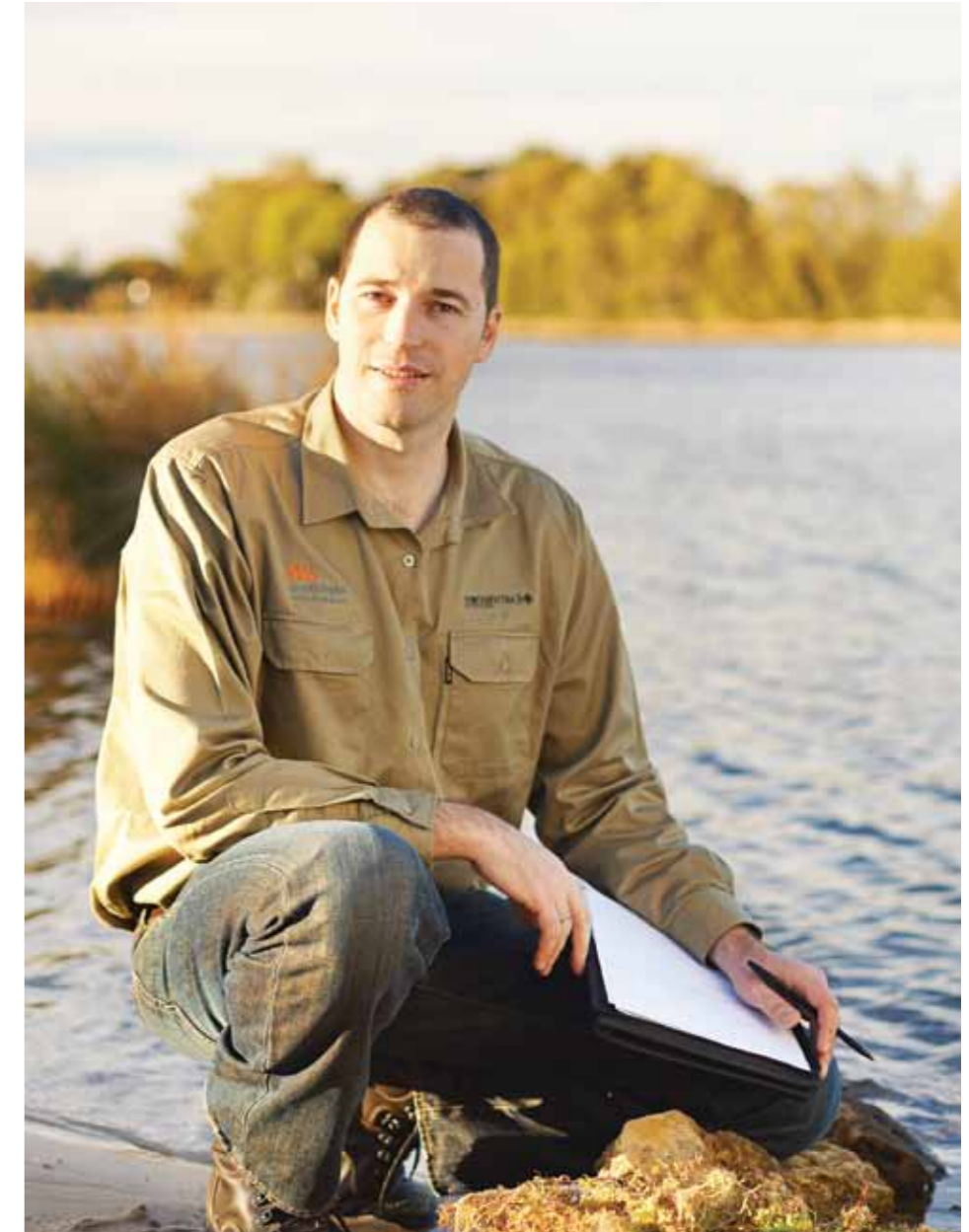
- Sustainable cities: city policy, urban planning, transport, water and waste
- Sustainable regions and coasts: natural resource management, rangelands, coasts and the sea, regional and rural Western Australia, Indigenous economic sustainability
- Sustainable global development: climate change response, innovation in technology, renewable energy, population policy, women and development
- Sustainable governance, economics and education: social justice, environmental justice, globalisation, policy development, reflexive governance, sustainability mapping and planning, adaptive management, participatory democracy, sustainability education, social movements to achieve sustainability.

#### INDUSTRY LINKS

- Parsons Brinckerhoff Australia
- Commonwealth Scientific and Industrial Research Organisation
- Western Australian Local Government Association and cities of Geraldton-Greenough, Fremantle and Gosnells
- South Metropolitan Youth Link Community Services
- Kinesis
- National Library of Australia
- National Heritage Trust
- Habitat for Humanity
- Sustainable Transport Coalition
- Community Arts Network.

#### MORE INFORMATION

T: +61 8 9266 1000  
 E: humanities.postgrad@curtin.edu.au  
 W: sustainability.curtin.edu.au



### The Politics of Climate Change

[sustainability.curtin.edu.au](http://sustainability.curtin.edu.au)

Curtin researchers will be collaborating with six other Australian universities and the Commonwealth Scientific and Industrial Research Organisation to inform policy makers of the risks associated with climate change—particularly the danger of rising sea levels for communities and industry in coastal zones. The researchers will present existing research with tools such as Google Earth and custom-built animations, helping policy makers to visualise the dangers and take action to protect those that are at risk. Professor David Wood, Curtin's Deputy Vice-Chancellor (International) and Associate Professor Laura Stocker, from the Curtin University Sustainability Policy Institute, are leading the three-year project.





## Science and Engineering

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THE FACULTY IS COMMITTED TO PROVIDING CUTTING-EDGE RESEARCH TO THE WORLD MARKET THROUGH STRONG TIES WITH OTHER UNIVERSITIES, RESEARCH GROUPS AND INDUSTRY, AND SUPPORT FROM THE AUSTRALIAN RESEARCH COUNCIL. IN ADDITION TO THIS COLLABORATION, THE FACULTY'S STRENGTH IN RESEARCH IS UNDERPINNED BY OUR OUTSTANDING RESEARCH CENTRES.

[scieng.curtin.edu.au](http://scieng.curtin.edu.au)



# Science and Engineering

## OVERVIEW

The Faculty of Science and Engineering provides cutting-edge research in areas of strategic importance to Western Australia and the Asia-Pacific region. The Faculty is providing solutions for some of Australia's most influential industries through collaborations with local and international research centres, universities, industry partners and the Commonwealth Scientific and Industrial Research Organisation.

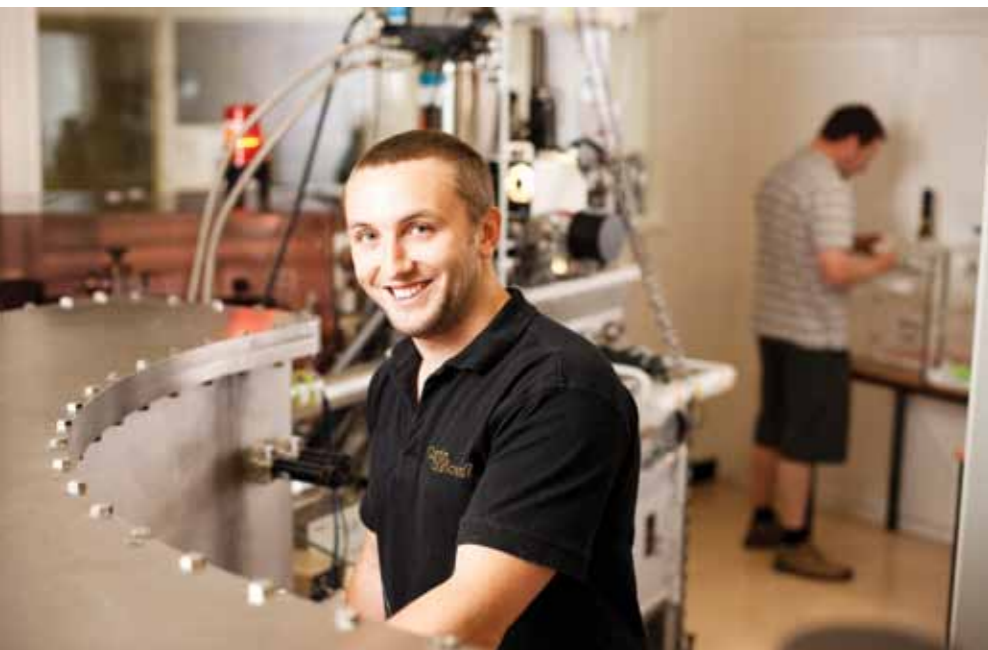
The Faculty provides students with unique research opportunities on four campuses—Bentley, Kalgoorlie, Margaret River and Technology Park—which provide access to industry in state-of-the-art facilities.

From the establishment of the Western Australian School of Mines in 1902 to the opening of the multimillion-dollar Resources and Chemistry Precinct in 2009, the Faculty attracts leading researchers and provides solutions to some of the world's most pressing problems. We also support Curtin's four key areas of research: resources and energy, health, sustainable development and ICT and emerging technologies. Researchers from Curtin continue to work on leading international projects and are part of the State's bid to secure the world's largest radio astronomy project: the A\$2.5 billion Square Kilometer Array.

For more information about research opportunities in the Faculty of Science and Engineering:

T: +61 8 9266 4816

E: [scengresearch@curtin.edu.au](mailto:scengresearch@curtin.edu.au)



## RESEARCH AREAS

### Science

The School of Science at Curtin includes many core disciplines such as physics, chemistry, medical imaging science, environment and agriculture, mathematics and statistics, and science and mathematics education. Research within the science disciplines is undertaken in first-rate facilities by internationally experienced staff. The School maintains a commitment to scholarship, research and education excellence and provides flexible learning opportunities. The complexity of the problems that face the world today requires an interdisciplinary approach and our research institutes and centres have a wide membership across the academic spectrum.

The School places great value on developing strong working relationships with industry and the community. Research students will experience a practical approach and create strong professional and personal networks within academia and industry.

#### MORE INFORMATION

W: [science.curtin.edu.au/research](http://science.curtin.edu.au/research)

### Chemistry

The Department of Chemistry moved into the new, state-of-the-art Resources and Chemistry Precinct in 2010. The ChemCentre of Western Australia is also housed in the Precinct, and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Minerals Division is situated next door. Students in the Department have the unique opportunity to mix with professional scientists and academic researchers on a regular basis while carrying out their research project.

The research carried out in the Department is interdisciplinary, crossing the disciplines of chemistry, geoscience, physical sciences and education research. The Department hosts a number of Australian Research Council (ARC) Professorial Fellows, and research across the Department is funded by the ARC, cooperative research centres, CSIRO flagship programs and industry. In the recent national Excellence in Research in Australia assessment, Chemistry research at Curtin was assessed as being absolutely world class, amongst the best in Australia and the leader in Western Australia.

#### KEY RESEARCH THEMES

- Analytical chemistry
- Geochemistry and minerals
- Chemistry education
- Computational chemistry
- Corrosion science
- Synthesis, medicinal, and biological chemistry
- Materials chemistry and spectroscopy

#### MORE INFORMATION

W: [chemistry.curtin.edu.au/research](http://chemistry.curtin.edu.au/research)

### Environment and Agriculture

The Department of Environment and Agriculture has a multidisciplinary approach to research and development and a strong reputation in areas such as landscape-scale ecology, mapping, meso-scale studies relating to ecophysiology, taxonomy, agronomy, plant and animal physiology, microbiology, biochemical and molecular scales. Our research spans both the natural environment and agricultural and food production, and includes both aquatic and terrestrial studies. The Department's research projects are funded by a wide range of nationally competitive sources including the Australian Research Council, Grains Research and Development Corporation, Grape and Wine Research and Development Corporation, and the Fisheries Research and Development Corporation. Our researchers are recognised internationally and our staff and graduate student cohort come from a diverse range of backgrounds.

#### KEY RESEARCH THEMES

- **Aquatic science and coastal zone management:** aquaculture technology, marine ecology, biodiversity and taxonomy, hatchery management, crustacean farming techniques, shellfish and finfish aquaculture, fisheries resource management, polyculture, aquaculture production systems and seafood science
- **Agricultural science:** genetics of plant-pathogen interactions in field-crops pathosystems, molecular aspects of resistance and pathogenicity, genomics, proteomics, metabolomics, bioinformatics, biochemistry, agronomy, intercropping, agroforestry,

allelopathy, organic farming systems, soil science, biosolid and other waste utilisation, landcare and salinity, animal nutrition and production, pasture and grazing management, wool technology and rangeland management

- **Environmental biology:** aquatic science, ecotoxicology, impacts of chronic pollution on fish, water quality, artificial wetlands, salt lakes, entomology, insect ecology, pest control, mine rehabilitation, mulga research, animal physiology, plant ecology, plant breeding, plant propagation, vegetation mapping, impacts of global warming, ornithology and wildlife conservation
- **Horticulture:** production technology of fruits and vegetables, post harvest technology of horticultural crops, tropical horticulture, growth regulators in fruit crops, stress physiology of fruit crops, propagation of horticultural crops, marketing floriculture, apiculture and organic plant production systems
- **Viticulture and wine science:** grape and vine physiology, plant stress responses, water relations and leaf gas exchange, stable isotope discrimination, biosynthesis of secondary metabolites, impacts of naturalised yeast on wine quality, small-scale wine making and wine market development.

#### MORE INFORMATION

W: [environmentagriculture.curtin.edu.au/research](http://environmentagriculture.curtin.edu.au/research)



# Science and Engineering

## RESEARCH AREAS

### Applied Physics

The Department of Imaging and Applied Physics has a vibrant research community with major cross-disciplinary research being conducted by research institutes and centres. These include the John de Laeter Centre of Excellence in Mass Spectrometry, the Remote Sensing and Satellite Research Group, the Centre for Materials Research, the Centre for Marine Science and Technology, the Curtin Institute of Radio Astronomy and the Institute of Theoretical Physics. These research institutes and centres also maintain a substantial collaboration with major industry partners and other external organisations.

#### KEY RESEARCH THEMES:

- **Isotope science**
- **Remote sensing**
- **Materials research:** geopolymer technology, nanostructural characterisation and modelling, microstructural design of advanced ceramics, composites and ceramics, and mineralogy and optimisation mineral extraction
- **Marine science and technology:** hydrodynamics, underwater acoustics, marine ecology and stereoscopic imaging
- **Astronomy:** next generation telescopes (including the Square Kilometer Array), very long baseline interferometry, active galactic nuclei and radio galaxies, transient radio phenomena and pulsars
- **Theoretical physics:** electrons, positrons, laser and atom-surface interactions for lasers, astrophysics, plasma processing, plasma displays, fusion research and the lighting industry.

#### MORE INFORMATION

W: [physics.curtin.edu.au/research](http://physics.curtin.edu.au/research)

### Medical Imaging Science

The School of Medical Imaging Science has an active research program that provides unique opportunities for students to interact with health care professionals from public hospitals and private practices, as well as academic researchers. Research students receive clinical exposure and have access to clinical expertise and modern medical imaging equipment with major hospitals within Western Australia.

#### KEY RESEARCH THEMES

- **3D image visualisation in endovascular stent grafts and cardiac imaging**
- **Radiation dosimetry and automatic radiation dose monitoring**
- **Imaging informatics**
- **Quality assurance for digital radiography in paediatric imaging**
- **Radiography and public health professional issues**
- **Applied and profession-related integrated learning.**

#### MORE INFORMATION

W: [medicalimaging.curtin.edu.au](http://medicalimaging.curtin.edu.au)

### Mathematics and Statistics

Mathematical Sciences is one of Curtin's research strengths. The Department of Mathematics and Statistics has a high international profile and is recognised for its expertise in both applied mathematics and computational mathematics. The research activities focus on developing innovative fundamental theory and computational techniques, optimisation and optimal control methods, as well as the application of mathematics in agriculture, defence, mining, transportation, telecommunications, fluid dynamics and biomedical science. The Department has also been developing research strength in financial mathematics and actuarial science, and has supported over twenty PhD students and several postdoctoral research fellows each year. We have a well-established national and international research network, as well as strong links with local industry through the Western Australia Centre of Excellence in Industrial Optimisation.

#### KEY RESEARCH THEMES

- **Applied mathematics**
- **Numerical and computational mathematics**
- **Operations research**
- **Control, optimisation and optimal control**
- **Combinatorial mathematics**
- **Computational fluid dynamics**
- **Probability theory and statistics**
- **Financial mathematics and actuarial science**
- **Industrial modelling and optimisation.**

#### MORE INFORMATION

W: [maths.curtin.edu.au/research](http://maths.curtin.edu.au/research)

### Science and Mathematics Education

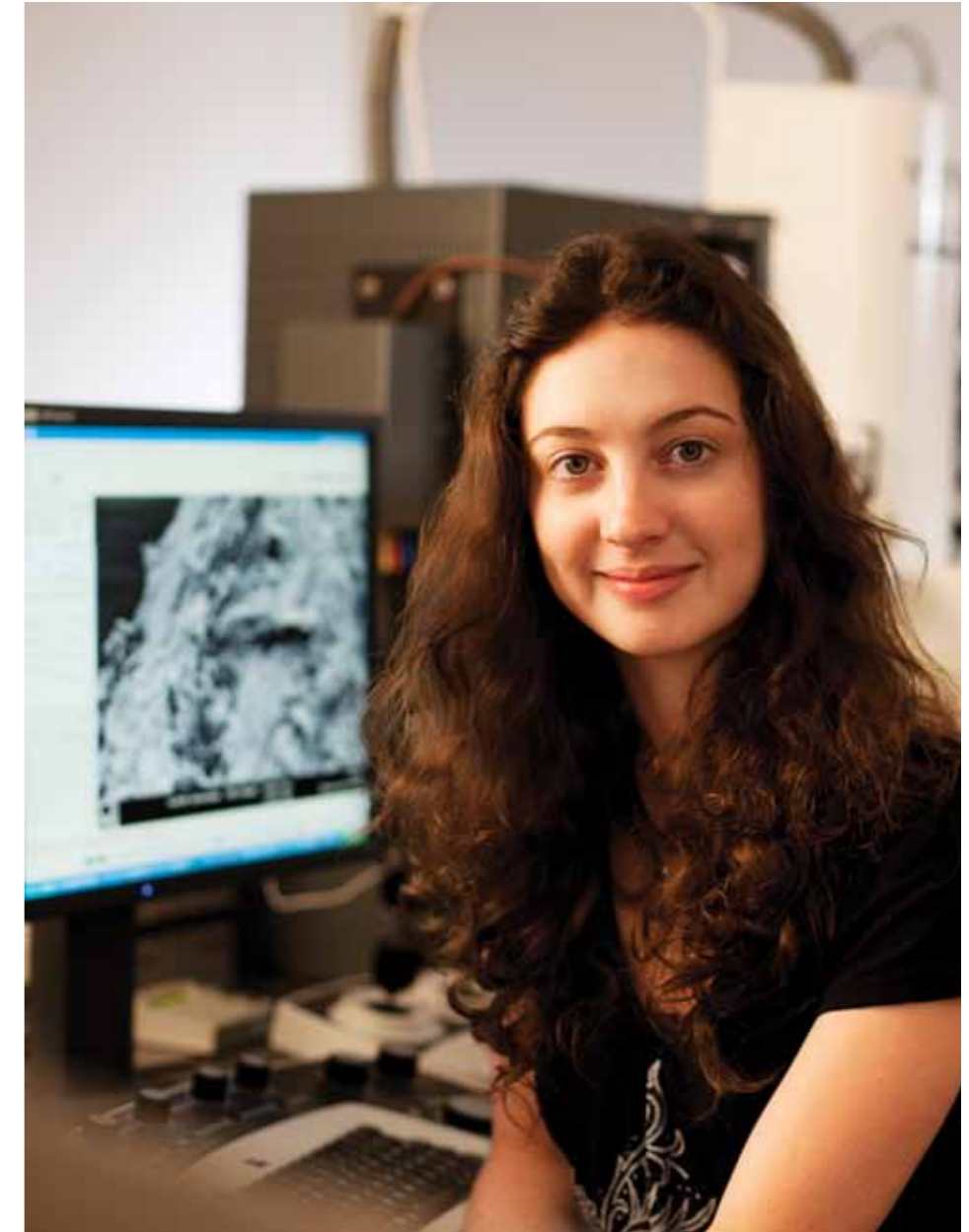
The Science and Mathematics Education Centre offers postgraduate studies in science, mathematics and technology education and has a national and international reputation for excellence in research and development. With over 400 research students, including approximately 300 studying at the doctoral level, the Centre has the largest group of postgraduate students specifically in science, mathematics and technology education in the world. Students come from all Australian states and territories and approximately 20 overseas countries. Currently, groups of overseas students meet together on a regular basis in Miami and New York in the USA, New Zealand, South Africa, Singapore and Thailand.

#### KEY RESEARCH THEMES

- **Learning environments**
- **Professional development**
- **Concept learning**
- **Use of analogies**
- **Qualitative methods of enquiry.**

#### MORE INFORMATION

W: [smec.curtin.edu.au](http://smec.curtin.edu.au)





# Science and Engineering

## RESEARCH AREAS



### Stars Align in Perth [astronomy.curtin.edu.au](http://astronomy.curtin.edu.au)

In 2012, an international committee will decide if the world's most powerful telescope—the A\$2.5 billion Square Kilometer Array (SKA)—will be built in Western Australia's Murchison region or in southern Africa. The International Centre for Radio Astronomy Research, a collaboration between Curtin University and the University of Western Australia, is part of Australia's effort to secure the SKA project and ensure its success. The Curtin Institute of Radio Astronomy is one of the Centre's two research nodes.

### Computing

Curtin's Department of Computing has an active research program with a large and growing number of PhD students. Several researchers in the Department are well known internationally for contributions to their fields. We also host the only Australian Research Council Centre of Excellence in Western Australia for research into large-scale pattern recognition.

#### KEY RESEARCH THEMES

- Multi-sensor processing and content analysis
- Adaptive user interfaces
- Large-scale pattern recognition
- Artificial intelligence
- Computer graphics
- Parallel and distributed computing
- Software engineering
- Database management
- Large-scale surveillance systems
- Smart homes
- Perceptive and intelligent machines in complex environments
- Computational media aesthetics
- Social media
- Infrastructure and transport surveillance.

### Electrical and Computer Engineering

Curtin's Department of Electrical and Computer Engineering is recognised for its research performance and industry involvement. Research activities focus on its research centres and groups, which include the Communications Technology and Signal Processing Group, Wireless Instrumentation and Networks Research Group, Centre for Smart Grid and Sustainable Power Systems, the Embedded Systems and System Technologies Research Group and Radio Astronomy.

#### KEY RESEARCH THEMES

- Telecommunications research
- Communications and signal processing
- Communications technology
- Renewable energy
- Instrumentation and intelligent systems
- Power systems
- Smart grid
- Advanced distributed simulation.

#### MORE INFORMATION

W: [eec.curtin.edu.au/research](http://eec.curtin.edu.au/research)

### Chemical Engineering

The Department of Chemical Engineering focuses on advancing research in the key areas of value-added resources and energy processing. We are a core participant in two cooperative research centres and are continuously winning significant research support from governments and industries.

The Department has three main research strains: fundamental research, which generates basic knowledge relevant to chemical engineering; applied generic research, which improves our understanding of chemical engineering processes; and applied research, which leads to improved technologies in the industry. The Department also hosts the Fuels and Energy Technology Institute and the Centre for Process Systems Computations.

#### KEY RESEARCH THEMES

- Mineral processing
- Fuels and energy science and engineering
- Process systems engineering
- Computational fluid dynamics
- Oil and gas processing
- Environmental technology
- Polymer technology
- Biosystems engineering
- Colloidal systems
- Membrane technology.

#### MORE INFORMATION

W: [chem.eng.curtin.edu.au/research](http://chem.eng.curtin.edu.au/research)

### Petroleum Engineering

The Department of Petroleum Engineering has research as the main focus of its future and boasts capabilities not readily available in other departments. It has world-class experimental laboratories that include the world's largest true-triaxial stress cell for understanding effects of complex stress on fractured rock, a core flooding laboratory for understanding how fluids pass through oil and gas fields, a research facility known as Clean Gas Technology Australia and the Centre for Rock Characterisation.

#### KEY RESEARCH THEMES

- Fracture and oil and gas fluid flow analysis through rocks
- Combined geomechanics and geophysics studies
- Wellbore stability and sanding analysis
- Fracture shear testing and simulations
- Hydraulic fracturing rock mechanics analysis
- Gas separation through hydrate and cryogenic processes
- Gas measurement processes.

#### MORE INFORMATION

W: [petroleum.curtin.edu.au/research](http://petroleum.curtin.edu.au/research)



# Science and Engineering

## RESEARCH AREAS

### Civil and Mechanical Engineering

The School of Civil and Mechanical Engineering focuses on the role of engineering in serving the community and taking on a leadership role in tackling current local, regional and global challenges. Our research has its emphasis on technologically, industrially and socially sustainable engineering that furthers the present and future wellbeing of society. Our approaches engage across—and exploit the links between—the spectrum of fundamental and applied research. To integrate and enhance the core activities of teaching and research, the School is committed to professional engagement and industry interactions that additionally further its ethos of social responsibility and leadership.

#### KEY RESEARCH THEMES MECHANICAL ENGINEERING

- Appropriate technology
- Biomechanics
- Fluid-structure interaction
- Fluid dynamics
- Heat transfer
- Mechatronic engineering and robotics
- Materials engineering
- Vibration and noise
- Computational mechanics.

#### CIVIL ENGINEERING

- Pavement engineering
- Water, wastewater and dam engineering
- Concrete technology and concrete structures
- Geotechnical engineering
- Structural strengthening and assessment of bridges
- Construction management and economics
- IT applications in construction.

#### CENTRE OF EXCELLENCE IN CLEANER PRODUCTION

- Life cycle assessment
- Sustainability metrics
- Waste management
- Industrial symbiosis
- Sustainable process technology
- Industrial ecology.

#### INDUSTRY LINKS

- Western Power
- Water Corporation
- Main Roads
- Planning and Transport Research Centre
- Western Australia Pavement Asset Research Centre Western Australia
- Australian Asphalt Pavement Association
- Kwinana Industries Council
- Alcoa
- Rio Tinto
- Cities of Canning, Perth, Stirling and Swan
- Downer Edi Works
- Coffey Geotechnics
- BGC
- Holcim
- Australian Road Research Board
- Cooperative Research Centre for Infrastructure Engineering Asset Management
- WA Centre of Excellence for eMedicine

#### MORE INFORMATION

W: [cme.curtin.edu.au/research](http://cme.curtin.edu.au/research)

### Western Australian School of Mines

The Western Australian School of Mines (WASM) has been internationally recognised as a provider of excellence in minerals education, research and industry service since 1902. WASM is one of only four national university schools that are endorsed by the Minerals Council of Australia as a preferred national provider of mining engineering education through Mining Education Australia. Through WASM, Curtin is the only university supported by the Mineral Council of Australia in three higher education programs of geosciences, mining and metallurgy.

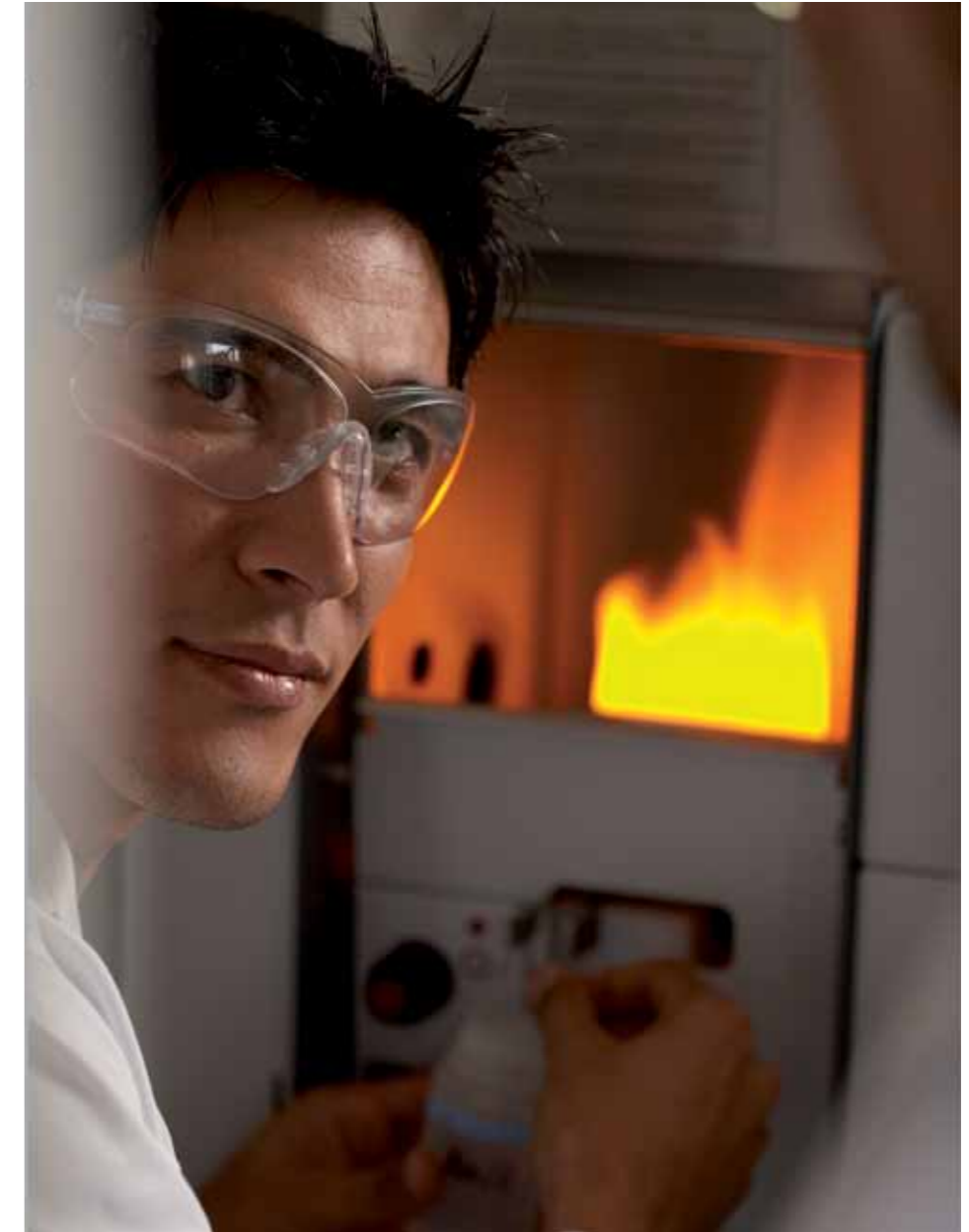
WASM comprises five departments, with Applied Geology, Spatial Sciences and Exploration Geophysics based at Curtin's main Bentley Campus in Perth. Mining Engineering and Metallurgical Engineering are based in Kalgoorlie, giving students the opportunity to gain a quality education that combines practical and theoretical elements in close proximity to mining activities. In addition, two research groups—the Rio Tinto Centre for Materials and Sensors in Mining and the Gold Technology Group—are based at Bentley. Both government and the mining industry are strong supporters of current research activities.

#### KEY RESEARCH AREAS

- **Applied geology:** environmental geoscience and hydrogeology, mineral exploration and ore deposits, marine and coastal sedimentary systems, petrology, geochemistry and microstructure, regional geology and tectonics, regolith geology and remote sensing
- **Mining engineering:** mining rock mechanics, mine planning, optimisation and design, mine haul road design, mining equipment maintenance, mine surveying, mine management, mine feasibility studies
- **Metallurgical and minerals engineering:** mineral processing, gold technology and processing, nickel technology and processing, hydrometallurgical separation and purification techniques, sustainable hydrometallurgical processes
- **Exploration geophysics:** seismic characterisation of mining resources, ore-body delineation, geophysical monitoring of CO2 geosequestration, theoretical and experimental rock physics, seismic anisotropy, borehole seismic methods, seismic imaging, sea-bed electromagnetics, seismoelectric methods, geophysical characterisation of water resources, geophysical instrumentation
- **Spatial sciences:** global navigation satellite systems, geodesy, geographic information science, laser scanning and digital imaging, remote sensing.

#### MORE INFORMATION

W: [wasm.curtin.edu.au/research](http://wasm.curtin.edu.au/research)



### Isotope Research for Sustainability [jdlc.curtin.edu.au](http://jdlc.curtin.edu.au)

Researchers from the John de Laeter Centre for Isotope Research have access to world-class isotope research infrastructure worth more than A\$20 million and are contributing to significant advances in the minerals, petroleum and environmental sectors. One of the projects currently underway at the Centre is the development of radioisotope profiling techniques for uranium mining that will inform public policy and support the sustainable development of the industry in Western Australia.



### University Research Institutes

Australia-Asia-Pacific Institute  
Australian Sustainable Development Institute  
Curtin Institute for Biodiversity and Climate  
Curtin Institute for Radio Astronomy  
Curtin Institute of Minerals and Energy  
Curtin University Sustainability Policy Institute  
Digital Ecosystems and Business Intelligence Institute  
Institute for Multi-sensor Processing and Content Analysis  
Institute of Theoretical Physics  
John Curtin Institute for Public Policy  
Nanochemistry Research Institute  
National Drug Research Institute  
Science and Mathematics Education Centre  
The Institute for Geoscience Research  
Western Australian Biomedical Research Institute

### University Research Centres

Centre for Behavioural Research in Cancer Control  
Centre for Culture and Technology  
Centre for Developmental Health  
Centre for International Health  
Centre for Labour Market Research  
Centre for Marine Science and Technology  
Centre for Materials Research  
Centre for Population Health Research  
Centre for Process Systems Computations  
Centre for Research in Applied Economics  
Centre for Research in Energy and Minerals Economics  
Centre for Research into Disability and Society  
Centre for Research on Ageing  
Centre for Smart Grid and Sustainable Power Systems  
Corrosion Centre for Education, Research and Technology  
Curtin Centre for Rock Characterisation  
Curtin Industrial Modelling and Optimisation  
Curtin Water Quality Research Centre  
Fuels and Energy Technology Institute  
Physiological Wellbeing Across the Lifespan  
Physiotherapy Research Centre  
WA Organic and Isotope Geochemistry Centre  
Western Australian Centre for Health Promotion Research

### Government Funded Institutes and Centres

Centre for Exploration Targeting  
Centre for High Definition Geophysics  
Centre for Sport and Recreation Research  
Centre of Excellence for Science, Seafood and Health  
John de Laeter Centre for Mass Spectrometry  
Radio Astronomy Science and Engineering Centre of Excellence  
Western Australian Geothermal Centre of Excellence  
Western Australian Nanochemistry Research Institute

### Industry Research Centres

Environmental Health Impact Assessment WHO Collaborating Centre  
Rio Tinto Centre for Materials and Sensing in Mining

### Multi-Institutional Research Centres

Australian Centre for Geomechanics  
Australian Housing and Urban Research Institute  
Curtin-Monash Accident Research Centre  
International Centre for Radio Astronomy Research  
iVec - the Hub of Advanced Computing in Western Australia  
Nanoscale Characterisation Centre  
Planning and Transport Research Centre  
Sustainable Built Environment National Research Centre  
WA Energy Research Alliance  
Western Australian Centre for Cancer and Palliative Care  
Western Australian Centre for Urban Design  
Western Australian Marine Science Institute  
Western Australian Satellite Technology and Applications Consortium

### Cooperative Research Centres

**Curtin is a core participant in the following centres:**  
Australian Seafood CRC  
CRC for Greenhouse Gas Technologies  
CRC for Integrated Engineering Asset Management  
CRC for Remote Economic Participation  
CRC for Spatial Information  
CRC Mining II  
Deep Exploration Technologies CRC  
Parker CRC for Integrated Hydrometallurgy Solutions  
Wound Management Innovation CRC

**Curtin is a supporting participant in the following centres:**  
CRC for Contamination Assessment and Remediation of the Environment





**BOTH CURTIN UNIVERSITY AND THE AUSTRALIAN GOVERNMENT OFFER SCHOLARSHIPS THAT CAN HELP YOU TO STUDY AT THE UNIVERSITY.**

#### **INTERNATIONAL POSTGRADUATE RESEARCH SCHOLARSHIP (IPRS)**

This scholarship is available to international students who undertake a master or doctoral degree by research at Curtin. It covers tuition fees and Overseas Student Health Cover for the duration of the course. All recipients will receive a living allowance from Curtin of A\$22,860 per year tax-free (2011 value). Application forms are available from the scholarships website.

#### **CURTIN INTERNATIONAL POSTGRADUATE RESEARCH SCHOLARSHIP (CIPRS)**

This scholarship is available to international students who undertake a doctoral degree by research at Curtin. This scholarship covers tuition fees for the duration of the course and provides a living allowance of no less than A\$22,860 per year tax-free (2011 value). The availability of a CIPRS should be discussed with your potential supervisor.

#### **AUSAID SCHOLARSHIPS**

[www.ausaid.curtin.edu.au](http://www.ausaid.curtin.edu.au)

These scholarships are also known as Australian Government Scholarships or Australia Awards. International students from developing countries should check the Australian Government website at [australiaawards.gov.au](http://australiaawards.gov.au) for scholarship information. For information on Curtin's services and support programs for AusAID students visit [ausaid.curtin.edu.au](http://ausaid.curtin.edu.au)

#### **AUSTRALIAN DEVELOPMENT SCHOLARSHIP PROGRAM (ADS)**

Australian Development Scholarships (ADS) are fully funded by the Australian Government. These scholarships are intended to assist people from developing countries to gain further skills, knowledge and qualifications that will enable them to make a contribution to the development of their country.

Further ADS information is available online at [australiaawards.gov.au](http://australiaawards.gov.au) or [ausaid.curtin.edu.au](http://ausaid.curtin.edu.au)

#### **AUSTRALIAN LEADERSHIP AWARDS (ALA)**

The Australian Leadership Award (ALA) is an award under which the Australian Government offers scholarships and fellowships aimed at enhancing leadership and building partnerships and linkages within developing countries, while addressing priority development areas. ALA provide scholarships for longer-term postgraduate study at masters or doctoral levels and fellowships for short-term research, study or professional attachments.

For further ALA information, visit [australiaawards.gov.au](http://australiaawards.gov.au) or [ausaid.curtin.edu.au](http://ausaid.curtin.edu.au)

#### **OTHER SCHOLARSHIPS**

Further scholarship opportunities may be available, visit [scholarships.curtin.edu.au](http://scholarships.curtin.edu.au) for more information.

**GET THE SUPPORT YOU NEED AND MAKE THE MOST OF YOUR TIME AT CURTIN. THE UNIVERSITY OFFERS A RANGE OF SERVICES AND PROGRAMS TO ENSURE THAT YOUR RESEARCH DEGREE IS AS PRODUCTIVE AND ENJOYABLE AS POSSIBLE.**

#### **CURTIN CAREERS CENTRE**

[careers.curtin.edu.au](http://careers.curtin.edu.au)

The Curtin Careers Centre can assist you to maximise your time at university and reach your employment goals. Our services include career counselling, workshops and presentations, employer events, a mentoring program, career resources and an online jobs board.

T: +61 8 9266 7802

E: [careers@curtin.edu.au](mailto:careers@curtin.edu.au)

#### **CURTIN UNIVERSITY POSTGRADUATE STUDENTS' ASSOCIATION**

[cupsa.curtin.edu.au](http://cupsa.curtin.edu.au)

The Curtin University Postgraduate Students' Association (CUPSA) is an organisation run for and by postgraduate students. CUPSA's primary role is to represent and promote the interests of higher degree students, particularly high-quality education and research.

#### **HUMANITIES ASSOCIATION OF POSTGRADUATE STUDENTS**

[hgso.curtin.edu.au/student\\_info/associations.cfm](http://hgso.curtin.edu.au/student_info/associations.cfm)

The Humanities Association of Postgraduate Students (HAPS) is an informal online forum designed to encourage and facilitate academic discussion and represent the interests of postgraduate students on committees.

#### **LIBRARY POSTGRADUATE STUDENT SERVICES**

[library.curtin.edu.au](http://library.curtin.edu.au)

Curtin's TL Robertson Library is located on the main Bentley Campus and offers a wide range of support services for all students. There are additional services available for postgraduate students, including study facilities, workshops, research skill development and referencing help.

#### **POSTGRADUATE ORIENTATION**

[orientation.curtin.edu.au](http://orientation.curtin.edu.au)

During Curtin's two-week orientation program, there are additional events and programs run specifically for postgraduate students to help you prepare for your time at Curtin. For more information and to view the current timetable, please visit the orientation website.

A specific orientation session will also be held for master and doctoral research students. The session will introduce you to research study and provide advice to help you succeed in the first year of your degree.

For further information, visit [research.curtin.edu.au/seminars/pgorientation.cfm](http://research.curtin.edu.au/seminars/pgorientation.cfm)

#### **SEMINARS FOR RESEARCH STUDENTS AND SUPERVISORS**

[research.curtin.edu.au/seminars](http://research.curtin.edu.au/seminars)

Curtin offers a range of seminars and workshops for students and supervisors undertaking research studies. Seminars are conducted in person or online and cover a wide range of topics to help you make the most of your degree.

#### **THE LEARNING CENTRE**

[learningcentre.curtin.edu.au](http://learningcentre.curtin.edu.au)

The Learning Centre (TLC) is located on the second floor of Building 303, offering learning support programs that enhance students' academic performance at all levels.

These programs cover areas including preparing research papers, general grammar and punctuation, writing for various academic areas, note taking and critical reading skills. All seminars are conducted by expert lecturers in a relaxed and supportive environment.

T +61 8 9266 3825

E: [tlc@curtin.edu.au](mailto:tlc@curtin.edu.au)

W: [learningcentre.curtin.edu.au](http://learningcentre.curtin.edu.au)

#### **STUDENT WELLBEING HOTLINE**

[studentwellbeing.curtin.edu.au](http://studentwellbeing.curtin.edu.au)

At Curtin, we believe that you learn best when you feel healthy, safe and happy. We have established a Student Wellbeing Hotline (available during office hours) and email address that is strictly confidential and will connect you with a staff member who will assist with any issue, incident or activity that might threaten or affect your sense of wellbeing.

T: 1800 244 043

E: [studentwellbeing@curtin.edu.au](mailto:studentwellbeing@curtin.edu.au)

#### **INTERNATIONAL SPONSORED STUDENTS UNIT**

[international.curtin.edu.au/sponsor](http://international.curtin.edu.au/sponsor)

The International Sponsored Students Unit (ISSU) is a team of dedicated staff who support and manage students who are sponsored at Curtin. If you are a sponsor, the ISSU will keep you informed of your student's academic progress and is your first point of contact for any questions or issues that arise during your relationship with Curtin. If you are a student, you will be delegated a Sponsored Student Officer who will support you throughout your studies and provide you with any assistance you need.

T: +61 8 9266 7331

E: [issu@curtin.edu.au](mailto:issu@curtin.edu.au)

W: [international.curtin.edu.au/sponsored-students.htm](http://international.curtin.edu.au/sponsored-students.htm)



# Application Process

## FOR INTERNATIONAL HIGHER DEGREE BY RESEARCH STUDENTS



### 1. Submit your application

Your application will consist of the following:

- A completed Application for Admission to a Higher Degree by Research Form (found at [curtin.edu.au/research/futurestudents/admission.cfm](http://curtin.edu.au/research/futurestudents/admission.cfm))
- A brief research proposal (maximum two pages—see [research.curtin.edu.au/guides/hdrguidelines/admission.cfm](http://research.curtin.edu.au/guides/hdrguidelines/admission.cfm) for more information). Potential supervisors are available to assist with developing your proposal. A list of supervisors and their research disciplines can be found at [curtin.edu.au/research/futurestudents/register/register.cfm](http://curtin.edu.au/research/futurestudents/register/register.cfm)
- Certified copies of the following documents:
  - i. Your academic transcripts (in original language AND an English translation)
  - ii. Award certificates (in original language AND an English translation)
  - iii. Detailed curriculum vitae
  - iv. Two work reference letters
  - v. Proof of meeting Curtin's English requirements (e.g. IELTS, TOEFL, PTE).

### 2. Accept your offer

Successful applicants will receive an Offer Package that contains information about studying at Curtin.

- To accept your offer, you must complete and sign the Acceptance of Offer and return it with payment of the deposit indicated on your Letter of Offer.
- You must make the payment by the due date on your Letter of Offer. You can make the payment directly to the University, or through a Curtin overseas representative in your country.

*Note: Some students may receive a Letter of Offer with conditions. You should not make any payment until you are able to satisfy those conditions.*

### 3. Apply for your visa

When the University receives your Acceptance of Offer and tuition fee deposit, Curtin International will issue you with an Electronic Confirmation of Enrolment (eCOE) via email that you will use to apply for your student visa.

*Note: Students from some countries may be required to undergo pre-visa assessment. Please consult your nearest Australian Embassy or High Commission to find out if your country is in this category. For more information, visit [international.curtin.edu.au/visa](http://international.curtin.edu.au/visa)*

### Pre-departure Information

A Pre-Departure Guide containing detailed information about Curtin and Perth is available to help you prepare to live and study in Australia.

To view a copy of the Guide, visit [international.curtin.edu.au/brochures.htm](http://international.curtin.edu.au/brochures.htm)

#### BEFORE YOU LEAVE HOME

- Lodge an application for your student visa. You will need to contact the Australian Diplomatic Mission or Embassy in your country or a Curtin overseas representative. For more information, visit [international.curtin.edu.au/visas](http://international.curtin.edu.au/visas)

*Note: Please ensure that you leave enough time for your application to be processed so that you can arrive at Curtin in time to attend the full two-week orientation program. Visit [students.curtin.edu.au/administration/dates/academic.cfm](http://students.curtin.edu.au/administration/dates/academic.cfm) to view Curtin's academic calendar.*

- Book your airline ticket. You should book your ticket immediately after you accept your offer as airline seats are in high demand before the start of semester
- Arrange your on-campus housing. Although preference is given to students who are moving to Perth for the first time, you should apply for on-campus housing as early as possible to avoid missing out. For more information on accommodation options, visit [housing.curtin.edu.au](http://housing.curtin.edu.au)
- Book your airport reception. You may be eligible for Curtin's free Airport Reception Service. For more information, visit [international.curtin.edu.au/airport-reception.htm](http://international.curtin.edu.au/airport-reception.htm)
- Prepare to arrive in Australia. Use your Pre-Departure Guide to find out about Perth's quarantine rules and regulations, plan your finances, arrange your Overseas Student Health Cover and decide what to bring with you to Australia.

### MORE INFORMATION

**Curtin International**  
GPO Box S1512  
Perth 6845  
Western Australia

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F: +61 8 9266 2605  
+61 8 9266 4013

E: [international@curtin.edu.au](mailto:international@curtin.edu.au)  
W: [international.curtin.edu.au](http://international.curtin.edu.au)

The following research case studies are courtesy of R&D Now magazine (Winter 2010): "The economics of immigration," "The politics of climate change," "Isotope research for sustainability" and "Lupins hold the key to global health". To view the complete publication and other issues, visit [news.curtin.edu.au/rd-now](http://news.curtin.edu.au/rd-now)

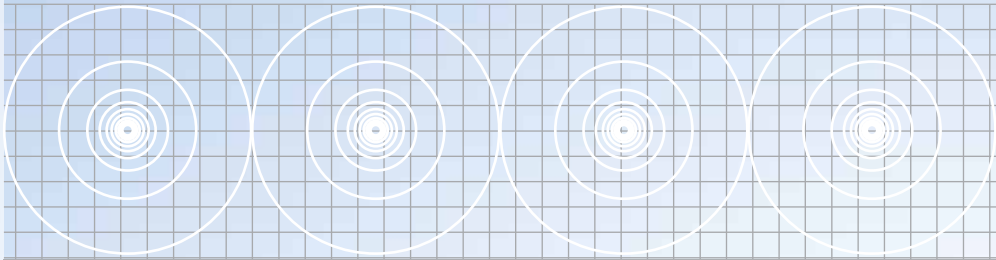


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