The Value of Trust
Building Integrity within Business & Society

UNSW Your Research Partner
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A core part of our mission at UNSW is to make an impact beyond our campus gates. We seek to transform lives through advancing knowledge and understanding, generating open debate and driving economic and social progress.

Universities like UNSW have enormous potential to transform the communities of which we are part and change people’s lives for the better.

But we cannot make this positive impact in isolation, rather, it comes through the power of collaboration and partnership, and the strong bonds we form with government, the community and NGO sector, and industry.

The Value of Trust: Building Integrity within Business and Society makes a compelling case for businesses and social enterprises to tap into the world-class expertise which resides at UNSW.

The purpose of this document is to highlight the full breadth of our university’s advantages, capabilities, and resources across areas as diverse as data justice, cryptocurrencies, future cities and disability innovation.

From law and regulation to social policy, UNSW is perfectly positioned to continue our upwards trajectory of meaningful engagement and impact.

As with any successful partnerships, trust is crucial and, as the title suggests, it is an invaluable commodity and an inherent strength of our higher education and research sector.

We continuously seek to build trust through increased collaboration from across the country and across sectors, chasing the best outcomes for the communities we serve.

UNSW always welcomes external partners and I encourage you to consider how we can work together towards our common goals.

Professor Ian Jacobs
President and Vice-Chancellor, UNSW
The UNSW Division of Enterprise is responsible for facilitating engagement between our academics and partners from industry, government and the community. In the last four years we have doubled our partner engagement delivering high impact and high quality outcomes through contract and collaborative research, consulting and short courses/executive education.

Our expertise in Humanities and Social Sciences research have a critical role to play in understanding trust, integrity and resilience in business and society. This Capability Portfolio provides insight into just some of the expertise held within our faculties in Sydney and Canberra.

It is vital that core institutions in banking, law and education command the respect of the communities they serve. UNSW is committed to engaging with our partners to deliver social progress and economic prosperity, generating impact, mutual benefit and value. In support of this mission, through collaboration and innovation the Division of Enterprise aims to bring together the greatest minds within global industry, policy, academia and our community and build a culture of knowledge exchange. Furthermore, we host Australia’s most successful entrepreneurship and start up programs. Our dedication to establishing the critical elements of an innovation ecosystem underpins the development and potential impact of our on-campus precincts in future industries, health and clinical translation.

We look forward to partnering with industry, government and the community in understanding the value of trust and building and sustaining the integrity of the interactions between core institutions and society.

Professor Brian Boyle
Deputy Vice-Chancellor, Enterprise, UNSW
LAW AND REGULATION
Governance and Regulatory Strategy

Offering a strategic and academically rigorous approach to regulatory analysis and design with a focus on best governance practice, to ensure that regulatory responses are robust and evidence-based.

Competitive advantage
- A team drawn from around the world which consists of renowned experts and global leaders in regulatory thinking
- Vast experience in both regulatory and governance design

Impact
At a time when the clamour of calls for regulators to “do something” is a challenge for both those who set and those who are governed by, regulations, robust research and well-considered analysis are essential.

Successful applications
- Research has been used by regulators around the world
- Provided significant support to the Hayne Royal Commission
- Domestically, the team has worked with the Australian Competition and Consumer Commission, Australian Communications and Media Authority, Australian Securities and Investments Commission and the Treasury at a Federal level, and with many NSW State agencies
- Internationally, they have worked with regional regulators including in Cambodia, China, Laos, Malaysia, New Zealand, Singapore and Thailand

Capabilities and resources
- The research network has members across a variety of regulatory disciplines including networked industries and emerging technologies
- All team members have deep experience both as regulators and as advisers to those operating within regulations

More information
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Competitive advantage

• The premier research centre for studying the dynamics of market regulation
• Specialising in the regulation of securities and financial products and services; theories of regulation and fairness in markets; regulation of online investing and algorithmic financial advising; corporate governance; and globalisation
• Expertise in a range of market institutions, with a distinctive focus on understanding the nature and effects of regulation

Impact

• Seeking fairness in the treatment of financial consumers
• Developing strategies to navigate the intersections between regulation, professional and ethical values

Successful applications

• Identifying the value of professionalism in regulatory settings
• Mapping professional obligations world-wide
• Devising policy and legal settings for new legislation
• Developing policy for regulatory and self-regulatory enforcement
• Advising on mass-market remediation schemes
• Promoting fairness and institutional change as a ‘customer advocate’

Our partners

• Regulatory Bodies
• Financial Services Sector
• Professional Services Sector
Democratic Policies and Institutions

Research and teaching focused on comparative constitutional law and constitutional design, constitutional democracy, theories of constitutional dialogue and amendment, socio-economic rights and constitutional law and gender.

Competitive advantage

- Leading expertise in all aspects of constitution
- Published in leading journals in the US, Canada, the UK and Australia
- Co-presidency of the International Society of Public Law
- Deputy directorship of the Herbert Smith Freehills Initiative on Law and Economics
- Membership of the Gilbert + Tobin Centre of Public Law

Impact

Leading the University’s Grand Challenge on Inequality.

Successful applications

- Developed the Social Emergency Lending Scheme (SEL) which would allow all Australians earning under $100,000 per annum to access a low-interest loan of up to $500 with quick approval
- Authored the “Australian Carbon Dividend Plan” – a comprehensive market-based approach to ensuring that the social cost of energy use is taken into account
- Submission to the Parliamentary Joint Committee on Human Rights, ‘Free speech inquiry’

Capabilities and resources

- Law & Economics Initiative - a collaboration between the UNSW Business School, UNSW Law and the Herbert Smith Freehills law firm
- The Gilbert + Tobin Centre of Public Law in the Faculty of Law plays a prominent, independent role in public debate on issues vital to Australia’s future including Charters of Rights, federal reform, reconciliation and native title, refugees and migration law and the challenges of responding to terrorism

More information

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Our partners

Government; Regulatory Bodies
- Corporate business and law firms
- Social Services Sector
The rapid datafication of social life means that trust in institutions is increasingly shaped by whether data is being collected and analysed in fair and accountable ways. This stream evaluates the use of data science and AI applications to develop frameworks and policies that optimise just outcomes.

**Competitive advantage**
- Funding for pioneering projects
- Demonstrated expertise in the substantive, procedural and distributive dimensions of data justice in the domains of:
  - Big data and algorithmic decision making in law enforcement and national security
  - Impact of big data on social policy
  - Designing and regulating socially just population health and welfare data linkage
  - Participation of social groups in the development and use of big data
  - Public attitudes towards the use of citizens’ data by government and private firms

**Impact**
Influence on government policy and systems design for national security and law enforcement through the Data to Decisions Cooperative Research Centre.

**Successful applications**
- Submissions to the Australian Information Commissioner on big data, on the Australian and New Zealand Real-World Data Network (RADIANT)
- Submissions to Human Rights Commission, UN Special Rapporteur on the Right to Privacy and the Intelligence Review, leading to participation in related events and influence over national and international policy development
- Publications on big data cited in 198 publications

**Capabilities and resources**
The Allens Hub Data Justice Stream has the capability to connect expertise in law and criminal justice with social policy, social science, education, media, cultural studies, computing and public health to investigate how public perceptions of justice and trust inform best practices and regulatory regimes for developing just uses of data.

More information
Data Justice Stream, Allens Hub for Technology, Law & Innovation, Faculty of Law

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Tax: Technical Advice and Policy Development

Providing research-based advice on tax policy and helping to build the capacity of tax administration bodies around the world.

Competitive advantage
- Unique group of world-class tax researchers and experts in taxation law
- Trusted relationships with tax professionals, tax academics and administrative bodies
- Convenient Sydney location with the capability to deliver offshore
- Long-standing reputation and track record in the field
- Largest body of tax researchers in Australia

Impact
- Guide on the do’s and don’ts of tax reform
- Assist with revenue collection and development of capacity
- Assist in design of tax systems
- Help identify and measure the tax gap
- Help identify and measure compliance costs and drivers of costs

Successful applications
- Capacity building project funded by DFAT in Tonga
- Capacity building/reform project funded by DFAT in Vanuatu
- International Tax updates for Korea Tax Academy
- Transfer Pricing course for Singapore Tax Academy
- Tax Reform project for Chinese Academy of Social Sciences

Capabilities and resources
- Institutional and staff links to major tax bodies worldwide
- 12 (7 professorial) academic staff researching in taxation
- 5 adjunct academic staff teaching and researching in tax

Our partners
- Department of Foreign Affairs and Trade
- Organisation for Economic Co-operation and Development
- Australian Tax Office
- New Zealand Inland Revenue Department
- Directorate General of Taxes (Indonesia)

More information

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The Use and Regulation of Cryptocurrencies

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A focus on the regulation and use of FinTech, RegTech and cryptocurrencies in developed and developing countries.

Competitive advantage
• The most frequently downloaded research on FinTech and RegTech on the Social Science Research Network
• World-leading research on the most cutting-edge issues in technology and financial services

Impact
Research and thinking are reflected in the statute law and central bank guidelines of over a dozen developing nations.

Successful applications
• Assembling the world’s largest database of Initial Coin Offering whitepapers subject to legal analysis, to produce a groundbreaking paper that will shortly appear in the Harvard Journal of International Law
• Other projects have analysed the liability of processing nodes on distributed ledgers, and the forces and regulatory settings shaping the rapid rise of data-driven finance around the world
• Most recent work analyses the likely impacts on Australia and the global financial system of Facebook's proposed new cryptocurrency: the Libra
• Collaborated with Asian Development Bank staff on a major multi-year project for the Bank entitled “Distributed Ledger Technology and Digital Assets: Policy and Regulatory Challenges in Asia”
• Provided advice to the Asian Development Bank and the governments and central banks of Fiji, Malawi, Mongolia, Nepal, Papua New Guinea, Peru, the Solomon Islands, Timor Leste, Tonga, and the West African Economic and Monetary Union on matters relating to the regulation of digital financial services
• Have written the current roadmap on how to build a vibrant digital financial ecosystem for the Alliance for Financial Inclusion (AFI) – an association of the central banks of 92 developing nations

Our partners
• United Nations Capital Development Fund (UNCDF)
• Alliance for Financial Inclusion
• Asian Development Bank
Transformations of the Regulatory State: Regulation, Socio-Economic Rights and the ‘New Economy’

Research focused on transformations of the regulatory state in both national-comparative and transnational contexts, with a focus on the interaction between the technocratic interstices of regulation and collective commitments to democracy, conviviality and ecological sustainability.

Competitive advantage

• A unique multidisciplinary approach across law, regulation, diverse economies, social enterprise, energy, food and water
• Global perspectives on regulatory frameworks for food, water resources and climate change policy
• World-leading research into social enterprise, cooperatives and commons-based governance

Impact

• New legal models for social enterprise and their implications for the legal profession
• Exploring the tensions between recent developments in sharing or platform economies and new economies of the kind affiliated with solidarity and the creation of a commons

Successful applications

• Knowledge transfer project with the Centre for Policy Studies in India, exploring the lessons from comparing how South Africa and India have responded at the national level to related work
• A second project with the Centre for Policy Studies in India on the rise of the regulatory state in the developing world – highly cited in regulation and governance literature
• Australian Research Council Future Fellowship on legal and regulatory support structures for social activists and social enterprises responding to climate change in Australia and the UK
• Bottom-up participatory approaches to implementing the UN Sustainable Development Goals

Capabilities and resources

• Significant expertise and global network across multiple disciplines
• Leadership in (and co-founding of) the New Economy Network of Australia

More information

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Researching, training and evaluating accurate and effective interpreting in domestic and international settings, with the focus on access to justice, language rights and fair and equitable outcomes.

Competitive advantage
• Unique expertise in bringing together those who are responsible for the quality of interpreted exchanges in various settings, where interpretation impacts on the course and outcome of proceedings
• Able to build the capability of stakeholder organisations by conducting research that leads to training professional interpreters, and the users of them, to ensure the quality of interpreted communication and mitigate risk

Impact
• Addresses the needs of partners such as courts, tribunals, police and other legal institutions, and language service providers
• Assists national bodies to raise the standards for testing
• Ongoing training improves the environment in which interpreters are involved and contributes to the quality of interpreted communication, the accurate transfer of evidence, and the prevention of misunderstandings and errors in legal proceedings

Successful applications
• Leading contribution to the Recommended National Standards for working with interpreters and translators in courts and tribunals
• Contribution to international courts’ guidelines on how to work with interpreters and trained court interpreters, prosecutors and judges at the International Criminal Court
• Training sessions to Australian magistrates, judges, tribunal members and counsel of different courts and tribunals, on how to work with interpreters

Capabilities and resources
• Research-informed ability to train and contribute to building the capacity of practitioners and stakeholders

Our partners
• ICC
• International Criminal Tribunal for the former Yugoslavia
• Federal Bureau of Investigation
• Multicultural NSW
• Migration Council
• Australasian Institute of Judicial Administration
• Aboriginal Interpreter Service Northern Territory
• NSW, Victoria and QLD Departments of Justice
A long-term strategic initiative to investigate business and economic law issues involving China and Australia.

Competitive advantage
• Unique Australian and Chinese perspective on Chinese global and local commercial issues
• The largest number of Chinese scholars of international business and economic law in any law school in the world outside of China, ably supported by some pre-eminent Australian experts

Impact
• Regular engagement with industry, regulators and beyond
• Regular presentations at high-level conferences and participation in public debate
• Training programs for government officials

Successful applications
• Assembled a strong research track record with publications on the Belt and Road Initiative (BRI), World Trade Organisation (WTO) law, corporate, banking, fintech, competition, arbitration, investment, and intellectual property law, and an emerging work stream in environmental law
• Partnership with some of the best law schools in China and Asia to pursue joint research and teaching

Capabilities and resources
• China International Business and Economic Law Centre (CIBEL) conducts globally significant research and has partnerships with elite institutions
• CIBEL Global Network is a hub to engage with scholars, practitioners, regulators and the public
• Establishing a joint research centre with Tsinghua University Law School—one of the top two law faculties in Beijing—as a world leading centre

Our partners
• Herbert Smith Freehills
• Tsinghua University
• Shanghai Jiaotong University
• Asia WTO Research Network (AWRN)
• CIBEL members have been engaged as consultants by United Nations Conference on Trade and Development, Organisation for Economic Co-operation and Development, Association of Southeast Asian Nations, Australian Competition and Consumer Commission and Asian Development Bank

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As the world becomes more volatile, uncertain and complex, the role of Directors of large organisations has never been more challenging or more important. AGSM @ UNSW Business School has created the Directors Colloquium to allow a small cohort of experienced Directors from some of Australia’s largest organisations to come together and discuss the most significant challenges faced by company directors, and how to approach them.

**Competitive advantage**

High profile respected speakers from a diversity of industry sectors including Finance, Banking, Resources, Aviation, Regulators, IT, Telcos, Government, Education, Law and Professional Associations.

**Impact**

Provides Directors with skills on:
- How to manage the tension between individual accountability and collective decision making
- How to maintain reputation in the public domain while under constant scrutiny
- Effective crisis management
- Challenging and refining the Board’s legal and regulatory context and remit
- Building an open and transparent organisational culture that is positive, values driven and retains the best and brightest management talent
- Best practice governance
- Organisational performance and strategy development and execution

**Capabilities and resources**

- Contemporary, specially developed case studies dissecting significant boardroom events including Storm Financial, AMP, James Hardie, Qantas, Glencore, AWB, Centro, CBA, Origin Energy and BHP, participating Directors will hear from speakers directly involved. Case studies will provide a forum to discuss key challenges faced by boards in a confidential environment.

**Our partners**

- King & Wood Mallesons
- Business Council of Australia

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**More information**

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SOCIAL IMPACT, SOCIAL POLICY AND SOCIAL JUSTICE
Social Impact

Competitive advantage
• The Centre for Social Impact is a world leader in catalysing cross-sectoral social change
• Ability to unlock the potential of future leaders
• Skills to draw upon an evidence base to inform and influence the way organisations, government, and businesses work to achieve positive social outcomes
• Expertise in the following areas:
  – Financial inclusion and resilience
  – Housing and Homelessness
  – Outcomes measurement
  – Impact Investing as a social solution
  – Education and Employment
  – Social Enterprise
  – Social Cohesion
  – Disability & the NDIS

Impact
One of the areas where CSI has had enormous impact is in the field of financial inclusion, particularly in relation to Financial Inclusion Action Plans (FIAP), an agreed strategy of practical actions that organisations undertake to improve financial inclusion in Australia, which reinforce financial resilience across the community.

Successful applications
Amplify Social Impact® - a $12 million project to improve the use of evidence-based decision making, enable widespread social impact evaluation, and provide insights to as many of the 52,000 registered charities in Australia as possible.

Our partners include:
• PricewaterhouseCoopers
• National Australia Bank
• Bankwest
• Family and Community Services
• Department of Social Services
• Salvation army
• QBE

More information

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Research and advocacy integral to the emergence of modern slavery awareness within Australia and the introduction of the Modern Slavery Act in 2018.

Competitive advantage
- Authoritative reputation in the field of business and human rights law
- Expertise in corporate social responsibility
- World-leading reputation
- Regular contributions to mainstream media

Impact
- Work on modern slavery has been especially prominent in the last 2 years
- Active discourse with the Australian public on human rights

Successful applications
- Co-convened a group of more than 100 representatives from Australian civil society (the Australian Corporate Accountability Network) to develop common strategies to help pass the Modern Slavery Act 2018

Our partners
- International Corporate Accountability Roundtable
- Diplomacy Training Program

More information
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Engaging People from Marginalised Groups in Research

Competitive advantage
• Established to meet the varying needs of community involvement, with a particular focus on marginalised communities
• Sensitive to the concerns and demands on those with the least resources
• A unique model of engagement that meets the needs of numerous research projects and supports the involvement of community members who may not otherwise have the opportunity to have a say in research that could lead to outcomes which directly affect them

Impact
Involving community members in research produces better quality work and fulfils ethical responsibilities to do research that reflects community need.

Successful applications
• The project has serviced more than 35 projects. Researchers have reported that they have altered elements of the research design or protocol on the basis of feedback provided by panel members
• A number of consultations at a Sydney service for particularly marginalised people. These strategies are designed to ensure the inclusion of the voices and opinions of those who may otherwise be designated as “hard to reach”

Capabilities and resources
• The UNSW Community Reference Panel provides a means to engage people all over the country in ways designed to meet their needs
• Taken specific steps to engage a significant number of members who identify as Indigenous, and also people with lived experience of disability
• Able to work in flexible ways that meet the needs and options of panel members

Our partners
• The Kirby Institute

More information
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Welfare to Work and Social Service Privatisation

Research focused on the privatisation of social service, with an emphasis on the delivery of employment services in Australia, the UK and elsewhere around the world.

Competitive advantage
- More than 20 years’ experience in researching the evolution of welfare to work
- Expertise in digitising social services and the impacts on vulnerable communities
- Close connections with industry and a complex understanding of the system
- Experience in providing a Social Science lens on how government contracts to the private sector to deliver employment services and how it manages relationships with partners
- Expertise in governance, power relations, policy tools, policy implementation

Impact
- Research regularly referenced by government, providers and peak bodies for inclusion in welfare-to-work related submissions
- Regular presentations and consultations to relevant government departments
- Contributions and evidence to senate inquiries and reviews
- Recent industry reports, publications and media coverage on welfare to work and digitising social services

Successful applications
- Successful active funding for Australian Research Council Linkage projects on governance dynamics of welfare to work in Australia, New Zealand and the United Kingdom, and increasing innovation and flexibility in social service delivery
- Extensive longitudinal survey of frontline employment services staff. Those findings are available in the recently published book ‘Getting Welfare to Work’

Capabilities and resources
- Significant database of survey data
- International perspective

Our partners
- National Employment Services Association Ltd
- Jobs Australia Ltd
- Westgate Community Initiatives Group Inc

More information
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Disability and Built Environments

How built environments can be structured to make them work for everyone, particularly those who have a disability.

Competitive advantage
• Significant national and international reputation in the area of enabling environments
• Experience investigating how the assumptions and knowledge about built environments impact disabled people and whether they enable movement and independence, or disable people further
• Expertise and research on:
  – Housing and care
  – Housing and health
  – Older people and sustainability
  – Accessibility of the built environment
  – Extensive research on home modification interventions

Impact
Aiming to raise awareness about the vital importance of design for inclusivity, and positively impact policy development and practice in this area.

Successful applications
• Innovative research projects that have provided the evidence needed to directly influence national policy and standards, including the National Construction Code
• Research has helped improve the quality of life of many thousands of people with disability in 190 countries around the world
• Research reports have made a significant impact nationally and internationally on both housing policy and practice, and have been cited in National Productivity Commission reports

Capabilities and resources
• World-leading expertise as part of the City Futures Research Centre and the larger Faculty of the Built Environment
• Profile and committee membership in NSW, nationally and globally
• Home Modification Information Clearinghouse (HMinfo) Project

Our partners
• Caroma
• Australian Housing and Urban Research Institute
• Local, State and Commonwealth Government

More information
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Competitive advantage
• City Futures Research Centre (CFRC) is Australia’s leading urban and housing research capability and has been assessed by the Australian Research Council in 2012, 2015 and 2018 as “well above world standard” for urban planning and related research
• Excellent record of engagement with industry, government and community organisations on policy and practice in urban development across the globe
• Multi-disciplinary expertise across the built environment and social science disciplines
• Expertise on the analysis of behavioural and socio-economic dimensions of energy consumption in the built environment
• Strong partnerships with government agencies, industry stakeholders and community groups

Impact
Seeking to increase public, government and industry awareness on intended and unintended outcomes of city policy through explicit policy engagement, commissioned research, high-level strategic advice, contributions to public enquiries, publications, media appearances and commentaries.

Successful applications
• Internationally recognised research on housing, land-use planning and urban equity issues
• A world-class urban big data analytics, visualisation and modelling capacity
• A track record of research on policy barriers to energy use in the residential sector and energy efficiency for lower income households

Capabilities and facilities
• High-level policy review and analysis
• Qualitative evidence on impacts of energy poverty on disadvantaged households
• Analysis of energy consumption in the residential sector
• A world-class City Analytics Lab and expertise in GIS-enabled urban analytics, modelling and visualisation
• Established research partnerships with Cooperative Research Centre (CRC) for Low Carbon Living, National Climate Change Adaptation Research Facility, NSW Office of Environment and Heritage, and Australian Urban Research Infrastructure Network

Research spanning the interrelated areas of urban planning, housing, health and well-being, urban development and urban policy, underpinned by high-level Geographic Information System (GIS)-enabled urban big data analytics and modelling.
Indigenous Knowledge, Biological Resources Policy and Ethical Bio-trade

Analysing and developing biological resource research, trade agreements and protocols for communities, governments and industry in the Australasia-Asia-Pacific region.

Competitive advantage
- Globally recognised expertise in supporting Indigenous peoples and governments in the Australasia-Asia-Pacific region with the protection and promotion of Indigenous knowledge
- Able to profile industry research through patent landscaping biological resources and associated Indigenous knowledge in Australia, New Zealand, and Pacific Island countries
- Experience in coordinating regional activities and training on the Nagoya Protocol and the Convention on Biological Diversity provisions on ‘access and benefit-sharing’ (ABS) with UN agencies, the ABS Initiative, and the Secretariat of the Pacific Regional Environment Programme (SPREP)
- The skills to conduct global case studies on the impact of ABS agreements in biotrade supply chains to support improved policy-making

Impact
- Supported Pacific countries with ratification and implementation of the Nagoya Protocol, including design and implementation of permit systems
- Informed discussions and submissions in the World Trade Organization and World Intellectual Property Organization
- Assisted with reviews and reforms of Australian governments biodiscovery and biological resources regulations

Successful applications
- Presented internationally at UN forums, and other global institutions
- Made public submissions to intellectual property bodies on the protection of Indigenous knowledge
- Challenged unfair patents
- Won awards for patent profiling
- Begun developing customary protocols with interested parties in the region
- Helped with biological resource agreement-making between stakeholders

Our partners
- Regional coordinators of the ABS Capacity Development Initiative
- United Nations Environment Programme and Secretariat of the Pacific Regional Environment Programme (UNEP-SPREP) Regional ABS Project
- Work with Fiji, Samoa, Papua New Guinea, Vanuatu, and Cook Islands

More information
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Competitive advantage
• A world-first initiative that connects scholars, community, industry, services, government and practitioners, both nationally and internationally
• Unique, interdisciplinary perspective in partnership with people with disability, combining disability studies with Science, Technology, Engineering and Mathematics (STEM) research and the Humanities, Arts and Social Sciences (HASS)

Impact
• A world-first initiative that conducts whole of university interdisciplinary research to design accessible and inclusive working, living and learning environments; generate innovative technologies; and create inclusive law, policy, services and communities

Successful applications
• Harnessing virtual reality games for disability awareness
• Achieving best outcomes for children with autism
• Data governance and the National Disability Insurance Scheme (NDIS)
• Disability employment and the Fourth Industrial Revolution
• Pathways to preventive care for people with a severe mental illness
• Mobile technology as a tool to increase social inclusion of people with intellectual disabilities

Capabilities and resources
• A unique connection between scholars, the community, industry, services, government and practitioners to transform the lives of people with disability
• The scale and capacity to address the current global challenges to the participation and leadership of people with disability in all aspects of society
• Interdisciplinary research seminars and deliberative dialogues
• Seed funding for research teams to conduct innovative and inclusive research
• Access to over one-hundred leading researchers engaged in disability-related scholarship

Our partners
• Government
• Industry
• People with disability and representative organisations
Aiming to make cities more inclusive to rural-urban migrants and other disadvantaged social groups in the face of fast economic growth and urbanisation in China.

Competitive advantage
- Multi-disciplinary (economics and social policy) expertise, which is crucial in dealing with complex, urban issues
- Deep understanding of China’s social challenges and the efforts to deal with them
- Skilful in communicating research findings and engaging policy practitioners, which is critical to influencing policy
- Leading social policy expertise in the social development and governance of rapid urbanisation
- At the forefront of work on the social needs and governance of high density and highly mobile population

Impact
- Primarily focused on China but has contributed to the international quest for best practices on how to maintain social harmony within a fast-growing, highly unequal and highly mobile migrant population in urban settings
- Helping multiple international organisations and national development agencies provide better understanding and monitoring of China’s progress in delivering the social goals as part of the Sustainable Development Agenda

Successful applications
- Research provides important cultural and institutional background information for the migrant population from China to other countries. This information would be particularly useful for policymakers in the hosting societies to understand the behaviour and choices made by the migrant population
- A media piece calling for providing after-school care for young rural-urban migrants based on research of the London riots and radicalisation of migrants’ children in the west has attracted the attention of the Chinese central government, local police and community governing bodies which increasingly devoted resources to after-school care for migrant children in urban communities

Our partners
- Chinese Academy of Social Sciences
- Social Policy Institute of Renmin University
- George Institute
UNSW Arts & Media is a rich and diverse group of interdisciplinary research fields which makes exciting links across areas of specialisation, and engage in theoretical, practical, and creative approaches to addressing social issues.

Competitive advantage
• Distinguished by contemporary and interdisciplinary scholarship in the creative and performing arts and humanities, UNSW is a national leader in these research fields
• “Wicked problems” in our society require innovative and interdisciplinary approaches to which the Arts & Media can contribute to maximise social and economic benefits

Impact
• Researchers in the school have examined into the history of trust as a concept in philosophy and social theory and how trust has changed historically in response to social change
• Comparative analysis of the role of digital communication technologies in sociocultural transformations in Asia’s largest economies, India and China.

Capabilities and resources
• UNSW Creative Practice Lab (CPL) is a specialised network of performance venues, rehearsal studios and technical resources which industry partners can access. CPL staff members are industry professionals, technical magicians, filmmakers, producers, sound makers and production designers. We work closely with students, researchers and artists to develop new work and we program a range of inspiring events throughout the year.
• Visiting Artists & Creative Projects: We work with industry partners from artist development to production and incorporate artists’ process and outcomes into teaching and research. Visiting artists provide opportunities for researchers and students to engage with their work, providing expertise in specific disciplinary fields and access to creative networks.

Our partners
• Government; Arts and Cultural Organisations; Corporate partners for sponsorship and collaborative creative projects
Competitive advantage
• Internationally recognised leadership in:
  – Addressing contemporary environmental challenges in ways that are histori
cally, philosophically and culturally informed
  – Research on the social dimensions of technological and environmental change
  – Energy and climate, industry and policy, and the environmental space
  – The social, ethical and political dimensions of precision medicine
  – Reconciling public values with economic democracy
• Interdisciplinary research capacity and strong international collaboration

Impact
The research is deeply committed to advancing issues of contemporary social relevance such as international environmental justice, biodiversity loss, community engagement, climate change, and environmental change.

Successful applications
• Major piece of sociological research to explore emergent public responses to drinking recycled water
• Centre for Energy and Environmental Markets Submission to the Independent Review into the Future Security of the National Electricity Market
• Advisor to the Science & Technology Engagement Pathways (STEP) program
• Published extensively on ‘social license’ issues around emerging technologies

Capabilities and resources
• Access to a leading team of researchers across the Environmental Humanities, the Centre for Energy and Environmental Markets, Centre of Excellence in Convergent Bio-Nano Science and Technology
• Capacity to deploy ethnographic researchers at trial sites, map key social and economic issues on projects

Our partners
Government, industry and regulatory bodies, for example:
• Department of Industry, Innovation and Science
• Australian Water Recycling Centre of Excellence
• Marsden Jacob Associates

More information
Environmental Humanities
Associate Professor Matthew Kearnes
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Dr Declan Kuch
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ETHICS, CORPORATE RESPONSIBILITY AND TRUST IN INSTITUTIONS
Accountability, Governance & Fraud

Research concentrates on issues in accountability, governance, and assurance – as they relate to controlling fraud and other forms of workplace misconduct – and responding to organisational crises.

Competitive advantage
- The nexus of industry and academic thought leaders in examining fraud
- Recognised for work in research and teaching through awards from the International Federation of Accountants, Emerald Publishers, and the Accounting and Finance Association of Australia and New Zealand

Impact
A recent Australian Institute of Criminology study estimated that fraud offences exceed $6 billion p.a. - approximately 40% of the total cost of crime in Australia and more than the cost of maintaining all Australian police services. The research aims to contribute to research in fraud and advance anti-fraud policy and best practice for organisations, governments, and the accounting profession to combat this enormous cost.

Successful applications
- Research on serious workplace fraud, which is currently focused on offender strategies and other factors mitigating the effectiveness of management controls to detect/prevent fraud
- A study of the assurance-based response to a major salary-cap fraud within the National Rugby League in Australia

Capabilities and resources
- Expertise and industry partnerships in fraud research
- Heavy involvement in the McGrathNicol Financial Crime Exchange
- Representation on the Board of:
  - Accounting, Auditing, and Accountability Journal
  - Australian Science Innovations
- Fellowship of Chartered Accountants Australia and New Zealand

Our partners
- Government – Australian Institute of Criminology
- Industry – McGrathNicol
- Professional Associations
  - Chartered Accountants ANZ
  - Chartered Institute of Management Accountants

More information
Professor Paul Andon
School of Accounting/ Fraud Research Group
T: +61 2 9385 8582 | E: p.andon@unsw.edu.au
Using insights from neuroscience, economics, philosophy and sociology to assess the social impact of actuarial work.

Competitive advantage
• Actively contributing to regulatory reform in financial services
• Executive and non-executive level experience in industry
• Important contributions made to professional bodies and policy reform initiatives
• Expertise in a range of academic disciplines
• Ability to provide an insider’s view on four decades of corporate culture and change in South Africa and Australia
• Convenor of the Actuaries Institute Retirement Incomes Working Group
• Academic and practical experience in product design and financial advice

Impact
Helping the actuarial profession fulfil its social role by using product design, professional guidance and regulatory change to create financial security and reduce corporate greed.

Successful applications
• Work on greed and ethics is directly relevant to cultural and regulatory change subsequent to the Royal Commission
• Work on retirement incomes is directly relevant to Superannuation Funds’ development of their Retirement Income Covenants

Capabilities and resources
• Product development, where benefits (and underlying investments) match the needs of the bereaved, the disabled and the elderly
• Professional education and regulation to support the development of judgement and justice
• Contributions to government policy

More information
Dr Anthony Asher
Risk and Actuarial Studies

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Drivers of Value in Institutional Asset Management

Research focusing primarily on agency relationships and drivers of value in institutional asset management, as well as investigations into financial media, crowdfunding markets, and investor behaviour.

Competitive advantage
- Excellent relationships in the mutual fund industry
- Vast experience with fraud and unethical practices in fund management
- Expertise in investment efficiency, risks, and regulation in crowdfunding
- Understanding of information effects as a source of value in delegated asset management

Successful applications
Work has been featured in prominent media outlets, such as The Wall Street Journal, Financial Times, USA Today, Bloomberg, and The Sydney Morning Herald

More information
Associate Professor Oleg Chuprinin
Banking and Finance

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The Sociocultural Dimensions of Trust

Trust is generated with and through sociocultural experiences, norms and practices. Understanding these dimensions is key to knowing how to facilitate, develop and manage it—and what to do when trust seems to be undermined.

Competitive advantage
• World-renowned expertise on the sociology of risk and digital sociology
• Conducted extensive sociocultural research on how people make sense of risk and risk-taking and who they view as responsible for risks and harms
• Committed to public-facing research that gives social groups a voice in expressing their trust and distrust and how they would like corporations and government to respond to their concerns.

Impact
• Better understanding of what the Australian public knows about risks such as personal data misuse and where they would like to see corporations and government act to protect their interests and thereby bolster their trust

Successful applications
• Board representation on the Australian Privacy Foundation, the peak civil society group for protecting Australians’ interests related to their data and other privacy
• Invited to talk to community groups and government agencies on how Australians are using digital technologies and their concerns about their data privacy and security
• Invited to join an expert consultancy group convened by the Human Rights Commissioner in 2018 on the topic of human rights and technology
• Invited member of the Australian Council of Learned Academies’ Expert Working Group commissioned by the Chief Scientist to write a horizon scanning report on the Internet of Things, leading the sections that deal with the sociocultural aspects of Australians’ knowledge and experiences of ‘smart’ technologies and their concerns about potential risks to their privacy and security

More information
SHARP Professor Deborah Lupton
Vitalities Lab, Centre for Social Research in Health and Social Policy Research Centre

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Trust and Optimism from diverse perspectives

Competitive advantage
- Expertise at bringing together scientific, philosophical and historical perspectives to facilitate trusted relationships, particularly with new technologies in times of change
- Expertise in facilitating trusted relationships, particularly with new technologies in times of change

Impact
- Provide unique insights into how AI and Big Data techniques are changing the way knowledge is understood, and the unconsidered risks that are involved

Successful applications
- Keynotes and workshops to conferences and seminars in philosophy, medicine, science
- Leading an interdisciplinary research team exploring the impact of Big Data techniques on science and their many consequences

Capabilities and resources
- Team of trans-disciplinary researchers to engage on collaborative projects

Our partners
- Insurance Sector
- Technology sector
- Government

More information
Associate Professor Michaelis S. Michael
Humanities and Languages (Philosophy)
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Military and Security Ethics

Competitive advantage
Expertise in:
• Education and research in military ethics with operational and strategic applications
• The ethical dimensions of international security policy, cooperation and governance
• The law and ethics of armed conflict across multiple platforms, conflict types and operational contexts
• The ethics of new military technologies, irregular warfare and specialised combatants such as special forces, private contractors and more
• Moral philosophy and ethics; the just war tradition in contemporary times

Philosophically rigorous research on the ethical dimensions of conflict, operations & security policy.

More information
Dr Deane-Peter Baker
Senior Lecturer in International and Political Studies
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LEADERSHIP, STRATEGY AND CULTURE
Human Decision Science

To support business and operational goals, it is essential to learn what information a human operator needs and when it is needed; the impact of high-stress environments to study memory, navigation and functioning; how decision makers rely on multiple information sources; and how bias or decision failures arise.

Competitive advantage
State-of-the-art behavioural data analysis:
• Development of computational models to predict human operator performance
• Expertise in collecting and analysing large, complex behavioural data sets
• Bayesian statistical models for human learning and decision making, compatible with probabilistic approaches to machine learning
• Development of psychologically principled “wisdom of crowds” models to aggregate expert decisions
• Understanding of how human decision makers manage the trade-off between speed and accuracy

Impact
The top ranked Psychology school in Australia, with proven experience in human decision processes, computational modelling and the empirical study of human learning, emotion and cognition.

Successful applications
• Track record of successfully applied collaborative work in forensic science, finance, telecommunications and defence
• Developed novel statistical tools for analysing behavioural data
• “Learning and choosing in a complex world” – Australian Research Council funded research project developing computational models of how people make choices in dynamic environment
• “Unifying decisions from experience and description” – Australian Research Council funded research project on the difference between decision making from real experience and decision making from descriptions

Capabilities and resources
• State of the art eye-tracking, electroencephalogram (EEG), and other physiological measurement
• Behavioural research using immersive VR housed at UNSW School of Mining Engineering

More information
Associate Professor Dani Navarro
School of Psychology
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Competitive advantage
- Leading expertise in behavioural economics and insights
- Experience in experimental design and testing
- Novel data analysis techniques

Impact
- Advisor to the Federal Government Behavioural Economics Team (BETA)
- High profile media coverage, including TIME Magazine, The Guardian, BBC and ABC

Successful applications
- Advising and influencing industry and government policies on projects including:
  - climate change communication
  - retirement planning
  - child protection

Capabilities and resources
- Laboratory and on-line testing platforms
- Literature review, theory development, application

Our partners
- Unisuper
- CBUS
- BETA

Research focused on the cognitive processes underlying judgement, choice and decision-making and the application of this knowledge to environmental, medical, financial and forensic contexts.
The Public Leadership Research Group (PLRG) embodies the commitment to the principles and practice of public leadership through teaching, research and global engagement. The PLRG hosts the ‘Howard Library’, an apolitical and non-partisan research initiative created to support the study of national affairs.

Impact
Committed to defining and exploring a vision of public leadership that promotes the common good and pursues the public interest.

Successful applications
• Sponsoring the Howard Government Retrospective Series, drawing on nearly 12 years of unpublished documents from John Howard’s papers held at UNSW Canberra, which will inform future assessments of the Howard Government, its place in Australian history and future discussion of public policy objectives and outcomes
• In conjunction with the Office of the NSW Ombudsman the PLRG is also exploring the philosophical and political challenges associated with the public interest and examines the legal, ethical and institutional strategies for its promotion. Who Defines the Public Interest?, released in 2019, is the first in a series of edited volumes that will inform debate and inspire new approaches to controversial policy issues

Capabilities and resources
• The PLRG hosts the Doctorate in Public Leadership (DPL) degree program which prepares candidates for the highest level of professional practice
• The thesis develops and hones the research skills necessary for an experienced practitioner to be able to make a significant contribution to the continuous improvement of their discipline’s professional practice
• A Master of Public Leadership and Policy is also available to postgraduate students

Our partners
• Australian Defence Force
• Department of Defence
• Museum of Australian Democracy
• National Archives of Australia
• National Museum of Australia
• Raytheon Australia
• NSW Ombudsman’s Office
• Corrections NSW
• Fortem

More information
Professor Tom Frame
Director, Public Leadership Research Group and Howard Library
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Competitive advantage

• Professional accounting expertise enables the application of a unique lens to WHS performance evaluation
• Internationally recognised research offers a new approach to examining and communicating both the effectiveness of WHS systems and practices, and the social and financial impact of occupational injury and illness

Impact

• Better quality WHS performance measurement and reporting improves the visibility of critical risk and high consequence injury, better informs risk management efforts and enables verification of activity and performance
• Research outputs help ensure Directors, managers and other stakeholders are appropriately informed about the WHS impact of operational and strategic decisions

Successful applications

• Research informed the Global Reporting Initiative’s new Global OHS Reporting Standard (GRI403), and underpins the series of five research reports published by Safe Work Australia and used by companies across Australia and internationally

Our partners

• Research partners have included State and Federal Governments, professional bodies, industry associations, companies and not-for-profit organisations

More information

Associate Professor Sharron O’Neill
School of Business

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Examining how interfirm cooperation leads to innovation and exploring the point at which trust becomes a liability.

Competitive advantage
- Novel research approach to the concept of “Trust” in the business context
- Innovative concepts in inter-firm cooperation – interaction pattern and coordination cost
- Experience in maximising performance and profits through placing a focus on cooperation and trust rather than competition

Impact
- Cooperation over competition – transforming the views of business
- Changing the perception of contracts to reduce uncertainty in the environment
- Improving trust in online retail settings, where personalised service requires private information
- Demonstrating trustworthiness in crowdfunding applications
- Increasing the dialogue about trust in society and government

Successful applications
Large scale ARC-funded research examining various types of innovation in medium-sized Australian firms, including the result of knowledge transfer processes within a network of social relationships.

Capabilities and resources
- Online survey tools
- Experimental capacity/student subject pool
- Editing major journals in trust research

Our partners
- Medium and large Insurance firms
- Medium and large finance firms
- Medium to large retail companies

More information
Associate Professor Steven Lui
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Trust is grounded in emotional experience. Understanding the emotional basis of trust is key to not only building and maintaining it, but also repairing it when broken. A scientific approach in this domain yields deep insights into the nature of human behaviour.

Competitive advantage

Expertise in:
• Identifying which emotions influence trust, and when they exert influence
• Understanding the sources and consequences of emotional experiences
• Studying interpersonal dynamics in the context of both novel and ongoing relationships
• Building insights across individuals, groups, and organisations
• Developing interventions to promote positive outcomes
• Deploying a range of research designs, including experiments, field research, and longitudinal studies
• Collecting and analysing complex datasets

Impact
• Increased awareness of the emotional factors that influence trust across sectors of society
• Improved relationship management
• Enhanced policy development that appreciates the emotional basis of trust

Successful applications
• Deploying interventions, grounded in empirical science, that serve to enhance individual or collective experience
• Optimised communication strategies

Capabilities and resources
• State-of-the-art technology facilities, including psychophysiological recording equipment and multi-angle video-recording capabilities
• Behavioural paradigms deploying immersive virtual reality technology

More information

Dr Lisa A. Williams
School of Psychology

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A cross-disciplinary research environment dedicated to understanding how humans can interact with three-dimensional robotic agents and responsive structures within the context of creative and social robotics. The laboratory aims to provide a structured environment which facilitates the creation of experimental interfaces that promote interactivity in physical spaces.

**Competitive advantage**
- Pioneered the field of social robotics & one of the few centres in the world which co-developed the terminology of social robotics
- Human centric approach, providing experience and respecting the human interactant regardless of age and abilities
- 16 years of experience working in different industries and talking to different people on how to co-develop, co-design and work with industry needs

**Impact**
- Change the way assistive devices technology can resolve situations with social stigma, for example in nursing homes and aged care
- Cross cultural studies with robotics, across socio economic groups and countries, discovering the way people interact in similar age groups, but differed due to socioeconomic status

**Successful applications**
- Defence: Interfaces that soldiers will trust and take advice from; wearables that people accept; autonomous systems that takes combined cognitive and physical load into account; improving team performance and safety
- Work in Autism Therapies: Playful, therapeutic and educational interfaces that a child can learn with the Casper robot; teaching acceptable social interaction with humans

**Capabilities and resources**
- National Facility for Human Robot Interaction Research – evidence-based testing in Human-Robot Interaction
- Social Robotics Lab
- Biggest data collection in the world on how humans interact with robotic technology
- Experts in autism, technology, people, culture and robot morphologies

**Our partners**
- US Airforce
- Fuji Xerox innovation Japan
- Necta (Data61) Defence
- St Vincents

**More information**
**Professor Mari Velonaki**
Creative Robotics Lab

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A focus on data use and the introduction of Artificial Intelligence. Specifically, how the use of Artificial Intelligence will change, and is changing, community and professional ideas of trust in education decision making.

Competitive advantage
• Party to global research effort on AI in education policy, including the roles of global technology companies
• Expertise in issues of trust and transparency in education policy and governance

Impact
• Provide new insights into the opportunities and risks of introducing AI in education policy

Successful applications
• Keynotes and workshops to educational leaders
• Undertaking literature reviews and providing policy advice for the government and corporate sector

More information
Professor Kaiervo N. Gulson
Education
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Using a unique methodology to tease out ethical, legal and social values – which often remain implicit and unarticulated – to build robot/AI, cyber and human enhancement systems that are more effective, efficient and better accepted by users, clients and the public.

Competitive advantage
• Proven experience working with trusted autonomous systems
• Australia’s first and only team dedicated to inserting specific organisational values into emerging military and security products or services with the aim of enhancing outcomes and user experience
• Expertise influencing the regulation of trusted technologies at the national and international level, including United Nations regulatory efforts
• Demonstrated experience positively managing the media’s coverage of trusted technologies
• A unique value-sensitive design method proven to yield better design outcomes

Impact
Aligning trusted technology with societal values and user requirements to prevent technology from being misused, underutilised or disused

Successful applications
• $1 million study of the ethical and legal implications of the development of trusted autonomous systems
• Multi-million-dollar long-term program for embedding ethics and law into the design of future autonomous weapons

Capabilities and facilities
• An interdisciplinary and international team of ethicists, lawyers, sociologists, cognitive scientists and engineers, many with active security clearances
• Access to cutting-edge tools – social robotics, small aerial imagery drones, etc
• Experienced writers, cited and published in international news media
• Commentators who have appeared on prime-time national television

Our partners
• Australian Department of Defence
• US Department of Defence
• Trusted Autonomous Systems Defence CRC
The Role of Analytics in Decision Making and Strategy

Identifying trends in both commercial industries and the grand challenges facing societies to create data-driven impact on organisations.

Competitive advantage
• Pioneers of an impact-first research method that enables academics and practitioners to co-create solutions to business and societal challenges
• The research network has expertise in:
  – Consumer analytics methods
  – Conservation analytics methods
  – Designing dashboards for decision making

Impact
Improving organisational decision making and helping businesses develop well-aligned strategies.

Successful applications
• Marketing campaign intelligence for a large retail company
• Implemented a wildlife conservation analytics system for a forest department in India

Capabilities and resources
• Interdisciplinary team from Information Systems, Computer Science and Marketing

Our partners
• Berjaya Corporation Berhad

More information
Professor Shan L Pan
School of Information Systems and Technology Management
E: shan.pan@unsw.edu.au
Unlocking New Uses for Blockchain

Competitive advantage
• Pioneers of an impact-first research method that enables academics and practitioners to co-create solutions to business and societal challenges
• The research network has expertise in:
  – Blockchain adoption
  – Blockchain solution design

Impact
Improving organisational decision making and helping businesses develop well-aligned strategies.

Successful applications
• Blockchain-based integrated rewards program for a large Chinese airlines group

Capabilities and resources
• Interdisciplinary team from Information Systems, Computer Science and Marketing

Our partners
• Berjaya Corporation Berhad

More information
Professor Shan L Pan
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Working with world leading organisations to test and implement use cases for blockchain—a promising technology that can potentially enhance business processes and interoperability.
The time-critical and resource-intensive nature of detecting and taking-down cyber-threats leaves companies with little time to review and advance their awareness and education strategies. This research network aims to empower organisations to make data-driven decisions and cultivate a cyber-safe culture.

**Competitive advantage**

- Pioneers of an impact-first research method that enables academics and practitioners to co-create solutions to business and societal challenges
- The research network has expertise in:
  - Cyber-threat landscape analysis
  - Cyber behaviours analysis
  - Cyber security awareness and education strategic development

**Impact**

Improving the cyber security awareness and education of organisations through in-depth analysis of cyber-threat and behavioural data.

**Capabilities and resources**

- Interdisciplinary team from Information Systems and Computer Science

**Our partners**

- Ernst & Young
- A leading insurance group in Australia

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**More information**

**Dr Yenni Tim**  
School of Information Systems and Technology Management  
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Digital Transformation

Competitive advantage
• Pioneers of an impact-first research method that enables academics and practitioners to co-create solutions to business and societal challenges
• The research network has expertise in:
  – Digital transformation strategy making
  – Digital business model creation

Impact
Enabling incumbent firms to counter the threats posed by digital disruption

Capabilities and resources
• Interdisciplinary team from Information Systems and Computer Science

Our partners
• A leading hardware retail store in Australia
• A leading culinary organisation in Singapore

Enabling traditional businesses to craft digital strategies that allow them to thrive in a digital ecosystem threatened by the disruption of new technologies.

More information
Professor Shan L Pan
School of Information Systems and Technology Management
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Blockchain, Smart Contracts and Cryptocurrency

Research into the underlying ideas behind the Bitcoin cryptocurrency – known by the terms Blockchain and Distributed Ledger Technology – which are applicable to a range of other applications, including financial services infrastructure, legal automation, provenance, supply chain management, international trade and health informatics.

Competitive advantage
• An interdisciplinary group of staff who are developing this new area of technology and studying its technical, legal, business and societal implications
• Expertise in:
  – Computer Science
  – Electrical Engineering and Telecommunications
  – Law and Business

Impact
The Bitcoin cryptocurrency took several ideas and made them into the first successful real-world deployment of a cryptocurrency. These include the blockchain data structure, a distributed consensus protocol, and the ‘smart contract’ – a code that enforces legal terms.

Successful applications
• Smart contract representation languages and verification
• Blockchain for electricity trading
• Blockchain in Internet of Things and Automotive Systems
• Liability in Distributed Ledger Systems
• Business models for Bitcoin companies
• Software licenses on Ethereum
• Unity Rewards: a trial of a customer loyalty program that rewards shoppers with loyalty points convertible to the Ethereum cryptocurrency

Our partners
• Loyalty X

More information
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Blockchain for Nuclear Materials Accounting

Competitive advantage

• World-first demonstration of blockchain technology for nuclear materials accounting
• Unique integration of proficiency in global regulatory regimes (nuclear safeguards & nuclear security) and geopolitical understanding, with computer science and engineering
• Combining scale and agility to execute significant and novel projects
• Achieving the right balance of confidentiality and participation in stakeholder networks characterised by a widely varying degree of trust

Impact

Nuclear materials accountancy is the core of the International Nuclear Safeguards regime—the accounting, audit systems and legal frameworks used by the International Atomic Energy Agency to verify that nuclear materials are used for exclusively peaceful purposes. Nuclear Safeguards are the obligations of signatories to the Treaty on the Non-proliferation of Nuclear Weapons.

Successful applications

• Demonstration of the Blockchain in Safeguards app for International Atomic Energy Agency’s International Safeguards Symposium, September 2018
• UNSW Blockchain in Safeguards workshop Selected for the United States Office of Non-proliferation and Arms Control’s ‘Evaluating Blockchain for Safeguards’ strategy meeting in Vienna, June 2019
• Ongoing international clients among nations’ nuclear regulators

Capabilities and resources

• Nuclear engineering staff and researchers
• Computer science and engineering staff and researchers

Our partners

• Finnish Radiation and Nuclear Safety Authority (STUK), Helsinki
• Stimson Centre, Washington DC

More information

Dr Edward G. Obbard
School of Mechanical and Manufacturing Engineering

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Competitive advantage
• An award-winning cross-disciplinary research hub that explores arts-led approaches for visualising complex scientific and biomedical scan data
• Research team with diverse multimedia and scientific backgrounds, and considerable industry experience
• Proven ability to deploy design-led modes to the visualisation of complex scientific and biomedical data using 3D computer arts approaches, most recently VR Head Mounted Displays (HMD)

Impact
Award-winning visualisations with real-world applications, including disease comprehension and rehabilitation.

Successful applications
• VR Pain Management System provides effective distraction to hospital patients experiencing acute pain via a gamified exploration of virtual worlds. A collaboration with St Vincent’s Hospital and Samsung
• ‘Journey to the Centre of the Cell’ project, which recreates a breast cancer cell, was nominated in the Best VizSim Project category for visualisations that have real-world applications, and for the overall Golden Cube award as part of the International 2016 Unity awards in Los Angeles, USA
• ‘A fantastic voyage–travel inside your brain and visualise your own stroke’ was awarded the 2016 St Vincent’s Hospital Innovation & Excellence Award for clinical health engagement, allowing patients to explore personalised vascular scans

Capabilities and resources
• Wide range of VR/AR systems
• State-of-the-art 3D visualisation creative content studio
• 3D computer workstations
• Render farm systems

Our partners
• St Vincent’s Hospital
• Garvan Institute for Medical Research
• ARC Centre of Excellence in Convergent Bio-Nano Science & Technology (CBNS)
A pioneering high-performance visualisation facility that forges new ground in integrated artistic and scientific thinking to facilitate understanding of complex datasets and ultra-scale imagery.

Competitive advantage
- High-End Visualisation System (HEVS) removes barriers of entry for deploying visualisation applications to any platform including AR, VR, XR, large screens, multi-touch walls
- Virtual Reality of the Future (~120 million pixels in 3D) allows experimentation with new User Interface (UI)/User Experience (UX)
- The most influential computer graphics and high-performance visualisation laboratory in Australia
- EPICentre hosts the highest resolution Virtual Reality (VR) system in the world—nearly 120 million pixels in 3D. This is achieved by 56x60” display cubes, assembled in a 4x14 matrix with 1-2mm edge-to-edge bezels. It also hosts a 6.5m Travelling Full Dome

Impact
- EPICentre promotes cross connection of visualization with applied computational simulations, artificial intelligence (AI), and creativity in arts and science

Successful applications
- High-End Visualisation System (HEVS): platform allowing the deployment of interactive applications across a range of visualisation systems; one executable that runs everywhere
- Massive Networks and AI: visualisation and analytics of very large-scale graphs in immersive environments
- Microscope on Big Data: ultra-high resolution as a microscope on genomic big data

Capabilities and resources
- EPICylinder, 340-degree cylindrical screen, ~120 million pixels in 3D
- DomeLab, 6.4m Hemispherical Full-Dome 4K
- XR Lab, wide range of VR / AR / XR systems
- Interactive 3x3 MultiTaction Wall
- AI-driven Visual Analytics, Creative angle

Our partners
- CSIRO Data61
- CSIRO CASS
The iCinema Centre for Interactive Cinema Research

Undertaking immersive and interactive projects, through the use of next generation cyber/physical technologies, to re-imagine ways of creating, designing, learning and working.

Competitive advantage
- Multidisciplinary centre bridging key research areas across multiple faculties
- World-leading expertise in Artificial Intelligence, AR, VR, Mobility and Robotics
- Frontier 3D Cinematic, Modelling, Printing, Scanning and Robotic platforms
- Global network of cutting-edge research and industry partners

Impact
- Facilitating the application of next-generation immersive interactivity applications in contemporary art, cultural heritage, defence memorialisation, digital museology and mining simulation
- Contributing to Australia’s international leadership in transformative aesthetic advances that translate cutting-edge visualisation research into industry application
- Enabling end-users to explore interactive modelling of fictional and real-world scenarios in real-time at cinematic 1:1 scale through full-body physical exploration, supported by artificial intelligence systems
- Providing innovative visualisation modalities greatly sought after in a world increasingly reliant on joint human and machine decision-making, facilitated through modelling of unpredictable real-world scenarios

Successful applications
- Construction Safety VR for Brookfield Multiplex, Sydney
- Cultural Heritage Installation for The Smithsonian, Washington
- Metro 3D Immersive Prototyping for WSP, Sydney
- Mine Training and Planning VR Systems for China Technology & Engineering Group, Fushun

Capabilities and resources
- 360 degree full-body AR and VR Platform with 20M pixel resolution
- Wide range of Head Mounted Display systems
- Ultra-High-Definition 5K fixed and mobile 2D/3D scanning systems
- Advanced Robotic Interaction facilities
- Interface for seamless communication between physical and virtual worlds
- Key research areas across multiple faculties of Art and Design, Art and Social Sciences, Engineering, Science and NIDA.

More information

Scientia Professor Dennis Del Favero
Chair Professor of Digital Innovation
Director iCinema Research Centre

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Intelligent Security

Development of intelligent methods—such as adversarial machine learning and cyber threat intelligence—for automatically detecting, responding to, and preventing advanced persistent threats.

Competitive advantage
• Development of Cyber threat intelligence models such as intrusion detection, privacy-preserving, and digital forensics-based statistics, machine and deep learning models
• Development of automated penetration testing methods based on AI planning
• Design of new testbed architectures for Industry 4.0 networks
• Leading analysis of how AI could develop automated cyber applications, for the Australian Army, Australian Federal Police (AFP), and the Cyber Security Cooperative Research Centre (CSCRC)
• Advanced threat intelligence models for deterring cyber threats and reducing financial losses and critical infrastructure damages

Impact
The increase in everything-connected, online systems that both sense from and interact with the physical world poses a security risk. The extent to which countries such as Australia are already dependent on cyber-physical systems—which is projected to increase—means that the impact of any disruption is potentially catastrophic.

Successful applications
• Evaluating Network Intrusion Detection based Deep Learning and Graph Models
• A Collaborative Host-Network Anomaly Detection Framework for Internet of Things
• A new intelligent wargaming web service-based Machine Learning for the Australian Army to understand human influences and behaviours

Capabilities and facilities
• Cyber Range Labs
• Digital Forensics Lab
• IoT Lab

Our partners
• Australian Federal Police (AFP)
• Data 61 CSIRO
• CyberCRC
• Australian Army
• Oracle
• Cyber Center for Security and Analytics at UTSA USA

More information
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UNSW Law
Researchers at UNSW Law are committed to excellence, intellectual ambition and pursuit of social justice. We advance scholarly inquiry with an eye to the world around us. UNSW Law contributes to the most pressing debates – in both theory and practice – on local, national and global scales. We value curiosity and we collaborate widely.

Featured Centres & Institutes
- The Allens Hub for Technology, Law & Innovation
- Andrew & Renata Kaldor Centre for International Refugee Law
- Australian Human Rights Institute
- Centre for Crime, Law & Justice
- Centre for Law, Markets & Regulation
- Gilbert + Tobin Centre of Public Law
- Herbert Smith Freehills China International Business and Economic Law (CIBEL) Centre
- Indigenous Law Centre

UNSW Business School
UNSW Business School develops socially intelligent leaders who thrive on changing technologies and global career opportunities. Our research influences government policy and business decision-making on a local and global level.

Featured Centres and Institutes
- ARC Centre of Excellence in Population Ageing Research (CEPAR) & Institute for Population Ageing Research (AIPAR)
- Industrial Relations Research Centre (IRRC)
- Centre for Applied Economic Research (CAER)
- Centre for Energy and Environmental Markets (CEEM)
- Institute of Global Finance (IGF)
- AGORA Centre for Market Design
AGSM
The Australian Graduate School of Management is the part of UNSW Business School in Sydney that offers global top-tier general management, executive and leadership development programs. AGSM’s rigorous MBA degrees and Short Courses are delivered across Australia and online. Our personally transforming MBA and MBA (Executive) programs are consistently ranked in the top 100 globally and our online MBA, the MBAX, is ranked 1st in Australia.

UNSW Arts & Social Sciences
Research in the Arts & Social Sciences deepens understanding of the diversity of human experience and challenges traditional ways of thinking about the world. By applying this new knowledge to some of the most urgent challenges of our time, our research makes a significant contribution to public debate and the formation of effective policy. Our researchers and our graduates are not afraid to get their hands dirty as they engage with the complexities of contemporary society.

Featured Research Centres & Networks
• Social Policy Research Centre
• Centre for Social Research in Health
• Centre for Refugee Research
• Forced Migration Research Network
• Gendered Violence Research Network
• Globalisation & Governance Research Network
• Intellectual Disability Behaviour Support (IDBS) Program & Chair
• Practical Justice Initiative
• South Asia @ UNSW

UNSW Centre for Social Impact
A collaboration of three university partners, The Centre for Social Impact has undertaken more than 30 research projects with government, business and not-for-profit partners and provides the nation’s most comprehensive post-graduate program in social impact. Our purpose is to catalyse positive social change, to help enable others to achieve social impact. We do this through transformational research and education that is rigorous and purpose-driven. By working with people, communities and organisations to grow their capabilities through research, education, and leadership development. We create tools, solutions, and leaders that enable change.

Institute for Global Development
UNSW’s Institute for Global Development acts as a catalyst for the UNSW community to deliver on the UN Sustainable Development Goals, working in partnership to positively transform lives and advance a just society.

The IGD has four pillars to its work: Knowledge Exchange; Knowledge Development; Overseas Partnerships; Australian Partnerships.

UNSW Art & Design
UNSW Art & Design is recognised as one of the world’s leading art and design schools, with an outstanding record for producing critically acclaimed artists, designers and media creators. We lead Australia with a focus on media innovation and emerging technologies. Our approach is interdisciplinary, advancing tradition and challenging existing thinking. We foreground experimentation and exploration, fostering collaboration across science, engineering, the humanities and social sciences.

Featured Research Centres & Facilities
• iCinema Centre for Interactive Cinema Research
• Holography and Haptics Lab
• Creative Robotics Lab
• 3D Visualisation Aesthetics Lab
• EPICentre (Expanded Perception and Interaction Centre)
UNSW Built Environment
We focus on the challenges of our cities at every scale, from industrial designed products and services, to buildings through to policy and planning at the urban and territorial scales. We interrogate environmental challenges such as urban heat and urban health, through to the socio-economic inequity borne out of the spatial divide of our cities. We explore these challenges through multiple lenses including high performing built environments that are sustainable and resilient anticipating our future ecological needs; and human-centred design ethos that respond to the needs of the individual as well as society and our cultural landscape.

Featured Research Activities
• Enabling Built Environments Program
• Home Modification Information Clearinghouse
• Designing Global Sydney
• People and Place Research Cluster
• Smart Cities Research Cluster
• Urban Typologies Research Cluster

UNSW Canberra
The University of New South Wales has a proud history of association with the Australian Defence Force, providing the best education for the best leaders since the academy was founded in 1967.

Research Themes
Business
– Governance and Strategic Decision Making
– Public Sector Management
– Logistics and Business Systems Modelling

Humanities & Social Science
– Social change and cultural conflict
– Culture, literature and media in war
– Global Security
– International ethics, norms and law
– Asia-Pacific Politics and Security
At UNSW, we offer high-quality professional education for real world impact. Through our program of short courses, we deliver learning outcomes to support our partners to deliver excellence.

We work with our partners to identify strategic goals and then design and develop—or tailor existing—courses to match. This collaboration results in academically rigorous and culturally relevant learning that drives business improvements.

The standard range of short courses we offer can be found online, or our specialist team is available to discuss specific requirements and design, and support from concept to completion.

**Designing a ‘Simulation-Based’ Training Environment**
Simulation - authentic training for employees to use expensive equipment or work in unsafe environments. Simulation design-based technology delivers more effective training at lower cost.

**Simulation Practices for Immersive Environments**
Enables industries to understand what it takes to implement simulation or immersive technology to ensure it continues to provide the appropriate outcomes, growth and ongoing return to the business.

**Health Leadership for Healthcare Executives**
Leadership principles, change management, quality improvement, economics and financing, all designed specifically for those working in healthcare.

**Leading Digital Transformation**
Understanding the digital imperative. Designed in collaboration with CSIRO’s Data61, this program will help leaders understand current and emerging technologies, develop a digital strategy blueprint and effectively lead and implement digital transformation projects.
Women in Leadership
Designed to uplift and empower accomplished and dynamic women from diverse backgrounds to influence change, shape the future and become outstanding leaders.

Strategic & Adaptive Leadership
Using analytical tools and frameworks, the course will equip leaders on how to make informed decisions and lead through disruption and rapidly changing environments.

General Manager Program
Australian Graduate School of Management’s flagship and most senior leadership program is designed to help leaders operate more effectively in ambiguous, competitive, complex and dynamic work environments.

Shaping Strategy to Create Value
Working on a live strategic challenge, the course will help develop fresh perspectives on strategy execution, decision-making, innovation, customer value proposition and the challenge of business model reinvention.

Contract Law Masterclass
Reviews recent key decisions in contract law and introduces contractual indemnities, exclusion clauses and financial caps. Discusses carve-outs for recklessness, wilful misconduct and gross negligence.

PI Law Update and Assisting Clients with Diminished Decision Making
Focuses on current developments in Personal Injury law and how to recognise and support clients with diminished decision-making ability. Also covers Abuse Law and an overview of professional responsibilities when dealing with traumatised clients.

Legal Partnerships - Ethical Issues
Covers the ethical issues faced within partnerships and life after them. Explores confidentiality issues, conflicts of interests and contractual considerations that impact relationships.

Corporate Director Colloquium
The Corporate Directors Colloquium is uniquely designed for board members of ASX listed companies and is delivered using original case studies and a strong line up of speakers.

Context of Health Data Science
Provides an overview of how data is generated and used in the Australian health system. It provides an introduction to measuring health outcomes and disparities in health, describes major sources of Australian health data, and discusses how these can be used to create evidence for policy and research.

Governance for Social Impact
Developed by the Centre for Social Impact, the course is designed for leaders of Not for Profit organisations. It examines how to lead for social impact and the roles and responsibilities of directors.

Machine Learning and Data Mining
Provides an introduction to data mining and machine learning, including both supervised and unsupervised techniques. Explores the underlying theory, as well as practical know-how required to effectively apply these techniques to real-world health datasets to answer new health data science problems. The widely used, open-source Python programming language is used to teach the course.

Asian Data Privacy Laws
Focuses on new developments across the region, topics related to each part of the region's cross border privacy rules, free trade agreements, and comparing and contrasting territorial space/countries' legislation on privacy and its components.

The GDPR Creep and Direct Extra Territorial Effects
The EU’s General Data Protection Regulation (GDPR), in force since 25 May 2018, is the most significant change in European (and global) data privacy laws since the 1995 EU Directive. GDPR will have direct extra-territorial effect on some Australian businesses, but more importantly its standards will affect all businesses that have multinational operations.

Trade Dress, Infringements and Licensing
Includes an update on the Federal Circuit Court’s Intellectual Property Jurisdiction, exterritoriality and IP rights. Explores when online infringement or misleading and deceptive conduct happens in Australia, protecting and enforcing the rights in trade dress, challenges in the real and online world, and tips and traps on licensing agreements.

For more information, please visit shortcourses.unsw.edu.au or email shortcourses@unsw.edu.au
UNSW works with a variety of partners including government, high-calibre corporate partners, small-medium enterprises and community groups in Australia and overseas.

UNSW operates at the forefront of global research and design to help deliver transformational innovations that advance Australia’s capabilities and are instrumental in defining the future landscape.

By partnering with UNSW, your organisation will gain opportunities to access innovative research, ground-breaking discoveries and the very best students – the next generation of leaders.

We offer a broad range of engagement models and have decades of experience partnering with small and large organisations to deliver:

- Multidisciplinary expertise at the centre of leading and emerging research
- Access to world class technologies and infrastructure
- Dedicated industry-facing and government-facing organisational units, such as UNSW Knowledge Exchange and UNSW Division of Enterprise
- Highly effective partnership models including research strategy advice and support
- Collaborative research leveraging third party and government funding
- Access to our national and global research partners including Group of Eight Australian Universities; the international PLuS Alliance with Kings College London and Arizona State University; the New South Wales NUW Alliance with the University of Newcastle and University of Wollongong; the joint venture with Western Sydney University
- Access to students through professional development programs, projects and our industry placement program
- Customised and bespoke initiatives

We look forward to working with you to develop real world applications.