Introduction

QUT Business School
Masters graduates
PhD graduates

Creative Industries Faculty
Masters graduates
PhD graduates

Faculty of Education
Masters graduates
PhD graduates

Faculty of Health
Masters graduates
PhD graduates

Faculty of Law
Masters graduates
PhD graduates

Science and Engineering Faculty
Masters graduates
PhD graduates
Our research culture at QUT values high performance and agility and aims to develop research graduates as entrepreneurial agents of change who will shape the environments and economies of the future.

QUT has graduated more than 400 research students this year, and we are proud to showcase their achievements in this Yearbook. Our graduates are innovative problem solvers who consistently seek original ways to progress their research and ideas in the real world, and we commend them on their commitment to producing research that has local and global impact.

Through their learning journey at QUT, each student has developed an individualised set of transferable skills such as project management, creative and critical thinking, communication skills, entrepreneurship and transdisciplinarity that will support them as they transition into their chosen career paths. Our students have worked with supervisors who are pushing the boundaries of their fields and making international impacts. We thank supervisors for their support and guidance of our students: their contributions strengthen our research community and prepare our students for bright futures.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

QUT’s real world research focus involves working with industry, government and communities to identify problems and collaborating to find solutions. We would like to thank the industry and community partners and the Australian Government Research Training Scheme for their support of our graduates throughout their candidature. Through a highly progressive and collaborative approach, each of our research graduates’ contribution to new knowledge helps to drive larger research teams and centres that are delivering solutions to societal problems. Our highly skilled, enterprising graduates are well equipped for employment and careers in complex and ever-changing working environments of the 21st century.

On behalf of all of us at QUT, we invite you to join with us in celebrating the outstanding research produced by our 2018 Doctor of Philosophy, Masters by Research, Masters of Philosophy and Professional Doctorate graduates.

Professor Aun Sharma
Deputy Vice-Chancellor (Research and Commercialisation)
(Pictured previous)

Professor Helen Klaebe
Pro-Vice Chancellor (Graduate Research and Development)
(Pictured left with 2018 graduate Dr Natasha Papazian, Faculty of Law)
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Professor Mandy Thomas
Executive Dean, Creative Industries Faculty

Professor Ian O’Hara
Acting Executive Director, Institute for Future Environments

Professor Lyn Griffiths
Executive Director, Institute of Health and Biomedical Innovation
Researchers in the QUT Business School focus on developing actionable solutions to the real world problems faced by research end users; individuals, corporations, not-for profits, governments and NGOs, amongst others. Working extensively with, and through, international collaborators our research has global impact on policy and practice as well as through advancements in our academic disciplines.

In 2018, 40 HDR students will graduate from the QUT Business School with topics ranging from sustainable business practices, digital disruption, autonomous vehicles, social marketing, entrepreneurship, behavioural economic modelling, international trade, business practices, law and governance.

This work represents new knowledge for businesses, policy makers and consumers who are facing an increasingly dynamic environment in which ‘keeping ahead of the game’ is a real challenge. QUT’s eYearbook showcases in more detail their cutting-edge research and achievements and I hope you enjoy reviewing their work.

I would like to congratulate all of our HDR graduates. I wish you well for your future endeavours and invite you to keep in touch with QUT through QMomentum, a program and platform that supports research graduates to transition from study to work.
QUT's Faculty of Education is one of the largest Faculties of Education in Australia, and is consistently rated as ‘above world standard’ in the Excellence in Research in Australia assessment. Our strength as a Faculty is directly tied to the efforts and expertise of our academic staff and research students. As Executive Dean of the Faculty, I take pride in knowing that we consistently graduate research students of the highest calibre through our MPhil, EdD, and PhD programs.

Our research graduates come to us from a wide range of backgrounds, often with significant professional experience in education and other fields. We are stronger through our personal and professional diversity, and in recognising this strength I also acknowledge our graduates whose research is undertaken in collaboration with other QUT faculties.

I am delighted to congratulate our 2018 graduates and to celebrate and share their research with you through this QUT Research eYearbook 2018, which showcases the exemplary work produced by graduates across our university.
Congratulations on graduating from QUT’s Faculty of Health, a highly regarded health faculty of international significance, thanks to our innovative courses and research programs backed by world-class academic staff and facilities.

Together we improve the health of individuals and communities through practical learning and research innovation, with seven schools spanning the major health disciplines and via our collaboration with the Institute of Health and Biomedical Innovation (IHBI), a multidisciplinary health and biomedical research institute.

We are committed to research excellence, as evidenced by the more than 1,200 health researchers, including more than 540 students, who are working on ground-breaking discoveries with translational impact.

We are extremely proud of your achievements and commend your commitment to producing research of the highest calibre that will contribute to the improved health outcomes for the whole of society.

Congratulations on your graduation.
As Executive Dean of the Faculty of Law, I am proud to showcase the excellent research of our 2018 research graduates across the schools of law and justice.

As home to leading researchers in law and justice, the QUT Law Faculty solves real world and socially relevant problems.

These graduand’s theses highlight the faculty’s research strengths in crime and justice, health law, international and corporate regulatory environments. On behalf of the faculty, I congratulate our graduates and wish them every success with their future endeavours as they transition from study to work.
Congratulations on graduating from one of the nation’s most collaborative research institutions.

My name is Professor Gordon Wyeth and I lead the QUT Faculty of Science and Engineering as Executive Dean. At QUT, we seek to push the boundaries of knowledge and find solutions for industry, government and community.

Much of what we do relies on team efforts by research students as you were, postdoctoral researchers as are now, our career researchers at QUT and around the world, and the end users of our discoveries.

I’m pleased to acknowledge your future by looking at your past. This eYearbook showcases the cutting-edge research produced by you, our research graduates.

We hope you continue to follow your passion for the pursuit of new knowledge and its applications for research and industry, and I invite you to access QMomentum, a program and platform that supports doctoral graduates’ transition from study to work.

Congratulations again on your achievements to advance knowledge and continue our collaborative approach towards a better way of living.
2017 ODTA Winners

At QUT we celebrate our exceptional research students with our annual Outstanding Doctoral Thesis Awards.

**QUT Business School**

**Kunlin Xu**  
The Importance of Cross-Cultural Capabilities for Chinese Immigrant Entrepreneurs in Australia  
Supervised by Adj/Prof Judy Drennan, Dr Shane Mathews

**Creative Industries Faculty**

**Stefanie Candy Duguay**  
Identity Modulation in Networked Publics: Queer Women’s Participation and Representation on Tinder, Instagram, and Vine  
Supervised by Prof Jean Burgess, Dr Elija Cassidy

**Peter English Lawrence**  
The Listener’s Listening  
Supervised by Dr Keith Armstrong, Adj/Prof Philip Graham

**Faculty of Education**

**Sandra Kaye Grant**  
Kindergarten Teachers’ Work and a New Quality Agenda  
Supervised by Prof Susan Danby, Prof Barbara Comber, Dr Maryann Theoblad, Prof Karen Thorpe
Faculty of Health

Elizabeth Claire Corfield
Characterising the Relationship between Fatigue and Depression
Supervised by A/Prof Dale Nyholt, Prof Lynette Griffiths, Dr Yadava Sapkota, Prof Sonya Marshall-Gradisnik

Gilles Forget
Being a Father in My New Society: A Phenomenological Study of the Migration Journey of Fathers of Refugee Backgrounds Living in South-East Queensland, Australia
Supervised by A/Prof Ignacio Correa-Velez, Dr Michael Dee

Judith Munday
Perioperative Temperature Management for Women Undergoing Caesarean Section
Supervised by Dr Sonya Osborne, Prof Patricia Yates

Anthony Victor Schoenwald
Nurse Practitioner Led Pain Management the Day after Caesarean Section: A Randomised Controlled Trial
Supervised by Dr Clint Douglas, A/Prof Carol Windsor, Dr Mark Gibbs

Faculty of Law

Evan Hamman
The Role of Non-State Actors in Promoting Compliance with the World Heritage Convention: An Empirical Study of Australia’s Great Barrier Reef
Supervised by Prof Richard Johnstone, Prof William Duncan, Dr Rowena Maguire
Science and Engineering Faculty

Adalbert Christoph Meinert
Hydrogels and Bioreactors for Cartilage Research and Functional Tissue Engineering
Supervised by A/ Prof Travis Klein, Dr Karsten Schrobback

Paul Lederhose
From UV to NIR Light, Photo-Triggered 1,3 Dipolar Cycloadditions as a Modern Ligation Method in Solution and on Surface
Supervised by Dr James Blinco, Prof Steven Bottle

Gouping Gao
Computational Design of Catalysts for Clean Energy Conversion and Storage
Supervised by A/Prof Aijun Du, A/Prof Eric Waclawik

Wang Jin
Investigating the Reproducibility of In Vitro Cell Biology Assays Using Mathematical Models
Supervised by Prof Matthew Simpson, Prof Scott McCue

Daniel Wiemer
Tectonic Evolution of the Early Archaean Doolena Gap Greenstone Belt, East Pilbara Terrane, Western Australia
Supervised by Dr David Murphy, Dr Christoph Schrank

Md Lifat Rahi
Understanding the Molecular Basis of Adaptation to Freshwater Environments by Prawns in the Genus Macrobrachium
Supervised by Dr David Hurwood, Adj/Prof Peter Mather, A/Prof Tariq Ezaz

Biyanvilage Sampath Sri Sameer Dareeju
Performance Evaluation of Unsaturated Rail Track Foundations under Cyclic Moving Wheel Load
Supervised by Dr Chaminda Gallage, Prof Manicka Dhanasekar, Dr Li-Ang Yang
Responsive Regulation Theory is applied to an examination of the Promoter Penalty Laws, which are designed to deter the promotion of tax avoidance and tax evasion schemes. These laws are examined in terms of their legislative design, the way that the Australian Taxation Office applies them, and the views of them expressed in professional tax publications. Recommendations for potential improvements to the laws are made.
Kellie Crow

Master of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122922
Email: kellie.crow@connect.qut.edu.au
Country: Australia
Supervisors: Frank Mathmann, Dominique Greer

Thesis title:
Cognitive Control, Choice, and Charity Donation

Description:
While customers are regularly asked to donate to charity at the checkout, and they regularly agree to do so, marketing research has so far been unable to understand what drives checkout donations. The thesis sought to reconcile two theories which offered opposing predictions for how making multiple choices in a row impacts donations to charity. It was found that making many choices in a row, such as those made when buying groceries, increases donations.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Sarah Dillon

Master of Business (Research)

QUT Business School

Thesis type: Thesis by Monograph

DOI: dx.doi.org/10.5204/thesis.eprints.116378

Email: sarah.dillon@hdr.qut.edu.au

Country: Australia

Supervisors: Charmaine Glavas, Shane Mathews

Thesis title:

Failing in next-generation firms: an examination of the impact of business failure within international entrepreneurial internationalisation

Description:

This thesis contributes to the under-researched phenomenon of Internet-enabled internationalisation within international entrepreneurial firms. Specifically, by investigating the interplay between international entrepreneurs, international experience, and international opportunities, the research sheds light on how international entrepreneurs operating in Internet-enabled environments accumulate and leverage their international experience; and how such experience may influence the way in which international opportunities are identified. In doing so, the research highlights the impact of changing global and technological realities on firm internationalisation processes in under-examined settings, such as virtual firms and services more broadly.
Lea Anne Foster

Master of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

Thesis title:
Exploratory Investigation of Innovation Management in a Project-Based Organisation

Description:
Innovation continues to fail in many organisations and the literature suggests a linkage with knowledge management (KM). However, an understanding of the relationship between the two constructs is not explicit. A case study of an innovative project in a project-based organisation (PBO) was undertaken to define the relationship between KM and the innovation process. The qualitative analysis provided empirical evidence for a proposed framework to further the understanding of the way a PBO could manage knowledge for successful innovation. The framework is useful for managers to commence building a KM strategy.
Scott Gibson

Master of Philosophy
QUT Business School

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122469
Email: s3.gibson@connect.qut.edu.au
Country: Australia
Supervisors: Gayle Kerr, Louise Kelly

Thesis title:
Advertising Planning in the Age of Big Data. An Exploratory Study

Description:
The impact that big data has on relationships between advertising agencies and clients is explored from the planning perspective. Using diffusion of innovations theory, findings indicate that the complexities and expectations associated with using data in advertising decision-making both inhibits and accelerates its use. Clients are attracted to the promise of competitive advantage, driving agencies to respond, often with short-term gains at the expense of long-term brand building. Planners develop advertising strategies primarily using traditional research. However those who can meaningfully merge this with big data will create a winning edge for both clients and agencies.
Carla Marijanka Gonzalez Zlatar

Master of Business (Research)
QUT Business School
Thesis type: Thesis by Monograph

Description:

The academic literature has focused on understanding mining companies’ definition and management of stakeholders, with a focus on indigenous and local communities, and non-government organisations. Although universities are described as important stakeholders in the CSR (corporate social responsibility) documentation of mining companies, mining company engagement with universities is under-researched. This thesis addresses this gap by exploring how, and why, mining companies engage with universities through an exploration of mining company engagement with universities in Chile. This thesis unveils the complexity of mining company engagement with universities, as well as the geographical dimensions of this engagement. This thesis ratifies the academic literature that describes mining companies’ CSR practice as a public relations exercise that seeks to legitimise mining operations at different scales.
Kieran Gregory

Master of Business (Research)  
QUT Business School

Thesis type: Thesis by Monograph

Thesis title:
Fishers Are Doing It For Themselves? Responsibilisation and the framing of fish habitat rehabilitation and stewardship

Description:

The aim of this research is to understand the implications of the current framing of fisheries degradation and rehabilitation responsibilities in stewardship policy. By doing so, in this research the discursive strategies used to attribute blame for fish habitat degradation are identified, as is whether there is a dissonance between to whom blame is attributed and the stakeholder groups which the New South Wales Department of Primary Industries (NSW DPI), the state government agency with policy responsibility for fisheries management, is advocating take responsibility for remedying the problem.
Anne Marie Halton

Master of Business (Research)
QUT Business School
Thesis type: Thesis by Monograph

Description:
This thesis uses mixed methods to explore how coaching informed by Intentional Change Theory Theory (ICT) (Boyatzis, 2006, 2008) can enhance leader effectiveness. With underpinnings in complexity theory, ICT is proposed as an evidence-based framework to guide the coaching, rendering it well-matched to the demands of the current complex environment in which leaders operate. Results indicate that coaching contributes to the development of inner resources such as self-efficacy, self-awareness, and psychological capital, and that an appetite for reflection, and increasing comfort with ambiguity and feelings of vulnerability are important for leader effectiveness, and can be enhanced through coaching.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Master of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

Description:

This thesis explores the use of evaluation as a means of enhancing accountability to beneficiaries within nonprofit organisations. The research found that accountability to beneficiaries can be increased through beneficiary participation in evaluation if consideration is given to the particular timeframe of beneficiary engagement within each organisation. As a stakeholder group frequently marginalised through traditional accounting practices, the participation of beneficiaries within a nonprofit organisation’s accountability structure is presented as a means of increasing social justice. The research design used multiple case studies of two nonprofit organisations, examining documents and interviews across three stakeholder groups, within each organisation.

Kylie Kingston

Thesis title:

Evaluation as a Means of Enhancing Accountability and Beneficiary Participation within Nonprofit Organisations

DOI: doi.org/10.5204/thesis.eprints.122953
Email: kl.kingston@connect.qut.edu.au
Country: Australia
Supervisors: Craig Furneaux, Laura de Zwaan, Lyn Alderman
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Elissa Lewis

Master of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.119037
Email: e.lewis@connect.qut.edu.au
Country: Australia
Supervisors: Amisha Mehta, Brett Martin

Thesis title:
Effects of Source and Crisis Attribution on Organisational Trustworthiness in News Media Reporting

Description:
In an age of fake news and churn-based journalism (or churnalism), how media process content to create news is vital for readers and the organisations that use news media as a communication channel during crises. This study builds on existing research in the field of crisis communication to elaborate on how media content such as sources and their attributions of blame influences trust during an organisational crisis event.
Sophie Loades

Master of Business (Research)
QUT Business School

Description:
Despite being a widespread organisational strategy, little is known about the impact of increasing consumer participation in services on service employees. This study examines the outcomes of value co-creation for service employees using in-depth semi-structured interviews with performers and managers within DeepBlue, a successful mainstream innovative arts organisation. The findings show employees experienced fluctuations in economic, social, hedonic, altruistic and connection value, with different types of value co-creation opportunities providing different levels and types of value derived or destroyed for employees. Ultimately, the findings suggest that value co-creation can both positively and negatively affect service employees and requires careful management.
Xinyuan Ma

Master of Business (Research)  
QUT Business School  
Thesis type: Thesis by Monograph  

DOI: doi.org/10.5204/thesis.eprints.120023  
Email: xinyuan.ma@connect.qut.edu.au  
Country: China  
Supervisors: Annastiina Silvennoinen, Adam Clements

Thesis title:
Research on Dynamic Correlation Based on Stochastic Time-varying Beta and Stochastic Volatility

Description:
This research used monthly returns of Chinese industry sectors that capture China’s economic status to investigate the relationship between the return of individual industry indices and a market portfolio. To understand characteristics of the relationships and their response to the presence of market fluctuation, this study examined both the impact of good and bad news. Factors like market value and market capitalisation were incorporated to capture investors’ expectation towards individual industries. These factors are essential as they classify industries into popular ones that take dominant positions and unpopular ones that take less dominant positions of China’s stock market.
Jacquie McGraw

Master of Business (Research)

QUT Business School

Thesis type: Thesis by monograph

DOI: doi.org/10.5204/thesis.eprints.122916

Email: j.mcgraw@connect.qut.edu.au

Country: Australia

Supervisors: Rebekah Russell-Bennett, Katherine White

Thesis title:

Men’s Help-Seeking Behaviours in Preventative Health: The Role of Masculine Identities

Description:

Why do many older men avoid using free bowel cancer screening kits? This thesis found that for some men, exercising positive preventative health behaviours challenges a man’s sense of masculinity making men feel ‘less like a man’, less able to be head of their family and weak. The research identified the specific types of men that reject or accept free health services and the types of actions they take to destroy the benefits of the service.
As Australian workplace laws have evolved over the last century, the legal principles applying to the nature of relationships between Australian churches and their clergy have become subject to a degree of uncertainty. In the current political and legal environment it is desirable that this uncertainty be removed and that there be clarity as to the standing and accountability of clergy. This thesis identifies a theoretical framework from which some insight can be drawn that can help Churches adopt appropriate methods of appointing clergy that align with their theological beliefs while anticipating the direction of the law.
Description:

This thesis represents a single case study that sheds light on the importance of developing shared understandings of employee green behaviour within a large school-based setting. The findings reveal that Organisational Citizenship Behaviour towards the Environment (OCBE) is the dominant form of green behaviour in the organisation and that eco-initiatives are the most performed OCBE. To increase employee performance of discretionary green behaviours, the study found that more feedback is required regarding the impact of employee green behaviours. Additionally a shared understanding of what green behaviour at work means should be clearly articulated as well as improving the buy-in from managers regarding their own green behaviour.
Description:

In this thesis ‘Indigenous disadvantage’ is examined through historical and contemporary discourses, including as a `wicked’ or intractable problem, within Australian Indigenous Affairs policy. Policies, programs and the views of policy actors working in Australian Indigenous Affairs were interrogated through themes of deficit and strength-based discourses. It is argued in this thesis that strength-based discourses which include genuine engagement and co-design with Indigenous Australians, can provide more meaningful and inclusive policy outcomes by challenging the current power structures that exclude and marginalise Aboriginal people and Torres Strait Islander people in policy development and implementation.
Chatbots can be configured to provide customer service. This thesis submits two quantitative studies to support the idea that a chatbot’s perceived humanness is important to consumers. Preliminary results suggest that the anthropomorphism of a chatbot leads to increases in adoption and recommendation intent. Furthermore, the source of the anthropomorphic perceptions appears linked to a chatbot’s use of specific linguistic stratagems which can be manipulated by practitioners and researchers.
Chelsea Smallwood

Master of Business (Research)  
QUT Business School  
Thesis type: Thesis by Monograph

Description:

Native advertising has the ability to integrate brand messages into content which is relevant and interesting to consumers and as such it has become an important element of digital marketing. However, Native Advertising has also attracted criticism for potentially being misleading, deceptive and difficult to regulate. Using the Power-Responsibility Equilibrium theory this study examines native advertising from a stakeholder’s perspective by investigating ethical, regulatory and risk considerations. The findings indicate there are differing levels of power and responsibility when developing native advertising content and that risk is a contributing factor in balancing or disrupting the balance of power and responsibility.

DOI: doi.org/10.5204/thesis.eprints.122568
Email: cd.smallwood@connect.qut.edu.au
Country: Australia
Supervisors: Louise Kelly, Gayle Kerr
Georgia Swalwell

Master of Business (Research)
QUT Business School
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.118729
Email: georgia.swalwell@connect.qut.edu.au
Country: Australia
Supervisors: Dominique Greer, Lisa Schuster

Thesis title:
Change My Mind: The Moderating Impact of Scepticism and Cynicism on Perceived Source Credibility and Informational Claims in Social Advertising

Description:
Government, non-profit and commercial sectors all engage in social advertising, while an increasing cross-pollination of their marketing styles has resulted in a reliance on heuristics over informational claims to encourage behaviour change. Consumer scepticism and cynicism are also rising, but their impact on social advertising effectiveness is unknown. This experimental study found the Australian Government was a less credible social advertiser than commercial and non-profit organisations, while informational claims improved social advertising outcomes for all sectors. Consumer scepticism and consumer cynicism both moderated this relationship, reducing the effectiveness of perceived source credibility and informational claims on social advertising.
James Tarbit

Master of Philosophy

QUT Business School

Thesis type: Thesis by Monograph

Thesis title:

Consumer Deviance on Social Media: An Exploration from a Social Media Management Perspective

Description:

This project explored how deviant consumer behaviour occurs on social media, and examined the impact of deviant consumer behaviour on role outcomes of social media managers. Critical incident technique was used to interview fifteen social media managers, it was found that deviant consumer behaviour directly influences role burnout, turnover, workload output and role satisfaction among social media managers.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Samson Tiki

Master of Philosophy
QUT Business School
Thesis type: Thesis by Monograph
DOI: doi.org/10.5204/thesis.eprints.121496
Email: samson.tiki@connect.qut.edu.au
Country: Papua New Guinea
Supervisors: Belinda Luke, Janet Mack

Thesis title:
Perceptions of Bribery Versus Gifts Within The Government Departments of Papua New Guinea

Description:
The study explores the perceptions of bribery versus gifts among senior public servants within Papua New Guinea’s (PNG’s) government departments. PNG is considered to have high levels of corruption. The study used an accountability framework and the Critical Incident Technique (CIT) to explore incidents of bribery and gifts by interviewing 11 senior public servants (7 males and 4 females). Findings show that most of the public servants acknowledged bribery exists in PNG’s public sector. The perceived reasons were fast-track, quick-money, and sustain-living. Given the Melanesian culture of gift-exchange and reciprocity, bribery is often confused. Hence, public servants defer payment of bribes to take as gifts after delivery of public goods and services. The findings provide important insights for policymakers within PNG’s government departments to develop policies and introduce changes.
Robyn Trubshaw

Master of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122924
Email: r.trubshaw@connect.qut.edu.au
Country: Australia
Supervisors: Ellie Chapple, Sarah Osborne, Elisabeth Sinnewe

Thesis title:
Responsibilities Within the Governance Space: A Study of the Role of the Company Secretary on Contemporary Boards

Description:
This thesis investigates the role construction and challenges of company secretaries supporting contemporary Australian boards. Increased regulation of board transparency has expanded the role and the research shows the company secretary accommodates the expansion of responsibilities from administrator to strategic advisor by using informal activities and developed social skills. Dual-role company secretaries, that is those combining the legal counsel or chief finance officer function in non-profit and government owned organisations are acutely aware of setting the boundaries of responsibilities. The use of informal working spaces opens up the possibility for the company secretary to provide further influence as the organisation’s gatekeeper.
This thesis investigates the process of relocating overseas assignees back home following the completion of their international assignments, which is known as repatriation adjustment. The study developed a valid and reliable measure of repatriation adjustment to explore repatriation adjustment profiles and their antecedents and impact on assignee outcomes. This thesis offers guidance for human resource practitioners in designing more effective repatriation programs.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Description:

The Global Value Chain (GVC) Governance Framework is empirically tested in this thesis. The framework has become highly influential in determining the governance structure of firms and has been used extensively across industry-specific case research and international development agencies. However, there has been limited empirical validation of the framework’s predictions. Adopting a two-study quantitative methodology and configuration analysis, this study provided an important foundational advancement in the application of configuration analysis to test the GVC governance framework.
Description:

This thesis comprises two essays that explore issues related to human capital, technology and inequality. The first study examines the impact of human capital on recently created, direct measures of technology adoption. It indicates that the type of human capital that is formed via the learning-by-doing mechanism may be the most important determinant of technological diffusion, followed by qualitative determinants such as cognitive skills and quantitative or other measures. The second study examines qualitative measures of human capital from a microeconomic perspective by analyzing the composition and determinants of human capital inequality. Decomposition at school level reveals that each country has a unique set of determinants of within-school inequality. Compared to aggregated approaches used in extant literature, these findings suggest that a disaggregated, stepwise exploration of this type is more fruitful in identifying the root causes of inequality in human capital.
Minh Tam Bui Thi

Doctor of Philosophy

QUT Business School

Thesis type: Thesis by monograph

Description:

This thesis investigates how blockholders influence the relation between governance and firm performance in Vietnam. The researcher employed analyses of marginal effects among various mechanisms of a bundle of governance. This methodology helps avoid the problem of under/overstating an interaction effect that might be mistaken by previous studies and confer precise and robust results on the interdependencies of various governance attributes within a firm. The research reported on the levels at which ownership concentration significantly affect the effectiveness of board monitoring and creditor monitoring. This study concluded that the Anglo-Saxon governance model is unlikely to be appropriate in countries where ownership concentration dominates and where a dual board structure is present, and argues for the need for a differentiated governance framework.
Myungsub Choi

Doctor of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

Description:
Using a sample of Korean family business groups (chaebols) during the 2006-2011 period, I study the mechanism of propping through related party transactions following the 2008 financial crisis, and its effects on firm performance and investments. I find chaebols use intra-transactions to mitigate the negative effects of the crisis. Using a discrete classification of firms into four pyramidal layers, chaebol families use related party sales to prop up firms in the third layer following the crisis, perhaps at the expense of central firms. In doing so, controlling chaebol families transfer the cost of propping to outside minority shareholders.

DOI: doi.org/10.5204/thesis.eprints.120476
Email: myung.choi@connect.qut.edu.au
Country: Korea,(Sth) Republic Of
Supervisors: Janice How, Peter Verhoeven

Thesis title:
Propping and Pyramids in Family Business Groups: Evidence from Korean Chaebols
Introduction

The structure of modern employment continues to evolve with substantial growth occurring in contractual tripartite relationships. This thesis is an exploration of the contractual (non-employment) tripartite relationship between employment agents, hosts and technical white-collar contractors in Australia’s mining, technical, consulting and construction sectors. This thesis investigates the challenges associated with managing the tripartite relationship using the theoretical lenses of agency, psychological contract, and power to examine the perspectives of the three groups within the relationship. The findings reveal confusion regarding the roles and incumbent responsibilities of the agents, hosts, and contractors. All three groups are uncertain as to which of them is responsible for the contractor in this complicated three-way relationship. Implications and recommendations for future research and practice changes are noted.

Thesis title:

An exploration of the professional contractual (non-employment) tripartite relationship (CTR)

Description:

The structure of modern employment continues to evolve with substantial growth occurring in contractual tripartite relationships. This thesis is an exploration of the contractual (non-employment) tripartite relationship between employment agents, hosts and technical white-collar contractors in Australia’s mining, technical, consulting and construction sectors. This thesis investigates the challenges associated with managing the tripartite relationship using the theoretical lenses of agency, psychological contract, and power to examine the perspectives of the three groups within the relationship. The findings reveal confusion regarding the roles and incumbent responsibilities of the agents, hosts, and contractors. All three groups are uncertain as to which of them is responsible for the contractor in this complicated three-way relationship. Implications and recommendations for future research and practice changes are noted.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

June Dam

Doctor of Philosophy

QUT Business School

Thesis type: Thesis by Monograph

Thesis title:

Destination Consumer-based Brand Equity: The Effects of Social Media on Travel Planning

Description:

Technological innovation with the advances in new media in tourism has become a key strategy for holiday destinations to gain competitive advantage. Yet, there is a lack of understanding about the extent to which new media such as social media affect destination branding from the consumer’s perspective. By utilising a mixed method approach and testing the proposed model with multiple destinations, this study provides a more complete and comprehensive understanding of consumers’ engagement with social media in the context of travel planning and its subsequent impacts on the destination brand performance. This study is part of a growing body of research on new media’s effects in marketing and thus will contribute to future research on similar topic.
The objectives of this study are to investigate (i) the association between governance practices and earnings quality (EQ) in family firms; (ii) the association between family culture and EQ in family firms; and (iii) the moderation of governance practices on the association between EQ and family culture. Regarding the first two objectives, the findings show that the adoption of recommended governance practices and family culture relating to family involvement in management, ownership and social factors tends to increase EQ in family firms. Regarding the last objective, the results show recommended governance practices increase EQ in family firms with family involvement in management, ownership and social factors.
Ambroise David Damian Descamps

Doctor of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

Thesis title:
Essays on Information and Beliefs in Dynamic Choices

Description:
This thesis investigates how information is processed and used for economic decision making. It is composed of four essays that use theory, experiments and econometrics to investigate dynamic behaviour. The first part of my thesis studies how costly information is gathered and used in a risky environment. I explore how behavioural biases affect information processing and decisions. The second part of my thesis studies how relative performance feedback affects behaviour in competitions. Using new econometric methods and a novel experimental design, I provide evidence in favour of a ‘positive momentum’, whereby past performance has a positive impact on later performance.

DOI: doi.org/10.5204/thesis.eprints.121077
Email: ambroisedaviddamian.descamps@connect.qut.edu.
Country: France
Supervisors: Lionel Page, Sebastien Massoni
Antonio Dottore

Doctor of Philosophy

QUT Business School

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122969

Email: antonio.dottore@connect.qut.edu.au

Country: Australia

Supervisors: Martin Obschonka, Per Davidsson, Paul Steffens (The University of Adelaide), Henri Burgers (The University of Queensland)

Antecedents of Business Model Adaptation in New Ventures

Description:

This study focusses on what facilitates or impedes adaptation of business model (BM) concept elements in new firms. Using data from QUT’s Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE), the research shows that firms with more human capital and networking demonstrated higher BM adaptation. Additionally, certain aspects of human capital and networking were complementary, and others acting as substitutes for each other, for the purpose of generating BM adaptation. Combining these elements with external (technological and international) contexts uncovered more nuanced explanations of what facilitates or impedes BM adaptation in new firms.
In this thesis is a qualitative investigation of the dynamics of family business conflict in Indonesia. The focus is on conflict between family members working together in a business and there is an exploration of the factors contributing to the escalation or de-escalation of conflict, the behavior of family members in dealing with conflict, and the roles of non-family executives in family business conflicts. The findings reveal that a conflict is more likely to escalate when it involves personal relationship issues, aggressive and/or passive-aggressive behaviors, and non-family executives as messengers or yes-men due to potential communication bias and/or misleading information.
Returnee entrepreneurs are individuals who return to their native country and start a new venture after having studied or worked in another, often more developed, country. They are assumed to be important contributors to economic and societal development of emerging economies. In this thesis is a systematic review of past research as well as empirical studies yielding a conceptual model of returnee entrepreneurs, a classification of the venture types they pursue, and examination of how contextual factors impact intentions to engage in returnee entrepreneurship. This thesis contributes to the advancement of knowledge about these actors and their potential contribution to the development of emerging economies.
Description:

Positive deviance is a form of endogenous innovation that yields exceptional outcomes through non-normative behaviors. Studying franchise chains, this thesis identifies the types of norm departures that are likely to lead to exceptional outcomes, as well as the types of norm departures that management are likely to accept. Differences in outcomes and management acceptance are explained using micro-level Institutional theory and brought together in a management tool which organisations can use to strategically manage innovation. The thesis contributes to practice and academia by extending current understandings of how norms influence both the outcome and acceptance of positive deviance.
Introduction

**Thong Ho**

Doctor of Philosophy

QUT Business School

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.119700

Email: thong.ho@connect.qut.edu.au

Country: Vietnam

Supervisors: Viet Ngu Hoang, Clevo Wilson

**Thesis title:**

Economic Analysis of Sustainable Coffee Production in Vietnam

**Description:**

This thesis presents an economic analysis of sustainable coffee production in Vietnam. It examines economic and environmental performance of different coffee-farming systems, including coffee mono-crop versus diversified systems and sustainability certified versus non-certified farm groups. Results show that diversifying to perennial crops helps improve economic and environmental performance. Certified coffee farms perform better than non-certified farms but there is a convergence of the two groups over time. The research also revealed that farms are faced with a trade-off between cost and environmental efficiency. Advanced irrigation technologies help improve water efficiency, while there is no significant difference in the water efficiency between certified and non-certified farms.
Mohammad Jabbari Sabegh

Doctor of Philosophy

QUT Business School

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115490

Email: m.jabbarisabegh@connect.qut.edu.au

Country: Iran

Supervisors: Jan Christof Recker, Peter Green

Description:

This thesis investigates the use of representations of the relevant features of a system domain, often called conceptual models, during information systems analysis and design. Conceptual models play a significant role in the early detection and correction of information systems development errors. However, understanding of the use of different types of models in practice remains outstanding. Through multiple studies, this thesis provides both an empirical understanding of the combined use of conceptual models in practice and extensions and contingencies to existing theories that explain how and why practitioners use model combinations.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Uttam Khanal

Doctor of Philosophy

QUT Business School

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120363

Email: uttam.khanal@connect.qut.edu.au

Country: Nepal

Supervisors: Clevo Wilson, Boon Lee, Viet Ngu Hoang

Thesis title:

Farmers’ Perspectives on Autonomous and Planned Climate Change Adaptations: A Nepalese Case Study

Description:

This thesis analyses farmers’ preferences and attitudes to agricultural adaptation to climate change in Nepal. The first part of the thesis uses a stochastic production frontier framework to assess the effectiveness of farmers’ implemented autonomous adaptations to minimise climate change impacts and thereby to improve the farms’ production. The second part provides a new perspective on the valuation of adaptation to climate change by using a choice experiment framework where farmers’ preferences for planned adaptations are assessed. The findings of this study are expected to enhance farmers’ adaptive capacity and the resilience of Nepalese agriculture to a changing climate.
Meinanda Kurniawan

Doctor of Philosophy

QUT Business School

Thesis type: Thesis by Monograph

Description:

This dissertation investigates the effect of fund tournaments on style drift and its immediate effect on funds’ active returns (volatility). Using a sample of U.S. equity funds, I find the relation between style drift and tournament rank is convex. I also document evidence of tournament-induced style drift, where funds in the top (bottom) of the mid-year tournament ranking reduce (increase) style drift in the latter half of the year. Examination of the performance effect of style drift shows style-shifting does not create value for investors. An implication of my research is that investors must consider style consistency when selecting funds.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Quang Le

Doctor of Philosophy

QUT Business School

Thesis type: Thesis by Monograph

Thesis title:

Three Essays on Bank Risk

Description:

This thesis presents three essays on bank risk in the United States. It examines the relationship between efficiency and systemic risk, market power and liquidity risk, and diversification and liquidity risk. Banks were exposed to the systemic risk and liquidity risk during the recent financial crisis. My results show a dark side of efficiency and market power as they are per se explaining factors for the systemic and liquidity risk, but a bright side of diversification. The findings support the view that to foster stability, regulators should control efficiency level and market power and may relax diversification.

DOI: doi.org/10.5204/thesis.eprints.120677

Email: quangminh.le@connect.qut.edu.au

Country: Vietnam

Supervisors: Daniel Smith, Yin Liao
Research Graduates eYearbook 2018 - 53

Introduction

Muhammad Ariono Margiono

Doctor of Philosophy
QUT Business School
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.119004
Email: m.margiono@connect.qut.edu.au
Country: Indonesia
Supervisors: Artemis Chang, Stephen Cox

Thesis title:
Social Venture Business Models for Transforming Non-Profit Organizations: Typology-Driven Theorizing

Description:
Social entrepreneurship and social venturing are important for the survival of many transforming non-profit organisations (NPOs). Unfortunately, knowledge is limited about appropriate social venture business models for these transforming NPOs. In this thesis the aim is to address this research gap by establishing a typology of social venture business model configurations based on the characteristics and effective types of business model configurations that transforming NPOs in developing countries can adopt, by establishing the construct validity of the characteristics in the typology, and by further empirically testing the typology using a taxonomic analysis. In doing so, the social entrepreneurship and business model literature is extended.
Mohammad Nisar

Doctor of Philosophy
QUT Business School

Thesis type: Thesis by Monograph

Thesis title:
Give Good Get Good Do Servant Leadership Behaviours Work in a Political Organisational Culture

Description:
In this thesis a mixed method research design is adopted to investigate the mechanisms underlying the relationships between servant leadership and employee task performance and citizenship behaviours. Also examined in this thesis is the impact of organisational politics on these relationships. The research, conducted in a South Asian context, comprises two studies utilising the sequential exploratory mixed-method research design. In the first qualitative study, 25 participants were purposefully selected from five different administrative departments of the case organisation. In the follow-up quantitative study, 236 participants were recruited using a convenience sample. Across both studies servant leaders were found to work effectively to influence subordinates’ task performance and citizenship behaviours. This was the case even in highly political environments where self-centred activities are in abundance.
Introduction

The proliferation of digital technologies has seen many organisations transform their services from physical-only to digital-only or blended. Yet, there is little knowledge about how higher education providers can best respond to the changes triggered by this inevitable digital evolution. This thesis explored this topic focussing on organisational routine, innovation capability and service-environment (servicescape). The contributions are three-fold. First, there is a critical mechanism of interdependency in routine change. Second, the level of interdependency varies whether it is a radical innovation or incremental change. Third, different degrees of virtuality in servicescape create unique patterns for interdependencies, stakeholder relationships, and the digital divide.

Doctor of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

Thesis title:
Exploring Service Innovation Capability In Virtual Servicescapes: An Australian Higher Education Case

Description:

The proliferation of digital technologies has seen many organisations transform their services from physical-only to digital-only or blended. Yet, there is little knowledge about how higher education providers can best respond to the changes triggered by this inevitable digital evolution. This thesis explored this topic focussing on organisational routine, innovation capability and service-environment (servicescape). The contributions are three-fold. First, there is a critical mechanism of interdependency in routine change. Second, the level of interdependency varies whether it is a radical innovation or incremental change. Third, different degrees of virtuality in servicescape create unique patterns for interdependencies, stakeholder relationships, and the digital divide.

DOI: doi.org/10.5204/thesis.eprints.120278
Email: e.nozu@connect.qut.edu.au
Country: Japan
Supervisors: Shane Mathews, Sandeep Salunke
Gevorg Ordyan

Doctor of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

Introduction

Thesis title:
Social Status and Economic Behavior

Description:

This research investigated how social status impacts economic behavior. The first experiment inspired by Range-Frequency Theory tested whether the position between top and bottom members of a comparison group affects social risk-attitudes. The study found no such impact. The second experiment examined the role of internal status hierarchy within small groups during collective risky decisions. Hierarchy does not lead to faster collective decisions as we hypothesise. On the contrary, low-status males resist more during collective decisions. The third experiment investigated the impact of two-dimensional social status on ultimatum bargaining. The study found no evidence of conflict when subjects hold opposite sets of statuses on two different hierarchies.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Description:

Social media has opened new pathways for organisations to innovate, both internally using enterprise social media and externally using social media. This thesis examines the case of a global retailer who adopted social media strategies both internally and externally for innovation. The results show that employees need to have an open mind, be collaborative and be competitive to use enterprise social media for their innovative and routine work practices. The results also show that consumers use social media for their retail practices and provides an internal process for organisations to listen to and filter autonomously provided consumer user-generated content for organisational innovation.

Joanne Patroni

Doctor of Information Technology
QUT Business School
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116547
Email: joanne.patroni@connect.qut.edu.au
Country: Australia
Supervisors: Jan Christof Recker, Marek Kowalkiewicz, Frederik von Briel

Thesis title:

Opening up Innovation: How a Retailer Leverages User-Generated Social Media Content for Innovation
Aimee Riedel

Doctor of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.121078
Email: aimee.riedel@connect.qut.edu.au
Country: Australia
Supervisors: Clinton Weeks, Amanda Beatson

Thesis title:
Examining the Effects of Varying Levels of Consumer Control over Advertising Intrusiveness on the Advertising Brand

Description:
This thesis examines the effects of consumer control over advertising intrusiveness on the advertising brand across two intrusive advertisement types: banner and pop-up advertisements. In study one, a conceptualisation of advertising intrusiveness is developed. In study two, it is identified that a mechanism - a countdown - can be utilised to overcome an inconsistency in brand preference and memory outcomes, leading to more positive effects for the brand for intrusive banner advertisements. It is also identified that a perceived level of control can be used, but is not imperative, to produce optimal brand outcomes for intrusive pop-up advertisements.
The Clarity of Disclosure in Patents: An Economic Analysis Using Computational Linguistics

Description:

This thesis aims to explore and demonstrate the use of computational linguistic analysis to measure the ‘readability’ of patent documents. By using readability as a proxy for the extent of disclosure in patent documents, this thesis studies whether patent applicants may strategically choose the disclosure level for their patents, and how the disclosure level would affect the patent acquisitions and patent examination. This thesis introduces a new method to the quantitative economic analysis of patents, and generates research results with important implications for patent policy and practice.
Stephen Whyte

Doctor of Philosophy
QUT Business School
Thesis type: Thesis by Publication

Decision Making in Mate Choice Markets

Description:
Choosing a mate is arguably the largest decision a human can make. Mate choice can have significant short and long run impacts on the individual decision maker, as well as macroeconomic impacts for society. By studying individuals mating preferences and behaviours, and the factors at play when individuals make mate choice decisions, behavioural science can build a more developed understanding of the unseen mechanisms that drive large scale decision processes. Understanding the interplay of such factors as an individual's biology, personality, education, income, sex/gender, sexuality, and micro level behaviour, can inform and develop sciences understanding of how humans make decisions.

DOI: doi.org/10.5204/thesis.eprints.118622
Email: stephen.whyte@connect.qut.edu.au
Country: Australia
Supervisors: Benno Torgler, Uwe Dulleck, David Savage
(The University of Newcastle)
Suichen Xu

Doctor of Philosophy
QUT Business School
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.119190
Email: suichen.xu@connect.qut.edu.au
Country: China
Supervisors: Janice How, Peter Verhoeven

Thesis title:
Securities Law Violation and Reputation Loss in the Chinese Capital Market

Description:
This thesis examines reputation loss of firms violating Securities Law in China, where the legal system is incomplete and legal enforcement is weak. I find that reputation loss plays an important role in disciplining fraudulent Chinese firms, even in state-owned firms. The reputation loss is directly related to deteriorating ‘terms of trade’. Restructuring firm through merger and acquisition (M&A) is ineffective in restoring damaged reputation in the short run.
Introduction

This dissertation presents a big-picture view for policymakers and related stakeholders regarding the future development of car-sharing services. Car sharing has the potential to significantly disrupt the personal mobility market, particularly on the dawn of self-driving cars. Thus, understanding car-sharing service’s market penetration and implications are urgently needed. Studies in this thesis aim to forecast the penetration of car-sharing, to investigate if car-sharing influence consumers’ vehicle ownership decision, and to explore the impacts of car-sharing on households’ mode choice decision.

Fan Zhou

Doctor of Philosophy

QUT Business School

Thesis type: Thesis by Monograph

Thesis title:

The Impacts of Car-sharing and Shared Autonomous Vehicles on Urban Mobility: Towards a Sustainable Future

Description:

This dissertation presents a big-picture view for policymakers and related stakeholders regarding the future development of car-sharing services. Car sharing has the potential to significantly disrupt the personal mobility market, particularly on the dawn of self-driving cars. Thus, understanding car-sharing service’s market penetration and implications are urgently needed. Studies in this thesis aim to forecast the penetration of car-sharing, to investigate if car-sharing influence consumers’ vehicle ownership decision, and to explore the impacts of car-sharing on households’ mode choice decision.

DOI: doi.org/10.5204/thesis.eprints.121497

Email: fan.zhou@connect.qut.edu.au

Country: China

Supervisors: Lionel Page, Robert Perrons
Kaitlin Bell

Master of Arts (Research)  
Creative Industries Faculty  
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115464  
Email: k26.bell@connect.qut.edu.au  
Country: Australia  
Supervisors: Gene Moyle, Lee McGowan, Jason Gulbin (Swiss Federal College of Sports Magglingen)

Thesis title:
Chasing Dreams: Investigating Talent Indentification and Development in Ballet

Description:
This research examined talent identification and development in ballet in the Australian context, through the unique application of the Foundation, Talent, Elite, Mastery (FTEM) framework originally developed for application within a sporting context. Professional and recently retired ballet dancers were surveyed and interviewed regarding the development of their expertise. By examining the participant’s training and career pathways through the lens of the FTEM framework, key factors that influenced the progression of the dancers’ careers were identified, highlighting that each dancer’s pathway is unique and complex.
Introduction

The September 11 attacks were designed as a series of actions that would symbolise the fall of American capitalist icons with the intention that the images would be globally disseminated and repeated sensationnally. Despite the visibility of the attacks in mainstream media and the subsequent use of paradigmatic phrases such as ‘post-9/11 art and aesthetics’, there is a distinct lack of visual artworks that openly respond to the events. This project investigates the complex factors that have resulted in the sensational dissemination and yet subsequent disavowal of the September 11 attacks in mainstream media and visual art. This process of disavowal, consisting of abstracting text and images until they become simulacral fragments that do not immediately conjure the events, facilitates an unexpected and irrational connectivity known as apophenia, a key discovery in the project.

Master of Fine Arts (Research)

Creative Industries Faculty

Thesis title: Missed Encounter: Disavowal, Apophenia, Obscenity and Reenactment in Contemporary Art

Description:

The September 11 attacks were designed as a series of actions that would symbolise the fall of American capitalist icons with the intention that the images would be globally disseminated and repeated sensationnally. Despite the visibility of the attacks in mainstream media and the subsequent use of paradigmatic phrases such as ‘post-9/11 art and aesthetics’, there is a distinct lack of visual artworks that openly respond to the events. This project investigates the complex factors that have resulted in the sensational dissemination and yet subsequent disavowal of the September 11 attacks in mainstream media and visual art. This process of disavowal, consisting of abstracting text and images until they become simulacral fragments that do not immediately conjure the events, facilitates an unexpected and irrational connectivity known as apophenia, a key discovery in the project.
Claire Byrnes

Master of Fine Arts (Research)  
Creative Industries Faculty  
Thesis type: Thesis by monograph  

DOI: doi.org/10.5204/thesis.eprints.121424  
Email: c.byrnes@connect.qut.edu.au  
Country: Australia  
Supervisors: Glen Thomas, Craig Bolland

Thesis title:

Blood on her hands: a practice-led approach to exploring violent heroines in dystopian fiction

Description:

This creative practice-led research project investigates the creation of violent female protagonists in dystopian fiction in order to discover what these type of characters reveal about society’s ideas of gender. The outcome of the project is research product or artefact, a work of fiction titled ‘Swan Song’. The work is deliberately poetic in presentation to encourage readers to consider the complexity of female gender construction. The project accomplishes this by incorporating aspects of evocative practice research, action research, and fiction in the research methods.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Description:

The design of services is increasing in complexity; contemporary businesses must now consider how their services can be both provided at commercial scales while being meaningful to their users. This difficulty is captured by the meal kit service model, which must determine how to accommodate the numerous customer food values with a limited product range. In response to this challenge, this study observes how customers routinely use the meal kit service through design and service dominant logic concepts. The findings identify that customers would draw upon both their personal network and the meal kit service to achieve their personal dinner values. This study then concludes with the mechanisms of this network management, the insights of which can be used to inform the design of service functions that accommodate multiple customer values.

Master of Philosophy

Creative Industries Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.121149

Email: brett.camilleri@connect.qut.edu.au

Country: Australia

Supervisors: Marianella Chamorro-Koc, Udo Gottlieb

Thesis title:

It's A Social Business: Mapping The Influence of Meal Kit Services in User Value and Co-Created Experiences

Brett Camilleri
Michelle Carter

Master of Arts (Research)  
Creative Industries Faculty

Description:

Recent disruption to the art market has dismantled traditional barriers to entry for new artists and created opportunities for them to reach audiences and develop micro businesses from their practice. However, the majority of Australian artists are untrained in creating profitable business models from their art practice. In order for artists to identify potential opportunities they must rethink their current business strategies and resultant business model. This research project provides a practical tool for use in the business model innovation process by refining Osterwalder and Pigneur’s Business Model Canvas specifically for visual arts practitioners.

Thesis title:

The Creative Business Model Canvas: The Business Model Canvas Reimagined for Visual Artists

DOI: doi.org/10.5204/thesis.eprints.116550  
Email: m24.carter@connect.qut.edu.au  
Country: Australia  
Supervisors: Christy Collis, Victoria Garnons-Williams
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Dylan Crawfoot

Master of Philosophy

Creative Industries Faculty

Thesis type: Thesis by Creative Work

Thesis title:
The Role of the Album in Popular Music Production

Description:

This project involved practice led research to examine the role of the album in music production today. The thesis considers the changing nature of the music industry, and the shift away from physical formats to streaming that allow the listener greater autonomy in creating their own listening experiences. Interviews were conducted with current industry practitioners, and an album recorded to demonstrate how a cohesive, extended body of work by an artist can still be created and presented to an audience.
Stephane Elmosnino

Master of Philosophy  
Creative Industries Faculty  
Thesis type: Thesis by Monograph  

DOI: doi.org/10.5204/thesis.eprints.122414  
Email: stephane.elmosnino@connect.qut.edu.au  
Country: Australia  
Supervisors: Gavin Carfoot, Yanto Browning

Thesis title:

Instructional Design Considerations for The Development of Critical Listensing Skills in Audio Engineers

Description:

This project is a qualitative study which examines how best practice in multimedia learning can benefit learners using text-and-illustrations-based books. Drawing on data from six undergraduate audio engineering students, instructional design elements which are appropriate for the improvement of critical listening skills are put forward.
Lucinda Hearn

Master of Arts (Research)  
Creative Industries Faculty  
Thesis type: Thesis by Creative Works  
DOI: doi.org/10.5204/thesis.eprints.117287  
Email: l.hearn@connect.qut.edu.au  
Country: Australia  
Supervisors: Philip Graham, Gavin Carfoot

Thesis title:  
Wild Release: Making Albums for Audiences in a Short-form Economy

Description:

The importance of making full length albums has been questioned in light of recent changes in the music industry, and there have been a variety of responses from artists and labels. Many of these responses have been highly specific, and may not lend themselves to being scaled up effectively or to innovative ways of rethinking the relationship between artists and fans. Here I make the case that responses thus far are lacking, and point to the need for more broadly applicable and sustainable response techniques. Using a practice-led research project, I seek out such response techniques. I explore three modes of practice: creating a release and distribution experiment; creating a set of aesthetic musical rules; and creating a character for performance. I detail new operational knowledge in the form of narrative tools each mode of practice has uncovered, demonstrating the potency of using narrative tools in order to (re)engage audiences with the album as a musical form.
Description:

This thesis provides a revised understanding of cultural heritage through the application of archival methodologies to a personal archive. The archive, a collection of popular music ephemera amassed by Brisbane music journalist Ritchie Yorke, is used to demonstrate how archival material can articulate key historical events. Two events are looked at in depth, specifically John Lennon and Yoko Ono’s War Is Over! peace campaign and the Maple Music Junket. Through the use of archival methods a more nuanced history of popular music and its cultural significance is presented.
Maria Hoffmann

Master of Fine Arts (Research)  
Creative Industries Faculty  
Thesis type: Thesis by Creative Works  
DOI: doi.org/10.5204/thesis.eprints.119191  
Email: luisa.hoffmann@connect.qut.edu.au  
Country: Australia  
Supervisors: Rachel Pedro, Jennifer Roche

Thesis title:
Adapting Rudolf Steiner’s Zwoelf Stimmungen (Twelve Moods): Insights from Reworking a Group Eurythmy to a Solo Performance

Description:
This practice-led research explores the implications of creating a form for a solo performer of a eurythmy poem Zwoelf Stimmungen (Twelve Moods) which was originally moved by a group. The nature of the poem and the current situation of eurythmy make this creation relevant. This thesis focusses on the methodology used during the practice and includes an introduction to this art of movement in relation to other dance forms.
Duncan King-Smith

Master of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Creative Works

Description:
This practice-led project is the experimental re-interpretation of an extensive archive of soundscape recordings and original songs, and was developed in collaboration with the visual artist Leah King-Smith as the exhibition Mill Binna ("eye - ear", Bigambul). The theoretical basis of the project drew on concepts and terms associated with the Chinese literati landscape tradition articulated through the writings of François Jullien. This alignment of classical Chinese painting practices and soundscape methodologies enriches the field of understanding to which the soundscape may lay claim.
Christina Langham

Master of Arts (Research)
Creative Industries Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122228
Email: christina.langham@connect.qut.edu.au
Country: Australia
Supervisors: Christy Collis, Kevin Sanson

Thesis title:

Description:
This project explored the use of brand identities in Brisbane independent music marketing. The thesis explored how these strategies were perceived by music consumers and industry professionals in the area, and in doing so, identified ways in which these strategies could be used to create a musical brand identity.
Introduction

Melancholy and the Memorial: Representing Loss, Grief and Affect in Contemporary Visual Art

Description:

This is a practice-led project that explores how contemporary art can respond to the limitations of traditional forms of language in the representation of trauma, loss and grief. The project reflects on the work of theorists and artists who also explore the ineffability of these memories and experiences. The creative outcomes have investigated how text, moving image, sound and space can be combined to reframe the dialogue around public and private expressions of trauma and open up discussion of the potential for shared, affectual experiences through art.

Annie Macindoe

Master of Fine Arts (Research)

Creative Industries Faculty

Thesis type: Thesis by Creative Works

DOI: doi.org/10.5204/thesis.eprints.119695

Email: annie.macindoe@connect.qut.edu.au

Country: Australia

Supervisors: Rachael Haynes, Charles Robb, Courtney Pedersen

Annie Macindoe
Toby Mackay

Master of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

Thesis title:
Le Corbusier: Sport and Stadia

Description:
This thesis presents an historical account of sport and stadia in the work of Swiss-French architect Le Corbusier. It examines the theoretical and political frameworks around sport and stadia, beginning with his major urban plans Ville Contemporaine (1922), Plan Voisin (1925), and Ville Radieuse (1930), followed by his stadium proposals Stade de 100,000 Places (1936) and Stade de Baghdad (1956-73). It reveals the significance of sport in Le Corbusier’s urban theories, as well as presenting a largely untold history of sport and stadia in Le Corbusier’s body of work.
Wendy McGrath

Master of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Creative Works

Thesis title:
Digging Deep: Material Investigations into the Intangible Aspects of Landscape Sites Towards a Holistic Representation of Place within Creative Practice

Description:
This body of creative practice research extends investigation into the tangible and intangible aspects of landscape sites, where the artist navigates contemporary theories and hypotheses around energy, matter, embedded memory and vital materialism of landscapes and associated artefacts as process. The research addresses the ways in which artists investigate attributes of the theories through practical research in the context of making site-specific art.
Richard Meyers

Master of Arts (Research)  
Creative Industries Faculty  
Thesis type: Thesis by Monograph  
DOI: doi.org/10.5204/thesis.eprints.121490  
Email: richard.meyers@connect.qut.edu.au  
Country: Australia  
Supervisors: Peter Schembri, Daniel Johnson

Thesis title:
Exploring the Experiences of Gamers Playing as Multiple First-Person Video Game Protagonists in Halo 3: ODST's Single-Player Narrative

Description:
This thesis explores the experiences of gamers playing as multiple first-person video game protagonists in Halo 3: ODST. The aim of the study was to develop an understanding of player experience, principally for the benefit of developers in the gaming industry, where a large number of contemporary video games have multiple playable characters. Interpretive Phenomenological Analysis (IPA) was used as a research methodology, with data gathered primarily through semi-structured interviews. The key finding was a dissatisfaction among participants at points where gameplay design did not complement narrative design, and where a late plot-twist was not as enticing as the original premise.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Juexiao Mo

Master of Design (Research)  DOI: doi.org/10.5204/thesis.eprints.118351
Creative Industries Faculty  Email: juexiao.mo@connect.qut.edu.au
Thesis type: Thesis by Monograph  Country: China
Thesis title:
ARG Design for Orientation of College Students in Mainland China

Description:

This project, ZOOMBREAK, is an Alternate Reality Game (ARG) designed to serve as an alternative to traditional university orientation events, especially in the context of China. It leverages the social engagement of an ARG to encourage participation, facilitate cooperation between new students, and build a culture of camaraderie. The exegetical document evidences a rigorous design-based research approach strengthened by a thorough context and case study analysis to inform the overall design concept and techniques for delivery. The analysis has included formats such as games, television shows, and marketing campaigns with similar themes and objectives, which informed the creation, evaluation, and refinement of the work. Hence, this exegesis may be used as a guide and reference for similar projects in the future.
Gabriela Monteiro Lunardi

Master of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

Description:
This thesis uses the concept of the ‘zoeira’, a particularly Brazilian form of humour, to undertake a cultural analysis of Brazilian internet memes and their role in contemporary culture. Through a close textual analysis of three memes, it details how memes represent specific aspects of Brazilian culture and how Brazilian meme culture relates to the broader popular culture of the internet. It concludes with findings about the social and cultural meanings of humour for Brazilian digital culture, showing that Brazilian memes work as tools for political protest and for building a shared cultural identity.
Megan Schroder

Master of Arts (Research)

Creative Industries Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122966

Email: megan.schroder@connect.qut.edu.au

Country: Australia

Supervisors: Sandra Gattenhof, Jill Willis

Thesis title:

Making Futures: The Role of Agency and Possibility Thinking in the Creative Lives of Young People

Description:

Education, employers and governments are focusing on creativity as a crucial attribute in the development of young people. Utilising Craft’s (2000, 2001) framework for ‘little c’ creativity and ‘possibility thinking’ this study explores how schools are fostering creative attributes in senior school students. Combined with Eisner’s (1998, 2002) framework for knowledge, imagination and innovation as its lens, it uncovers aspects of creativity students identify as helpful in preparing for creative futures. Using a bounded case study approach, this research considers the stories of six Queensland senior school students to discover how young people are employing a ‘possibility thinking’ approach to life, engaging with play, imagination, risk taking and question posing, to shape themselves and solve problems daily. The study reveals the important role creative adults play, at school and at home, empowering learners to connect ideas, develop new perspectives and solutions in unique ways.
Introduction

Description:

Art historical research has shown that women’s experiences have largely been under-represented in the fine arts; simultaneously, the applied arts that many women have traditionally used as a primary form of self-expression have been deemed equally inadequate for recognition. The reunification of craft with fine arts is essential as a means to bring visibility to rites of passage of the feminine. This practice-led research relocates women’s experience by exploring the concept of the invisible but imperative functions of spaces and voids created by the methods and aesthetics of crochet. Through the lens of practice, in five iterations of creative work, the focus of this research seeks to illuminate the ineffable details of female experience.

Meaghan Shelton

Master of Fine Arts (Research)  
Creative Industries Faculty

Thesis type: Thesis by Creative Works

Thesis title:
‘intricate, infinite’ Addressing the Ineffable Aspects of Women’s Experience Through the Lens of Traditional Craft Practice

Description:

Art historical research has shown that women’s experiences have largely been under-represented in the fine arts; simultaneously, the applied arts that many women have traditionally used as a primary form of self-expression have been deemed equally inadequate for recognition. The reunification of craft with fine arts is essential as a means to bring visibility to rites of passage of the feminine. This practice-led research relocates women’s experience by exploring the concept of the invisible but imperative functions of spaces and voids created by the methods and aesthetics of crochet. Through the lens of practice, in five iterations of creative work, the focus of this research seeks to illuminate the ineffable details of female experience.
Nathan Sibthorpe

Master of Fine Arts (Research)  
Creative Industries Faculty

Thesis type: Thesis by Creative Works

DOI: doi.org/10.5204/thesis.eprints.121498
Email: nathan.sibthorpe@connect.qut.edu.au
Country: Australia
Supervisors: Sandra Gattenhof, Glen Thomas

Thesis title:
The Effect of Embodied Metafiction in Contemporary Performance

Description:
This study seeks to define a particular sub-genre of contemporary performance where self-awareness is a significant factor in the audience’s experience. Exemplified in the development of a new performance work (‘Spectate’), the term ‘embodied metafiction’ is proposed as a way of understanding the effect of highlighting an audience’s presence and participation in the theatrical experience. Principles of ‘embodied metafiction’ are observed through ‘Spectate’ to demonstrate how an audience can be stimulated to experience a more vivid sense of the immediate present when their bodies and minds are positioned as part of a complex web of meaning.
Amanda Terry

Master of Fine Arts (Research)  
Creative Industries Faculty  
Thesis type: Thesis by Creative Works

Thesis title:
Waking up to Waste: Exploring the Transformative Capacities of Deep Listening and Sound Art

Description:
This study investigates how improvisational Sound Art performance, focussed through the practice of ‘Deep Listening’, can promote new insights into societal understandings of ‘waste’. Consumable items that are initially considered valuable very quickly become re-categorised as waste. This tacit process, aided by the ways in which we then hide those items in bins, landfills and the atmosphere, limits reflection on the ecological ramifications of creating such ‘waste’. The study sought to change public perception of these materials ‘out of place’ via an improvised sound art performance, that categorised and utilised waste items as valued sound making instruments.
Michael Ward

Master of Arts (Research)  
Creative Industries Faculty  
Thesis type: Thesis by monograph

DOI: doi.org/10.5204/thesis.eprints.115247  
Email: m28.ward@connect.qut.edu.au  
Country: Australia  
Supervisors: Stuart Cunningham, Mark Ryan

Thesis title:
ABC Television Sport: Public Broadcasting, Innovation and Nation Building

Description:
This thesis is a history of ABC television sports broadcasting, focussing on Test cricket coverage to the 1970s and the reinvention of ABC sport following World Series Cricket (WSC). It charts public broadcasting innovation, using ABC sport to illustrate public broadcasting’s role as both a comprehensive and a complementary sports broadcaster, but at different times. The thesis confronts received wisdom of a WSC “revolution” with analysis of ABC production and audience strategies. The thesis places the contemporary era of ABC TV sport in this historical frame, with its focus on sports ignored by commercial broadcasters, including women’s and Paralympics sport.
Mehdi Amirkhani

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Publication

Thesis title:
Innovative Integrated Window Design with Electric Lighting Design System to Reduce Lighting Intervention in Office Buildings

Description:
A high luminance contrast between windows and surrounding surfaces can increase the risk of discomfort glare, which can diminish office workers’ satisfaction and productivity. This research explored how increasing the luminance of areas surrounding the window using an innovative electric wall-washing system could improve subjective scores for the window appearance, as well as reducing energy bills in offices with different window-to-exterior-wall ratios. This study demonstrated that the proposed low power electric wall-washing system does efficiently improve window appearance, and also mitigates problematic interventions in lighting conditions that lead to increased energy consumption in buildings.
Moya Baldry

Doctor of Creative Industries
Creative Industries Faculty
Thesis type: Thesis by Creative Works

DOI: doi.org/10.5204/thesis.eprints.122987
Email: m.baldry@connect.qut.edu.au
Country: Australia
Supervisors: Debra Polson, Evonne Miller

Thesis title:
Complex Narratives: Extrapolating the role of the author through the design of a Virtual Reality experience

Description:
This practice-led research project extrapolates the role of the author through the design of a complex narrative for a virtual reality experience. The researcher uses recursive design to develop an indeterminate narrative for a complex digital environment that may be realised in Virtual Reality. The project uses cybernetics and the complexity sciences to embed narrative in the era of complexity.
Hilde Bennett Heim

Doctor of Creative Industries
Creative Industries Faculty
Thesis type: Thesis by Creative Works

DOI: doi.org/10.5204/thesis.eprints.122563
Email: hilde.bennetheim@connect.qut.edu.au
Country: Australia
Supervisors: Alice Payne, Tiziana Ferrero-Regis

Thesis title:
Fashioning Business: Updating Support for Local, Small-Scale Independent Fashion Designers

Description:
Small-scale fashion designer businesses are emerging in many locations, including in cities not known as fashion centres, such as Brisbane. This study identifies the factors that contribute to business success or failure, not least of which is the support owner-designers receive during the life cycle of their business. The study revealed that a complex set of requirements is needed to support those practices, including access to relevant and credible information, community interaction and tailored mentoring. The study resulted in the development of an online resource to support independent designers to build successful and resilient local fashion businesses.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Claire Brophy

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116548
Email: claire.brophy@connect.qut.edu.au
Country: Australia
Supervisors: Thea Blackler, Vesna Popovic

Thesis title:
Design for Older Users: The Importance of the Human-Technology Relationship

Description:
Age-related changes play a significant role in technology interactions. While interactions with technology are evolving rapidly, an understanding of the current generation of older people is not. This research advances existing knowledge by providing a deeper understanding of the complex relationship older people have with everyday technology. Adopting a person-centred approach, data collection involved questionnaires, interviews and concurrent verbal protocol. The significance of this research is its challenge to stereotypical assumptions of older technology users, and how ‘older people’ are defined, portrayed, and understood currently. This research presents new avenues for research and design for older people - perspectives that focus on the unique sociocultural factors of the post-war generation, and the significance of personal preferences and values.
Lindy Osborne Burton

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Publication

Thesis title:
Experimentations in Transformational Pedagogy and Space: The Architecture Students’ Experience

Description:
Conducted across five studies, this research investigates how learning environments can contribute to transformational design pedagogy and authentic learning experiences. It offers four dimensions to an architectural education transformational framework: (1) scaffolding learning experiences, both pedagogically and spatially; (2) constructing authentic, immersive and engaging learning experiences; (3) reinforcing teaching experimentation and risk taking; and (4) embedding environments with technology plus. This Thesis by Publication concludes with a proposal of a case for enchanting, exuberant learning environments and invites a transformational way of conceptualising contemporary issues in architectural education.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Benjamin Carey

Doctor of Philosophy

Creative Industries Faculty

Thesis type: Thesis by Creative Works

Thesis title:
The Architect of Forking Paths: Developing Key Writing Strategies for Interactive Writers

Description:

‘The Architect of Forking Paths’ examines the creative writing process involved in producing interactive narratives. Stories that feature interaction offer a substantially different reading experience because the reader influences the order, and often the outcome, of the story. This heightened level of participation adds another dimension to the process of conceptualising and writing such narratives. This thesis investigates this writing process using a number of research methods including creative writing, interviews with practitioners, content/textual analysis, and reflective practice. The exegesis contributes to theoretical and practical knowledge in the field of creative writing research by investigating the writing process involved in creating interactive narratives and proposing a group of potential writing strategies for authors. The creative component of this thesis is a 50,000 word interactive novel titled Ouroboros.

DOI: doi.org/10.5204/thesis.eprints.115836

Email: ben.carey@connect.qut.edu.au

Country: Australia

Supervisors: Susan Carson, Craig Bolland
Ella Chorazy

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

Thesis title:
Spin Unspun: Unravelling Cultural Representations and Audience Understandings of Political Public Relations

Description:
This thesis explores representations of political public relations (PR) in fictional film and television. Combining textual analysis, interviews, and focus groups, it investigates how fictional representations inform audience understandings of political PR professionals and their practices. The research highlights ongoing tensions tied to the phenomenon of political PR, and themes of power, persuasion, trust, and cynicism are prevalent. Findings demonstrate fictional representations serve as important cultural reference points for audiences in negotiating their understandings of political PR. This thesis argues these representations heighten public awareness and encourage critical consideration of political communication and the role of “spin” in mediated democracies.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Heather Clarke

Doctor of Creative Industries

Creative Industries Faculty

Thesis type: Thesis by Creative Works

DOI: doi.org/10.5204/thesis.eprints.121495

Email: heather.clarke@connect.qut.edu.au

Country: Australia

Supervisors: Gene Moyle, Rachel Pedro

Thesis title:

Social dance and early Australian settlement: An historical examination of the role of social dance for convicts and the 'lower orders' in the period between 1788 and 1840

Description:

This is the first comprehensive survey of social dance in the Australian colonies in the period between 1788 and 1840. The thesis investigated the convict and 'lower order' dance culture through extensive historical research combined with a series of workshops. It indicated that dance was a significant factor in the lives of the 'lower orders' and convicts in the early colony. Dance was a pastime that brought people together, gave hope and good cheer in the harshest of situations, allowed a temporary escape from troubles and encouraged people to put aside grievances. This practice-led research revealed important insights into the relevance of dance in the past, present and future.
Sarah Collyer

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

Thesis title:
Yoga for Singers - A Holistic Practice Tool

Description:
This thesis explored the design and implementation of a holistic practice tool for singers, utilising the principles and practices of Hatha yoga and an experiential person-centered education model within a mixed-methods action research design. Singers participating in the program reported a range of positive, wellbeing related outcomes and the results of the study revealed three principle considerations for conducting holistic, person-centred education in the performing arts: process before product, integrated experiential learning and reflection in action. These three considerations can be used to design future educational programs addressing the health and wellbeing of singers and other performing artists.
Introduction

Description:

Plug-in electric vehicles (PEVs) are one new technology which offers promise for transport sustainability and improving energy efficiency. Global enthusiasm for PEVs has spurred broad-reaching interest, but for jurisdictions where PEV policies are absent, as in Australia, consumer adoption continues to be low. Research into the barriers of adoption for PEVs often identifies cost and lack of infrastructure as key barriers, but consumer’s purchase experience plays a pivotal role in technology adoption. This research will help the PEV industry and governments to understand how critical the consumer purchase experience is to overall market success.

Doctor of Philosophy

Creative Industries Faculty

Thesis type: Thesis by Monograph

Thesis title:

Influence of New Car Buyers’ Purchase Experience on Plug-in Electric Vehicle Demand

DOI: doi.org/10.5204/thesis.eprints.116541

Email: a.dini@connect.qut.edu.au

Country: United States of America

Supervisors: Laurie Buys, Robert Perrons

Alina Dini
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Sara Ekberg

Doctor of Philosophy

Creative Industries Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115785

Email: sara.ekberg@connect.qut.edu.au

Country: Sweden

Supervisors: Patrik Wikstrom, Per Davidsson, Folker Hanusch, Olof Brunninge (Jonkoping University)

Description:

How does an organisation respond to radical external change that threatens its fundamental values and norms? This is a question that organisations in numerous industries have faced during the last two decades as they are challenged by transformative forces. By exploring the role of organisational integrity in responses to pressure, this dissertation extends the understanding of how organisations balance change and inertia. More specifically, this study highlights the challenges organisations with strong professional values face during disruptive changes and adds to the scholarly discussion of the importance of values in professional organisations.

Thesis title:

The Role of Organizational Integrity in Responses to Pressures: A Case Study of Australian Newspapers
Introduction

This thesis investigates new spatial relationships in music production triggered by the proliferation of low-cost digital music production tools and how they have changed factors of time and creativity for the record producer and recording artist. Research methods combine creative practice with participant observation through a comparative set of music production projects that compare recordings done in large-format recording studios with those done in DIY contexts, and with a hybrid approach combining both. The findings indicate a new recording paradigm in which DIY spaces have become a domesticated form of a once industrialised production process.

Doctor of Philosophy

Creative Industries Faculty

Thesis title: Space, Time, Creativity, and the Changing Character of the Recording Studio: Spatiotemporal Attitudes Toward ‘DIY’ Recording

Description:

This thesis investigates new spatial relationships in music production triggered by the proliferation of low-cost digital music production tools and how they have changed factors of time and creativity for the record producer and recording artist. Research methods combine creative practice with participant observation through a comparative set of music production projects that compare recordings done in large-format recording studios with those done in DIY contexts, and with a hybrid approach combining both. The findings indicate a new recording paradigm in which DIY spaces have become a domesticated form of a once industrialised production process.
Heather Lorraine Hill

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

Thesis title:
Connecting to Self, Community, and the Environment: Energy Conservation and Well-being in Households with Low Income

Description:
This thesis advances knowledge in the household energy conservation field by developing a transdisciplinary, systematic program that improves the well-being and conservation levels of households with low-income. Drawing on proven and recognised principles from self-determination theory and psychology this thesis conducted three studies. It examines therapeutic approaches that enhance well-being and facilitate change, and suggestions for an effective energy conservation program. Next, Brisbane renters with low-income intrinsic motivations, energy conservation program suggestions, and overall needs, values, and life satisfaction are evaluated in order to create applied solutions for NGOs, governments, and HCI and psychological fields.

DOI: doi.org/10.5204/thesis.eprints.122957
Email: h4.hill@connect.qut.edu.au
Country: United States of America
Supervisors: Marcus Foth, Evonne Miller
Abdullah Khayrallah

Doctor of Philosophy

Creative Industries Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115757

Email: a.khayrallah@connect.qut.edu.au

Country: Kuwait

Supervisors: Terry Flew, Axel Bruns

Thesis title:

The Transformation of Kuwait Television from 1961 to 2015: Current Challenges and Future Opportunities for National Public Service Television to Promote and Arab Public Sphere in the Context of Globalisation

Description:

This thesis explores the connections between local television viewers and the state-owned television operation in the State of Kuwait. It examined the political, economic and socio-cultural forces that animate all aspects of Kuwaiti life. It offers an interpretation of public debate, critically analysing the relationship between local, regional and global television in the context of globalisation and the changing dimensions of Arab and Middle Eastern television. The thesis argues that the decline in Kuwait Television (KTV) viewership is the result of a lack of government attention to the service. The result is a mismatch of television content and national aspirations, whose significance has been exacerbated in recent years with the proliferation of satellite channels in Arab nations.
Greg Kramer

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

Description:
This thesis is focused on Australian citizens who are not interested in politics and finds that there are at least twenty percent of Australians who are politically uninterested. The major finding is that uninterested voters determined the outcome of the 1987, 1993 and 2010 elections in favour of Labor. They also decide around eight House of Representative seats at each election. We are all affected as major political parties focus on uninterested swinging voters in order to attract their attention resulting in fringe issues hijacking politics.

DOI: doi.org/10.5204/thesis.eprints.118186
Email: greg.kramer@connect.qut.edu.au
Country: Australia
Supervisors: Clive Bean, Jason Sternberg

Thesis title:
The Apathetic Country: Are Australians Interested in Politics and Does it Matter?
Introduction

This thesis introduced a new way of studying racism on social media. It developed the concept of ‘platformed racism’ to describe how racism emerges from the design, business models, governance, and cultures of use of digital media platforms. It applied this concept to the controversy around the booing of Indigenous Australian Football League player Adam Goodes, and used the multiplatform issue mapping method to analyse how it played out on Twitter, Facebook, and YouTube. The thesis found that racism is both structural - maintained by the platforms’ infrastructure and processes - and ordinary, manifesting through everyday user practices. It concludes with recommendations for counter-racism in both platform design and social media use.
Nerida Matthaei

Doctor of Creative Industries
Creative Industries Faculty
Thesis type: Thesis by Creative Works

DOI: doi.org/10.5204/thesis.eprints.116353
Email: n.matthaei@connect.qut.edu.au
Country: Australia
Supervisors: Cheryl Stock, Jennifer Roche, Carol Wellman Kelly (Australian Dance Theatre)

Thesis title:
Recontextualising My Choreographic Self: Conceptual and processual strategies for rerouting practice

Description:
This practice-led research project defines a methodological basis for the recontextualisation and rerouting of this artist-researcher’s choreographic praxis. This was achieved via experimenting and testing new contemporary strategies underpinned by embodied reflexive practices and creative case studies, which resulted in the creation of new performance works. The study provided the researcher with mechanisms to articulate, recontextualise and interrogate processual choreographic complexities. Situated in the shifting landscape of the independent choreographer-dancer-producer, it identifies that investigating processual choreographic innovation has been vital to the researcher’s ongoing artistic development and acknowledges this necessity for the broader field of contemporary choreographic practice.
Introduction

Description:

For older adults, Internet usage is increasing and at the same time, finding information in a large website is never easy. This study aimed to understand the impact of web familiarity and content knowledge on older adults’ web searching behaviour in large information websites. Experimental observations with think-aloud protocol were used to gather and analyse data from 70 older adults. Results indicated quick and correct use of features by high web familiarity older adults. A Familiarity-based Web Design (FWD) framework is proposed as an outcome to help design websites that are friendly to lower web familiarity and content knowledge older adults.
Peter O’Brien

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.115837
Email: p7.obrien@connect.qut.edu.au
Country: Australia
Supervisors: Clive Bean, Terry Flew, Gavin Kendall (University of London)

Thesis title:
Calculating the Professional: Standards and the Government of Professional Practice

Description:
This thesis-by-publication problematised professional standards for teachers in Australia. Professional standards were found to regulate and activate teachers’ professional conduct - opening it to unknowns - by articulating forms of knowledge from education, business, popular psychology, and ‘self-help’; and by deploying techniques from frameworks of performance development to ‘apps’ for smart devices. Yet professional standards were found to be a double-edged sword: standards-based performance risks standardising professionals; activating professional autonomy risks unrelenting and pointless activity; and ‘improper’ choices in relation to standardised norms risks sanction and illiberal intervention. Always attenuating such calculated endeavours are teachers’ personal-professional aspirations and goals.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Emily O’Grady

Doctor of Philosophy

Creative Industries Faculty

Thesis type: Thesis by Creative Works

DOI: doi.org/10.5204/thesis.eprints.119189

Email: emily.ogrady@connect.qut.edu.au

Country: Australia

Supervisors: Sarah Holland-Batt, Donna Hancox

Thesis title:

Subverting the Serial Gaze: Interrogating the Legacies of Intergenerational Violence in Serial Killer Narratives

Description:

This practice-led thesis in the field of creative writing interrogates and disrupts the serial killer genre by exploring the trauma suffered by survivors of serial crime. Through a novel, The Yellow House, and an accompanying exegesis, I reimagine the Australian serial killer narrative by interrogating how the traumatic legacies of abject violence can be transmitted across generations. This thesis argues that generic conventions of serial killer fiction bear little resemblance to the aftermath of abject violence and the realities of serial crime, and establishes the value in critiquing and disrupting familiar tropes of the genre.
Sara Omrani

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.116593
Email: sara.omrani@connect.qut.edu.au
Country: Iran
Supervisors: Veronica Garcia Hansen, Robin Drogemuller, Bianca Capra

Thesis title:
Natural Ventilation in High-Rise Apartments in Hot-Humid Climates

Description:
This thesis contributes to improvement of natural ventilation and thermal comfort in high-rise residential buildings in hot-humid climates. Case study approach along with full-scale experiments and Computational Fluid Dynamics formed the methodology of the current thesis. Two main outcomes of this study are: 1) a model for integration of different methods of natural ventilation evaluation at different design stages, and 2) a holistic model for implication of various design parameters to improve natural ventilation in buildings.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Introduction

Indigenous groups around the world have an inherent physical and spiritual connection with landscape, however little knowledge exists on the intricacies of these relationships and the preferences around sharing this knowledge. This research explores such connections in regards to Indigenous Maori iwi, Ngai Tahu, who affiliate closely with the landscapes of the South Island of Aotearoa New Zealand and many other landscapes throughout the Pacific. By learning of these relationships and preferences, the research considers the alignment of these values with local government legislation. Thus, it gives consideration to the extent of ‘voice’ that these groups do or do not have in policy.

Alayna Renata

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122988
Email: alayna.renata@connect.qut.edu.au
Country: New Zealand
Supervisors: Debra Cushing, Shannon Satherley, Diane Menzies

Thesis title:

Seeking Cultural Polyvocality in Landscape Policy: Exploring Association and Knowledge Sharing Preferences

Description:

Indigenous groups around the world have an inherent physical and spiritual connection with landscape, however little knowledge exists on the intricacies of these relationships and the preferences around sharing this knowledge. This research explores such connections in regards to Indigenous Maori iwi, Ngai Tahu, who affiliate closely with the landscapes of the South Island of Aotearoa New Zealand and many other landscapes throughout the Pacific. By learning of these relationships and preferences, the research considers the alignment of these values with local government legislation. Thus, it gives consideration to the extent of ‘voice’ that these groups do or do not have in policy.
Hui Richards

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115115
Email: hui.richards@connect.qut.edu.au
Country: Australia
Supervisors: Christina Spurgeon, Susan Carson

Thesis title:
From Sanxia to Tiger Mountain: Recovering Chinese family stories from under the Three Gorges Dam

Description:
This project uses new media to recover, record and validate lost memories and life stories of a group of socially marginalised women from the Three Gorges district in China. By using digital storytelling (DST) methods within a community capacity building framework, and taking an autoethnographic approach, this project shows that digital storytelling methodologies can play a powerful and effective role in the recovery of life stories suppressed and otherwise lost in a cultural context of forced forgetting. It shows that a participatory media like DST, developed successfully in California, USA, can be adapted to suit the other social and cultural contexts, in this case specifically, in Fengjie China.
Description:

The complex relationship between contemporary art and urban design has become a new area of research around the world. For the first time, this research focuses attention on Brisbane. It covers the period from the late-Bjelke-Petersen government - and includes a time when Brisbane developed a world-leading public art policy - until today when local public art policy appears more uncertain and beleaguered. This study explains the shifting landscape and shows that 'public art policy' remains at the mercy of dynamic social, economic and political forces.
Introduction

Previous research examining journalists’ ability to write news that explains complex social issues has brought conflicting results. When journalists are questioned, they claim both the intent and capacity to work in the public interest to explore issues of social complexity. However, research focusing on organisational news-production processes finds journalists’ claimed capacity is significantly restricted. Utilising a case study of ‘The Courier-Mail’ newspaper that focussed on journalists’ coverage of social marginalisation, this study found that journalists consistently and proactively used an orientation to the public interest as one factor among an array of competing influences to flexibly negotiate organisational production restrictions and explain social complexities.

Doctor of Philosophy

Creative Industries Faculty

Thesis title: Mapping News Workers’ Capacity to Enact Journalism in the Public Interest in the Face of Organisational Economic Pressures

Description:

Previous research examining journalists’ ability to write news that explains complex social issues has brought conflicting results. When journalists are questioned, they claim both the intent and capacity to work in the public interest to explore issues of social complexity. However, research focusing on organisational news-production processes finds journalists’ claimed capacity is significantly restricted. Utilising a case study of ‘The Courier-Mail’ newspaper that focussed on journalists’ coverage of social marginalisation, this study found that journalists consistently and proactively used an orientation to the public interest as one factor among an array of competing influences to flexibly negotiate organisational production restrictions and explain social complexities.
Yasuhiro Santo

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

Thesis title:
Co-Adaptable Environments: Ad-hoc technologies and the self-management of one’s built environment

Description:
This thesis argues that we can establish better relationships with our buildings by introducing more means to control and customise them to suit our needs and preferences. The study investigates contemporary office buildings and emphasises the importance of making our workplace environment more flexible, desirable, and durable by introducing cybernetic relationships between buildings and their users. The thesis concludes with a suggestion that the introduction of Co-adaptable environments, in which building users and their built environment positively affect and improve each other, is the key to achieving such environments.

DOI: doi.org/10.5204/thesis.eprints.115117
Email: y.santo@connect.qut.edu.au
Country: Japan
Supervisors: Robin Drogemuller, Margot Brereton
Introduction

This thesis deepens our understanding of boredom as a trigger for unsafe user experiences, such as smartphone distractions behind the steering wheel. Addressing such driver distractions, this study explores how the use of in-car technologies can be reframed as a strategy to increase driver attention. To that end, it presents the design and evaluation of digital interventions aimed at reducing boredom while increasing safety. The study’s contributions pave the way for new approaches to enhancing task engagement in vigilance settings that are increasingly augmented by digital technologies, within and beyond the context of mobility.

Fabius Steinberger

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Publication

Thesis title:
Risky Gadgets to the Rescue - Reframing In-Car Technology Use as Task Engagement

Description:

This thesis deepens our understanding of boredom as a trigger for unsafe user experiences, such as smartphone distractions behind the steering wheel. Addressing such driver distractions, this study explores how the use of in-car technologies can be reframed as a strategy to increase driver attention. To that end, it presents the design and evaluation of digital interventions aimed at reducing boredom while increasing safety. The study’s contributions pave the way for new approaches to enhancing task engagement in vigilance settings that are increasingly augmented by digital technologies, within and beyond the context of mobility.

DOI: doi.org/10.5204/thesis.eprints.115992
Email: fabius.steinberger@connect.qut.edu.au
Country: Germany
Supervisors: Ronald Schroeter, Marcus Foth
Introduction

In Indonesia digital media practices have enabled more young people than ever before to participate in civic and political activism, but there is little knowledge about the processes, motivations, and literacies that these young people need for their participation. This thesis aims to investigate how Indonesian young people have been able to utilise digital media for civic engagement and political participation to support democracy in Indonesia. This research focuses on Indonesian young people and includes interviews with activists, politicians, and government staff that were involved in the Save KPK Movement 2015, as well as interviews and focus group discussions with university or college students in five universities and one college in or near Jakarta. This research revealed factors that affect young people’s digital media literacy and activism, as well as motivations and deterrents for being politically active in ways that support democratic practices and institutions in Indonesia.

Fiona Suwana

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

Thesis title:
Digital Media and Indonesian Young People: Building Sustainable Democratic Institutions and Practices

Description:

In Indonesia digital media practices have enabled more young people than ever before to participate in civic and political activism, but there is little knowledge about the processes, motivations, and literacies that these young people need for their participation. This thesis aims to investigate how Indonesian young people have been able to utilise digital media for civic engagement and political participation to support democracy in Indonesia. This research focuses on Indonesian young people and includes interviews with activists, politicians, and government staff that were involved in the Save KPK Movement 2015, as well as interviews and focus group discussions with university or college students in five universities and one college in or near Jakarta. This research revealed factors that affect young people’s digital media literacy and activism, as well as motivations and deterrents for being politically active in ways that support democratic practices and institutions in Indonesia.
Sonam Tobgye

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115459
Email: sonam.tobgye@connect.qut.edu.au
Country: Bhutan
Supervisors: Clive Bean, Emma Baulch

Thesis title:
Digital Transformation in Bhutan: Culture, Workforce and Training

Description:
The study investigated digital transformation and its impact on Bhutan Post and Community Centres (CCs). The study revealed that Bhutan has recognised ICT as the cornerstone of the digital era and has gradually opened up itself to globalisation by carefully balancing modernisation with traditions. Digitally transforming a business can allow it to capitalise on new opportunities to avoid disruption, accelerate business activities, lower costs, and bring about positive change in processes, people, and competency models. In Bhutan, digital transformation and establishment of CCs have proved to be extremely useful in enhancing happiness and well-being.
Glenn Wyatt

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

The Phenomenology of Traffic in Ho Chi Minh City

Description:
This research examines the urban traffic in Ho Chi Minh City, Vietnam using a philosophical theoretical framework to analyse the relationship between perception, experience and practice. The study used a video-narrative approach, revealing ways in which meaning emerges through relationships with objects, both material and immaterial and the role of tacit knowledge and pre-conscious skills in negotiating the traffic environment. This approach provides an alternative and complementary way to study urban traffic that differs from other more technologically driven methods or approaches that view traffic systems in universal terms.
Jing Zeng

Doctor of Philosophy
Creative Industries Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115786
Email: j5.zeng@connect.qut.edu.au
Country: China
Supervisors: Jean Burgess, Axel Bruns

Description:

This thesis investigated how rumour is constructed and contested on social media during two acute events: the 2014 Sydney siege in Australia and the 2015 Tianjin blasts in China. It used an innovative combination of digital methods to systematically examine rumour communication with social media data. This study found that although the two events demonstrated distinctive patterns of rumour contestation, there were shared factors that contributed to the proliferation of rumours in both cases. Findings from this thesis generated practical recommendations for government, media, and social media platforms to guide their responses in rumour management.
Faculty of Education
Brenda Allport

Master of Education (Research)  
Faculty of Education  
Thesis type: Thesis by Monograph  
DOI: doi.org/10.5204/thesis.eprints.116770  
Email: b.rhodes@connect.qut.edu.au  
Country: Australia  
Supervisors: Kerryann Walsh, Melinda Miller

Thesis title:
Study of the Influence of Training and Work Environment Factors on Learning and Developing Supervision Practice within a Human Service Organisation

Description:
Human service organisations commit considerable resources to supervision practice each year. Yet there remains little understanding of how supervisors learn and develop and there are unanswered questions regarding supervision implementation. Using an action research methodology (Plan, Look, Think, Act) this study explored how supervisors learn and develop supervision practice and identified work environment factors and actions that may influence practice implementation within a specific context. This study’s findings uphold a blended approach to supervisor’s pedagogy and identified specific strategies and implications to enable supervision practice to be learned, developed and implemented within a specific and future-orientated organisational context.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Description:

Proportional reasoning is described as a sophisticated way of thinking and encompasses many interconnected mathematical concepts. While proportional reasoning is not formally taught in the early years of school, important foundational concepts are being developed. This research used a single school case study to investigate what P-3 teachers recognise as the foundational concepts of proportional reasoning and how these concepts are promoted in early years primary school classrooms. Case study findings suggest an awareness of how foundation concepts link to bigger mathematical ideas has implications for the way teachers promote the foundation concepts of proportional reasoning.

Master of Education (Research)

Faculty of Education

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.118196

Email: a.drysdale@connect.qut.edu.au

Country: Australia

Supervisors: Sonia White, Joanne Lunn

Thesis title:

Promoting The Foundation Concepts of Proportional Reasoning: A Case Study of P-3 Teachers

Angela Drysdale
Introduction

Master of Education (Research)

Faculty of Education

Thesis type: Thesis by Monograph

Description:

This case study examined ways in which gifted students capitalised on one-to-one laptop technology in a Grade 6 classroom. Student engagement was analysed using third generation activity theory. The findings are significant because they, firstly, highlight that a constructive teaching environment is still paramount to the outcomes of teaching and learning; secondly, that laptops provide an opportunity for gifted students to customise learning and increase engagement through self-management; and finally that laptops are tools that provide gifted students with the means for greater self-regulation. The implications of this research encompass both gifted policy and practice in that it must keep pace with laptop and technology opportunities.
Introduction

This thesis investigated teacher perceptions of incorporating interactive whiteboards (IWBs) to enhance technology, teaching, and learning instruction in Early Years (Prep to Year 3) classrooms. The action research study examined how teachers used and incorporated IWBs in lessons, used digital resources, and worked collaboratively to support teaching practices. The research results focussed on two main areas. The first area involved how teachers’ understanding of the affordances of IWBs affected their pedagogy and practice. The second area identified the importance of IWB professional development and the support needed for teachers to make meaningful use of the IWB in Early Years classrooms.

Karen Lewis

Master of Education (Research)  
Faculty of Education  
Thesis type: Thesis by Monograph  
DOI: doi.org/10.5204/thesis.eprints.118066  
Email: karen.lewis@connect.qut.edu.au  
Country: Australia  
Supervisors: Chris Chalmers, Margaret Lloyd  

Thesis title:

Teachers’ Perceptions of Using Interactive Whiteboards in Early Years Classrooms

Description:

This thesis investigated teacher perceptions of incorporating interactive whiteboards (IWBs) to enhance technology, teaching, and learning instruction in Early Years (Prep to Year 3) classrooms. The action research study examined how teachers used and incorporated IWBs in lessons, used digital resources, and worked collaboratively to support teaching practices. The research results focussed on two main areas. The first area involved how teachers’ understanding of the affordances of IWBs affected their pedagogy and practice. The second area identified the importance of IWB professional development and the support needed for teachers to make meaningful use of the IWB in Early Years classrooms.
Jennifer Smyth

Master of Philosophy
Faculty of Education
Thesis type: Thesis by Monograph

Description:
This study makes a unique contribution to the field of science education. Few studies have investigated the prior knowledge of the nature of science that Australian Preparatory students bring to their learning and how they represent that knowledge. Understanding students' prior knowledge enables teachers to build on it to develop engaging and relevant science lessons for young learners. Affording students the opportunity to develop an understanding of the nature of science is important for future citizens to contribute responsibly to contemporary socioscientific issues and the unexpected consequences that accompany them.
Introduction

This thesis explores how reasonable adjustments, informed by student insights, can be developed through professional collaboration between teachers and speech pathologists. By addressing a gap in the literature, this study offers guidance for teachers about how to adjust pedagogical practices for students with language difficulties to address language-based barriers in inclusive secondary classrooms. A sequential-phase mixed-method design was used and repeat data collection with teachers (a comparison group and an intervention group) investigated the impact of a collaborative planning process. This research indicates that adjustments based on student insights have a positive impact on student learning and teacher practices.
**Introduction**

This study focussed on analysing educational policy documents to understand the history and discourse of educational policy borrowing practice in Bhutan’s K-12 education system. The conceptual framework drew on theories of globalisation and the theory of discourse. An interpretivist methodology drawing on James Paul Gee’s discourse analysis was employed to comprehend the education policy borrowing and policy learning practices within the K-12 education policies of Bhutan. The findings revealed that while there is a complex system of policy borrowing influenced by the phenomenon of globalisation, there are discourses that stress the importance of Gross National Happiness and local themes. The study concludes by stating that policy borrowing and policy learning are important aspects of Bhutanese education policy.

**Zinpai Zangmo**

Master of Education (Research)  
Faculty of Education  
Thesis type: Thesis by Monograph  

DOI: doi.org/10.5204/thesis.eprints.122873  
Email: zin pai.zangmo@connect.qut.edu.au  
Country: Bhutan  
Supervisors: Radha Iyer, Donna Tangen

**Thesis title:**

Educational Policy Borrowing in the Bhutanese Education System

**Description:**

This study focussed on analysing educational policy documents to understand the history and discourse of educational policy borrowing practice in Bhutan’s K-12 education system. The conceptual framework drew on theories of globalisation and the theory of discourse. An interpretivist methodology drawing on James Paul Gee’s discourse analysis was employed to comprehend the education policy borrowing and policy learning practices within the K-12 education policies of Bhutan. The findings revealed that while there is a complex system of policy borrowing influenced by the phenomenon of globalisation, there are discourses that stress the importance of Gross National Happiness and local themes. The study concludes by stating that policy borrowing and policy learning are important aspects of Bhutanese education policy.
Introduction

This thesis explored the career development of recently resettled young people with refugee backgrounds who have experienced a long migration journey before arriving in Australia. Using narrative inquiry, the participants of this qualitative research project found an opportunity to story their future career plans and decisions. The findings revealed stories of transition, hope, resilience and perseverance in diverse contexts of the pre-, within- and post-migration journey. This research has several implications for career practice, theory, research and policy.

Peyman Abkhezr

Doctor of Philosophy

Faculty of Education

Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.118577

Email: peyman.abkhezr@connect.qut.edu.au

Country: Iran

Supervisors: Kevin Glasheen, Marilyn Campbell, Mary Mcahon (The University of Queensland)

Thesis title:

Exploring the Career Development of Young People with Refugee Backgrounds: Finding Voice through Narrative Inquiry

Description:

This thesis explored the career development of recently resettled young people with refugee backgrounds who have experienced a long migration journey before arriving in Australia. Using narrative inquiry, the participants of this qualitative research project found an opportunity to story their future career plans and decisions. The findings revealed stories of transition, hope, resilience and perseverance in diverse contexts of the pre-, within- and post-migration journey. This research has several implications for career practice, theory, research and policy.
Safa Ali S Aldubaibi

Doctor of Philosophy
Facility of Education

Thesis type: Thesis by Monograph

Thesis title:
Understanding Lecturers' Pedagogic Practices and Perspectives in Regard to Blackboard Utilisation in Saudi and Australian Universities

Description:
This study explored perceived enablers and barriers of Blackboard utilisation by Saudi Arabian and Australian lecturers. Results revealed that lecturers in both countries used Blackboard as a repository of materials, largely due to the technical problems and lack of training. Results also showed that Saudi and Australian lecturers have different perceptions regarding Blackboard uptake in their teaching and students’ learning. Australian lecturers were more likely to incorporate other online platforms than Blackboard in their teaching. Saudi lecturers, particularly women lecturers, were more enthusiastic to use Blackboard as it allowed them to connect with a diversity of students.

DOI: doi.org/10.5204/thesis.eprints.122986
Email: safaalis.alduabi@connect.qut.edu.au
Country: Saudi Arabia
Supervisors: Donna Tangen, Marilyn Campbell
Introduction

Gabrielle A Baker

Doctor of Philosophy  
Faculty of Education  
Thesis type: Thesis by Monograph

Description:

This research adopted a case study approach to explore the wellbeing of gifted adolescents who participated in a two year immersion class. Qualitative evidence supported ability-grouping to compact three years’ curriculum into two while incorporating social-emotional skills. Examples of challenges beyond the safety of the class, however, revealed changed behaviour that influenced student development and identity. A whole-of-school approach to wellbeing was recommended to foster a shared ethos of inclusive practice and empathy. Insights from the research have significance for enhancing the wellbeing of gifted adolescents globally.
Introduction

This study undertakes a socio-cultural approach to examine how the loanword phenomenon has impacted on the Japanese language, and the teaching of English in Japan. The central aim of this study is to investigate how use of loanwords, and an understanding of the socio-cultural approach to language teaching, could assist in effective acquisition of English. It argues that effective learning systems are promoted when a socio-cultural approach to language teaching, incorporating loanwords, is adopted to teach English in Japan.

Dave Bollen

Doctor of Philosophy

Faculty of Education

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122992

Email: dave.bollen@connect.qut.edu.au

Country: Australia

Supervisors: Radha Iyer, Val Klenowski

Thesis title:

English Loanwords in the Teaching of English in Japan: A Case Study Analysis

Description:

This study undertakes a socio-cultural approach to examine how the loanword phenomenon has impacted on the Japanese language, and the teaching of English in Japan. The central aim of this study is to investigate how use of loanwords, and an understanding of the socio-cultural approach to language teaching, could assist in effective acquisition of English. It argues that effective learning systems are promoted when a socio-cultural approach to language teaching, incorporating loanwords, is adopted to teach English in Japan.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Description:

Community Durithunga is a step forward in the Australian context of Indigenous education praxis. The research focuses on embedding Indigenous Knowledges within the process of problematising Indigenous education, utilising Indigenous Knowledge and practices in the development of research and analysis of what works from an Indigenous community perspective. This research applies relationality theory to the complex challenge of Indigenous education. The research method used in developing relationality is a kinship research frame known as Tumba Tjina. Ultimately the research is envisioned to give further voice to the people who are constructed in this field of research, the Indigenous community.

John Davis

Doctor of Philosophy

Faculty of Education

Thesis type: Thesis by Monograph

Thesis title:

Durithunga - Growing, Nurturing, Challenging and Supporting Urban Indigenous Leadership in Education

DOI: doi.org/10.5204/thesis.eprints.115810

Email: johnathon.davis@connect.qut.edu.au

Country: Australia

Supervisors: Beryl Exley, Karen Dooley, Allan Luke
Keith Graham

Doctor of Education
Faculty of Education
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122875
Email: k5.graham@connect.qut.edu.au
Country: Australia
Supervisors: Leanne Crosswell, Jill Willis

Introduction

This study investigated school principal leadership practices and the impact they may have on mid-career teachers’ work commitment. The leadership practices were identified under the five leadership domains outlined by Educational Queensland to determine and compare the impact each domain had on the work commitment of mid-career teachers. Key findings included the impact relational leadership practices had on mid-career teacher work commitment, the difference in importance placed on the leadership domains by the teachers and principals in respect to mid-career teacher work commitment, and a difference in perspective between the school principals and mid-career teachers of the application of leadership practices.

Thesis title:
Determining Leadership Practices that Impact on Primary School, Mid-Career Teachers’ Commitment to the Profession: Mid-Career Teachers’ Perspectives

Description:
This study investigated school principal leadership practices and the impact they may have on mid-career teachers’ work commitment. The leadership practices were identified under the five leadership domains outlined by Educational Queensland to determine and compare the impact each domain had on the work commitment of mid-career teachers. Key findings included the impact relational leadership practices had on mid-career teacher work commitment, the difference in importance placed on the leadership domains by the teachers and principals in respect to mid-career teacher work commitment, and a difference in perspective between the school principals and mid-career teachers of the application of leadership practices.
Phillipa Greig

Doctor of Education
Faculty of Education
Thesis title: Accounting: A Case Study of an Elective Subject in the Queensland Senior High School Curriculum

Description:
The shift to a knowledge economy has impacted education, particularly curriculum, as governments demand twenty-first century knowledge workers. This case study was developed as an in-depth consideration of the high school accounting curriculum in Queensland in a time of disruption and curriculum change. The study provided insight into stakeholder knowledge of the high school accounting curriculum, perceptions of the curriculum, and reasons those perceptions have developed. The findings of this research indicate the skills developed in this elective high school subject are of value to stakeholders in disrupted times. This study has informed a new accounting syllabus in Queensland.
Description:

For far too long, Aboriginal and Torres Strait Islander peoples’ voices have been silenced. This study critically analyses the National Aboriginal and Torres Strait Islander Education Strategy 2015 through the lens of the Coolangatta Statement on Indigenous peoples’ rights in Education. Focus is placed on how the Strategy addresses the rights of Aboriginal and Torres Strait Islander peoples in education when seeking to improve the educational attainment of Indigenous primary and secondary students. In turn, the representations of Aboriginal and Torres Strait Islander students, parents and communities are explored and established.
Introduction

Description:

Early Childhood Education and Care in Australia is at a watershed, with significant legislation and policy requiring additional four-year-qualified Early Childhood teachers. This phenomenographic study examined the experiences of 16 Early Childhood preservice teachers who had articulated from Diploma programs to university-based Early Childhood teacher education programs. It examined articulation from the perspective of the articulating preservice teachers themselves to reveal the qualitatively different ways in which the preservice teachers experienced articulation. By revealing the conditions which enabled successful articulation to university, the thesis contributes empirical insights into the politically-driven ECEC reform agenda and articulation as a national workforce strategy.
This thesis examined the teaching and learning of area measurement and the subgoals strategy through problem solving. A pedagogical model was developed to show how students’ conceptual understanding of a mathematical concept and their strategic competence can develop simultaneously through problem solving.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Liwei Liu

Doctor of Philosophy

Faculty of Education

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122415

Email: l42.liu@connect.qut.edu.au

Country: China

Supervisors: Lyndal O'Gorman, Julie Dillon-Wallace

Thesis title:

A Comparative Study in China and Australia of Parental Engagement in Transition to School

Description:

This is a comparative study conducted in both China and Australia examining parental engagement in transition to school, investigating parents’ perceptions and engagement, and influencing factors. A mixed methods approach was applied to collecting and analyzing both quantitative and qualitative data in Beijing, China and Queensland, Australia. The results show that Chinese and Australian parents engaged differently in transition practices. Bronfenbrenner’s bioecological theory and PPCT model, was used to frame how Chinese and Australian parents’ transition engagement is influenced by Person factors (children’s characteristics, parents’ role construction, self-efficacy, time and energy, and school and transition experiences), and Context factors (kindergarten, school, and teacher influence, social influence, policy influence, and societal and cultural influence). This study further contributes to the international education context by comparing parental engagement under globalization.
Christine Poulsen

Doctor of Philosophy
Faculty of Education
Thesis title: Gender in Secondary Students’ Creative Writing: Changes in Representation Over Time

Description:
This research investigates how school students have used language to represent gender in a corpus of over 250,000 words of creative writing at one site, from 1961 to 2015. Using tools from linguistics and Critical Discourse Analysis, the research finds that popular assertions of the progress of gender reform tell an incomplete story of how femininities and masculinities are represented. While females are undoubtedly more visible in recent texts, the underlying grammatical structures employed by student writings in this corpus represent females as less active and less purposefully influential than their counterparts in previous decades.
Introduction

How principals make the decision to exclude a student from school and what factors, in addition to the student’s behaviour, influence their decision-making were key questions explored in this study. These school discipline decisions were cast as genuinely ‘wicked policy problems’, characterised by social complexity, unintended consequences and multiple interdependencies and causes. Principals in the study exposed the reality of executing discipline policies at the school level, including the impact of staff attitudes and the broader community on their decisions. These textural features improve our understanding of how and why different exclusion decisions occur.

Natalie Swayn

Doctor of Philosophy

Faculty of Education

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.118673

Email: n.swayn@connect.qut.edu.au

Country: Australia

Supervisors: Lisa Ehrich, Beth Saggers, Peter Boman

Thesis title:


Description:

How principals make the decision to exclude a student from school and what factors, in addition to the student’s behaviour, influence their decision-making were key questions explored in this study. These school discipline decisions were cast as genuinely ‘wicked policy problems’, characterised by social complexity, unintended consequences and multiple interdependencies and causes. Principals in the study exposed the reality of executing discipline policies at the school level, including the impact of staff attitudes and the broader community on their decisions. These textural features improve our understanding of how and why different exclusion decisions occur.
Suzy Tamone

Doctor of Philosophy
Faculty of Education
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.118671
Email: sg.tomkins@connect.qut.edu.au
Country: Australia
Supervisors: Kerryann Walsh, Leanne Crosswell, Lyndal O’Gorman

Thesis title:
Teachers’ Ways of Seeing their Approaches with Student Behaviour in the Preparatory Year

Description:
This PhD study researched teachers’ ways of seeing their approaches with student behaviour in Preparatory (Prep) classrooms, in Queensland State schools. Using a phenomenographic approach and variation theory with individual interviews, this study sought to reveal Prep teachers’ conceptions of their approaches with student behaviour. More specifically, it aimed to identify what Prep teachers do when they approach student behaviour, and to describe variation in their ways of seeing (or conceptualising) approaches with student behaviour. The results of this study show that Prep teachers’ approaches with student behaviour are experienced in both fragmented and holistic ways.
This study investigated how multiethnic Bilingual Education (BE) classrooms (English and Mother-tongue: Sinhala or Tamil) in post-conflict Sri Lanka can shape students’ ethnic identities towards an ethnically inclusive national identity. Using Bourdieu’s theories of capital, habitus and field, the study identifies two key findings: the importance of the flexible use of all available languages in multiethnic classrooms to scaffold language and academic content learning; and the creation of inter-ethnic reciprocity. Findings also show the dual role of English as a tool of reconciliation, and a weapon of social stratification. The study presents positive practices to be applied, and negative practices to be avoided both at implementation and policy levels in similar contexts.
**Introduction**

Internationally it is debated whether gifted children are resilient or emotionally vulnerable; therefore, to understand how Australian gifted primary school children fare, this study explored their social-emotional well-being and the social support provided by parents and teachers. The results revealed gifted children may experience difficult peer relationships, have a need to control emotions and feel different from their peers. Furthermore, gifted children sought more time with parents and an engaging learning environment with improved teacher behaviour management. Parents and teachers need to work together, acknowledging both strengths and weaknesses, to better accommodate the needs of the gifted child.

**Thesis title:**

The Social-Emotional Well-Being of The Gifted Child and Perceptions of Parent and Teacher Social Support

**Description:**

Internationally it is debated whether gifted children are resilient or emotionally vulnerable; therefore, to understand how Australian gifted primary school children fare, this study explored their social-emotional well-being and the social support provided by parents and teachers. The results revealed gifted children may experience difficult peer relationships, have a need to control emotions and feel different from their peers. Furthermore, gifted children sought more time with parents and an engaging learning environment with improved teacher behaviour management. Parents and teachers need to work together, acknowledging both strengths and weaknesses, to better accommodate the needs of the gifted child.
Rodney Yates

Doctor of Philosophy
Faculty of Education
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.118144
Email: rodney.yates@connect.qut.edu.au
Country: Australia
Supervisors: Suzanne Carrington, Hitendra Pillay, Jenna Gillett-Swan

Thesis title:
Aid, Attitudes and Ambivalence: The Impact of Australian Aid in the Introduction and Sustainability of Inclusive Education Initiatives in the Republic of Kiribati

Description:
Using a critical pedagogy framework, this study examines dependency on Australian Aid and local ownership/sustainability in the introduction of inclusive education in Kiribati. The methods included document analysis, interviews with key local stakeholders and school-based focus group discussions. The results indicate that a positive commitment towards inclusive education is emerging and that Australian Aid provided essential advocacy through direct management of initiatives. Inclusive education initiatives remain dependent on Australian Aid for direction and sustainability. Sustainability of inclusive education initiatives in Kiribati will depend on continued development of local ownership including community support and commitment by the Government of Kiribati, particularly budgetary support.
Yue Yin

Doctor of Philosophy
Faculty of Education
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120080
Email: y5.yin@connect.qut.edu.au
Country: China
Supervisors: Karen Dooley, Michael Mu, Hilary Hughes

Description:

This study documents the experience of graduates from prestigious universities as they became teachers in disadvantaged schools through an alternative teacher recruitment program in China. The main findings identify multiple sociological reasons behind participation, major disparities between pre-service assumptions about rural-school teaching and in-service perceptions, and differences in the enactment of program values in disadvantaged schools. The study recommends that both the program and its participants should cultivate a sociological perspective on themselves and students in disadvantaged schools.
Faculty of Health
Melissa Arneil

Master of Applied Science (Research)
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.121160
Email: melissa.arneil@connect.qut.edu.au
Country: Australia
Supervisors: Sandie McCarthy, Kim Alexander

Thesis title:
Investigating Physical Activity and Cognitive Alterations in Younger Women after Breast Cancer Treatment

Description:
This thesis investigated associations between physical activity and cognitive function in younger women previously treated for breast cancer. This research has contributed to our understanding of physical activity and cognitive function in younger women following breast cancer and highlights the complex phenomenon of cognitive alterations and the considerations that should be made when assessing its impact.
Elia Barajas Alonso

Master of Applied Science (Research)  
Faculty of Health

Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.118570  
Email: elia.barajasalonso@connect.qut.edu.au  
Country: Spain  
Supervisors: Manuel Serrano Santos, Esther Lau, Michelle Mukherjee, Lisa Nissen

Thesis title:
Exploring Teaching Approaches in the Transition to Contemporary Curricula in Pharmacy

Description:
There is growing interest in teaching practices and the perceptions of academics to contribute and improve teaching in higher education. This study aimed to investigate and identify the teaching approaches in traditional and contemporary curricula, and the teaching practices employed by academics from the discipline of pharmacy who were involved in the curriculum transition. This thesis was a step forward to explore the trends of the five most common learning theories. A series of surveys and classroom observations provided a framework for the academics’ perspectives and teaching practice trends when delivering the pharmacy curriculum.
Kate Beecher

Master of Philosophy

Faculty of Health

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation (IHBI)

Thesis title:

Effect of Intra-Nasally Administered VEGF/PDGF on Neuronal Regeneration within the Mouse Olfactory System

Description:

Anosmia caused by large-scale olfactory nerve damage is a significant problem for human health for which there is no cure. This project determined the therapeutic potential of VEGF and PDGF growth factors for anosmia to restore the sense of smell. These growth factors were found to alter the environment to improve axonal regeneration and reduce glial scar tissue in the brain.
Murari Bhandari

Master of Philosophy
Faculty of Health
Thesis title: Investigating the Role of DsbA Enzymes in Growth and Virulence of Uropathogenic Escherichia coli

Description:
This study set out to investigate the impact of inhibiting bacterial enzymes on pathogen growth and virulence as an alternative antimicrobial strategy to antibiotics. Results support the hypothesis that DsbA enzyme inhibition is a robust anti-virulence strategy that can ‘disarm but not kill bacteria’ using uropathogenic Escherichia coli as the model pathogen. These findings have enhanced the pharmacological importance of DsbA as an anti-virulence drug target and contribute to ongoing research that aims to develop DsbA inhibitors against different bacterial pathogens with diverse DsbA enzymes.

DOI: doi.org/10.5204/thesis.eprints.120696
Email: murari.bhandari@connect.qut.edu.au
Country: Australia
Supervisors: Makrina Totsika, Louise Hafner
Morgan Carlton

Master of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: dx.doi.org/10.5204/thesis.eprints.117288
Email: morgan.carlton@hdr.qut.edu.au
Country: Australia
Supervisors: Tony Parker, Yinghong Zhou, Yin Xiao, Daniel Broszczak (Australian Catholic University)

Thesis title:
Proteomic Characterisation of Rat Bone Marrow-Derived Mesenchymal Stromal Cells Cultured in ‘Stemness’ Promoting Conditions

Description:
This thesis investigates the effect of ‘stemness’ promoting growth conditions on mesenchymal stem cells. A proteomics approach was used to evaluate the biology of the cells and to determine how each of the growth conditions affected cellular differentiation. Several proteins of interest were identified, and their biological roles were assessed.
Robyn Carter

Master of Applied Science (Research)
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Description:

The researcher developed DNA-based strategies to genetically characterise isolates of Mycobacterium (M.) intracellulare that cause lung disease, particularly in older patients. Treatment of M. intracellulare diseases is problematic because of the resistant nature of the organism. Using these genetic methods, it is now possible to determine whether M. intracellulare isolates are merely colonisers of the respiratory tract, if they cause chronic infection or re-infection. Understanding these genetic traits of the organism contributes to decisions regarding treatment of patients with M. intracellulare infections.
# Natasha Collinson

**Master of Applied Science (Research)**

**Faculty of Health**

**Thesis type:** Thesis by Monograph

**Institute of Health & Biomedical Innovation (IHBI)**

**DOI:** doi.org/10.5204/thesis.eprints.118571

**Email:** natasha.collinson@connect.qut.edu.au

**Country:** Australia

**Supervisors:** Kirsten Spann, Terry Walsh, Kenneth Beagley

**Thesis title:**

Anti-Viral Response of Bronchial Epithelial Cells in Adults with Chronic Obstructive Pulmonary Disease (COPD)

**Description:**

This project was an investigation of the antiviral response of lung cells from people with chronic obstructive pulmonary disease (COPD). A novel 3D culture method was used to mimic a real-life airway epithelium. By using this model we found that COPD results in a switch in the type of interferon the cells produce, which has an effect on the antiviral response and will inform the use of interferon as a treatment.
Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE) are two aspects of one pathological process known as Venous Thromboembolism (VTE). This research uses economic evaluation methods to model the current practice of VTE prevention at the Gold Coast Hospital and Health Services compared to historical controls. Additionally, the research tested the hypothesis that improved prescribing compliance would achieve better clinical outcomes and would be cost effective. This research revealed that current VTE prophylaxis practices were cost effective as compared to either no or suboptimal prevention. Economic modelling revealed that increasing prescribing compliance to 95% to achieve a lower incidence of DVT and PE was cost effective for General Surgical and Orthopaedic patients. For Medical Patients, a blanket prescribing approach was not cost effective.
Description:

This study examined the efficacy of a newly developed way to help people build and sustain their motivation for healthy behavioural changes using imagery about positive effects of the change, past successes, and ways to solve challenges. It compared effects on physical activity, from accessing the intervention immediately or after a delay. Only those randomly allocated to receive the intervention immediately increased the duration of physical activity during the controlled phase. The approach may have potential to address any behaviour change that people see a need to make.
Samuel Hjorth-Jensen

Master of Applied Science (Research)  
Faculty of Health  
Thesis type: Thesis by Monograph  
Institute of Health & Biomedical Innovation (IHBI)

Thesis title:  
The Dynamic Nature of Transglutaminases

Description:

Transglutaminases incorporate a variety of primary amines into specific glutamine residues of target proteins in a transamidation reaction: the incorporation of lysine residues result in protein crosslinks, while the incorporation of small amines result in protein-amine conjugates. Transglutaminases play important but poorly understood roles in many diseases, and greater knowledge of their catalytic activity will provide valuable insights. This study provides evidence for a new transglutaminase mechanism-of-action: dynamic protein crosslinking via continuous interchange between incorporated lysines and incorporated amines. This finding contributes to a greater understanding of transglutaminase biology and potentially opens new avenues for disrupting disease processes.
Andre Joshi

Master of Applied Science (Research)
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Thesis title:
Precision Medicine in Early Recurrent Prostate Cancer; Identification of Metastases by PSMA PET MRI

Description:
Through a prospective clinical trial exploring PSMA PET/MRI, we aimed to address the current clinical need for more sensitive and specific imaging in biochemically recurrent prostate cancer. This imaging technology has the potential to detect micro-metastatic and low volume recurrent disease, potentially altering standard of care treatment options for patients. Additionally, as a proof of principle we aimed to apply novel organoid culture technology to develop patient derived cell models to allow drug testing and next generation sequencing as part of a precision medicine approach in early recurrent prostate cancer.
Introduction

Master of Applied Science (Research)  
Faculty of Health  
Thesis type: Thesis by Monograph  
Institute of Health & Biomedical Innovation (IHBI)  

Thesis title:  
Anterior Cruciate Ligament Reconstruction and the Hamstrings: Implications for Injury Prevention and Rehabilitation  

Description:  
Both anterior cruciate ligament and hamstring strain injuries account for a significant amount of lost time in a range of football codes. This program of research has contributed new knowledge relating to the maladaptations which occur after anterior cruciate ligament injury and subsequent reconstruction, while also providing novel data which may be used to form decisions regarding exercise selection in anterior cruciate ligament and hamstring strain injury prevention and rehabilitation programs.
Sarah Northfield

Master of Applied Science (Research)  
Faculty of Health  
Thesis type: Thesis by Monograph  
Institute of Health & Biomedical Innovation (IHBI)

Description:
This thesis explored the actions cancer nurses take to advocate for the referral of patients with advanced cancer to Specialist Palliative Care Services (SPCS). The study identified cancer nurses frequently advocated for referrals to SPCS if they had positive beliefs and the scope of practice to directly refer to the service. This study confirms cancer nurses make an important contribution to the palliative care referral decision-making process by engaging in a range of advocacy activities. Barriers associated with engaging appropriately skilled nurses need to be addressed, by introducing education processes and supportive policies.

DOI: doi.org/10.5204/thesis.eprints.117347  
Email: northfield.sarah@connect.qut.edu.au  
Country: Australia  
Supervisors: Patsy Yates, John Rosenberg, Ray Chan
Introduction

Priscilla Pather

Master of Applied Science (Research)  
Faculty of Health  
Institute of Health & Biomedical Innovation (IHBI)  

Thesis title:  
Incidence and Measurement of Incontinence-Associated Dermatitis in Adult Intensive Care Patients

Description:

This thesis investigated how many critically ill patients in intensive care intensive care (ICU) in a single Australian metropolitan hospital developed incontinence-associated dermatitis (IAD). It also determined the severity of IAD using a newly developed IAD categorisation tool, the time to onset to IAD development, the association between IAD and faecal incontinence and diarrhoea, the association between patient characteristics and IAD development and severity and the association between disposable faecal containment devices and clean-up products with the development of IAD. It provides a benchmark for IAD exploration in the intensive care setting.
Holly Peters

Master of Applied Science (Research)

Faculty of Health

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.118540

Email: holly.peters@connect.qut.edu.au

Country: Australia

Supervisors: Donna MacGregor, Laura Gregory, Louise Hafner, Christine Knox

Secular Trends of Stature and Body Mass Index in Australian Defence Force Personnel from the Boer War (1899) to Contemporary Uniform Service Members (2017)

Description:

This thesis examines the fluctuations in stature and BMI over the past century of Australian Military personnel. The influence of changes to the biological standard of living, being born in rural versus urban towns and occupation to personnel's stature and BMI was examined. Findings highlighted the non-linear increase in stature, its strong links to occupation and fluctuations that corresponded with environmental influences. This research has provided Australian stature standards for personnel from the Boer War to WWII and may be useful in assessing the biological profile of remains.
Anastasiya Protsenko

Master of Applied Science (Research)  
Faculty of Health  
Thesis type: Thesis by Monograph  
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.118194  
Email: anastasiya.protsenko@connect.qut.edu.au  
Country: Australia  
Supervisors: Sally-Anne Stephenson, Adrian Herington

Thesis title:  
The Role of EphB4 and Ephrin-B2 Interactions in Prostate Cancer Models of Intravasation and Extravasation

Description:

EphB4 is a protein increased in cancers including prostate cancer. This work explored the role of EphB4 in processes important to metastatic spread of disease using models of the blood vessel wall. Prostate cancer cells with increased EphB4 move more easily through endothelial cell barriers when the endothelial cells make the EphB4 ligand ephrin-B2. This implicates the EphB4-ephrin-B2 interaction in site-specific metastatic dissemination of prostate cancer.
Masti Venugopal Srihari Sharma

Master of Applied Science (Research)  
Faculty of Health  
Thesis type: Thesis by Monograph  
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.116374  
Email: mastivenugopsrihari.sharma@connect.qut.edu.au  
Country: India  
Supervisors: Terry Walsh, Zee Upton, Gary Shooter, Raj Gupta, Melissa Fernandez (Agency for Science, Technology and Research)

Thesis title:  
Identification of Diagnostic Biomarkers to Improve the Management of Diabetes-Related Foot Ulcers

Description:

The project aimed to investigate biomarkers of therapeutic importance in diabetic foot ulcer samples. The thesis hypothesised that proteins and peptides are altered as diabetic foot ulcers transition from a non-healing to a healing state. The project profiled these biomolecules from diabetic wound fluid samples using mass spectrometry (MS) approaches and identified biomarkers whose appearance or levels would correlate to the healing status of the wound.
Introduction

Description:

Diabetic foot disease (DFD) which can result in an amputation is one of the leading reasons a person with diabetes is hospitalised. With minimal knowledge of the impact of social factors, this study examined hospitalisation related to DFD and eventual amputations in Queensland. A total of 19,790 people in Queensland who were hospitalised for DFD were people from more disadvantaged areas. These people tended to be younger, live in remote areas, and be of Aboriginal and Torres Strait Islander origin. Amputations were significantly higher for persons of Aboriginal and Torres Strait Islander status. This is the first time a study has investigated the pattern of DFD hospitalisation and amputation by social factors.

Adrian Singh

Master of Applied Science (Research)

Faculty of Health

Thesis title: 

Socio-Economic, Geographic, and Aboriginal and Torres Strait Islander Inequalities in Diabetic Foot Disease and Diabetes-Related Lower Extremity Amputations

Description:

Socio-Economic, Geographic, and Aboriginal and Torres Strait Islander Inequalities in Diabetic Foot Disease and Diabetes-Related Lower Extremity Amputations

Master of Applied Science (Research)

Faculty of Health

Thesis title: 

Socio-Economic, Geographic, and Aboriginal and Torres Strait Islander Inequalities in Diabetic Foot Disease and Diabetes-Related Lower Extremity Amputations

Description:

Diabetic foot disease (DFD) which can result in an amputation is one of the leading reasons a person with diabetes is hospitalised. With minimal knowledge of the impact of social factors, this study examined hospitalisation related to DFD and eventual amputations in Queensland. A total of 19,790 people in Queensland who were hospitalised for DFD were people from more disadvantaged areas. These people tended to be younger, live in remote areas, and be of Aboriginal and Torres Strait Islander origin. Amputations were significantly higher for persons of Aboriginal and Torres Strait Islander status. This is the first time a study has investigated the pattern of DFD hospitalisation and amputation by social factors.
Peter Spencer

Master of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Master of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Description:
This project addressed the uncertainty of the properties of water at specific surfaces. New experimental evidence enabled the reinterpretation of previously reported findings and demonstrates the importance of further research in this area.
Description:

This research engaged in a phenomenological exploration of the experiences and motivations of Filipino nurses working in the Philippines who were seeking overseas employment. The major driver for migration was associated with living out Filipino socio-cultural values that give emphasis to reciprocal relations with families. Although participants expressed their hopes for better remuneration, their desire to support family and social affiliations remained the primary focus of their intent. The study findings may inform policy makers and workforce planning and suggest a re-visiting of policy to investigate socio-cultural drivers often neglected in the discussions of Filipino nurse migration.
Introduction

Yusuf Adinegoro

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.121454
Email: adinegoro.yusuf@connect.qut.edu.au
Country: Indonesia
Supervisors: Narelle Haworth, Jonathan Bunker, Ashim Debnath (Victoria University), Darren Wishart

Thesis title:
Using Instrumented Motorcycle Data to Study Road Factors Influencing Motorcycle Crash Risk

Description:

This thesis developed a new methodological framework for studying how road conditions contribute to motorcycle crash risk. Using specific engineering approaches, the data collected by an instrumented motorcycle were transformed into measures of road geometry and road surface quality. Their contributions to crash risk were then examined using an epidemiological case-crossover design. The method was tested using crash and road data from the Gillies Range Road in Northern Queensland.
Heena Akbar

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.119162
Email: h.akbar@connect.qut.edu.au
Country: Australia
Supervisors: Carol Windsor, Danielle Gallegos, Debra Anderson (Griffith University)

Thesis title:
Socio-Cultural Context of Managing Type 2 Diabetes in Australian Pacific Islander Women Living in Queensland

Description:
This thesis used a community-based participatory action research and culturally informed Talanoa methodology to examine diabetes self-management of Australian Pacific Island (API) women with type 2 diabetes living in Queensland. Fundamentally process and action-oriented, the study aimed to understand self-management change behaviours within the broader API community that included social, cultural and environmental contexts. The findings will contribute to the development and design of culturally appropriate and tailored strategies of diabetes self-management for Pacific communities.
Najla Khaled S Al Abdulsalam

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Description:
Corneal transplants are a safe and effective treatment for corneal disease, but are hampered by the limited supply and quality of donor tissue. The goal of this project was therefore to evaluate the use of membranes prepared from silk protein as a scaffold on which to grow corneal tissue substitutes in the laboratory from corneal endothelial cells.
Khaled Saleh S Al Rashah

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.119155
Email: khaled.alrashah@connect.qut.edu.au
Country: Saudi Arabia
Supervisors: Katie Edwards, Nicola Pritchard, Nathan Efron

Thesis title:
Characterising Corneal Nerve Migration Rates in Healthy and Diabetic Individuals with and without Neuropathy

Description:
The cornea, (the front, clear window of the eye), being transparent, provides unique opportunities for in-vivo imaging. This project developed a novel method of measuring corneal nerve fibre migration, the only place in the body where it can be measured. Peripheral neuropathy, or damage to nerves in the arms and legs, causing pain, loss of sensation and additional conditions, is a common complication of diabetes, and is currently without reliable diagnostic tests. This project characterised nerve migration rate in a healthy population and this rate was reduced in diabetic neuropathy, indicating that it may be a potential marker of peripheral nerve disease.
Hajar Ali M Alasmari

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.122877
Email: hajar.alasmari@connect.qut.edu.au
Country: Saudi Arabia
Supervisors: Ann Bonner, Carol Windsor, Fiona Coyer

Thesis title:
Examining Intensive Care Nurses' Clinical Decision-Making Associated with Acute Kidney Injury and Continuous Renal Replacement Therapy in Saudi Arabia

Description:
This thesis explored the dimensions of decision-making of nurses managing continuous renal replacement therapy in the intensive care unit. Variations in the levels of decision-making were largely the result of contextual factors including workforce characteristics, management practices, socialisation and organisational constraints. The concepts also constitute an explanation of the ways in which the interplay of social, organisational and technological boundaries constructed the process of nursing clinical decision-making and performance with advanced technology. These findings suggest that there is an urgent need for organisational and social change in the nursing profession in Saudi Arabia.
This dissertation focused on expanding the knowledge and understanding of common and complex migraine genetics. The central objectives of this research were to 1) identify new migraine causative genes using modern sequencing techniques; and 2) investigate potential genetic associations between common and complex migraine. This study successfully identified 1) a susceptibility association between a potential familial hemiplegic migraine (FHM) gene and common migraine and; 2) implicated 4 new genes as potentially FHM causative. As a result of this study, we foresee the development of a more comprehensive genetic test with improved diagnostic success rates.
Shorash Amin

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Description:
This project undertook a comparative study to investigate how marine snails respond to acute temperature stress conditions that are expected as a result of global climate change. It was found that each snail species employed a different strategy to cope with temperature stress, but not all strategies were successful under extreme stress conditions. This information can be used to predict which species will be most susceptible to future climate changes and therefore more efficiently manage these species.

DOI: doi.org/10.5204/thesis.eprints.121483
Email: shorash.amin@connect.qut.edu.au
Country: Australia
Supervisors: Ana Pavasovic, Christopher Collet, Peter Prentis, Edward Gilding (The University of Queensland)

Thesis title:
Investigating Genetic, Gene Expression and Proteomic Changes over Temperature Gradients in Intertidal Nerita Species
Novita Intan Arovah

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.118193
Email: novitaintan.arovah@connect.qut.edu.au
Country: Indonesia
Supervisors: Kristiann Heesch, Tracy Washington, BM. Wara Kushartani (Yogyakarta State University)

Thesis title:
Exploring the Effectiveness and the Feasibility of a Social Cognitive Theory-Based Physical Activity Intervention in Type 2 Diabetes Patients in Yogyakarta City Indonesia

Description:
This thesis evaluated the effectiveness and feasibility of a low contact pedometer-based physical activity intervention. This intervention involved social cognitive theory-based support through text messaging and workbook activities for type 2 diabetes patients in Indonesia. The findings showed that the provision of pedometers improved physical activity at levels sufficient to improve glycaemic control. However, to achieve recommended and long-term improvements, the findings suggest that additional supports may be warranted. In conclusion, the intervention offers a low-contact physical activity program that may be feasible to offer at hospitals constrained by limited resources.
The complex and highly polygenic traits of intelligence, learning and memory are fundamental functions of neurocognition. Despite improvements in neurogenetics, our knowledge on the genetic architecture of these functions remains poorly understood. This research investigated the contribution of genetic variation to cognitive performance variability in relation to intelligence, learning and memory using a well-defined, healthy and unrelated cohort via a gene-centric and a genome-wide approach. Results of this study validated several previously identified genes, provided new knowledge on various cognitive traits, and identified several novel regions for future studies that may have consequences for managing disorders involving cognitive impairments.
Elise Button

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.115539

Email: elise.button@connect.qut.edu.au

Country: Australia

Supervisors: Patsy Yates, Shirley Chambers, Ray Chan, Jason Butler (Royal Brisbane and Women’s Hospital)

Thesis title:

Identifying Risk of Deteriorating and Dying in People with a Haematological Malignancy

Description:

This thesis has created new knowledge on how to identify people with a haematological cancer who are at high risk of deteriorating and dying. Using various research methods, six clinical indicators have been highlighted that identify people who may benefit from proactive palliative care planning. This research will help people with a haematological cancer have greater control over their death, and the time they have remaining.
Silvia Ciocchetta

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

The Vector Potential of the Mosquito Aedes koreicus

Description:

Despite the recent establishment and spread of Aedes koreicus mosquitoes in Europe, its natural history and its potential public health impact remain poorly described. This thesis provides the first detailed insights into the biology of Aedes koreicus and its capacity to transmit arboviral diseases. Field work in Italy evaluated a variety of surveillance techniques for this species and its propensity to bite humans. A laboratory colony established in Australia was used to characterise its reproductive biology and its ability to transmit chikungunya virus. The findings help us understand the invasion risks and the public health threat posed by Aedes koreicus.
Sonali Coulter

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Thesis title:
An Economic Evaluation of Antimicrobial Stewardship Programs in Metropolitan Australian Hospitals

Description:
This thesis provides the first economic evaluation of Antimicrobial Stewardship (AMS) interventions in two Metropolitan Australian Hospitals. AMS interventions are cost-saving from a hospital perspective and are cost-effective particularly if teamed with rapid diagnostics in the microbiology laboratory. The uncertainty in the mortality estimates does not allow for a high level of confidence in the cost-effectiveness decision for policy makers. While mortality is a useful metric, morbidity associated with bloodstream infections due to inappropriate prescribing needs to be collected over a longer period of time to capture the true benefits of AMS interventions.
Samaneh Delshad

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Description:

This thesis examined the timing of the human eye’s response to short periods of blur. We have provided the first evidence of the rapid onset and recovery of the human eye’s response to blur. Also, by employing alternating and interrupted blur paradigms, the first analysis of the temporal integration of these blur signals was obtained. These findings expand our knowledge of the human eye’s response to image blur and provide insights into the potential association between the temporal integration of brief periods of blur and their influence on normal and abnormal eye growth.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Daniel Demant

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.117146
Email: daniel.demant@connect.qut.edu.au
Country: Germany
Supervisors: Leanne Hides, David Kavanagh, Katherine White

Thesis title:
Substance Use Among Sexual Minority Young People: The Influence of Community Attitudes and Identities

Description:
This thesis provides an examination of the disproportionate use of licit and illicit substances among sexual minority young people. It gives a clear picture that substance use is not equally distributed among all groups within this population, and that a range of underlying factors are responsible for existing disparities between this population and the general population. These include marginalisation and mental health as well as characteristics of the LGBT community such as peer pressure, high concentration of licensed venues, and socio-political values. Both connectedness to and participation in the LGBT community were significantly associated with substance use involvement.
Luke Garske

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Thesis title:
Determinants of Dyspnea Associated with Pleural Effusion

Description:
Fluid accumulation between the lung and rib-cage is commonly associated with shortness of breath, and frequently requires hospitalisation and invasive surgical procedures. This program of research has contributed new knowledge which has advanced our understanding of how fluid accumulation between the lung and rib cage causes shortness of breath. A technique was refined to measure the efficiency of the breathing muscles when fluid accumulates between the lung and rib cage. A novel non-invasive therapy to improve efficiency of the breathing muscles was trialled in a patient, and may improve shortness of breath.
Xinyan Geng

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Description:
This project was focused on evaluating new targeted treatments for endometrial cancer patients carrying somatic activating FGFR2 mutations using multiple cell line models. Using a combination of assays that measured cell proliferation, cell death and cell survival we showed that the combination of FGFR inhibition by BGJ398 and PI3K pathway inhibition with either pan-PI3K inhibitors (BKM120, GDC0941) or a p110α-selective PI3K inhibitor (BYL719) was synergistic. Western blot analysis showed the combination was more effective due to more durable repression of downstream PI3K targets such as S6K. We also show that sensitivity to FGFR inhibition was associated with high receptor expression.
Introduction

Description:

Orthokeratology (OK) contact lenses have shown propensity for slowing down the worsening of myopia in children and young adults, with only some understanding of the mechanism. This thesis examined eye muscle coordination and focussing in OK contact lens wear. Outcomes were consistent with a lower myopia progression risk and improved visual comfort compared to standard spectacles and soft contact lenses. These findings have relevance for patient acceptance, clinical management protocols and understanding OK’s optical impact on the visual system of the young myope.
Introduction

The current treatment strategies for hypertrophic and keloid scars are not effective, and the mechanisms for why these scars form in the skin are not well understood. This thesis has identified and characterised biomolecules from skin cells called microRNAs, and how they may contribute to hypertrophic and keloid scar formation. These microRNAs could be the stepping stone towards diagnostic and therapeutic applications for these scar types.

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.115538
Email: dominic.guanzon@connect.qut.edu.au
Country: Australia
Supervisors: Tony Parker, Ana Pavasovic, David Leavesley

Thesis title:
Investigating the role of microRNAs in hypertrophic and keloid scar formation

Description:
The current treatment strategies for hypertrophic and keloid scars are not effective, and the mechanisms for why these scars form in the skin are not well understood. This thesis has identified and characterised biomolecules from skin cells called microRNAs, and how they may contribute to hypertrophic and keloid scar formation. These microRNAs could be the stepping stone towards diagnostic and therapeutic applications for these scar types.
Apil Gurung

Doctor of Health Science
Faculty of Health
Thesis title: Deciding to Transfer a Resident to the Emergency Department: A Phenomenographic Examination of Decision Making in Residential Aged Care
Description:

This research explores the experience and understanding of Residential Aged Care Facility (RACF) nurses’ decision-making when transferring a resident from RACF to the emergency department. The interpretive qualitative approach of phenomenography reveals nurses’ decision-making falls under the following six categories: being a marionette, too dumb to have an opinion, making family happy, being on your own, not being about the resident, and having experience. These findings reveal the need for empowerment and professional autonomy of RACF nurses to ensure active participation and engagement during decision-making. The insights about RACF nurses’ experience of decision-making gained from this research contribute to improving the care of RACF residents.

DOI: doi.org/10.5204/thesis.eprints.120022
Email: apil.gurung@connect.qut.edu.au
Country: Nepal
Supervisors: Alan Barnard, Margo Sendall
Lisa Hamilton

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation (IHBI)

Thesis title:
Within These Walls: An Ethnography of Home at Lake House

Description:
People with intellectual disability have much to say about home but their voices are not always heard amongst the noise of service provision. This thesis used collaborative ethnographic research methods to explore meanings of home at a group home called Lake House. At times, the group home was inflexible and rigid but the housemates demonstrated agency, subverting and resisting the institutional culture in their own ways. Creativity and tenacity in home-making was found. As housing and support models evolve, the experiences and expertise of people with intellectual disability must be paramount.
Fussy eating, characterised by persistent refusal of familiar and/or novel food, is a risk factor for poor dietary variety, particularly fruits and vegetables which are protective against diet-related chronic diseases. Parents may attempt to modify children’s diets by using feeding practices that are not responsive to a child’s appetite, such as pressuring, restricting and using food as a reward. Little is known about the nature of children’s fussy eating within the social, emotional and economic context of the family. This PhD thesis, presented as five papers (four published, one accepted), demonstrated the complexity of family feeding dynamics and fussy eating in children aged five years-old and younger, in the family context of socioecocomic disadvantage. Evidence generated from this thesis suggests bi-directional behavioural associations between parental non-responsive feeding practices and child fussy eating, which may be mediated by parental concern for the child's fussy eating.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Heidy Hamada Saad Abdelhamed Hassan

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Publication

Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.116176

Email: h1.hassan@connect.qut.edu.au

Country: Egypt

Supervisors: Mark King, Mary Sheehan, Kerrianne Watt
(James Cook University)

Thesis title:

The Applicability of the Precaution Adoption Process Model in Understanding Older Adults’ Self-Regulatory Driving Behaviours

Description:

Age-related declines can compromise older adults’ abilities to drive safely. Researchers have promoted self-regulation as a positive approach that can balance the needs for mobility and safety. The lack of a theoretically-informed model of driving self-regulation inhibits our ability to understand and describe such complex processes. This thesis contributes to the theoretical understanding of older drivers’ self-regulation by examining the applicability of the Precaution Adoption Process Model in categorising older adults into different stages of behaviour change while capturing a wide range of interpersonal, intrapersonal, and environmental factors that influence self-regulatory driving behaviour.
Amithavikram Rugvedi Hathibelagal

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation (IHBI)

The Role of Noise on Rod Signaling in the Visual Pathways

Description:

Rod and cone photoreceptors in the human eye operate simultaneously under dim (mesopic) illuminations, however, it’s not clear how their signals interact to regulate our visual experience. These photoreceptor interactions were investigated using a new methodology designed to isolate rod-mediated vision by separating it from the effects of cone photoreceptor-specific noise. The outcomes revealed a mechanism requiring cone-directed transmission of rod signals through the primary visual pathways that optimises human vision under twilight illumination.

DOI: doi.org/10.5204/thesis.eprints.122230
Email: amithavikram.hathibelagal@connect.qut.edu.au
Country: India
Supervisors: Andrew J. Zele, Beatrix Feigl
Kathryn Havas

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Publication

Institute of Health & Biomedical Innovation (IHBI)

Description:

Chronic kidney disease affects 10% of Australians. This thesis reports a three-phase project involving development, implementation, and evaluation of a novel intervention, the Chronic Kidney Disease Self-Management Support program (CKD-SMS), designed to support people with early stages of this disease. After receiving the intervention, participants displayed significant improvements in multiple clinical outcomes and reported a high level of satisfaction with the program. This study has implications for supporting people with CKD in general practice and indicates that, by tailoring support to individual needs, positive health outcomes which may help to slow disease progression can be achieved.

DOI: doi.org/10.5204/thesis.eprints.116549

Email: k.havas@connect.qut.edu.au

Country: Australia

Supervisors: Ann Bonner, Clint Douglas
Overconsumption of sugar and/or alcohol leads to a number of diseases such as diabetes, obesity and alcohol dependence. Stress is known to be a major contributor to the development of binge eating and drinking. However, the animal models available rarely examine the role of stress in the development of binge consumption of substances. This thesis aimed to improve the animal models of alcohol and sugar consumption in order to improve our understanding of the impact of stress on binge consumption. We had previously shown that varenicline (an anti-smoking medication which acts on neuronal nicotinic receptors) reduces alcohol consumption. Here we show varenicline reduces sugar consumption and stress hormones. We also show that exposure to stress during early life alters nicotinic receptors levels in the brain. These data further enhance our ability to develop treatments for alcoholism and obesity.
Seyed Hosein Hoseini Yazdi

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.120362
Email: shh.yazdi@connect.qut.edu.au
Country: Iran
Supervisors: Stephen Vincent, Michael Collins, Scott Read

Thesis title:
Spatial Characteristics of the Response of the Human Choroid to Imposed Defocus

Description:
This thesis examined the thickness of the human choroid across a substantially larger region than previously examined, its regional variation associated with myopia, and its short-term response to different spatial patterns of optical defocus. This research provided the first evidence of a local response of the choroid to a region specific pattern of myopic defocus in the human eye. These findings add to the current understanding of the choroid’s contribution to vision dependent mechanisms of human eye growth and may assist in optimising the optical design of myopia control interventions.
Kim Jackson

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Thesis title:
Exploring the Restrictive Feeding Phenomenon and the Potential Impact on Child Food Preferences

Description:
Parenting practices used to restrict children’s consumption of palatable foods such as lollies and chips have been implicated as contributing to obesity, but there is limited knowledge of the nature and dimensions of this phenomenon. Using a mixed methods approach, key dimensions were identified and a conceptual framework developed to improve future measurement of this phenomenon. Key dimensions included: variability in mothers’ restrictive feeding intentions towards different foods and drinks; low restriction associated with higher child preference for sweet foods; mothers’ communicating restricted foods as ‘treats’; and mothers’ own liking for restricted foods associated with higher child access and liking.
Introduction

This research examined women's experiences of depression in the Riverina area of rural NSW, Australia. Using a qualitative methodology based on interviews with 27 women, the study was underpinned by an intersectional feminist lens which was concerned with the multiple meanings of gender, rurality and depression. The study found that difficult relationships, loss, and childhood abuse and violence were frequently a significant part of women's accounts of their depression. Indeed, oppression not depression was found to be a more apt characterisation of many of their life experiences. This thesis challenges the narrow gaze of the dominant biomedical discourse which continues to medicalise the socio-political realities of women's lives.

Stephanie Johnson

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation (IHBI)

Thesis title:

Down but Not Out in the Bush: Women's Experiences of Depression in Rural New South Wales

Description:

This research examined women's experiences of depression in the Riverina area of rural NSW, Australia. Using a qualitative methodology based on interviews with 27 women, the study was underpinned by an intersectional feminist lens which was concerned with the multiple meanings of gender, rurality and depression. The study found that difficult relationships, loss, and childhood abuse and violence were frequently a significant part of women's accounts of their depression. Indeed, oppression not depression was found to be a more apt characterisation of many of their life experiences. This thesis challenges the narrow gaze of the dominant biomedical discourse which continues to medicalise the socio-political realities of women's lives.

DOI: doi.org/10.5204/thesis.eprints.116518

Email: stephanie.johnson@connect.qut.edu.au

Country: Australia

Supervisors: Mark Brough, Ros Darracott
Introduction

A goal of nursing education is that students will transfer and apply university learning to the clinical setting. Little is known about learning transfer and the use of simulation in nursing education. This study developed a specific debriefing based on learning transfer principles and was used during simulation training of final year nursing students. Results of this study provide a significant contribution to the science of simulation. Findings provide a conceptual basis for the development of improvements in simulation operational practices and the use of elements of debriefing that contribute to a meaningful experience, improving transfer of skills and knowledge.

Sandra Johnston

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.122948
Email: s34.johnston@connect.qut.edu.au
Country: Australia
Supervisors: Fiona Coyer, Robyn Nash

Thesis title:
The Effectiveness of Simulation and Debriefing on Nursing Students’ Perceptions of Clinical Reasoning and Learning Transfer

Description:

A goal of nursing education is that students will transfer and apply university learning to the clinical setting. Little is known about learning transfer and the use of simulation in nursing education. This study developed a specific debriefing based on learning transfer principles and was used during simulation training of final year nursing students. Results of this study provide a significant contribution to the science of simulation. Findings provide a conceptual basis for the development of improvements in simulation operational practices and the use of elements of debriefing that contribute to a meaningful experience, improving transfer of skills and knowledge.
Shanchita Khan

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Effect of Sunlight Exposure on 25-Hydroxyvitamin D Concentration

Description:

Sunlight generates vitamin D, but there is scant human data from randomised trials on which to base health policy advice about how much sun exposure is necessary to change 25-hydroxyvitamin D (25(OH)D) concentrations in the body. This thesis studies the effect of solar ultraviolet (UV) radiation exposure on 25(OH)D concentration in a randomised controlled trial. The intervention group received nine standard erythemal doses of UV radiation over three weeks which caused a 2.5 nmol/L higher increase than that in the control group, although this was not statistically significant. This study identifies key issues to be considered in the design of a larger trial.
Sharon Kleinschmidt

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Molecular Characterisation of Bacteraemia and Contamination Isolates of Staphylococcus epidermidis Isolated from Patient Blood Cultures

Description:

This thesis sought to identify genetic markers in Staphylococcus epidermidis that could predict the ability of this bacterium to cause bloodstream infections. Analysis of the data from next generation molecular methods identified 151 bacterial genes that were associated with patient bloodstream infections. Furthermore, the application of this set of markers to develop an algorithm to predict S. epidermidis bloodstream infections could contribute to diagnostics tools, leading to improved patient treatment, outcomes and reduced healthcare costs. Overall this thesis has contributed new knowledge and an enhanced understanding of S. epidermidis in the clinical setting using next generation molecular microbiology methods.
David Long

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Thesis title:
Out of the Silo: A Qualitative Study of Paramedic Transition to a Specialist Role in Community Paramedicine

Description:
Community paramedicine is an evolving specialist stream of paramedic practice and aims to provide patients in the community with options to navigate more efficiently the healthcare system and avoid unnecessary presentations to a hospital emergency department. This study examined the transition of paramedics from a work role in traditional paramedicine to a specialist work role in community paramedicine. The unique knowledge generated by this study allows for additional targeted intervention points for paramedics to better engage in the transition process and may decrease the timeframe to deploy high-quality and ready-to-work paramedics in the community.
Description:

In this thesis, the best ways of preventing surgical site infection following caesarean section were identified. A cost-effectiveness analysis was conducted to inform clinical decision makers of whether moving to evidence-based practice was value for money. The research was an important step in raising the profile of surgical site infections following caesarean section, and identifying the large and unwarranted variation in surgical practice at caesarean section in Australia. The research also introduced an economic evaluation framework to maternity health care, which is a service that continues to be costly and high-volume.
Saira Mathew

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation (IHBI)

Description:

This thesis examined three phases of hospital care among older adults with trauma-related fractures. These were acute hospitalisation for fracture management; subacute hospital rehabilitation and re-presentations to emergency departments; as well as mortality after hospitalization. The factors associated with longer length of stay, discharge to residential aged care, emergency department re-presentations and premature mortality will inform future research and those seeking to improve management of older adults presenting to hospitals with fractures affecting the upper limb, lower limb or axial skeleton.
Giuseppina Montalbano

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.116592
Email: giuseppina.montalbano@connect.qut.edu.au
Country: Australia
Supervisors: Trudi Collet, Esther Lau, Lisa Nissen

Evaluation of the Antimicrobial, Anti-Inflammatory, Regenerative and Wound Healing Properties of the Bracket Fungus Ganoderma Lucidum

Description:

Ganoderma lucidum, a saprophytic bracket fungus native to Queensland’s tropical rainforests, was traditionally used to heal wounds and ensure smooth tissue regeneration. Its pharmaceutical formulations such as teas, decoctions and capsules are claimed to cover a range of diseases, however, the alleged pharmacological properties of G. lucidum have not yet been fully scientifically validated. This study has demonstrated G. lucidum’s in vitro role as a wound healing agent as a result of its concomitant and/or predominant antibacterial, anti-inflammatory and regenerative properties. This research will contribute to a development of a novel therapeutic for the treatment of chronic non-healing wounds.
Introducition

This dissertation provides a detailed exploration and valuable insights of type 2 diabetes management in the real-world setting. Incretin-based therapies and thiazolidinedione were found to provide higher chances of sustainable glycaemic and cardiovascular risk factor control, compared to older anti-diabetic treatment options. The project highlights alarming rates of the existing cardio-metabolic burden at the population level. Proper control in terms of timely intensification with anti-hyperglycaemic, anti-hypertensive, and anti-dyslipidemic therapies when needed, remains a key aspect to improve long-term outcomes in patients with type 2 diabetes.
Michelle Newcomb

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Publication

Institute of Health & Biomedical Innovation (IHBI)

 Thesis title:

Recognising resilience: Understanding how childhood adversity impacts undergraduate social work and human services students

Description:

Many students entering social work and human services (SWHS) degrees have a history of childhood adversity. A survey of 265 students found that those who had experienced adversity believed it built resilience and both informed their choice of profession and enhanced capacity to persevere with study. Twenty students were interviewed and they reported that they tended to keep their childhood experiences hidden from academics, peers and employers. The study highlights the importance of acknowledging the potential insights students may have gained from adversity which may reduce the stigma they experienced in studying to become SWHS professionals.

DOI: doi.org/10.5204/thesis.eprints.116194

Email: m.newcomb@connect.qut.edu.au

Country: Australia

Supervisors: Judith Burton, Niki Edwards, Zoe Hazelwood
<table>
<thead>
<tr>
<th>Doctor of Philosophy</th>
<th>DOI: doi.org/10.5204/thesis.eprints.116352</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Health</td>
<td>Email: <a href="mailto:thuyly.nguyen@connect.qut.edu.au">thuyly.nguyen@connect.qut.edu.au</a></td>
</tr>
<tr>
<td>Institute of Health &amp; Biomedical Innovation (IHBI)</td>
<td>Supervisors: Patsy Yates, Kim Alexander</td>
</tr>
</tbody>
</table>

**Ly Thuy Nguyen**

**Description:**

This thesis is the first to explore self-management interventions for patients experiencing cancer related symptoms in Vietnam. The study represents one of the few trials of psycho-educational symptom cluster interventions across the world. Findings provide preliminary evidence supporting the role of psycho-educational interventions in reducing the impact of the cancer related symptom cluster comprising fatigue, pain and sleep disturbance.

**Thesis title:**

A Psycho-Educational Intervention for Symptom Cluster Management among Cancer Patients Undergoing Treatment in Vietnam
Nguyet Nguyen

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.119220
Email: nguyet.nguyenth@connect.qut.edu.au
Country: Vietnam
Supervisors: Ann Bonner, Clint Douglas

Thesis title:
Self-Management Program for People with Chronic Kidney Disease in Vietnam: A Pragmatic Randomised Controlled Trial

Description:
Chronic kidney disease is a growing health problem worldwide. This thesis reports a three-phase study which translated and tested instruments into Vietnamese language followed by a pragmatic randomised controlled trial of a self-management program for people with chronic kidney disease. This study found that the program was a simple and effective way to improve a person’s understanding of kidney disease, and to give them confidence and self-management skills to manage the disease as well as improving quality of life. Importantly for healthcare clinicians in Vietnam, the study provides strategies to better support people with earlier stages of this disease.
Description:

This project aimed to estimate the willingness to pay for family-based health insurance among informal sector workers in Vietnam in the interests of achieving universal health coverage. Applying a mixed method design, the study indicates that 48.8% of 391 uninsured households were willing to pay for family health insurance. The main barriers to enrolment are the inability to pay premiums, inadequate understanding of the health insurance (HI) scheme, ineffective enrolment procedures, and poor perception of the quality of health care services. A premium subsidised by the government and improvements of the quality of primary health care are crucial strategies for HI expansion.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Elham Nili Ahmadabadi

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Thesis title:
Development of a Novel Mesenchymal Stromal cell (MSC) Therapy for Repairing the Cornea

Description:

This thesis has produced advances in our understanding of the biology and potential clinical application of stem cells to aid the treatment of patients with severe eye injuries. This research evaluated the therapeutic potential of a stem cell (called Mesenchymal Stromal Cells (MSCs)) isolated from the peripheral margin of the cornea, known as the limbus. Firstly, a method for routinely isolation and propagation of human limbal MSCs was optimised. Subsequently, the performance of those cells on a silk fibroin membrane was examined.
Seyyed Reza Pishva

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Description:
This thesis utilised the unique Norfolk Island (NI) genetic isolate population and an Australian hypertensive-normotensive (HT-NT) cohort to identify hypertension susceptibility markers. Specifically, an Australian HT-NT population was used for a genetic replication study to validate findings for candidate single nucleotide polymorphisms (SNPs) identified from a Genome-Wide Association Study of NI HT-NT samples. Additionally, epigenetic modifications in regulatory regions of candidate genes were explored to determine the potential impact of DNA methylation in hypertension. The results of this study identified novel genomic and epigenomic regions which correlate with hypertension risk providing potential for new drug targets for treatment and diagnostic applications.
Janine Porter-Steele

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Thesis title:
Sexuality and Body Image in Women Following Diagnosis and Treatment for Cancer: Evaluation of an E-Health Enabled Intervention

Description:
This thesis examined the outcomes of a nurse-led, whole-of-lifestyle intervention delivered via an e-health platform to women after cancer treatment. The aim of the intervention was to improve two common and distressing adverse effects of cancer treatments; namely, impaired sexual well-being and altered body image. The e-health aspect of the intervention ensured it was available to women regardless of their place of residence or their access to conventional supportive care. Intervention participants demonstrated improved sexual well-being and body image compared to controls. These beneficial findings have implications for health promotion practice and health professional education in cancer settings.
Chathuranga Ranasinghe

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Description:

This study had two components investigating the effects of exercise in Sri Lankan adults with type 2 diabetes mellitus (T2DM). The quantitative component consisted of a 12 week randomised controlled trial comparing aerobic training, resistance training and usual care on glycaemic control (HBA1C), % body fat and range of clinically important endpoints. The qualitative component consisted of in-depth interviews to determine barriers/facilitators for adherence to different modes of exercise. The study proved, despite cultural challenges and barriers, the possibility of conducting a large-scale exercise intervention in Sri Lankans for the first time, and the merit of exercise in Sri Lankans with T2DM.
Handoo Rhee

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation (IHBI)

Thesis title:

Androgen Deprivation Therapy (ADT), Metabolic Syndrome and Metastatic Prostate Cancer: In Vivo and In Vitro Assessments of Effects of Metformin

Description:

This thesis describes a translational research approach to identifying a cancer mechanism driven by metabolic syndrome. It examines the impact of androgen deprivation therapy, its association with metabolic syndrome and prostate cancer progression, and the therapeutic and metabolic benefits of adjuvant metformin. The study investigates with a randomised placebo controlled clinical trial, with characterisation of the molecular mechanism of metformin in vitro using conditions to mimic physiological hormonal milieu.
Kalina Rossa

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.118059

Email: kalina.rossa@connect.qut.edu.au

Country: Australia

Supervisors: Simon Smith, Karen Sullivan

Thesis title:

Risk Taking Behaviour in Young Adults: The Role of Sleep and Associated Psychophysiological States

Description:

Young adults have a tendency to engage in risk taking behaviours such as dangerous driving, substance use, violent behaviours towards themselves or others, and unsafe sexual practices. This program of research designed, built and tested a model aimed at understanding how young adult’s sleep health, mood, and stress related experiences influence their risk taking in day-to-day life. Novel pathways for future interventions aimed at reducing the harms associated with these behaviours were explored and developed.
Anisa Rowhani-Farid

Doctor of Philosophy
Faculty of Health
Thesis title: Towards a Culture of Open Science and Data Sharing in Health and Medical Research

Description:
This thesis investigated the factors that contribute to the cultural shift towards open science and data sharing in health and medical research, with a focus on the role health and medical journals play. The findings of this research demonstrate that journal data sharing policies are not effective and that journals do not currently provide incentives for sharing. This study contributed to the movement towards more reproducible research by providing empirical evidence for the strengthening of journal data sharing policies and the adoption of an incentive for open research.
Bevan Rowland

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.119159
Email: b.rowland@connect.qut.edu.au
Country: Australia
Supervisors: James Freeman, Jeremy Davey

Thesis title:
An Exploration into Work-Related Road Safety: A Multi-Dimensional Approach

Description:
Vehicle crashes are identified as the primary cause of occupational fatalities and driving a vehicle for work is considered the most hazardous operation undertaken by many workers. The thesis explored contemporary issues impacting on work-related road safety (WRRS). Findings suggest that WRRS is a complex issue requiring a multi-dimensional or holistic approach to assess the factors impacting on work-related driving. Within the organisations studied, WRRS was not adequately addressed and differing levels of management commitment and support determine the degree of organisational response.
Michael Rowlands

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.116343
Email: mt.rowlands@connect.qut.edu.au
Country: Australia
Supervisors: Gavan Palk, Ross Young

Thesis title:
Dangerous Sex Offenders: Recidivism and Risk Factors Associated with Serious Sexual Offending

Description:
There is limited research on dangerous sex offenders in Australia. The current PhD study examined reoffending rates of offenders classified as dangerous in Queensland Supreme Courts. A review of the literature noted that sex offenders generally have low recidivism rates. Offenders considered high-risk are more likely to re-offend with general offences, but the overall level of sexual and nonsexual violent recidivism was low. Further, early onset of offending, diverse criminal careers, diverse victimologies, ecological change, and substance misuse were factors for recidivism. Last, the project identified that conceptualising dangerousness is complex and fraught with ethical and legal concerns.
Introduction

Childhood sexual violence (CSV) is a pressing public health priority, but limited data on such violence is available in low and middle income contexts. This mixed methods study in Indonesia assessed prior research and asked children for advice on how best to study CSV. The results suggest that CSV is a problem in Indonesian children's lives, but insufficiently addressed in prevention programs. Challenges to researching CSV in Indonesia include methodological, sociocultural and geographical factors. The Indonesian government should invest in a broad research agenda, including gathering nationally representative data, to help reduce violence and achieve the Sustainable Development Goals.

Lauren Leigh Rumble

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Publication

Institute of Health & Biomedical Innovation (IHBI)

Thesis title:

Challenges to Researching Childhood Sexual Violence in Indonesia

Description:

Childhood sexual violence (CSV) is a pressing public health priority, but limited data on such violence is available in low and middle income contexts. This mixed methods study in Indonesia assessed prior research and asked children for advice on how best to study CSV. The results suggest that CSV is a problem in Indonesian children’s lives, but insufficiently addressed in prevention programs. Challenges to researching CSV in Indonesia include methodological, sociocultural and geographical factors. The Indonesian government should invest in a broad research agenda, including gathering nationally representative data, to help reduce violence and achieve the Sustainable Development Goals.
Meeting the needs of children with autism and their parents during out of hospital interactions with paramedics

Description:

This study explored the needs of children with autism and their parents during out-of-hospital interactions with paramedics. Paramedics and parents of children with autism provided rich accounts of their interactions and experiences through semi-structured interviews. The study concluded that paramedics are meeting the emergency health needs of the children on the spectrum and are willing to link children and their families to the other services they need. Parents value the development of individualised emergency care plans and can offer expertise about their child’s needs. The development of systems navigation, health literacy and advocacy skills was vital for both families and their care providers.
Description:

The current research examines the road safety aspects of Motorcycle Rickshaws (MRs). MRs are motorcycle driven three-wheeled paratransit vehicles that appear to be the largest informal public transport mode in Pakistan. There are widespread public concerns about their negative effects on safety, traffic flow, and air and noise pollution, but little relevant research or government policy exists because of the lack of registration systems for these vehicles and under-reporting in police crash data. In response to this identified gap in knowledge, this doctoral program was undertaken to: (1) examine the road safety aspects of MRs, and (2) identify appropriate policy measures and strategies that could improve the road safety of MRs.
Mangapathiraju Tippana

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.120280

Email: mangapathiraju.tippana@connect.qut.edu.au

Country: India

Supervisors: Derek Van Lonkhuyzen, Terry Walsh, Zee Upton

Thesis title:

Development of a Novel Tissue Targeted Nerve Growth Factor: Fibronectin Chimeric Protein as a Potential Therapeutic for Peripheral Nerve Regeneration

Description:

This project sought to develop a novel regenerative fusion protein that directly targets nerve-tissue through the addition of a specific nerve-tissue binding domain. Combining select domains of the extracellular matrix protein fibronectin with nerve growth factor, a singular potent regenerative stimulant was developed. To better deliver the candidate therapeutic to nerve-tissue, a native tissue binding domain was added. This approach represents a novel approach to meet the challenges facing regenerative medicine, making use of growth factor: extracellular matrix interactions and tissue localisation to repair, regenerate and restore tissue function.
Introduction

There is a lack of physical activity (PA) data among primary school-aged children in Asia and Vietnam where rapid urbanisation, modernisation and mechanisation result in a more sedentary lifestyle. This study investigated the level and pattern of PA; identified factors influencing PA; and explored the current physical education (PE) programs serving fifth-grade students in Ho Chi Minh city, Vietnam. About 80% of the students did not have a sufficient level of PA and over 50% were either overweight or obese, therefore, interventions are urgently needed. Recommendations for improving PE programs and designing effective interventions were also included.

Gia Quyen To

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Thesis title:
Physical Activity Among Fifth-Grade Students in Ho Chi Minh City, Vietnam

Description:

There is a lack of physical activity (PA) data among primary school-aged children in Asia and Vietnam where rapid urbanisation, modernisation and mechanisation result in a more sedentary lifestyle. This study investigated the level and pattern of PA; identified factors influencing PA; and explored the current physical education (PE) programs serving fifth-grade students in Ho Chi Minh city, Vietnam. About 80% of the students did not have a sufficient level of PA and over 50% were either overweight or obese, therefore, interventions are urgently needed. Recommendations for improving PE programs and designing effective interventions were also included.
Introduction

Description:

This research was the first to investigate the prevalence and associated risk factors of malnutrition among patients in acute care settings in Ho Chi Minh City, Viet Nam. The program also identified the most appropriate malnutrition screening tools for use in hospitalized adults in the current Vietnamese context. Nutrition and dietetic services in hospitals in Viet Nam are relatively new and poorly resourced. The findings from this project have already had an impact, helping to establish and inform current and future policies related to nutrition screening of hospitalised patients, as well as the organisation and management of foodservices in hospitals.

Cuong Tran

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.122959
Email: quoccuong.tran@connect.qut.edu.au
Country: Vietnam
Supervisors: Danielle Gallegos, Mary Hannan-Jones, Merrilyn Banks

Thesis title:
Hospital Malnutrition in Viet Nam: Prevalence, Associated Risk Factors and Appropriate Screening Tools
Sekar Ulaganathan

Doctor of Philosophy

Faculty of Health

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.115840

Email: sekar.ulaganathan@connect.qut.edu.au

Country: India

Supervisors: Scott Read, Michael Collins, Stephen Vincent

Thesis title:

The Influence of Light Exposure and Seasonal Changes on Short-Term and Longer-Term Changes in Axial Length of the Human Eye

Description:

Myopia (short-sightedness) is a common eye condition that is increasing in prevalence in the population. This research involved a longitudinal study examining the potential role of outdoor light exposure (and its seasonal variations) in the increased eye growth underlying myopia in young adults. Individuals spending less time in bright outdoor light were found to exhibit higher magnitude short-term daily fluctuations in eye length, as well as more rapid eye growth over 12-months. Seasonal variations in light exposure also appeared to impact upon eye growth. This research supports an important role for outdoor light exposure in myopia development in young adults.
Bich Thuy Vu

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.118672
Email: bichthuy.vu@connect.qut.edu.au
Country: Vietnam
Supervisors: Michael Dunne, Kaeleen Dingle, Phung Le (Khanh Hoa Provincial Health Department)

Thesis title:
Perceived Quality of Care in Infertility Clinics in Vietnam: Determinants of Patient Satisfaction

Description:
Infertility services in Vietnam are currently over-crowded due to high demand, limited medical infrastructure and lack of human resources, which may significantly impair the quality of care. This study is the first in Vietnam to systematically examine determinants of patient satisfaction, using a mixed methods design to inquire about female and male clients’ experience at a large infertility service in Ho Chi Minh City. Clients indicated moderately high levels of satisfaction. Nine potential determinants predicted 72% of patient satisfaction. The instrument used in this study could be applied to service evaluations at other infertility clinics in Vietnam and East Asia.
Rabbani Rash-ha Wahi

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

Towards an Understanding of the Factors Associated with Severe Injuries to Cyclists in Crashes with Motor Vehicles

Description:
This thesis aimed to develop statistical models to overcome limitations in police-reported data to better understand the factors contributing to severe injuries in bicycle motor-vehicle crashes. In low-cycling countries such as Australia, collisions with motor vehicles are the major causes of severe injuries to cyclists and fear of collisions prevents many people from taking up cycling. The empirical results obtained from the models provide valuable insights to assist transport and enforcement agencies to improve cyclist safety.
Amy Wong

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation (IHBI)

DOI: doi.org/10.5204/thesis.eprints.116348
Email: m26.wong@connect.qut.edu.au
Country: Australia
Supervisors: Robert King, Karen Sullivan, Warwick Middleton (TPG Telecom), James Scott (Royal Brisbane and Women’s Hospital)

Thesis title:
Does Cognitive Functioning Help Distinguish Subjects with Dissociative Identity Disorder from those with Schizophrenia?

Description:
Dissociative identity disorder (DID) shares clinical features with schizophrenia and differentiating these disorders can be difficult. This study aims to determine whether cognitive functioning and indicators of cognitive decline can distinguish DID from schizophrenia. Findings of this study suggest a simple cognitive task combined with a measurement of estimated premorbid cognitive functioning helps distinguish those with a diagnosis of DID from schizophrenia where clinical symptoms alone do not permit clear differentiation.
Xiang Zhao

Doctor of Philosophy
Faculty of Health
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation (IHBI)

Description:
This thesis investigated adolescent smoking in Kunming, China. China is a country with over 300 million smokers where smoking prevention is a crucial health priority. Comprising development, implementation, and evaluation, the school-based smoking intervention in this PhD deepened the understanding of adolescent smoking in China, providing suggestions for future research. Although limited effects in curbing pro-smoking attitudes were demonstrated, the high smoking prevalence in wider society likely undermined the power of the intervention. This thesis suggested that, rather than focusing on personal cognitive levels of intervention, policy-level and community-based interventions are more likely to be effective in reducing adolescent smoking.
Faculty of Law
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Anna Dwyer

Master of Philosophy

Faculty of Law

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.121455

Email: a.piggott@connect.qut.edu.au

Country: Australia

Supervisors: John Scott, Cassandra Cross

Thesis title:

Understanding police-Indigenous relations in remote and rural Australia: police perspectives

Description:

This thesis examined police and Indigenous relations in rural and remote contexts in Australia which historically and in contemporary times have often been contentious. Using a grounded theory approach, the police participants of this qualitative research provided insight as to how social factors such as ecological, organisational and occupational culture influenced their responses in discrete Indigenous communities. The findings revealed that ecological factors such as community dynamics and Indigenous culture heavily influenced police in how they responded to situations, more so than the influence of organisational and occupational culture. It found that ecological factors played a large role in shaping policing responses in discrete Indigenous communities.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Description:
The history of legal liability for psychiatric injury caused by negligence has been marked by judges taking different approaches, some applying general principles while others have taken a more pragmatic and arbitrary approach due to concerns including the risk of unlimited liability. This thesis applies Ernest Weinrib’s and Allan Beever’s corrective justice theories of negligence to such claims and suggests an approach to the duty of care which demonstrates that a choice does not need to be made between a principled but unlimited and unworkable approach on the one hand, and a clear and predictable but arbitrary and unprincipled approach on the other. Rather, this thesis argues that the approach that emerges through applying Weinrib’s and Beever’s theories to this area of law is both principled and workable.
This thesis explores the human-focused problems that are an inevitable, but often overlooked, aspect of animal cruelty policy debates. Focusing on policy debates over the treatment of animals in the wake of the live export debate, it analyses how these debates produce competing definitions of what ‘animal cruelty’ is and how it should be responded to legally and politically. The thesis argues that understandings of ‘animal cruelty’ are often tied to human-focused problems, and any response to animal cruelty must meaningfully engage with these human-focused problems simultaneously if an adequate solution to animal cruelty is to be achieved.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Janani Ganapathi

Doctor of Philosophy

Faculty of Law

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115759

Email: janani.ganapathi@connect.qut.edu.au

Country: Switzerland

Supervisors: Belinda Carpenter, Kamal Puri, Dan Hunter

Thesis title:

The Role of Open Educational Resources (OERs) in Primary Education in Developing Nations: A Case Study of India

Description:

This thesis investigates the role of open educational resources (OER) in primary education in developing countries. It retrieves lessons from an in-depth case study analysis of three OER-providing organisations, which have been catering to the literacy and primary education needs of children in India and South Africa. The findings indicate that OERs specific to the development of primary school-aged children can overcome several issues such as poor literacy, pedagogy, equity and access as well as help OER providers remain sustainable.
Amy Gurd

Doctor of Philosophy
Faculty of Law
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115070
Email: amy.gurd@connect.qut.edu.au
Country: Australia
Supervisors: Erin O'Brien, Belinda Carpenter, John Scott

Thesis title:
Imagined Ruralities and the Spatial Regulation of Sex Work in Queensland

Description:
This research examines the importance of space as a socially constructed concept in political discourse on sex work. In particular, this thesis analyses the extent to which the rural imaginary, and its related values of Christian conservatism, and monogamous heterosexual families, has influenced the creation of the brothel exemption provision in state sex work legislation for small rural towns in Queensland, Australia. The findings of the research indicate that rural and urban political attitudes to sex work are inherently similar, ranging from a moral threat, to a public nuisance or to a grudging acceptance. The thesis argues that the concerns raised by rural political representatives regarding sex work in rural contexts are most indicative of their anxieties about the transformation of ‘traditional’ rural spaces to modern urban spaces. Sex work thus becomes an exemplar of the disruption that the urban can make to the rural.
Justine Hotten

Doctor of Philosophy  
Faculty of Law  
Thesis type: Thesis by Monograph  

DOI: doi.org/10.5204/thesis.eprints.120020  
Email: j.hotten@connect.qut.edu.au  
Country: Australia  
Supervisors: Molly Dragiewicz, Kerry Carrington, Kelly Richards

Thesis title:  
Sexual consent and sexual violence prevention in sexuality education: What can be learned from the negotiation of sexual consent between same-sex attracted women?

Description:

This thesis examines same-sex attracted women’s understandings of sexual consent. The thesis uses the theory of compulsory heterosexuality to analyse interviews with twenty-three women about their experiences in sexuality education and their relationships. The findings point to gaps in Australian sexuality education that position same-sex attracted women outside of mainstream discourses about sexual consent. The omission of same-sex attracted women from discussions about consent has implications for the prevention of sexual assault. Participants recommended that sexuality education focus on ethical approaches that are inclusive of queer experiences and perspectives to better prevent sexual violence in all types of women’s relationships.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Ashleigh Larkin

Doctor of Philosophy

Faculty of Law

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.118350

Email: ashleigh.larkin@connect.qut.edu.au

Country: Australia

Supervisors: Kerry Carrington, Kelly Richards, Angela Dwyer

Description:

This thesis is an exploratory study of young women’s everyday engagement in physical violence with other young women. It also examines the role that the proliferation of online fight videos and social media engagement plays in this phenomenon. It proposes a new theoretical framework of embodying violence be used to explain this. In taking this approach the thesis moves away from considering how young women are breaching gendered norms in order to engage in violence. Instead it focuses on understanding how young women engage in physical violence as a bodily practice with implications for future research and policy responses.

An empirical investigation into how young women engage in and upload female-to-female fights on social media
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Natasha Papazian

Doctor of Philosophy

Faculty of Law

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.118621

Email: n.papazian@connect.qut.edu.au

Country: Australia

Supervisors: Molly Dragiewicz, Matthew Ball

Thesis title:

Transgender Domestic Violence: An Analysis of the Transgender Community and Service Provision in Queensland

Description:

This thesis examines domestic violence in the transgender community in Queensland, Australia. Interviews with eight transgender people and five transgender-friendly service providers investigated: transgender people’s experiences of domestic violence; the unique issues faced by transgender people; and challenges and barriers for transgender people accessing support services. Utilising the continuum of violence, this thesis finds that domestic violence in the transgender community is an extension of the structural inequality and violence that transgender people experience in their everyday lives. These experiences inform and influence recognition of and help-seeking for domestic violence.
Kamarah Pooley

Doctor of Philosophy
Faculty of Law
Thesis type: Thesis by Monograph

An Evaluation of Youth Justice Conferencing for Youth Misuse of Fire

Description:

This project involved an evaluation of firefighter involvement in Youth Justice Conferencing to determine whether, and if so how, this program facilitates the prevention of youth misuse of fire. Evaluation comprised quantitative analyses of a decade of Youth Justice Conferencing records and recidivism data, alongside qualitative analysis of program practitioner interviews. Findings revealed that, although there are some areas in need of improvement, Youth Justice Conferencing with firefighter involvement contributes to a reduction in the risk of general recidivism, whilst providing an avenue through which to deliver fire safety education to at-risk groups within the community.
Yafet Yosafet Wilben Rissy

Doctor of Philosophy
Faculty of Law
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120982
Email: yafetyosafetwilben.rissy@connect.qut.edu.au
Country: Indonesia
Supervisors: Colin Anderson, Danielle Bozin

Thesis title:
Corporate Governance in People’s Credit Banks in Indonesia: A Study of the Standards, Model and Compliance

Description:
This thesis is a study of corporate governance standards, model and compliance in People’s Credit Banks (PCBs) in Indonesia. Applying a mixture of doctrinal legal research and empirical qualitative research, the thesis reveals that most of the standards are in line with international best practice. The thesis also finds the stakeholder model is acknowledged and PCBs must comply with their governance structure or be punished. However, several weaknesses are identified including that the existing regulations need to be adjusted to make the stakeholder model more applicable, and PCBs need to take strategic steps to comply with their required governance structure.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Description:

This thesis examines the decision-making processes of people seeking asylum in Australia, using semi-structured interviews with two participant groups: asylum seekers and service providers. This research demonstrates that asylum seekers have multiple and interconnected reasons and aspirations underpinning their migration decisions. Asylum seekers’ experiences, and the decisions they make, are more complex than individuals responding to only undesirable factors in their home country and desirable factors in destination countries. The asylum seekers were making decisions to fulfil their migration aspirations. Seeking a safe place in which it would be possible to build a better life is the priority.

Elizabeth Rowe

Doctor of Philosophy
Faculty of Law
Thesis type: Thesis by Monograph

Thesis title:
Life-Saving and Life-Changing: The Decision-Making Processes of People Seeking Asylum

DOI: doi.org/10.5204/thesis.eprints.116152
Email: elizabeth.rowe@connect.qut.edu.au
Country: Australia
Supervisors: Erin O’Brien, Belinda Carpenter, Kelly Richards
Scott Singleton

Doctor of Juridical Science
Faculty of Law
Thesis type: Thesis by monograph

Description:
This thesis develops “Inference Guidelines” for the proof of connection requirements in native title determinations, in the form of a “Bench Book”. This is in accordance with recommendations in the Australian Law Reform Commission’s 30 April 2015 report “Connection to Country: Review of the Native Title Act 1993 (Cth)”. This thesis finds that the existing case law provides a strong foundation for clear and consistent principles for inferential reasoning in native title cases, which can be supplemented by considerations drawn from historiographic and epistemological debates, cultural and linguistic challenges, and inferential theory, to form comprehensive, consistent and transparent Inference Guidelines.

DOI: doi.org/10.5204/thesis.eprints.119688
Email: se.singleton@connect.qut.edu.au
Country: Australia
Supervisors: Bill Duncan, Bill Dixon, Jonathan Fulcher (Minter Ellison Lawyers)
Introduction

This thesis examines the experiences of Indonesian prison officers implementing prison-based deradicalisation programs. It investigates challenges faced by Indonesian prison officers implementing such programs and analyses their views related to the establishment of a specialised prison for terrorists in the Indonesian correctional system. An evaluation of the needs of Indonesian prison officers in implementing prison-based deradicalisation programs found that appropriate trainings and good partnerships are essential. Moreover, the thesis identifies important policy recommendations and regulation reform for improving Indonesian prison officers’ roles in terrorist rehabilitation.
Philippa Trowse

Doctor of Philosophy

Faculty of Law

Thesis title: Exploitation and Harm in the Context of Indian Commercial Surrogate Women

Description:

The law relating to commercial surrogacy is complex and presents many problems for legislators, intended parents and those acting as surrogate women, both within and outside Australia. This research conducted a comprehensive legal analysis and a social science analysis of empirical research, using the experience of Indian women as a case study. The research also involved a theoretical critique of policy values underpinning the prohibition of commercial surrogacy in Australia using Mill’s harm principle and the theory of exploitation as evaluative measures. Findings can inform reforms of legislation, policy and practice in Australia and overseas.

DOI: doi.org/10.5204/thesis.eprints.120021

Email: pm.dunn@connect.qut.edu.au

Country: Australia

Supervisors: Ben Mathews, Lindy Willmott, Ben White

Faculty of Law
Moh’d Al-Roumi

Master of Philosophy
Science and Engineering Faculty
Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.116175
Email: m.al-roumi@connect.qut.edu.au
Country: Australia
Supervisors: John Bell, Jamie Trapp, Andrew Fielding

Thesis title:
Verification of Patient Position during Intensity Modulated Radiotherapy by Electronic Portal Imaging Devices Using Monte Carlo Techniques

Description:
This study generated Monte Carlo (MC) Intensity modulated radiotherapy images to be used as reference images (after calibration) in the verification process of patient set-up errors during radiotherapy treatment. A proposed imaging procedure was developed to estimate the set-up errors during treatment. These developments will improve the accuracy of radiotherapy treatment that is a crucial component of many advanced cancer treatments.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Science and Engineering Faculty

Master of Engineering (Research)

Science and Engineering Faculty

Thesis type: Thesis by monograph

DOI: doi.org/10.5204/thesis.eprints.123510

Email: stephen.ball@connect.qut.edu.au

Country: Australia

Supervisors: Ghavameddin Nourbakhsh, Gerard Ledwich, Ghassem Mokhtari (Commonwealth Scientific and Industrial Research Organisation)

Thesis title:

Investigating Telemonitoring Technologies for the Detection of Activities and the Application of BLE in Smart Homes for Elderly Independent Living

Description:

This thesis focuses on various types of telemonitoring technologies which support elderly people to live independently from their homes. Many telemonitoring technologies are reviewed in order to determine how they address health assessment criteria by monitoring activities. An attempt is made to improve the effectiveness of two telemonitoring applications by making use of Bluetooth Low Energy (BLE), a low power wireless technology which can potentially reduce development costs. A BLE-based human identification device called BLUESOUND is proposed, which can identify individuals by measuring their height. The effectiveness of BLE is also investigated in a virtual ECG telemonitoring application.
Master of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
An efficient numerical scheme for free-surface flow over a three-dimensional bottom topography

Description:
This thesis uses mathematical and computational modelling to explore water wave patterns that form on the surface of a stream when subject to some sort of wave-making disturbance. While a range of geometries are considered, the focus is on flow over a bottom topography that involves localised bumps. From a computational perspective, the key challenge is to solve the full governing equations using a sufficiently fine mesh to provide accurate solutions. To this end, we use a boundary integral approach together with a technique called a Jacobian-free Newton Krylov method. We present a range of numerical results and highlight the role of nonlinearity in three-dimensional water waves patterns.
Christina Chiotakis

Master of Applied Science (Research)  
Science and Engineering Faculty  
Thesis type: Thesis by Monograph

Thesis title:
Pliocene Crocodilians of Chinchilla: Identification Using Dental Morphometrics

Description:

The key research problem of this project was to identify Australian crocodilian species from isolated teeth, which make up the largest available fossil data set. Three-dimensional images of the teeth were created from computed tomography (CT) data and statistical comparisons allowed several extinct species to be distinguished from each other and from modern crocodiles. The research provides a new methodology for identifying crocodilian teeth, and potential for further usage of this methodology including identifying theropod dinosaurs and other species from isolated teeth.
In this thesis, the suitability of Melt Electrospinning Writing technology is demonstrated for two applications: building functional tissue substitutes and engineering relevant models to study disease mechanisms. More specifically, biomaterials and cells were combined in an attempt to build a construct that could support and enhance myocardial repair; and a prostate microtissue was engineered to study specific events of the prostate function and its disease – namely the interactions between types of tissue during prostate cancer progression. This thesis corresponds to the dual Master in Biofabrication, carried out between Universiteit Utrecht and Queensland University of Technology.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Description:

This research provides a framework to assist in the planning and early-development phase of potential bypass development projects to regional centres. Primarily, the mechanisms and procedures identified in this research can be used as tools for road authorities to streamline the scoping phase of bypass development case studies.
Anusmriti Ghosh

Master of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DO: dx.doi.org/10.5204/thesis.eprints.117195
Email: anusmriti.ghosh@hdr.qut.edu.au
Country: Bangladesh
Supervisors: Richard Brown, Suvash Saha

Thesis title:

Targeting Delivery of Magnetic Aerosol Particles to Specific Regions in the Lung

Description:

This thesis presents a comprehensive and advanced computational analysis of magnetic targeted drug delivery in the lung. The study developed a two-generation symmetric model of the lung and evaluated the maximum drug particle deposition in the lung targeted region. The newly developed framework has the potential to assist in understanding the deposition mechanism and targeted drug delivery for a range of lung diseases.
Madeline Hintz

Master of Applied Science (Research)
Science and Engineering Faculty

Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation

Thesis title:
Optimising Breast Implant Geometry Using 3-Dimensional Imaging

Description:

Three-dimensional printing has broad potential for the medical landscape as demonstrated in the two projects that comprise this thesis. Project one encompasses three-dimensional scanning of healthy volunteers to create equations that enable prediction of breast dimensions and volume directly from torso landmarks and measurements. Future development may streamline the creation of custom computer modelled breast implant scaffolds for three-dimensional printing and improve aesthetic outcomes. Project two outlines the creation, bioprinting and assessment of a new biological ink with components generally found in breast tumours. These techniques may be used in the future to create customised models for drug testing.
Description:

This thesis presents an investigation on the DC-AC dual active bridge converter and its control method to overcome drawbacks in the existing applications. With the proposed topology and control method, the power ripple can be completely eliminated with a reduced capacitance requirement and therefore the power density and reliability of the converter is enhanced. Furthermore, an example of its application in photovoltaic systems is presented. It is free of the commonly used large capacitor at DC power stages with the proposed control strategy. As a result, high accuracy of maximum power point tracking of the converter can be obtained.
This thesis explored both a method to fabricate new model systems of the gut using 3D printing (Universiteit Utrecht, UU), and the fundamental mechanisms behind a coating process used to improve the qualities of 3D-printed scaffolds for bone regeneration applications (Queensland University of Technology, QUT). More specifically, the projects involved using stereolithography (SLA) technology to produce a ‘midi-gut’ representative of intestinal architecture for cell seeding at UU, and investigating and optimising calcium phosphate coating on polycaprolactone surfaces at QUT. This thesis corresponds to the dual Master in Biofabrication program, carried out between UU (Utrecht, Netherlands) and QUT (Brisbane, Australia).
Tharanga Kariyawasam Haputhanthri Kankanamge

Master of Applied Science (Research)
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116545
Email: tharanga.kankanamge@connect.qut.edu.au
Country: Sri Lanka
Supervisors: Caroline Hauxwell, Susan Fuller, Stephen Cameron

Description:

Plutella xylostella L. is a global pest of cruciferous crops such as cabbage, kale, broccoli and cauliflower. A new, closely-related Australian taxon, P. australiana, was identified in 2013, with significant potential impacts on market access and on introduction of biological control agents in Australia. Cytochrome oxidase 1 ‘barcode’ sequencing and comparison of the genitalia of adult moths collected from 3 states in Australia (including Tasmania) and New Zealand identified significant morphological similarity between the two taxa, and two features that can be used to differentiate adult females of the two taxa. Larval collections identified two host plants of P. australiana of potential commercial importance.
Removal of well-fixed femoral components during revision of hip arthroplasty is generally challenging for the surgeon. It can be associated with an increase in the length of procedure and operative complications. Therefore, this thesis described easier extraction of femoral components and expansion of the proximal femur using episiotomy as a single posterior longitudinal split osteotomy. In this research, we designed an in vitro protocol to simulate the extraction of press fit implants using an episiotomy in the long axis of the femur analogue to remove the implant. The mean extraction force after performing the episiotomy was significantly lower compared with similar constructs without performing the episiotomy. This thesis presents an artificial model for the simulation of implant-bone interface and investigates episiotomy as a method for the extraction of well-fixed implants. It can provide information that may help in subsequent orthopedic techniques in revision surgery.
Huong Le

Master of Applied Science (Research)  
Science and Engineering Faculty  
Thesis type: Thesis by Monograph

Description:

Using data from the nationally representative longitudinal survey of Australian children, this thesis contributes to the emerging body of literature on intergenerational transmission in health and human capital by presenting the causal estimates on the impacts of maternal and paternal health on children’s health, cognitive and non-cognitive development in their early lives. The results have highlighted that failing to control for the child-parent unobservable characteristics may result in an over-estimation of the detrimental impact of poor parental health and health shocks on child development. The results also indicate detrimental effects of poor parental health on selected cognitive and non-cognitive skills of children.
Mathew Lynch

Master of Applied Science (Research) Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.118730

Email: mathew.lynch@connect.qut.edu.au

Country: Australia

Supervisors: Christoph Schrank, Luke Nothdurft, David Murphy

Thesis title:

Millimetre-Scale Localisation of Strain and Dissolution in Oolitic Grainstone

Description:

The diagenetic and low-temperature deformation behaviour of an oolitic grainstone is examined through quantitative analysis of the rock’s microfabric and trace-element distribution using state-of-the-art methods: Synchrotron X-Ray Fluorescence Microscopy, Electron Backscatter Diffraction, and high-definition Light and Electron Microscopy. The results demonstrate that microstructural and trace-element heterogeneity can cause extreme localisations of dissolution and deformation in mineralogically homogeneous limestone. This work implies that reliable estimates of chemical, hydraulic, and mechanical properties of limestones must account for microstructure and trace-element distribution.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Science and Engineering Faculty

Madeleine Lynn

Master of Applied Science (Research)
Science and Engineering Faculty
Thesis title: Synthesis of Silica and Gold Coated Gadolinium Oxide Nanoparticles for Magnetic Resonance Imaging
Description:
Gadolinium oxide nanoparticles were coated with silica and functionalised with gold and anti-prostate-specific membrane antigen (PSMA) antibodies, to create an MRI contrast agent for potential use in the detection of prostate cancer. This work is presented as an alternative to toxic gadolinium based contrast agents, while maintaining high contrast abilities and the potential for selective cell targeting.

DOI: doi.org/10.5204/thesis.eprints.116750
Email: madeleine.brown@connect.qut.edu.au
Country: Australia
Supervisors: Bill Lott, Emad Kiriakous

Institute of Health & Biomedical Innovation

Institute of Health & Biomedical Innovation

Institute of Health & Biomedical Innovation
Michelle McGrath

Master of Engineering (Research)  
Science and Engineering Faculty

Thesis type: Thesis by Monograph

Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.119181

Email: m.bird@connect.qut.edu.au

Country: Australia

Supervisors: Ian Turner, Mark Pearcy, Robyn Grote (Queensland Health), Joe Young

Thesis title:
The use of Three-Dimensional Motion Analysis to Determine Whether Quantitative Criteria can be Found for the Prechtl’s Qualitative Assessment Method of General Movement Classifications of Writhing and Fidgeting in the Normative Infant Population

Description:
This novel, preliminary study developed an infant 3DMA technical protocol to collect infant movement data using the latest three-Dimensional Motion Analysis technology. The collected data were used to quantify Prechtl’s General Movements Assessment (GMsA) classifications using mathematical pattern recognition techniques, in a small cohort of healthy full term infants. These mathematical pattern recognition techniques included Fourier transform analysis, Cross Correlation and Fuzzy entropy. Fuzzy entropy is a measure of regularity in time series data and was found for this cohort to be the most useful mathematical pattern recognition technique to separate GMsA movement classifications.
Pawel Mieszczanek

Master of Engineering (Research)  
Science and Engineering Faculty  
Thesis type: Thesis by Monograph

Description:

This project was a step forward in developing an image-based control environment for an additive manufacturing process using polymer melts. The monitoring system provides a real time footage that allows for analysis of the process and control of the morphology of printed structures. The system was used to conduct studies focused on the effect of printing conditions on the fibre’s morphology and behaviour, and also provides the basis for future development towards quality control and optimisation.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Science and Engineering Faculty

Description:

The thesis addresses an important issue in the e-commerce area that customers were overwhelmed by the huge amount of online product reviews in attempting to find useful reviews. The thesis proposed a novel approach to represent the online reviews using features and related words identified by applying data mining and text mining methods, specifically, using probabilistic Topic Modelling methods. Then, based upon the derived related words, the thesis proposed a new method to select the most helpful reviews that discuss a specified feature of a product.

Dion Nguyen

Master of Information Technology (Research) Science and Engineering Faculty
Thesis type: Thesis by monograph
DOI: doi.org/10.5204/thesis.eprints.116512
Email: a49.nguyen@connect.qut.edu.au
Country: Vietnam
Supervisors: Yue Xu, Yuefeng Li

Thesis title:
Review Selection Based on Topic Models
Yihan Nie

Master of Engineering (Research)
Science and Engineering Faculty

Thesis title:
A Multiphysics Model for Carbon Nanotube Based Nanoelectromechanical Contact Switch

Description:
This research builds up a multiphysics molecular model for nano electromechanical contact switch in a gaseous environment. To predict the device dynamic properties precisely, multiple methods have been incorporated, including: grand canonical Monte Carlo method for adsorption phenomenon, atomistic moment theory for dynamic electric field, and molecular dynamic simulation for carbon nanotube deformation. Using such a model, the charge distribution has been characterized; the adsorption influence on the frequency change and damping ratio has been investigated. The model has a great potential in the future design of nano electromechanical system.
**Simon Parfitt**

**Master of Applied Science (Research)**  
**Science and Engineering Faculty**

**Thesis type: Thesis by Monograph**

**Institute of Health & Biomedical Innovation**

**Description:**

The research investigated the effect of surgically inserting semi-constrained growing rod implants on the stiffness of the spine for both flexion (forward/backward) and lateral (side to side) bending motions. Results showed that the implants reduced spinal motion by between 30% and 60%, demonstrating that growing rod surgery will substantially alter the function of the spine in young patients with spinal deformities.

**Thesis title:**

A Biomechanical Analysis of Semi-constrained Growing Rods and Staples used in the Treatment of Early Onset Scoliosis

**DOI:** doi.org/10.5204/thesis.eprints.115821

**Email:** simon.parfitt@connect.qut.edu.au

**Country:** Australia

**Supervisors:** Clayton Adam, Caroline Grant, Mark Pearcy

---

Research Graduates eYearbook 2018 - 260
Quentin Peiffer

Master of Applied Science (Research)  
Science and Engineering Faculty  
Thesis type: Thesis by Monograph  
Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.119359  
Email: quentinclement.peiffer@connect.qut.edu.au  
Country: France  
Supervisors: Phong Tran, Dietmar Hutmacher

Thesis title:  
Biofabrication: tools for new therapeutics in regenerative medicine and drug delivery

Description:  
This thesis highlights how 3D fabrications techniques could revolutionise modern medicine, notably in the field of regenerative medicine and drug delivery. Two potential therapeutic usages of 3D fabricated polycaprolactone scaffolds are presented. The first project focuses on the regeneration of auricular cartilage while the second focuses on implantable drug delivery system. If this work gives a glimpse of the potential of new fabrication methods, it remains clear from the results that significant steps are still to be undertaken to produce functional scaffolds able to regenerate tissue or to deliver drugs efficiently over an extended period.
Rohit Ramesh

Master of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:
This thesis is a step forward in developing the scientific basis for abnormality detection of individuals in crowded environments by utilising a deep learning method. Such applications for monitoring human behavior in crowds is useful for public safety and security purposes.

DOI: doi.org/10.5204/thesis.eprints.118542
Email: rohitramesh@connect.qut.edu.au
Country: India
Supervisors: Clinton Fookes, Kien Nguyen Thanh, Sridha Sridharan, Simon Denman
Description:

This thesis was a study into the effect of charge buildup and subsequent modifications on a direct writing melt electrospinning device. It examined the effect of distributing the application of charge in a melt electrospinning system and studying the effect this had on order in scaffolds produced. The distribution of charge led to an increase in deposition accuracy in layers 10 times higher than previously achievable.
Majid Seyfi

Master of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120850
Email: majid.seyfi@connect.qut.edu.au
Country: Iran
Supervisors: Shlomo Geva, Yue Xu

Thesis title:
Mining Discriminative Itemsets in Data Streams Using Different Window Models

Description:
Big data availability in areas such as social networks, online marketing systems and stock markets is a good source for knowledge discovery. This thesis studies how discriminative itemsets can be discovered in the data streams made of transactions out of user profiles. Discriminative itemsets are frequent in one data stream with much higher frequencies than same itemsets in other data streams in the application domain. This research uses heuristics to manage the large and complex datasets by decreasing the number of candidate patterns. This gives researchers a better understanding of pattern mining in multiple data streams.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Hayden Smith

Master of Applied Science (Research) Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: dx.doi.org/10.5204/thesis.eprints.116519

Email: h34.smith@hdr.qut.edu.au

Country: Australia

Supervisors: Peter Prentis, Matthew Phillips, Ana Pavasovic

Thesis title:

Characterisation and Evolution of Globin-Like Genes in Phylum Cnidaria

Description:

Globins, such as hemoglobin, are a well-studied gene and protein family, but there is limited research on non-vertebrate lineages. This research has identified an extensive repertoire of globin genes in phylum Cnidaria, with a focus on sea anemones. This study has provided an excellent starting point to further our understanding of the evolutionary history and function of the globin gene and protein superfamily in ancient lineages.
Design of Low-Cost Organic Light Emitting Diodes

Description:
This project focused on reducing the production cost of organic light emitting diodes and organic semiconductors through intuitive engineering design. Included in the thesis is a comprehensive, bottom-up method of design, synthesis, fabrication and analysis of both a set of luminescent materials and semiconductor device structure for use in organic light emitting diodes. The results demonstrate the viability of the method and reveal novel findings about the “thermally activated delayed fluorescence” phenomenon and its application in organic light emitting diodes.
David Sulejic

Master of Engineering (Research)  
Science and Engineering Faculty  
Thesis type: Thesis for Monograph

Description:
This thesis is a quantitative study that provides a proof-of-concept for a lane-changing advisory that uses a vehicle-to-infrastructure communication approach. Specifically, the thesis proposes a particle swarm optimisation algorithm to optimise the lane-changing distributions for a freeway weaving segment. The research applies a microscopic simulation, using the Aimsun software, to evaluate the optimised lane-changing distribution. The proposed individual driver advisory, using the optimised lane-changing distributions, effectively distributes lane changes along the freeway weaving segment to improve the traffic performance.
Description:

This research evaluated how clearly defining project scope, as the first step of project delivery, impacts the time and cost of design-build (DB) projects. To achieve this, a system dynamics method was adopted to develop a qualitative model. The behaviour analysis of this model revealed that improving the level of project scope clarity can enhance cost and time performance of DB projects, even though determining appropriate clarity level is a challenging task. The obtained model can assist clients by providing a clear view regarding the procedures for project scope definition, and by identifying how to improve the clarity of the project scope.
Synthetic hydrogels featuring tunable biological functionalities and hierarchical structures are of compelling interest as scaffolds for tissue engineering applications. With the expectation of regulating cell fate within the soft materials, many efforts have been placed on creating niches that can mimic the complexity of the native extracellular matrix. In this study, a sacrificial moulding process was used to produce porous hydrogels, while two patterning approaches were developed to site-specifically immobilise molecules inside the hydrogels, resembling natural extracellular matrix networks in terms of geometrical interconnectivity and cell-guidance functionalisation. The simple approaches allow reproducible control over the size and architecture of the channels, as well as the spatial distribution and concentration of the patterning molecules, enabling controlled study of cell-substrate behaviour.
Rongsheng Wei

Master of Engineering (Research)
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
Modelling of Perovskite Solar Cells

Description:

This project focuses on the simulation performance of perovskite solar cells (PSCs) using two models. One is a simplified model developed for the perovskite absorber layer of PSCs by using the Matlab program to investigate the effect of density of state, relative dielectric permittivity and band gap energy of the perovskite material on the device performance. The other model is based on SCAPS-1D software to investigate the influence of hole mobility and band gap offset of different hole transport materials on device performance.
Lana Wenham

Master of Applied Science (Research)  
Science and Engineering Faculty  
Thesis type: Thesis by Monograph  
DOI: doi.org/10.5204/thesis.eprints.120829  
Email: lana.wenham@connect.qut.edu.au  
Country: Australia  
Supervisors: Charlotte Allen, David Murphy, Christoph Schrank

Thesis title:  
Putting Absolute, In-Situ U-Pb Ages to Early-Archaean Deformation Events in the Muccan Granitic Complex, East Pilbara Terrane

Description:  
This project dated an Early Archaean partial convective overturn (tectonic) event in the East Pilbara Terrane, giving the first direct age for this event. Petrology, geochemistry and geochemistry techniques were combined in an exemplar case study of how to date deformation events in complex, poly-deformational rocks using the accessory mineral titanite.
Iman Abbasnejad

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.121184
Email: iman.abbasnejad@connect.qut.edu.au
Country: Iran
Supervisors: Sridha Sridharan, Simon Lucey, Simon Denman, Clinton Fookes

Thesis title:
Learning Spatio-temporal Features for Efficient Event Detection

Description:
This thesis has addressed the topic of event detection in videos, which is a challenging problem as events to be detected can be complex, correlated, and may require the detection of different objects and human actions. To address these challenges, the thesis has developed effective strategies for learning the spatio-temporal features of events. Improved event detection performance has been demonstrated on several real-world challenging databases. The outcome of our research will be useful for a number of applications including human computer interaction, robotics and video surveillance.
This research designed and evaluated MyCalendar, an exploratory visual calendar application for use by elementary school children on the Autism Spectrum, their parents and teachers, across both home and school settings, with a view to better supporting their communication. The study developed methods of engaging children with ASD that focus around their own motivations, activities and interests, therefore supporting the development of each individual child. The significance of the research is to present a new, collaborative model of parent-child-teacher interactions, using a technology-based intervention to support children with ASD between home and school.
Morenikeji Akinlotan

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.119362
Email: morenikejideborah.akinlotan@connect.qut.edu.au
Country: Nigeria
Supervisors: Dann Mallet, Robyn Araujo, Timothy Moroney

Thesis title:
Within-host Dynamics of Chlamydia trachomatis Infection - Repeat Infections and the Immune Response

Description:
Chlamydia trachomatis is the most common bacterial sexually transmitted infection worldwide. It is one of the major preventable causes of disability and mortality, and the control of its incidence is a major public health challenge. Genital Chlamydia infection is asymptomatic and thus commonly undiagnosed and untreated. In this study, we use ordinary differential equation models to provide qualitative insights into the within-host dynamics of Chlamydia infections, the associated host immune response, and the in vivo control or treatment of the infection. The thesis examines optimal control treatment strategies for acute and chronic genital chlamydial infections, including an investigation of efficacious anti-Chlamydia vaccination strategies. Qualitative results of the presented models provide frameworks for the design of new and improved treatment strategies for genital chlamydial infections.
Faisal Mansour A Algashaam

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:
During this study the researcher worked on human identification using the eye region called periocular and iris. The research has proposed a number of novel techniques to improve the recognition accuracy of the identification system. This work is potentially applicable to security and surveillance systems such as border control and attendance management.

DOI: doi.org/10.5204/thesis.eprints.122985
Email: faisal.algashaam@connect.qut.edu.au
Country: Saudi Arabia
Supervisors: Jasmine Banks, Kien Nguyen thanh, Vinod Chandran
Saima Ali

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116521
Email: saima.ali@connect.qut.edu.au
Country: Bangladesh
Supervisors: Xuemei Liu, Sabrina Fawzia, David Thambiratnam

Thesis title:
Performance of Protective Composite Runway Pavement under Moving and Impact Loads

Description:
This thesis is devoted to developing new multi-layer composite and concrete runway pavements to increase the resistance to impact load and heavy moving loads, and hence extend the service life of runway pavement. A new series of laboratory test results, along with computer-based structural analyses, are presented to understand the effectiveness of new multi-layer composite and concrete runway pavements. The outcomes of this research will help runway pavement designers and engineers improve standard runway pavements and reduce the damage caused by the hard landing of high speed and exceptionally large and heavy weighted aircrafts.
Ali Hamed A Alomari

Doctor of Philosophy

Science and Engineering Faculty

Thesis title: Towards Clinical Implementation of Ultrasound Transit Time Spectroscopy for Bone Assessment

Description:

This research aimed to demonstrate further applications and validations of a novel ultrasound analysis method for bone assessment. This thesis successfully used the so-called ultrasound transit time spectroscopy to estimate bone quantity and quality, and hence predict mechanical properties of human cancellous bone samples. The outcomes of this study may significantly facilitate the clinical application of quantitative ultrasound for osteoporotic fracture risk assessment in the future.
Marwan Ahmad M Althomali

Doctor of Philosophy
Science and Engineering Faculty

Thesis title:
Towards Ultrasound Computed Tomography Assessment of Bone

Description:
This research is a proof of concept study that focused on the development and scientific validation of an ultrasound computed tomography (UCT) system with particular emphasis on imaging of bone replica models. Factors that were considered include quantification of complex structures along with tissue properties, such as bone stiffness and cortical shell thickness. For the first time, the concept of ultrasound computed tomography based finite element analysis (UCT-FEA) was investigated. Being non-invasive, non-destructive and non-ionizing, UCT has significant potential to provide measurement of bone mechanical integrity and improve clinical assessment and management of osteoporosis.
Mojtaba Amjadi Pour

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.122962
Email: m.amjadipour@connect.qut.edu.au
Country: Iran
Supervisors: Nunzio Motta, Jennifer Macleod, Jose Alarco, Francesca Iacopi (University of Technology, Sydney)

Thesis title:
Epitaxial Graphene Growth on 3C-SiC/Si(111): Towards Semiconducting Graphene

Description:
This project is a step forward in developing advanced two dimensional carbon-based materials for future nanoelectronics applications. It explores a new pathway towards nanoscale graphene fabrication compatible with the current semiconductor industry. Ribbons of graphene have been fabricated on silicon carbide wafers by nanoscale patterning as a first step towards developing graphene circuitry. A technology to decrease the interaction between the substrate and graphene has been developed to improve graphene flatness. The attenuation of electrons from the graphene layer have been also investigated, leading to a new insight in understanding electrons attenuation length.
Francesco Anglani

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.116180
Email: f.anglani@connect.qut.edu.au
Country: Italy
Supervisors: John Barry, Wim Dekkers

Thesis title:
Computer Modelling and Experimental Testing of Spray Cleaning Methodologies for Concentrated Solar Thermal (CST) Mirror Cleaning

Description:
This project was a step forward in establishing an effective high-pressurised cleaning procedure for concentrating solar power plants. The performance and power output of solar power plants is affected by the cleanliness of solar collectors’ surfaces; hence this project developed a computation fluid dynamic model to analyse the parameters and their combinations that would generate an effective washing process for heliostats. This cleaning system model enabled an investigation of soil detachment from concentrated solar thermal (CST) reflectors, and an evaluation of the overall force generated by spray jets on dust particles. The outcomes of the study reveal precise standoff distance, angle of impingement, and inlet pressure for achieving optimal cleaning results.
Zohreh Arabshahi

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph
Institute of Health & Biomedical Innovation

DO: doi.org/10.5204/thesis.eprints.119696
Email: zohreh.arabshahi@connect.qut.edu.au
Country: Iran
Supervisors: Travis Klein, Hayley Moody, Isaac Oluwaseun afara (University of Eastern Finland)

Description:
In this research, two new mechanical indentation frameworks were established where the two different indenters (cylindrical and ring-shaped flat-ended indenters) were integrated with ultrasound for assessing functional properties of articular cartilage during loading/unloading. The aim of establishing these frameworks was to address some of the limitations to the conventional indentation techniques. Two new parameters within these frameworks were developed and their capacity to distinguish between normal and different types of cartilage degeneration models during deformation/recovery, was investigated. The ring-shaped flat-ended indenter, integrated with an ultrasound transducer, was shown to be capable of distinguishing normal from artificially degraded bovine osteochondral samples.
Introduction

Kazi Arif-Uz-Zaman

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:
This study develops a new method to identify a vital input, i.e. failure times of an asset, to reliability models from multiple but commonly-available industrial maintenance databases. A text mining approach is employed to extract useful features from unstructured free texts of different maintenance work records. The proposed method is further developed using Active Learning algorithms to improve the robustness of the results. The outcomes of this study can be used to develop advanced and applicable reliability models from historical maintenance databases, which were not effectively utilised before. Two industry case studies were conducted to justify the method.

DOI: doi.org/10.5204/thesis.eprints.116354
Email: arif.kaziarifuzzaman@connect.qut.edu.au
Country: Bangladesh
Supervisors: Lin Ma, Michael Cholette, Yue Xu, Azharul Karim
Dania Aziz

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116676
Email: dania.aziz@connect.qut.edu.au
Country: Malaysia
Supervisors: David Hurwood, Peter Mather

Thesis title:
Adult Male Morphotype Variation in Giant Freshwater Prawn (Macrobrachium rosenbergii): Genomic and Experimental Analysis of Factors Affecting the Male Social Dominance Hierarchy

Description:
The giant freshwater prawn (M. rosenbergii) supports a large, high value culture industry across Asia but suffers the disadvantage of a social dominance hierarchy in adult males where growth is heterogeneous and can vary more than tenfold. This variation challenges productivity and profitability, as market prices depend highly on individual size. Understanding at the molecular level how this natural variation is mediated (via chemical and/or visual signals) is important in order to manipulate ratios of adult male phenotypes and increase farm production. We applied an experimental molecular and behavioural approach to explore the control of adult male morph variation.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Marie-Anne Balanant

Doctor of Philosophy
Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.119221

Email: marieanne.balanant@connect.qut.edu.au

Country: France

Supervisors: Emilie Sauret, Yuantong Gu, Robert Flower (Australian Red Cross Blood Service), Suvash Saha (University of Technology, Sydney)

Thesis title:

Experimental Studies of Red Blood Cells During Storage

Description:

This project used mechanical testing and imaging techniques to understand how red blood cells age in an in vitro environment, and identified markers of red blood cell product quality. The damage caused to the cells by cold storage could lead to a reduced transfusion efficiency and potential improvements to current storage protocols were proposed as a result of this research.
Keivan Bamdad Masouleh

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120281
Email: k.bamdadmasouleh@connect.qut.edu.au
Country: Iran
Supervisors: Michael Cholette, John Bell

Thesis title:
Building Energy Optimisation Using Machine Learning and Metaheuristic Algorithms

Description:
The focus of this research is on development of new methods for Building Optimisation Problems (BOPs) and deploying them on realistic case studies to evaluate their performance and utility. Firstly, a new optimisation algorithm based on Ant Colony Optimisation was developed for solving simulation-based optimisation approaches. Secondly, a new surrogate-model optimisation method was developed using active learning approaches to accelerate the optimisation process. Both proposed methods demonstrated better performance than benchmark methods. Finally, a multi-objective scenario-based optimisation was introduced to address uncertainty in BOPs. Results demonstrated the capability of the proposed uncertainty methodology to find a robust design.
Tarun Bansal

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:

This thesis focuses on structural remodelling and security proof of cryptographic schemes. A message pre-processing, also known as asymmetric message padding, is an essential step in asymmetric encryption which is heavily used in secure banking applications. In this thesis, we propose new effective padding schemes are able to mitigate the various computation and memory overhead compared to previous works. We are also able to provide streaming capability which was missing in most of the previous works. Mathematical security proofing of proposed schemes justifies their security.
Sarah Barns

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120541
Email: sarah.barns@connect.qut.edu.au
Country: Australia
Supervisors: Yuantong Gu, Emilie Sauret, Robert Flower (Australian Red Cross Blood Service)

Thesis title:
Numerical Modelling of Red Blood Cell Morphology and Deformability

Description:
This thesis developed a numerical model for simulating red blood cell shape and deformability. The model was applied to understand how changes in membrane mechanical properties impact upon the cells' exhibited shape and ability to deform. This was done in the context of two loading scenarios, indentation and stretching. The project highlights some important factors to consider when developing experimental methods that quantify red blood cell deformability. These results will be beneficial in transfusion medicine and for the diagnosis of certain diseases.
Alex Bewley

Doctor of Philosophy
Science and Engineering Faculty
Thesis title: Vision Based Detection and Tracking in Dynamic Environments with Minimal Supervision

Description:
This thesis presents vision based object detection and tracking techniques suitable for dynamic and outdoor applications with a moving camera. Firstly, a motion clustering approach is presented to discover dynamic objects with previously unknown appearance and then used to train an appearance based model. Secondly, a novel background appearance model is proposed to verify the output of a pretrained deep convolutional network based object detector. The combined detector is demonstrated to significantly improve the pretrained detector with only weak supervision from background images when transferred to a mine site environment. Finally, a framework for associating detections across frames is presented that exploits spatial and temporal constraints, enabling life-long improvement through self-supervised learning.
Reihaneh Bidar

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:

Co-creation studies have focused on customer-provider value creation in service system. However, the current literature does not consider service co-creation in a multi-actor environment in which behavioural dynamic of individuals plays a role. We propose a model of service co-creation behaviour (SCB) that represents why actors collaborate in service co-creation. We found seven themes including Platform Capabilities, Relational Capital and Actor Competencies as the key environmental stimuli, and which influence the two actor value perceptions of Purposive value and Network value, which all combine to lead actors to collaborative and citizenship behaviours. The findings provide important implications to theory by extending the co-creation behaviour to actor-to-actor service co-creation context. Practitioners can apply the insights regarding actors’ SCB to improve collaborations, hinder destructive behaviours and enrich creative forces to increase value formation.
Shane Black

Doctor of Philosophy
Science and Engineering Faculty
Thesis title: eHealth-as-a-Service: A Service Based Design Approach for Large Scale eHealth Architecture

Description:
This thesis is an in-depth exploration of a multi-methodological design science approach to develop a purposeful eHealth-as-a-Service (eHaaS) design artifact, with potential to improve information quality in primary care settings. This was achieved by firstly deriving abstract meta-requirements from an ethnographic examination of care pathways to establish the technical goals of the solution; secondly by defining the functions, organisation, and structure of an eHaaS conceptual model as an example of how service-based architectures might deliver high quality information services; and finally, by establishing the validity of the conceptual model with the development of a novel evaluation strategy to explain the predicted change produced by eHaaS architecture. The findings indicate eHaas provides the foundation for developing a link between the patient and their information that is available to multiple healthcare professionals when needed.
This thesis presents the development and evaluation of new software that helps radiotherapy professionals to delineate tumour volumes rapidly in 3D. The software draws on stereoscopic immersive visualisation and unique 3D modelling tools to create a mesh volume using a small number of user-identified points from a range of CT imaging planes. The findings demonstrated that this approach was feasible and could lead to significant time saving in clinical practice. The work should help to speed up the radiotherapy planning process and help patients to start treatment earlier and access more complex planning techniques.
Introduction

This project represents the development and application of tissue engineered constructs for the prevention of antiresorptive drug related osteonecrosis of the jaw (ARONJ). The project started from the laboratory and transitioned to a small preclinical model, and finally a large preclinical model with the aim of future transition to the clinical setting. The thesis investigated the efficacy of human bone morphogenetic protein via different carriers and platelet rich plasma for the regeneration of bone, and hence prevention of ARONJ.

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation

Thesis title:
A Bench to Bedside Approach Towards the Prevention of Antiresorptive Drug-Related Osteonecrosis of the Jaw (ARONJ)

Description:

This project represents the development and application of tissue engineered constructs for the prevention of antiresorptive drug related osteonecrosis of the jaw (ARONJ). The project started from the laboratory and transitioned to a small preclinical model, and finally a large preclinical model with the aim of future transition to the clinical setting. The thesis investigated the efficacy of human bone morphogenetic protein via different carriers and platelet rich plasma for the regeneration of bone, and hence prevention of ARONJ.

DOI: doi.org/10.5204/thesis.eprints.120851
Email: garyian.brierly@connect.qut.edu.au
Country: United Kingdom
Supervisors: Dietmar Hutmacher, Mia Woodruff, Laura Bray, Dimitrios Nikolarakos (Gold Coast University Hospital), Edward Hsu (Gold Coast Hospital)
The Lived Experience of Middle School Students Engaged in Student-Driven Inquiry: A Phenomenological Study

This thesis used the phenomenological method to investigate the middle school student lived experience of student-driven inquiry. The results show that the middle school student experiences significant commitment to Student-Driven Inquiry engagement as they independently determine, organise, execute and present on research of personal interest. The student feels notable ownership, responsibility, and stress in the research process and content mastery in preparing worthy work for a broad school community including peers, teachers, administrators, family members, and other interested individuals.
Description:

The management of demolition waste in urban redevelopment projects is a major challenge requiring an integrative approach. This research demonstrates that multi-criteria decision analysis can improve and enable the demolition waste management decision-making process toward more sustainable urban redevelopment in Vietnam. This work has implications in assessing and qualifying demolition waste to more effectively achieve project cost and planning objectives in Vietnam.

Thesis title:

Improving the Decision-Making Process for Demolition Waste Management in Urban Redevelopment Projects in Vietnam
Introduction

This project investigated the development of a range of novel surface bound anion sensors. Using modern synthetic techniques, a convergent approach was taken where the process of surface attachment also introduced anion recognition sites, reducing the complexity of the synthetic route. The anion binding properties of these sensors were then investigated using a range of analytical methods, particularly advanced nuclear magnetic resonance techniques, allowing direct comparisons to be made between surface bound sensors and solution based analogues. Additionally, a preliminary study into the viability of reversible disulfide chemistry for use as another surface attachment technique was undertaken.

Sean Byrne

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.119174
Email: s24.byrne@connect.qut.edu.au
Country: Australia
Supervisors: Kathleen Mullen, Godwin Ayoko, Kathryn Fairfull-Smith

Thesis title:
Polymer Bound Supramolecular Assemblies for Anion Sensing Applications

Description:
This project investigated the development of a range of novel surface bound anion sensors. Using modern synthetic techniques, a convergent approach was taken where the process of surface attachment also introduced anion recognition sites, reducing the complexity of the synthetic route. The anion binding properties of these sensors were then investigated using a range of analytical methods, particularly advanced nuclear magnetic resonance techniques, allowing direct comparisons to be made between surface bound sensors and solution based analogues. Additionally, a preliminary study into the viability of reversible disulfide chemistry for use as another surface attachment technique was undertaken.
Marcela Cespedes

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.118289

Email: marcela.cespedes@connect.qut.edu.au

Country: Australia

Supervisors: James McGree, Chris Drovandi, Kerrie Mengersen, Jurgen Fripp (Commonwealth Scientific and Industrial Research Organisation), James Doecke (Commonwealth Scientific and Industrial Research Organisation)

Thesis title:

Detection of Longitudinal Brain Atrophy Patterns Consistent with Progression Towards Alzheimer’s Disease

Description:

This thesis develops and applies statistical methodologies to model brain atrophy in humans among multiple brain regions and looks at how this may change over time. Throughout this work, Bayesian multilevel models are progressively developed for single and multiple regions at a given time point as well as modelling how connectivity between multiple regions evolves over time in conjunction with region level estimates. The application of these models provide insight into the detection of longitudinal brain atrophy patterns consistent with healthy ageing or progression towards Alzheimer’s disease, and should be of interest to biostatisticians and researchers who deal with neurological spatial data.
**Steven Roy Charlesworth**

**Doctor of Philosophy**

**Science and Engineering Faculty**

**Thesis type: Thesis by Monograph**

**Thesis title:**

Investigation into Resistance Strategies against Geminiviruses by Understanding and Adapting RNA Interference

**Description:**

This project investigated new strategies to improve viral resistance in crops against the increasing global threat of DNA viruses. The research showed that a combination of protective strategies is more likely to be effective and durable than a single approach. A gene from a wild relative was identified as a new potential source of DNA virus resistance.
Sae Chi

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116509
Email: sae.chi@connect.qut.edu.au
Country: Japan
Supervisors: Jonathan Bunker, Stephen Kajewski, Melissa Teo

Thesis title:
Developing A Methodology For Evaluating Privately Operated Toll Road Projects Using Stochastic Cost-Benefit Analysis

Description:
The conventional economic assessment of infrastructure projects using Cost-Benefit Analysis does not consider the differences between whether the project is delivered by public or private sectors. This research has developed a novel methodology that considers whether the project is delivered publicly or in a partnership with private sector. This means that, for a toll road project for instance, the methodology assesses whether it is more beneficial to be operated by government agencies or by private toll operator. The methodology can be incorporated into the existing infrastructure project assessment framework and would be particularly useful when considering project delivery options.
Imon Chowdhooree

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.117767
Email: imon.chowdhooree@connect.qut.edu.au
Country: Bangladesh
Supervisors: Mellini Sloan, Les Dawes

Thesis title:
Impacts of Structural Mitigation Measures on Perceptions of Community Flood Resilience: Experiences from Haor Communities of Bangladesh

Description:
This research explores perceptions of community flood resilience among adults from isolated settlements in Bangladesh’s Haor region from a perspective of change in the surrounding environment, with structural mitigation measures as outcomes of development planning activities. This research explains perceived resilience as the freedom of choice. This is achieved through eliminating all factors of vulnerability. Through discovering the reason for communities’ dependency on external supports, this research proves the necessity of practicing community participation at a meaningful level and prioritising community concerns and demands in the planning process.
Alok Chowdhury

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.118664
Email: alokkumar.chowdhury@connect.qut.edu.au
Country: Bangladesh
Supervisors: Jinglan Zhang, Stewart Trost, Vinod Chandran, Dian Tjondronegoro (Southern Cross University)

Thesis title:
Sensor-Based Prediction of Physical Activity and its Impacts Using Machine Learning

Description:
This thesis contributed to the development of advanced learning models and multi-sensor decision fusion algorithm to improve the prediction of physical activity and its personal impacts, including relative intensity and energy expenditure from wearable sensor data. It identified the optimal sensor positioning and optimal combination of multimodal sensor data for assessing physical activity and predicting its impacts. All methods of this thesis collectively deliver better algorithms and maximise the use of available sensor information to provide accurate measurement of physical activity.
Anupam Chowdhury

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120286
Email: anupam.chowdhury@connect.qut.edu.au
Country: Bangladesh
Supervisors: Prasanna Egodawatta, Ashantha Goonetilleke, James McGree

Thesis title:
A Framework for Determining Rainfall Parameters for Stormwater Quality Treatment System Design

Description:
This study developed an innovative stormwater quality treatment design framework for effective mitigation of urban stormwater pollution. The research method is primarily based on a stormwater quality modelling exercise and an extensive statistical analysis for defining the relationships among rainfall, catchment and stormwater quality characteristics. The identified relationships were translated into a framework, enabling the determination of rainfall parameters and treatment system design specifications. Adopting this framework will enhance treatment system performances leading to greater protection of aquatic ecosystems.
Nor Nazihah Chuweni

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:

A real estate investment trust (REIT) is a fund that predominantly invests in income-producing assets. Islamic REITs, an alternative investment, must observe an additional layer of Sharia requirements. This study is the first to provide analysis addressing the Sharia compliance effect in developing a best practice model. Malaysian Islamic REITs were found to exhibit persistently higher efficiency performance than conventional REITs, implying that Sharia requirements do not hinder their efficiency performance. This study extends current knowledge about performance measurements for the under-researched Islamic REITs market, which would be of great interest to REIT investors, policy makers, and managers.

DOI: doi.org/10.5204/thesis.eprints.118620
Email: nornazihah.chuweni@connect.qut.edu.au
Country: Malaysia
Supervisors: Andrea Blake, Viet Ngu hoang, Chris Eves, Ihsan Isik (Rowan University)
Craig Cowled

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
On the Influence of Structural Complexity on the Global Vibration Characteristics of Steel Truss Bridges

Description:
This research focuses on the vibration characteristics of steel truss bridges and how structural complexity influences the chances of successful damage detection (DD). The structural complexity of almost 200 structures from the literature is quantified, highlighting that DD is less successful for experimental structures with high levels of complexity as compared to structures with low levels of complexity. The vibration characteristics of a complex structure were studied under different damage scenarios, revealing that the characteristics most sensitive to damage were also the characteristics with the highest variance. In short, structural complexity makes damage detection difficult.
Dylan Cronin

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

Description:

In the last decades, there has been increasing demand by society for non-toxic renewable products that could be used to replace fossil-based building blocks. Lignin is a major component of nonedible biomass, and is the most abundant renewable source of aromatics in nature. The research work investigated the breakdown of lignin using a novel thermochemical approach. It resulted in the production of organic acids, which can be formulated to produce green pesticides and herbicides. The study also resulted in the production of low molecular weight aromatics, which can be used for the production of bio-based polymers, including biodegradable packaging materials.

DOI: doi.org/10.5204/thesis.eprints.118668
Email: dj.cronin@connect.qut.edu.au
Country: Australia

Supervisors: William Doherty, Philip Hobson, John Bartley, Lalehvash Moghaddam

Thesis title:
Studies on the Hydrothermal Liquefaction of Lignin to Dicarboxylic Acids & Aromatics
Vehicles driving in urban areas experience substantial disturbances from other nearby vehicles and traffic signals. Deviating from the best route causes excessive fuel consumption and delay. This research proposes a novel adaptive driving-speed-control algorithm using a Reinforcement Learning (Q-learning) approach. The proposed algorithm can respond to current traffic conditions and traffic-control conditions at signalised intersection environments, and provides the control vehicle with target driving-speeds to achieve fuel savings. The micro-simulation results confirm the effectiveness of the algorithm by significantly and consistently reducing the fuel consumption of the control vehicle under varying driving environments.
William Dodt

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116286
Email: wg.dodt@connect.qut.edu.au
Country: Australia
Supervisors: Matthew Phillips, Peter Prentis, Maria Nilsson-Janke (Senckenberg Gesellschaft fur Naturforschung)

Thesis title:
On the Evolution of Kangaroos and their Kin (Family Macropodidae) Using Retrotansposons, Nuclear Genes and Whole Mitochondrial Genomes

Description:
Despite extensive investigation, a complete understanding of the evolutionary history of the Macropodidae (kangaroos and their kin) has remained elusive. This research has utilised DNA sequences and retrotansposons (genes that jump around within the genome) to shed light on the evolutionary timing and dynamics of these iconic marsupials over the past 20 million years, and draw correlations with past climate change events. The research shows that these marsupials underwent a rapid radiation, diversifying into a wide array of forms, concurrent with a trend of climatic cooling and drying over approximately the past 8 million years.
Introduction

Drought is one of the major causes of food insecurity across the globe, particularly in India and the Asia Pacific, where subsistence agriculture is a major means of survival. Pulses such as mungbean and chickpea are staple foods in these regions and their production is especially affected by drought. This study targeted plant roots as a way of enhancing drought tolerance using a newly developed chemical treatment. Some strategies included advanced plant root imaging, agricultural modelling, bioinformatics and large scale field trials. This may allow stabilisation of crop production which is increasingly coming under threat by drought and climate change.

Thesis title:
Characterisation of Root Architectural Responses of Mungbean to Water Deficit

Description:

Drought is one of the major causes of food insecurity across the globe, particularly in India and the Asia Pacific, where subsistence agriculture is a major means of survival. Pulses such as mungbean and chickpea are staple foods in these regions and their production is especially affected by drought. This study targeted plant roots as a way of enhancing drought tolerance using a newly developed chemical treatment. Some strategies included advanced plant root imaging, agricultural modelling, bioinformatics and large scale field trials. This may allow stabilisation of crop production which is increasingly coming under threat by drought and climate change.
This thesis examines how governments work with stakeholders to develop and implement water policy in Australia. Evidence from the Great Barrier Reef and the Murray Darling Basin showed the challenges involved, and how this can affect environmental outcomes. Results show how government can work more effectively with stakeholders, and the potential of non-government organisations to help broker better policy outcomes.
Ashton Fagg

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DI: doi.org/10.5204/thesis.eprints.117072
Email: ashton.fagg@connect.qut.edu.au
Country: Australia
Supervisors: Simon Lucey, Sridha Sridharan

Thesis title:
Why Capture Frame Rate Matters for Embedded Vision

Description:
This thesis examines the practical challenges of reliable object and facial tracking on mobile devices. We investigate the capabilities of such devices and propose a number of strategies to leverage the hardware and architectural strengths offered by smartphones and other embedded systems. We show how high frame rate cameras can be used as a resource to trade off algorithmic complexity while still achieving reliable, real time tracking performance. We also propose a number of strategies for formulating tracking algorithms, which make better use of the architectural redundancies inherent to modern system-on-chips.
Megan Farquhar

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120682
Email: m.farquhar@connect.qut.edu.au
Country: Australia
Supervisors: Timothy Moroney, Qianqian Yang, Ian Turner, Kevin Burrage

Thesis title:
Cardiac Modelling with Fractional Calculus: An Efficient Computational Framework for Modelling the Propagation of Electrical Impulses in the Heart

Description:
This thesis was concerned with developing new numerical methods for modelling the propagation of electrical impulses through the heart. Using a fractional calculus approach, new insights were obtained into heart problems linked to disturbances in cardiac electrical activity. The two main outcomes were the development of a GPU modelling framework for computing solutions to fractional reaction-diffusion equations, and a novel numerical scheme for the variable-order fractional Laplacian operator for modelling ischaemic heart tissue. Results were obtained for models in three dimensions on a realistic heart mesh that suggest a promising new avenue for exploring the causes of cardiac arrhythmia.
Felix Guo

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.117973

Email: xufeng.guo@connect.qut.edu.au

Country: China

Supervisors: Clinton Fookes, Sridha Sridharan, Luis Mejias alvarez

Thesis title:

Automated Scene Understanding from Aerial Imagery

Description:

This thesis examines the development of vision-based aerial image understanding systems. The proposed systems investigate different abstraction levels of visual features in aerial image processing tasks. It adopts Unmanned Aerial Vehicle (UAV) forced landing site detection as the main application to examine the feasibility and robustness of the proposed systems. This thesis also proposes an efficient and novel visual feature to improve single image depth prediction performance especially for the depth estimation of small objects in a scene.
**Gurkiran Kaur**

**Doctor of Philosophy**

**Science and Engineering Faculty**

**Thesis type: Thesis by Publication**

**DOI:** doi.org/10.5204/thesis.eprints.120572

**Email:** gurkirankaur@connect.qut.edu.au

**Country:** India

**Supervisors:** Sara Couperthwaite, Graeme Millar

**Thesis title:**

Acid Mine Drainage Treatment Options Using Recycled Bayer Liquor

**Description:**

This thesis has assessed the viability of using Bayer precipitates, formed by the seawater neutralisation of Bayer liquor residues, as an alternative neutralisation reagent to treat acid mine drainage (AMD) water. Bayer precipitates were found to out-perform commercially used alkali in the removal of heavy metals and as a pH neutralising reagent for AMD waters. The robustness and versatility of Bayer precipitates for the treatment of different AMD waters makes them an attractive alternative to commercial materials, especially as they have the potential to reduce the footprint of both mining industries.
David Hall

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122872
Email: d11.hall@connect.qut.edu.au
Country: Australia
Supervisors: Feras Dayoub, Christopher McCool, Tristan Perez

Thesis title:
A Rapidly Deployable Approach for Automated Visual Weed Classification without Prior Species Knowledge

Description:
This thesis presents the first work in automated, rapidly deployable species-wise classification of weeds for agricultural robotics where the species are unknown prior to arrival at the field. It focuses on extracting meaningful visual features to describe plants, unsupervised clustering to find visually similar plants, and rapid labelling to identify plant species and train classifiers with low manual effort. The approach enables agricultural robots to provide species-specific treatment more readily on a greater variety of fields.
This mixed methods research examined motivating factors for earning a doctoral degree using a sample of library and information science (LIS) doctoral students from the United States and Canada. The study revealed five motivating factors: previous academic experience, appeal of the scholarly environment, preparation for the future, encouragement from others, and research-related reasons. Results of the Academic Motivation Scale indicate students represent intrinsic motivation types as well as identified and introjected regulation. This research extends current knowledge of LIS doctoral student motivation presenting viewpoints and recommendations valuable to program administrators, faculty, and prospective doctoral students.
Kai-Anders Hansen

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

Synthesis of Novel Nitroxide Radical Polymer Materials for Imaging and Energy Storage Applications

Description:
This thesis investigated the development of novel nitroxide radical polymer materials for imaging and energy storage applications. Profluorescent redox-responsive polymers were prepared which displayed enhanced sensitivity and extended observation times over conventional small-molecule probes. Furthermore, the application of nitroxide radical polymers as energy storage materials was explored. For this purpose, an improved synthetic methodology for such materials is presented. Finally, a novel organic high-voltage electroactive material was developed and successfully demonstrated in lithium-ion battery prototypes.
Cathy Hargrave

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.117125
Email: c.hargrave@connect.qut.edu.au
Country: Australia
Supervisors: Kerrie Mengersen, Fiona Harden

Thesis title:
The Development of a Clinical Decision Making Framework for Image Guided Radiotherapy

Description:
This thesis developed a decision-support Bayesian network (BN) and complementary visualisation tool for image-guided radiotherapy (IGRT). These tools form the framework for a future decision-support system that will rapidly analyse cone beam computed tomography (CBCT) images and provide advice to clinicians whether to proceed with treatment delivery or if a pre-treatment intervention is required. Clinical experts completed an IGRT practice survey, which along with published and clinical data were used to develop the BN. The visualisation tool graphically summarises daily tumour and organ-at-risk variations routinely observed on CBCT images, which can result in incorrect targeting of the radiation fields.
Introduction

Melanoma is a fatal form of skin cancer which progresses in an orchestrated pattern in human skin. Characterising these phases of melanoma in vitro can provide key insights into mechanisms of the disease progression. In this thesis we investigate how in vitro three-dimensional (3D) model assays that recapitulate human skin can be used to identify key features underlying melanoma progression. In particular, we construct a 3D melanoma skin equivalent model using melanoma cells from the early and late phase of the disease. We further quantify melanoma cell migration, proliferation, invasion, as well as melanoma nest formation.

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation

Thesis title:
In Vitro Characterisation of Melanoma Progression in a Melanoma Skin Equivalent Model

Description:

Melanoma is a fatal form of skin cancer which progresses in an orchestrated pattern in human skin. Characterising these phases of melanoma in vitro can provide key insights into mechanisms of the disease progression. In this thesis we investigate how in vitro three-dimensional (3D) model assays that recapitulate human skin can be used to identify key features underlying melanoma progression. In particular, we construct a 3D melanoma skin equivalent model using melanoma cells from the early and late phase of the disease. We further quantify melanoma cell migration, proliferation, invasion, as well as melanoma nest formation.

DOI: doi.org/10.5204/thesis.eprints.118574
Email: parvathi.haridas@connect.qut.edu.au
Country: India
Supervisors: Matthew Simpson, Jacqui McGovern

Parvathi Haridas

Research Graduates eYearbook 2018 - 317
Khondokar Fida Hasan

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Monograph

Science and Engineering Faculty

Thesis title:

GNSS Time Synchronisation in Co-Operative Vehicular Networks

Description:

This thesis is a comprehensive study of time synchronisation issues in vehicular communication networks. It reviews the requirements of time synchronization in cooperative vehicular networks and examines the feasibility of Global Navigation Satellite System (GNSS) timing techniques for synchronising the networks. Results from experiments show that GNSS time synchronisation methods can replace existing time synchronisation function (TSF) based synchronisation in vehicular networks by offering high precision and high accuracy.
Description:

This project aims to develop a finite element erosion wear model of high manganese steels to predict the erosive wear behavior due to coal impact. To obtain the material model parameters, the ductility, strain hardening effect and ability to withstand dynamic loading were investigated using tensile test and micrographic analysis. The finding of this thesis will benefit relevant industries to select the materials with high erosion wear resistance, thereby improving process economics of coal pulverization process.
Introduction

Description:

This thesis reports on a qualitative study that explores how Australian researchers experience open access as part of their information literacy. The research methods included in depth semi structured interviews and thematic analysis. The study revealed four themes: Understanding Open Access, Institutional Repositories, Publishing and Dissemination, and Finding Information. The themes signify that open access is shaping how Australian researchers experience information literacy, influencing how Australian researchers are, and can be, informed and informing researchers.

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
Understanding How Australian Researchers Experience Open Access as Part of Their Information Literacy

DOI: doi.org/10.5204/thesis.eprints.117651
Email: heriyanto@connect.qut.edu.au
Country: Indonesia
Supervisors: Helen Partridge, Kate Davis

Heriyanto
Md Farhad Hossain

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.115545
Email: mdfarhad.hossain@connect.qut.edu.au
Country: Bangladesh
Supervisors: Richard Brown, Zoran Ristovski, Thomas Rainey, Rong Situ (James Cook University)

Thesis title:
Experimental Investigation of Thermochemically-Derived Fuels in a Diesel Engine

Description:
This thesis is a comparative study on thermochemical conversion of biomass and waste feedstocks into fuels and is divided into two streams. The first investigates the use of wet microalgae feedstocks, using hydrothermal liquefaction (HTL), to produce biocrude. The second stream explores the use of dry waste tyre feedstocks using Green Distillation Technology (GDT), a modified pyrolysis process, to make tyre oil. An experimental investigation of the physicochemical properties of biocrude oil and tyre oil is made. Finally, the impact of the both fuels on a diesel engine is investigated.
Yiming Huang

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.116809
Email: yiming.huang@connect.qut.edu.au
Country: China
Supervisors: Huai Yong zhu, Steven Bottle

Thesis title:
New Plasmonic Photocatalysts for Fine Organic Synthesis

Description:
Using visible light to accelerate fine organic synthesis reactions in the presence of photocatalyst is a step forward to the green chemical industry. This thesis developed gold, gold-palladium alloy and copper photocatalysts. Aqueous reactions system is introduced into photocatalysis for an eco-friendly process. The bi-metal nanoparticle is applied to expand the application of metallic photocatalysis in selective synthesis. The theory for copper nanostructure stabilisation on metal nitride is established and successfully applied in organic synthesis. This research is beneficial to the future of the organic chemical industry in terms of the new production model and energy saving.
Rong Huang

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.123512
Email: r3.huang@connect.qut.edu.au
Country: China
Supervisors: Yin Xiao, Yinghong Zhou, Ross Crawford

Thesis title:
The Role of MSCs in Immunoregulation of Macrophages during Osteogenesis

Description:
This study reveals that stem cells and immune cells interact closely in the bone healing process. We have reported for the first time that the osteogenically differentiated mesenchymal stromal cells (OMSCs) play an integral role in recruiting macrophages towards the healing site, and more importantly, we have demonstrated that the cytokines produced by OMSCs (e.g. VEGF and RANKL) can induce cell migration and immune responses which ultimately benefit bone regeneration. This study establishes an animal model for bone healing and highlights the novelty of biological method for bone studies.
Manal Hussin

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.117669
Email: manal.hussin@connect.qut.edu.au
Country: Australia
Supervisors: Tommy Chan, Sabrina Fawzia, Negareh Ghasemi

Thesis title:
Identification of Prestress Force in Prestressed Concrete Box Girder Bridges using Ultrasonic Technology

Description:
This research aimed to develop an ultrasonic technology to identify the prestressing force in new and exciting prestressed concrete box girder bridges. The research study included finite element analysis and laboratory testing of a scaled down prestressed concrete box-girder bridge model. New approaches for ultrasonic testing and prestressed force identification were developed and tested successfully.
Fungi of the genus Metarhizium (Family: Clavicipitaceae, Order: Hypocreales) can be both pathogens of insects and form mutualistic relationship with plants. This research collected and described Metarhizium isolates from agricultural crops, grasslands and forests soils Queensland, Australia and identified crop, soil factors and agricultural management that may affect the distribution of the species. It identified two new taxa of the genus and identified the presence of several species known to occur internationally. There were specific associations of taxa with crop and ecotype. The two new Australian taxa also colonised the roots of maize, a monocot, in contrast to other taxa which typically favor eudicots (legumes). It also identified the potential role of the plant hormone strigolactone in fungal colonisation of the plant root. The work identified the potential to select fungal taxa in order to improve crop production through application of these fungi as root inocula.
Noor Akmal Adillah Binti Ismail

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:
This thesis is in line with the national agenda of Malaysia’s Construction Industry Transformation Programme (CITP) (2016-2020) to cultivate Building Information Modelling (BIM) uptake to increase productivity amongst stakeholders within the construction industry. The thesis demonstrates a strategy framework in guiding the Quantity Surveyors in Malaysia to use BIM technology to achieve more dependable results in costing construction projects. A questionnaire survey was employed to explore factors leading towards BIM technology adoption and Structural Equation Modelling (SEM) was applied to examine causal effect relationships between the factors. Focus group interviews were further conducted to better understand the surveyed outcomes. The overall analysis contributes to the establishment of a framework of BIM adoption in cost estimating practices in Malaysia. It produces a strategy to promote the BIM innovation endeavour amongst Quantity Surveyors.
Adam Jacobson

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.116179
Email: adam.jacobson@connect.qut.edu.au
Country: Australia
Supervisors: Michael Milford, Gordon Wyeth

Thesis title:
Bio-Inspired Multi-Sensor Fusion and Calibration for Robot Place Learning and Recognition

Description:
Determining an agent’s location in the world is vital for robotic navigation, path planning and co-operative behaviours. This thesis focuses on the translation of biological insights to the robotics domain to improve topological SLAM with an aim to enable robot navigation and localisation without human intervention. The primary contributions presented within this thesis are SLAM localisation techniques which are robust to environmental changes, require minimal or no human intervention for setup within a new environment and are robust to sensor failures.
Ayomi Jayarathne

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.122560
Email: ayomilakmini.jayarathne@connect.qut.edu.au
Country: Sri Lanka
Supervisors: Ashantha Goonetilleke, Prasanna Egodawatta, Godwin Ayoko

Thesis title:
Transformation of Physical and Chemical Properties of Metals Built-Up on Urban Road Surfaces

Description:
This project was a step forward in developing new knowledge relating to the influence of transformations that metals undergo during dry weather periods whilst they are deposited on urban road surfaces, on stormwater quality. Further, a new risk assessment method was proposed based on the transformation characteristics of metals. The generic outcomes of this study are expected to contribute to the implementation of appropriate stormwater pollution mitigation strategies to enhance stormwater reuse.
Yalong Jiao

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.116196
Email: yalong.jiao@connect.qut.edu.au
Country: China
Supervisors: Aijun Du, Hongxia Wang, John Bell

Thesis title:
Computational Discovery and Electronic Engineering in Nanomaterials for Photovoltaic and Electronic Applications

Description:
This thesis is a computational study for the discovery of nanomaterials for energy and electronic applications. It successfully predicted a series of structures with excellent optical and novel electronic properties. The comprehensive work is expected to guide the experimental realisation of next-generation photoelectric and electronic devices in the near future.
**Murad Kheder**

Doctor of Philosophy  
Science and Engineering Faculty  
Thesis type: Thesis by Monograph

**DOI:** doi.org/10.5204/thesis.eprints.122879  
**Email:** murad.kheder@connect.qut.edu.au  
**Country:** Australia  
**Supervisors:** Melody De laat, Martin Sillence, Simon Bailey  
(The University of Melbourne)

**Thesis title:**

The Role of the Equine Enteroinsular Axis in Insulin Dysregulation: In Vitro Mechanistic Insights for Disease Prevention

**Description:**

Insulin dysregulation encompasses abnormalities in insulin metabolism, including hyperinsulinaemia and insulin resistance. These abnormalities cause diseases in horses and humans, including laminitis and type-2 diabetes mellitus, respectively. This project investigated the role of incretins, and their receptors, in equine insulin dysregulation, and also examined the inhibitory effect of sweet-taste receptor antagonists on intestinal glucose uptake. The project discovered that incretin action and glucose uptake can be attenuated in horses using incretin, and sweet-taste receptor, antagonists, respectively. This is a novel approach to reducing hyperinsulinaemia. Thus, these pathways should be further investigated as novel therapies for metabolic syndrome and laminitis.
Dawit Kidanemariam

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.120892
Email: d.kidanemariam@connect.qut.edu.au
Country: Ethiopia
Supervisors: Anthony James, Rob Harding, James Dale

Thesis title:
Viruses of Taro and other Edible Aroids in East Africa

Description:
Taro and tannia are two important aroid root crops cultivated mainly by small-holder farmers in East Africa where they have significant nutritional, economic and social roles. Viruses are among the most important constraints for the production of these crops worldwide. To date, no comprehensive study has been carried out to determine the status of viruses infecting aroids in East Africa. In this study, the major aroid growing areas in Ethiopia, Kenya, Tanzania and Uganda were surveyed to characterise the viruses present and to determine their incidence and distribution. The outcomes from this study will contribute to ongoing disease management activities.
Martin Kurth

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
Plasmonic Nanofocusing and Guiding Structures for Nano-Optical Sensor Technology

Description:
This thesis investigated factors affecting the sensitivity of nano-optical sensors that could be used for the detection of trace amounts of explosives and environmental pollutants in air. By delivering air to regions of enhanced electric field produced by metallic nanostructures, as well as using structures that localise and guide light at nanoscale levels, detection limits can be reduced.

DOI: doi.org/10.5204/thesis.eprints.118670
Email: ml.kurth@connect.qut.edu.au
Country: Australia
Supervisors: Esa Jaatinen, Peter Fredericks
Introduction

Description:

Abiotic stresses such as drought, salinity, and extreme temperature are significant challenges hindering the capacity of agriculture to meet the food demands of an increasing global population. This thesis characterises an osmotin gene (TlOsm) from a naturally-tolerant plant for use in the development of stress-adapted crops. The efficacy of TlOsm to improve stress tolerance was assessed and compared with two osmotins from stress-sensitive (rice) species. The results demonstrate the potential of TlOsm to improve tolerance against cold, drought, and salinity stress and highlighted the higher efficacy of genes from naturally-tolerant species.

Thi Thuy Trang Le

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115835

Email: thithuytrang.le@connect.qut.edu.au

Country: Vietnam

Supervisors: Sagadevan Mundree, Brett Williams

Thesis title:

Molecular and Functional Characterisation of an Osmotin Gene from the Resurrection Plant Tripogon Loliiformis
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Science and Engineering Faculty

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.119687

Email: josearif.lukito@connect.qut.edu.au

Country: Indonesia

Supervisors: Connie Susilawati, Ashantha Goonetilleke

Jose Arif Lukito

Thesis title:

Framework for Climate Change Adaptation for Incorporation in Public Asset Management: an Indonesian Context

Description:

Lack of urgency regarding climate change adaptation has caused limited actions to be applied in public asset management in Indonesia. In addition, the costs associated with adaptation of assets can be high in some cases. However, these costs will likely be even higher in the long-term, if responses are delayed. Furthermore, studies suggest adaptation to climate change will enable public assets to adjust to future changes, minimise negative impacts, take advantage of new opportunities and maintain sustainable services. Research in response to climate change, in assets or infrastructure in general, and public assets in particular, has been conducted in several developed countries, such as Australia and the United Kingdom. However, climate change adaptation (CCA) research related to public asset management (PAM) is considered lacking in Indonesia. This research aims to develop a framework for CCA for incorporation in PAM and apply the developed framework to Indonesia.
Proprioceptive Sensing of Traversability for Long-Term Navigation of Robots

Description:

Mobile robots performing repetitive tasks are often required to expend the bulk of the robot’s available energy on mobility. This thesis examines how mobile robot navigation can be optimised when performing repeated long-term tasks in environments with unknown spatial-varying driving characteristics. This work develops techniques that allow mobile robots to sense terrain, estimate traversability using proprioceptive sensors and build maps that enable planning of minimum energy tours.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Science and Engineering Faculty

Description:
Since 2012, five new species of carnivorous marsupial Antechinus have been described. One of these, the threatened silver-headed antechinus (Antechinus argentus), has a highly restricted distribution and occurs in low abundance. When the present study commenced, almost nothing was known of the ecology of the species. Therefore, the aim of this research was to provide foundational knowledge by investigating three main components of the species’ ecology: 1. diet, 2. life-history, and 3. habitat use. The aims were achieved and the research resulted in a threatened species listing. The thesis provides necessary recommendations for ongoing conservation management of the species.

Eugene Mason

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph
DOI: doi.org/10.5204/thesis.eprints.118725
Email: eugene.mason@connect.qut.edu.au
Country: Australia
Supervisors: Andrew Baker, Jennifer Firn

Thesis title:
Ecology and Conservation of a New Carnivorous Marsupial Species: the Silver-Headed Antechinus (Antechinus argentus)
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Description:

Insulated rail joints are a critical safety part of track signalling systems, and are used extensively in rail networks worldwide. However, these joints are failure prone and susceptible to cracking and fractures which has resulted in a number of notable accidents in the past, and major costs to industry. This thesis investigates the structural behaviour of these joints via analytical modelling and field testing in the Pilbara region of Western Australia. The ultimate goals of this work are to reduce maintenance and outage costs, and, more importantly, improve safety for operators and passengers.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Description:

Minerals, metals and energy commodities are far more important to the Australian economy than they are to most other advanced economies. This study investigated the type of culture, and its link to financial performance, in organisations that deliver engineering projects in the resources and energy sector. The research used an existing organisational culture model to assess and describe the values, shared beliefs and management practices of these firms. The main contribution of this research is that it reveals a certain type of culture that exists in a unique organisational type in a notable and unanticipated phase in the Australian economic cycle.

Jennifer Moffatt

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.121425

Email: jj.moffatt@connect.qut.edu.au

Country: Australia

Supervisors: Vaughan Coffey, Timothy Rose

Thesis title:

Organisational Culture and Performance in Project Based Organisations Operating in the Australian Resources and Energy Sector
Ratan Kumar Mondal

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120079
Email: ratankumar.mondal@connect.qut.edu.au
Country: Bangladesh
Supervisors: Bouchra Senadji, Dhammika Jayalath

Thesis title:
Sensing-Assisted Spectrum Access Strategy and Optimization in Cognitive Radio Networks

Description:
This research developed radio access protocols for Cognitive Radio (CR) networks to address capacity and quality of service issues for improved mobile user experience. CR is growing technology designed to address radio spectrum scarcity, a critical issue in future generation wireless communications. It allows mobile users (secondary users) to sense and access unused spectrum without interfering with existing users (primary users). By integrating two major components of the CR technology, i.e. spectrum sensing, and spectrum access, into a cross-layer framework, the developed access protocols achieve increased throughput with low probability of interference compared to existing radio access protocols.
Kim Morrison

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122308
Email: kim.morrison@connect.qut.edu.au
Country: United States of America
Supervisors: Christine Bruce, Sylvia Edwards, Virginia Miller tucker (San Jose State University)

Thesis title:
Counter-Story as Curriculum: Autoenthnography, Critical Race Theory, and Informed Assets in the Information Literacy Classroom

Description:
Through a collaborative, co-constructed curriculum, drawn from the researcher’s and students’ lived and shared experiences, this auto-ethnographic work introduces an asset-based information literacy pedagogy. This research was conducted in a community college with primarily first generation students of color. The work intersects critical race theory, decolonising theory and methods, and informed learning, with a Hip-Hop aesthetic of counter-stories to displace the pervasive deficit narrative with a cultural asset frame.
Aead M Abdelnabi Muhmed

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.116351
Email: aead.abdelnabi@connect.qut.edu.au
Country: Libyan Arab Jamahiriya
Supervisors: Anthony Clarke, Paul Cunningham

Thesis title:
The Role of Learning in the Ecology of Diachasmimorpha kraussii (Fullaway) (Hymenoptera: Braconidae: Opiinae), and Implications for Tephritid Pest Management

Description:
Fruit flies are serious pests of fruit around the world, as their maggots destroy fruit by feeding within them. An important non-pesticide control option for fruit flies is the use of natural enemies. This study investigated the role of memory and learning in the host searching behaviour of one such natural enemy, the small wasp Diachasmimorpha kraussii. This wasp is native to Australia and attacks our most serious fruit fly pest, the Queensland Fruit Fly. This research studied fundamental insect behaviour, but produced specific recommendations for the more effective use of Diachasmimorpha kraussii for sustainable pest management.
Introduction

This thesis examines the research and development of new approaches for face and facial expression recognition within the fields of computer vision and biometrics. Expression variation is a challenging issue in current face recognition systems and current approaches are not capable of recognising facial variations effectively within human-computer interfaces, security and access control applications. This thesis presents new contributions for performing face and expression recognition simultaneously; face recognition in the wild; and facial expression recognition in challenging environments. The research findings include the development of new factor analysis and deep learning approaches which can better handle different facial variations.

Sarasi Madushika Munasinghe Kankanamge

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:

This thesis examines the research and development of new approaches for face and facial expression recognition within the fields of computer vision and biometrics. Expression variation is a challenging issue in current face recognition systems and current approaches are not capable of recognising facial variations effectively within human-computer interfaces, security and access control applications. This thesis presents new contributions for performing face and expression recognition simultaneously; face recognition in the wild; and facial expression recognition in challenging environments. The research findings include the development of new factor analysis and deep learning approaches which can better handle different facial variations.

DOI: doi.org/10.5204/thesis.eprints.118197
Email: s.munasinghekankanamge@connect.qut.edu.au
Country: Sri Lanka
Supervisors: Clinton Fookes, Sridha Sridharan
Laminitis is a common and extremely painful hoof disease in horses. We know that it is caused by abnormally high levels of insulin, but the mechanism of insulin action is not known. One theory is that insulin over-stimulates the receptors for a related hormone, insulin-like growth factor-1 (IGF-1), and that this leads to uncontrolled cell proliferation in the hoof, which ultimately causes the disease. The first part of the thesis examines this theory, by determining if insulin can activate IGF-1 receptors directly, or displace IGF-1 from its binding proteins in blood, thereby increasing the activity of IGF-1. Because some horses appear to be naturally resistant to developing insulin-induced laminitis, the second part of the thesis examines if these horses carry proteins in their blood that can bind to insulin and reduce its activity.
Introduction

An Ontology-Based Health Self-Education Framework to Facilitate the Patient-Health Practitioner Collaboration in Healthcare

Description:

This thesis presents a novel framework that assists patients with their information needs and with finding highly relevant health information on the Internet. This project utilised an approach based on ontologies and semantic rules to integrate information from health web pages and personalise the information most relevant to the patient’s health condition. The main research outcome is an ontology-based health self-education framework that could be used to help individuals retrieve relevant health information for their conditions before having medical consultations with physicians.
Thuy Nguyen

**Doctor of Philosophy**

**Science and Engineering Faculty**

**Thesis title:**

Development of a Second-Order Inelastic Analysis Method Accounted for Construction Stage Effects on the Behaviour of Prestressed Steel Structures

**Description:**

This research developed a new method to investigate the construction stage effects on the behaviour of pre-stressed steel structures. Using this method, any changes of structural geometry and/or material properties are properly accounted and evaluated stage-by-stage during the whole construction. Therefore, the structural responses are properly predicted. With this approach any instability and excessive deflection of structural members or the possibility of structural collapse during construction can be avoided.
Khac Duy Nguyen

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
Structural Damage Identification using Experimental Modal Parameters via Correlation Approach

Description:
This research provides a new damage identification strategy using experimental modal parameters via correlation approach. Two damage identification algorithms using modal strain energy-eigenvalue ratio (MSEE) are presented. Firstly, a method using a simplified term of MSEE called geometric modal strain energy-eigenvalue ratio (GMSEE) is developed. Secondly, the original method is modified using the full term of MSEE, proving better capability of damage identification when used with fewer vibration modes. Performance of the proposed damage identification algorithms has been successfully validated with a numerical model and some experimental models of various scales from small to large.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Faculty of Law

Science and Engineering Faculty

Description:

This research looks into the development of green building policy in Vietnam based on the results of a survey and interviews with construction professionals and policy-makers in Vietnam. It reveals the current market state, barriers and drivers to green building development, recommended policies and, thus, provides a policy-making framework as a holistic approach to policy design integrating those data and the relevant policy community. This study is also the first of its kind to investigate a case study for policy change and policy learning from a prospective approach, integrating two widely applied methods - lesson drawing guidance and policy transfer framework. It gives an important insight into factors affecting the process of initiating and incorporating a new policy for green building development in the current legislation given the complexity of a network of actors.

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122898

Email: hongtrang.nguyen@connect.qut.edu.au

Country: Vietnam

Supervisors: Martin Skitmore, Tanja Tyvimaa, Xiaoling Zhang (City University of Hong Kong)

Thesis title:

Formulating Supportive Instruments for Green Building Development in Vietnam

Trang Nguyen
Cheong Ong

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
Research of the suppression effects of cooling rate on crystallization in ZBLAN glass

Description:
ZBLAN glass shows great potential in the application of long-haul telecommunication cables. However, during processing in the fibre-drawing temperature region, the material tends to crystallize, resulting in large transmission losses. In this study, ZBLAN glass was processed with different cooling rates to discern how the rate of cooling affects the process of crystallization. The results of this study revealed that by rapidly cooling ZBLAN test samples, it was possible to completely impede all crystallization phenomena and yield a fully amorphous glass suitable for use as an optical waveguide.

DOI: doi.org/10.5204/thesis.eprints.116614
Email: t4.ong@connect.qut.edu.au
Country: Australia
Supervisors: Ted Steinberg, Esa Jaatinen, John Bell
John Outram

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

Challenges and Enhancement of Manganese Greensand for Acid Mine Drainage Treatment

Description:

Limitations in traditional treatment methods for high manganese containing mine wastewater calls for alternative remediation options to be investigated. This thesis demonstrated the challenges associated with using commercial manganese removal media for mine wastewater treatment. Hence, an alternative synthetic media, suitable for mine wastewater, with greater capacity, stability, and selectivity for manganese was developed.
Introduction

The thesis advances a conceptual framework as well as planning and policy approaches for place making in knowledge and innovation spaces to make them more people-oriented. After investigating the three case studies of Sydney, Melbourne and Brisbane, this thesis establishes place making as a multi-dimensional strategy contributing to sustainable urban development of knowledge locations and cities. The spatial, social, economic, political and contextual aspects in these three cases are investigated by adopting a qualitative research methodology to explain their integrated role in the facilitation of place making.

Surabhi Pancholi

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

Thesis title:
A Conceptual Approach for Place Making in Knowledge and Innovation Spaces: Case Investigations from Brisbane, Melbourne and Sydney

Description:

This thesis advances a conceptual framework as well as planning and policy approaches for place making in knowledge and innovation spaces to make them more people-oriented. After investigating the three case studies of Sydney, Melbourne and Brisbane, this thesis establishes place making as a multi-dimensional strategy contributing to sustainable urban development of knowledge locations and cities. The spatial, social, economic, political and contextual aspects in these three cases are investigated by adopting a qualitative research methodology to explain their integrated role in the facilitation of place making.
Puteri Paramita

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:

Understanding of the shift behaviours are critical to formulate effective policies to encourage mode shift and anticipate the increasing demands of public transport services impacted by the shifting behaviours. This study aims to investigate the mode choice behaviour of commuters by utilising the nation-wide survey of commuters in Australia and employing the state-of-the-art Multinomial Logit Models. This study has investigated three critical choice behaviours issues: commuters' satisfaction towards train fare, consistency between commuters' current behaviours against their future preferences, and policy interventions to influence mode shift. Its findings have demonstrated significant theoretical and practical contributions to the commuters' choice behaviours.

Email: puteri.paramita@connect.qut.edu.au
Country: Indonesia
Supervisors: Md. Mazharul (shimul) haque, Stephen Kajewski, Simon Washington (The University of Queensland), Zuduo Zheng (The University of Queensland)
Nayana Pathiraja

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122925
Email: nayana.pathiraja@connect.qut.edu.au
Country: Sri Lanka
Supervisors: Junior Te’o, Prasanna Egodawatta, Ashantha Goonetilleke

Thesis title:
Bioremediation of Commercial Polychlorinated Biphenyl Mixture Aroclor 1260 by Naturally Occurring Microorganisms

Description:
Pollutant chemicals such as polychlorinated biphenyls (PCBs) previously made globally in bulk for various industrial applications, are known causes of many human diseases, have leaked and are still persistent in the environment. Microorganisms isolated from soil and sediments were studied and a few were found capable to effectively solubilize and degrade PCB mixtures under alternating anaerobic and aerobic treatment conditions. The research offers new opportunities using naturally found microorganisms towards on-site cleaning of the environment, from persistent pollutant chemicals such as PCBs and other similar toxic compounds.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Description:

Processing of mineral ores leads to the generation of large amounts of solid waste, which can contain a high proportion of metal values. This thesis addressed this issue, by re-using a waste product from aluminium mining to make a new water treatment material. This water treatment material showed improved performance for wastewater, compared to a commercially available product. Overall, this thesis represents a new pathway to obtain a valuable product from a mine waste material.

Rachel Pepper

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.122896
Email: rachel.pepper@connect.qut.edu.au
Country: Australia
Supervisors: Sara Couperthwaite, Mia Woodruff, Graeme Millar

Thesis title:

Synthesis of Akaganeite Sorbents From Red Mud Wastes and Their Performance in Water Treatment Applications
Martin Brice Peron

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

Thesis title:
Optimal Sequential Decision-Making under Uncertainty

Description:
This thesis develops novel mathematical models to make optimal sequential decisions under uncertainty. One of the main objectives is to scale Markov decision processes, the framework of choice for selecting the best sequential decisions, to larger problems. The thesis is motivated by the management of the invasive tiger mosquito Aedes albopictus across the Torres Strait Islands, an archipelago of islands at the doorstep of the Australian mainland.
Sajida Perveen

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Science and Engineering Faculty

DOi: doi.org/10.5204/thesis.eprints.122902
Email: sajida.perveen@connect.qut.edu.au
Country: Pakistan
Supervisors: Tan Yigitcanlar, Duzgun Agdas, Md Kamruzzaman (Monash University)

Thesis title:
Modelling the Transport Impacts of Urban Growth Scenarios: A Perspective from South East Queensland, Australia

Description:
This research aimed to evaluate alternative urban growth scenarios by using representative transport impact indicators at different spatial and temporal scales. The assessment of key indicators at multi-scale levels helped for ranking the alternative scenarios in terms of their suitability for promoting sustainable urban growth with least environmental externalities. In addition to the key transport impact indicators and alternative scenario of the future urban growth as major contributions to knowledge, this research provides an empirical approach to inform and assist decision-makers, practitioners and stakeholders in applying the meta-narrative of sustainable development at regional, city and local levels.
Cody Phillips

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
Video Game Reward Types and The Player Experience

Description:
The thesis developed a system for categorising video game rewards, and explored the impact of those reward types on the player experience. We found that a diverse assortment of reward types is associated with increased player enjoyment, and that an individual’s trait reward responsiveness also plays an important role in facilitating enjoyment. Participants with higher levels of trait reward responsiveness may be more likely to enjoy video games than people with comparatively low levels of trait reward responsiveness.
Airborne particles play a major role in climate change and human health. Drawing on the results of extensive measurements carried out in the relatively clean environment of Brisbane and the heavily polluted megacity of Beijing, this thesis has significantly furthered our knowledge of the physical mechanisms of new particle formation in the lower atmosphere. Several characteristics of new particle formation events, such as their temporal distribution, the effect of wind speed and the role of atmospheric ions on the particle formation rate, were investigated for the very first time.
Introduction

Description:

Information assets stored or transmitted electronically require protection from unauthorised disclosure or modification. Authenticated encryption provides both confidentiality and integrity assurance services. This research examines the security of four authenticated encryption block cipher modes submitted to the recent cryptographic competition CAESAR: ++AE, OTR, XEX/XE and AEZ. Flaws in these designs were identified and forgery attacks exploiting these flaws were proposed. Certain modes were shown to be vulnerable to fault attacks. This work contributes to both the CAESAR evaluation process and the development of future ciphers. Finally, an online authenticated encryption block cipher mode resilient to side channel attacks was proposed.

Hassan Musallam Ahmed Qahur Al Mahri

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.119361
Email: hassan.mahri@connect.qut.edu.au
Country: Oman
Supervisors: Leonie Simpson, Harry Bartlett, Ed Dawson

Thesis title:
Analysis of Selected Block Cipher Modes for Authenticated Encryption

Description:

Information assets stored or transmitted electronically require protection from unauthorised disclosure or modification. Authenticated encryption provides both confidentiality and integrity assurance services. This research examines the security of four authenticated encryption block cipher modes submitted to the recent cryptographic competition CAESAR: ++AE, OTR, XEX/XE and AEZ. Flaws in these designs were identified and forgery attacks exploiting these flaws were proposed. Certain modes were shown to be vulnerable to fault attacks. This work contributes to both the CAESAR evaluation process and the development of future ciphers. Finally, an online authenticated encryption block cipher mode resilient to side channel attacks was proposed.
Shanlin Qin

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.115108

Email: shanlin.qin@connect.qut.edu.au

Country: China

Supervisors: Ian Turner, Fawang Liu, Qianqian Yang

Thesis title:

Fractional Order Models: Numerical Simulation and Application to Medical Imaging

Description:

This thesis is primarily concerned with developing new models and numerical methods based on the fractional generalisation of the Bloch and Bloch-Torrey equations to account for anomalous MRI signal attenuation. The two main contributions of the research are to investigate the anomalous evolution of MRI signals via the fractionalised Bloch equations, and to develop new effective numerical methods with supporting analysis to solve the time-space fractional Bloch-Torrey equations.
Description:

This study was aimed at identifying candidate genes and mutations involved with freshwater adaptation in the prawn genus Macrobrachium. Freshwater adaptation is a complex process involving actions from many interacting genes and at least seven broad biological mechanisms. The study revealed 59 candidate genes including 16 novel, lineage specific genes. A global phylogenomic analysis revealed that there were multiple independent invasions into each continent from marine ancestors that subsequently radiated in freshwater environments. However, it was shown that all globally examined freshwater Macrobrachium species gained many adaptive mutations in common in candidate genes, reflecting an overall pattern of convergent evolution.
Md Hafizur Rahman

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOB: doi.org/10.5204/thesis.eprints.116511
Email: mdhafizur.rahman@connect.qut.edu.au
Country: Bangladesh
Supervisors: Sridha Sridharan, David Dean, Clinton Fookes

Thesis title:
Domain Adaptation for Speaker Verification

Description:
This PhD research developed new approaches to address speaker recognition system development using limited development data. Investigations in this program focused on finding the minimum in-domain data requirements for an i-vector PLDA system, leading to unsupervised and supervised methods for compensating domain mismatch from the training data to improve the current state of the art i-vector PLDA system speaker verification system.
Mohammad Mahbubur Rahman

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

Thesis title:
Microscale Modelling of Cellular Level Transport and Deformation during Food Drying

Description:
This thesis contributed to the development of a microscale drying model to predict the actual moisture distribution and physical quality of food material during the drying process. This research has developed a novel methodology to create realistic cellular geometry from microscopic images of food material which can be used as an exact computational domain for the microscale drying model. The model developed is capable of predicting of the cellular level transport and the anisotropic deformation of food material during the drying. The results obtained from the model were validated against extensive experimental investigations.
Saumya Ravihansa Bandara Rajapakse

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.122963
Email: s1.rajapakse@connect.qut.edu.au
Country: Sri Lanka
Supervisors: Margot Brereton, Laurianne Sitbon, Paul Roe

Thesis title:
Making Collaborations to Design Personalised Technologies with People with an Intellectual Disability

Description:
People with a cognitive or sensory impairment often have abilities, needs and desires that are not catered for by conventional service provision or the marketplace. This presents opportunities for volunteer designers to help co-create alternative futures with them. This thesis contributes an approach of respectful design, which emphasises mutual learning, self-expression and self-determination for people with a cognitive or sensory impairment. It describes the co-creation of design profiles and video stories with people with a cognitive or sensory impairment that supported them to engage with designers and makers.
Jerome Ramirez

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

Thesis title:
Modelling a Commercial-Scale Bagasse Liquefaction Plant Using ASPEN Plus

Description:
This project modelled a thermal liquefaction industrial facility for biofuel production from sugarcane bagasse using the process modelling software ASPEN Plus. Techno-economic models of liquefaction, pyrolysis and gasification processes were completed to assess the comparative feasibility of these thermochemical biofuel production processes. Model liquefaction biocrudes, were developed in ASPEN Plus using simulated distillation data and this method’s utility in modelling biocrudes was validated.
Ashiq Mohamed Rasheed

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122960
Email: ashiqmohamed.rasheed@connect.qut.edu.au
Country: Sri Lanka
Supervisors: Prasanna Egodawatta, Ashantha Goonetilleke, James McGree

Thesis title:
Adaptation of Water Sensitive Urban Design to Climate Change

Description:
This research developed mathematical models to generate reliable future rainfall data in small spatial and temporal scales, and used them to estimate future floods and water quality scenarios. Outcomes of the study suggested a substantial increase in the occurrences and the extent of future floods and the amount of pollutant that they carry. Outcomes will be highly valued in future-proofing urban flood mitigation measures and water sensitive urban design infrastructure.
Ralf Raud

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.116429
Email: ralf.raud@connect.qut.edu.au
Country: United States of America
Supervisors: Ted Steinberg, Geoffrey Will

Thesis title:

Description:
This thesis contributes to the state of the art of Concentrating Solar Thermal by rigorously examining the selection process for the thermal storage medium. An optimized process is developed and then applied to the local constraints to optimize the technoeconomic performance of the storage media for the ongoing Australian Solar Thermal Research Initiative.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Science and Engineering Faculty

Thesis type: Thesis by Monograph

Incorporating Sustainability in Investment Decision Making for Infrastructure Projects

Description:

This thesis addresses a gap in investment decision making where sustainability is a key priority for infrastructure providers, and yet decisions on major infrastructure investments continue to be governed by rules for economic analysis. The thesis proposes that investment analysis moves to a broader infrastructure business model approach based on a clearer definition of both benefits and value. The thesis introduces the concept of a sustainability investment logic. The research has focused on the water sector in Australia, however the model that has been developed may be applied to all infrastructure sectors.
Introduction

Environmental decision support systems (EDSS) are used to assist natural resource managers to make decisions regarding complex environmental issues, however, EDSS are often not used after the development stage. Sustainability science literature has explored this issue from the researcher perspective, and this thesis presents the perspective of end users of EDSS from Canada and Australia. A main conclusion of the study is that institutional commitment to commit EDSS into policy and practice would support ongoing EDSS use. Findings from this thesis will inform the development of future EDSS that meets the needs of end users and will be adopted into use.

Dana Reiter

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.117606
Email: dana.reiter@connect.qut.edu.au
Country: Canada
Supervisors: Douglas Baker, Peter Grace, Wayne Meyer (The University of Adelaide)

Thesis title:
Increasing the Effectiveness of Stakeholder Engagement in the Use of Environmental Decision Support Systems

Description:

Environmental decision support systems (EDSS) are used to assist natural resource managers to make decisions regarding complex environmental issues, however, EDSS are often not used after the development stage. Sustainability science literature has explored this issue from the researcher perspective, and this thesis presents the perspective of end users of EDSS from Canada and Australia. A main conclusion of the study is that institutional commitment to commit EDSS into policy and practice would support ongoing EDSS use. Findings from this thesis will inform the development of future EDSS that meets the needs of end users and will be adopted into use.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Science and Engineering Faculty

Thesis type: Thesis by Monograph

Description:

To address the arising Cyber Security threats against Supervisory Control and Data Acquisition (SCADA)-based Critical infrastructure, the security research community have identified the application of Intrusion Detection and AI as an ideal security measure for such systems. The research presents a cyber-attack classification for critical infrastructure, to identify the cyber-attack landscape for critical infrastructure attacks. To further aid in the development and evaluation of AI using intrusion detection, the thesis presents a SCADA cyber-attack generation framework. The cyber-attack generation framework provides a collection of algorithms to stimulate control system equipment with cyber-attacks. Using the attack generation methodology, a SCADA attack labelling framework is also presented to generate labelled attack datasets. The datasets can be used in future work to aid in the development of AI detecting new and unknown cyber attacks on Critical Infrastructure systems.
Iftekhar Salam

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:
Secure and efficient authenticated encryption (AE) constructions are important for protecting modern electronic information systems, providing confidentiality and integrity assurance services. The recent CAESAR competition aims to select the best AE algorithms based on public scrutiny. This thesis provides an in-depth security analysis of three AE proposals in the CAESAR competition: ACORN, Tiaoxin-346 and MORUS. Structures in these algorithms are examined and their resistance to both cryptanalytic and side-channel attacks are determined. These were the first published detailed security analyses of these algorithms. This is important both for evaluating these CAESAR algorithms and guiding the design of future AE algorithms.

DOI: doi.org/10.5204/thesis.eprints.117673
Email: mdiftekhar.salam@connect.qut.edu.au
Country: Bangladesh
Supervisors: Leonie Simpson, Ed Dawson, Harry Bartlett

Thesis title:
Analysis of Authenticated Encryption Based on Stream Ciphers
Description:

This thesis is a study of lean construction in the Kingdom of Saudi Arabia (KSA) construction industry. It employs the interpretive structural modelling (ISM) technique for obtaining and analysing both the quantitative and qualitative views of construction professionals to develop a framework for implementing lean construction in the KSA construction industry. As a result, the framework reflects the socio-cultural and operational contexts in the KSA. The framework is therefore useful for the practical implementation of lean construction for more efficient delivery of construction projects in the KSA and the Middle East region.
Madjid Sarvghad Moghaddam

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

Thesis title:
Corrosion of Structural Alloys in Molten Salts for Solar Thermal Energy Storage

Description:

This thesis investigated the compatibility of some structural alloys with the most recent high-temperature candidates as storage media (molten salts) to be used in thermal energy storage (TES) for the next generation of concentrating solar power (CSP) plants. This study endeavours to investigate the thermal and corrosive impacts of molten salts on commercial alloys by developing methods to measure and track the material degradation in contact with the corrosive medium. The role of material microstructure on corrosion and/or oxidation behaviour is studied and discussed in detail.
Md Abu Sayeed

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Publication

Description:

This research developed a new approach to synthesise novel catalysts for electrochemical water splitting. Hydrogen and oxygen production from water mostly depends upon the performance of the water-splitting catalyst, in particular for the oxygen evolution reaction which is the focus of this thesis. The ability to efficiently produce oxygen and hydrogen from water will result in a chemical means to store intermittent renewable energy for later use. In this thesis, a room temperature electrochemical synthesis approach under ambient conditions is presented to produce highly active catalyst materials that is highly beneficial for the difficult oxygen evolution half reaction.
Sunderajhan Sekar

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.116166
Email: s.sekar@connect.qut.edu.au
Country: India
Supervisors: Yin Xiao, Indira Prasadam, Ross Crawford

Thesis title:
Effects of Dietary Saturated Fatty Acids on the Onset and Progression of Osteoarthritis in Rat Knee Joints

Description:
Chronic intake of a high-fat diet has been associated with increased incidence of osteoarthritis (OA). However, at present, there is a lack of a clear understanding of what type of dietary fats cause major concern and how much of it alters osteoarthritis risk. Therefore, this study evaluated the specific effects of individual dietary saturated fats on both the onset and the progression of knee osteoarthritis. The study found that high susceptibility to dietary obesity was associated with increased OA like changes in the knee. Palmitic and Stearic acid supplementation exhibited increased knee cartilage degeneration and decreased bone volume, leading to a quicker onset and increased progression of OA. In contrast, Lauric and Myristic acid supplementation showed reduced degeneration of the cartilage, increased bone volume and increased pain threshold.
Long Sha

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116506

Email: long.sha@connect.qut.edu.au

Country: China

Supervisors: Sridha Sridharan, Clinton Fookes

The thesis title:

Representing and Predicting Multi-Agent Data in Adversarial Team Sports

Description:

This thesis addresses the theoretical challenges of the application of Artificial Intelligence (AI) to the domain of sports. The key contribution of this work is a new data representation that allows AI algorithms to understand real-world sports games such as basketball and soccer. The theoretical advances that this thesis contributes have the potential to make a significant impact on many aspects of sport analytics, such as prediction, retrieval and simulation. Intelligent systems have been developed based upon this method which enable active spectator engagement in sporting events and more effective coaching of athletes.
Jin Shao

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by publication

Institute of Health & Biomedical Innovation

Description:

This project contributes to our understanding of bone cell biology and sheds light on the potential therapeutic application of Notch signalling pathway on bone-related diseases. The thesis was a step forward in answering how bone cells communicate with each other and determinate their own fates. It provides the first evidence demonstrating Notch signalling is critical in bone cell functions.

DOI: doi.org/10.5204/thesis.eprints.119172

Email: jin.shao@connect.qut.edu.au

Country: China

Supervisors: Yin Xiao, Yinghong Zhou, Ross Crawford
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Science and Engineering Faculty

Description:

This thesis developed for the first time an understanding of the traits, environmental conditions and lifecycle of the critically endangered tree species, Melaleuca irbyana R.T. Baker. M. irbyana’s distribution is restricted to the south-west peri-urban fringe of South East Queensland. It forms dense monocultures naturally, providing unique and important habitat for wildlife, which is now a declared critically endangered ecosystem under Australia’s EPBC Act 1999. Research findings are aimed at assisting management efforts to ensure the persistence of remaining populations of this species and guiding efforts for more effective revegetation projects.

Thita Soonthornvipat

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph
DOI: doi.org/10.5204/thesis.eprints.116613
Email: thita.soonthornvipat@connect.qut.edu.au
Country: Thailand
Supervisors: Jennifer Firn, Acram Taji, Susanne Schmidt (The University of Queensland)

Thesis title:

Comparative Ecophysiological Analyses of Melaleuca Irbyana and Melaleuca Bracteata - A Narrowly Versus Widely Distributed Congeneric Species
David Sparks

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.117196
Email: d.sparks@connect.qut.edu.au
Country: Australia
Supervisors: Cheryl Desha, Les Dawes, Charlie Hargroves (Curtin University)

Thesis title:
Exploring Public Procurement as a Mechanism for Transitioning to Low-Carbon Buildings

Description:
Public procurement has the potential to be used as a mechanism to reduce greenhouse gas emissions and stimulate action on low-carbon development; however a variety of barriers are preventing widespread uptake. This thesis explores how public procurement can be further harnessed to transition public buildings towards low-carbon operations. The thesis presents a suite of strategies found to be conducive to successful low-carbon outcomes. It provides a basis for considering the development of low-carbon public procurement initiatives and a context for discussing opportunities for improvement of existing programs, with important implications for government agencies beginning the transition towards low-carbon practices.
Hannah Stanley

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.115246
Email: hannah.stanley@connect.qut.edu.au
Country: Australia
Supervisors: Douglas Baker, Md Kamruzzaman

Thesis title:
Airport Planning and Stakeholder Engagement: An International Comparison

Description:
This thesis seeks to understand how the influences of privatisation, and an increased expectation of transparency and engagement, impact and drive airport planning and stakeholder engagement processes, particularly regarding the management of aircraft noise. Despite the economic and social significance of airports, little is known about this context. The research draws on interview, policy, and survey data from three international case study airports. A central conclusion of this thesis is that potential negative influences of private interests at airports are often minimised through deliberative engagement practices employed within airport planning processes.
Molecular Characterization and Diagnosis of Badnaviruses Infecting Yams in the South Pacific

Yams are an important food source grown throughout the Pacific but the international movement of the crop is restricted due to a lack of understanding of the viruses infecting these plants. This study focused on identifying and characterising badnaviruses infecting yams and the subsequent development of sensitive and reliable diagnostic tests. These tests can be used in virus-screening programs to enable the safe international movement of virus-free yam germplasm thus contributing to food and nutritional security of Pacific Island Countries.
Sushilawati Ismail

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:
This thesis provides a comprehensive study on how a modern method of construction called Industrialised Building System (IBS) could improve the sustainability of infrastructure projects in Malaysia. The drivers and challenges of IBS application in infrastructure projects was explored in order to determine the factors needing consideration in its implementation. The adaptability and changeability of IBS was used to optimise IBS application to support future redevelopment, therefore contributing to infrastructure sustainability. A framework was produced to assist the project stakeholders in making optimal decisions. A set of IBS adoption strategies to facilitate future redevelopment was also presented.

DOI: doi.org/10.5204/thesis.eprints.121423
Email: sushilawatiismail@connect.qut.edu.au
Country: Malaysia
Supervisors: Carol Hon, Philip Crowther, Martin Skitmore
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Science and Engineering Faculty

Thesis type: Thesis by Publication

Institute of Health & Biomedical Innovation

Thesis title:

Quantitative Assessment of Collagen Fibre Architecture in Articular Cartilage

Description:

Knowledge of the collagen fibre network in articular cartilage is critical to the development of realistic biomechanical models that can predict tissue response to joint loading. Small-angle X-ray scattering, T2 mapping MRI and diffusion tensor imaging, are three techniques that are known to provide information on collagen fibre orientations in articular cartilage. This thesis presents an experimental evaluation of these techniques and examines their potential for quantitative assessment of the architecture of the collagen fibre network.
Benjamin Talbot

Doctor of Philosophy
Science and Engineering Faculty
Thesis title: Integrating Symbolic Spatial Information in Robot Navigation

Description:

Navigation cues - such as labels, signs, maps, planners, spoken directions, and navigational gestures - provide humans with navigation capabilities that far surpass those of mobile robots. This thesis demonstrates how a mobile robot can use the symbolic spatial information embedded in navigation cues to proficiently navigate unseen built environments. The primary contributions of the thesis reside in the abstract map, a novel tool for grounding navigation symbols. The abstract map imagines abstract layouts and structures for unseen spaces through a mechanical analogy, then tethers the abstract spatial models with robot perceptions to inform navigation to symbolic goals in built environments.
Introduction

Iron deficiency is a global problem, and one way to reduce it is through biofortification. In this thesis, the iron content of chickpea was improved by genetic modification (GM) with the plant iron metabolism genes, nicotianamine synthase (NAS) and ferritin (FER). Several chickpea cultivars were assessed, and a low-iron cultivar selected for further improvement. A novel chickpea NAS2 gene was also studied for use in this approach, providing greater insight into iron metabolism in plants. Ultimately, GM chickpea were successfully produced, and up to 1.3-fold increase in seed iron content was achieved. This is the first known example of a GM iron biofortified chickpea, and will likely form a foundation for future biofortification work.

Grace Tan

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116158
Email: zihao_grace.tan@connect.qut.edu.au
Country: Singapore
Supervisors: Sagadevan Mundree, Brett Williams, Sudipta Das bhowmik

Thesis title:
The Characterisation of CaNAS2 and Biofortification of Chickpea

Description:
Iron deficiency is a global problem, and one way to reduce it is through biofortification. In this thesis, the iron content of chickpea was improved by genetic modification (GM) with the plant iron metabolism genes, nicotianamine synthase (NAS) and ferritin (FER). Several chickpea cultivars were assessed, and a low-iron cultivar selected for further improvement. A novel chickpea NAS2 gene was also studied for use in this approach, providing greater insight into iron metabolism in plants. Ultimately, GM chickpea were successfully produced, and up to 1.3-fold increase in seed iron content was achieved. This is the first known example of a GM iron biofortified chickpea, and will likely form a foundation for future biofortification work.
Johnny Thew

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
Mathematical Modelling of Optimal bFGF Delivery to Chronic Wounds

Description:
This project investigated the impact from controlled growth factor release rates on chronic wound healing, with the aim of re-establishing concentrations associated with acute wound healing while minimising the amount of growth factor required. Theoretical predictions were designed using differential equation-based models simulating the wound environment and optimal control theory to measure the cost of the treatment. Outcomes identified key parameters associated with growth factor proteolysis, contributing to future clinical and experimental trials, and demonstrated optimal release rates by which growth factors concentrations can be re-established in chronic wounds.
Introduction

QUT Business School

Creative Industries Faculty

Faculty of Education

Faculty of Health

Science and Engineering Faculty

Thesis title: Ensemble Statistical Modelling of Risk Factors in Health

Description:

This thesis aims to identify and characterise the combined effects of non-genetic risk factors, particularly quantitative measurements of organochlorine pesticide (OCP) exposure, on the age at Parkinson's Disease onset. The study used an ensemble modelling approach with linear models, decision trees, hierarchical models, meta-analyses and Bayesian networks when only disparate data sources are available, and it is expensive and time-consuming to coordinate large-scale studies. Although the results of the analysis are not conclusive due to the nature of the data sources, our results justify further study on the combined effects of quantitative non-genetic risk factors, particularly OCP exposure, in a population study.

Aleysha Thomas

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.120675

Email: aleysha.thomas@connect.qut.edu.au

Country: Australia

Supervisors: Kerrie Mengersen, Nicole White, Leisa-Maree Toms, George Mellick (Griffith University)
Nick Tierney

Doctor of Philosophy
Science and Engineering Faculty

Thesis title:
Statistical Approaches to Revealing Structure in Complex Health Data

Description:
This thesis develops approaches for the modelling and analysis of structured data, considering two case study datasets containing features such as missing data, irregular time periods, workplace grouping, and spatial observations from different spatial scales. The models developed helped to: create individual health risk profiles over time, obtain ideal locations of health facilities to maximise their coverage, evaluate the impact of health facility access. Overall this thesis makes substantive contributions that extend models to account for data structures, provide corresponding new software tools, improve health surveillance and health resource usage, in the hope of improving the health of the public.
Tony Trew

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.119363
Email: tony.trew@connect.qut.edu.au
Country: Australia

Thesis title:
Impact of Organisational Culture and Decision-Making on Program Assurance for Continuing Airworthiness

Description:
This project involved four studies designed to explain the relationship between organisational culture and the decision-making strategies employed by continuing airworthiness management programs in five major Australian domestic airlines. The project extended an existing organisational culture model to produce an industry specific model for airlines in Australia. The Continuing Airworthiness Organisational Culture Model introduces a new organisational culture trait of Assurance, which describes the behaviours and assumptions used within these programs to ensure that the aviation continuing airworthiness safety standards are met for the aircraft operated by the airlines.
Huy Truong-Ba

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.122420
Email: huy.truongba@connect.qut.edu.au
Country: Vietnam
Supervisors: Lin Ma, Michael Cholette

Thesis title:
Opportunistic Maintenance and Optimisation Considering External Opportunities

Description:
This thesis proposed a novel Opportunistic Maintenance policy where uncertain and uncontrollable maintenance opportunities and the benefits may arrive from sources external to a production system. Optimisation models were developed and analysed for both time- and condition-based approaches with the impact of using short-term forecasts of external opportunities. The new models could result in significant savings in maintenance costs that are demonstrated using numerical examples and real case studies in energy systems for different industries. This thesis discussed special ‘cost-free’ maintenance opportunities, which are prevalent in solar energy systems where rain events can provide free cleaning of solar collectors.
Ferdinand Wagner

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.116423
Email: f2.wagner@connect.qut.edu.au
Country: Germany
Supervisors: Dietmar Hutmacher, Jacqui McGovern, Boris Holzapfel

Thesis title:
Convergence of Bioengineering, Orthopaedics and Tumour Biology to Develop and Validate Humanized Rodent Models for Primary Bone Tumour Research

Description:
Preclinical osteosarcoma (OS) models often fail to predict effects of cancer drugs. Two humanized bone models are described which comprise human bone matrix, vascular and hematopoietic components. The first model utilizes ectopic implantation of human bone and rhBMP-7 into mice. Injection of OS cells produces high similarities to the human disease. A second scaffold-based model allows modular orthotopic application. Human osteoblasts seeded into mPCL-CaP scaffolds and human endothelial cells within a biomimetic hydrogel are positioned around the mouse femur. Human CD34+ transplantation allows humanization of the hematopoietic system. Analysis demonstrated that the models allow predictive marker studies of bone malignancies.
Yi Wang

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.120475
Email: y90.wang@connect.qut.edu.au
Country: China
Supervisors: David Thambiratnam, Tommy Chan

Thesis title:
Damage Assessment in Asymmetric Buildings Using Vibration Techniques

Description:
This research presents a step forward in the area of structural health monitoring by developing the scientific basis for a method to detect and locate damage in asymmetric building structures accurately and efficiently. The method is based on the changes in the vibration characteristics of asymmetric buildings such as natural frequencies and associated mode shapes. The thesis first investigated the difference in vibration behavior between symmetric and asymmetric buildings and compared the capability of different damage detection methods that use the vibration characteristics. Then, a modified method (MMSE) and an improved method (MCA-DI) were proposed based on the comparative study and verified through experimental testing of a laboratory scale asymmetric setback structure model.
Teng Wang

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.119163
Email: teng.wang@connect.qut.edu.au
Country: China
Supervisors: Hongxia Wang, John Bell

Thesis title:
Nickel Based Nanomaterials for Renewable Energy Conversion and Storage Application

Description:
This research focuses on the synthesis and development of new functional nanomaterials with tailored morphology for high performance supercapacitors and hydrogen generation through electrolysis of water splitting in order to alleviate the energy crisis and environmental problems. A series of nickel based nanomaterials have been synthesised and their electrochemical properties were thoroughly studied. Ultrafine amorphous barium nickel phosphate nanofibers, and Ni-Co and NiCu layered double hydroxide (LDH) nanosheet arrays directly grown on carbon fibre clothes (CFC) demonstrated excellent performance for supercapacitors while NiCoFe LDH nanosheet arrays on CFC showed high catalytic activity for oxygen evolution reaction for water splitting.
Mahesh Niroshan Fernando Warnakulasuriya

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Description:

This thesis investigated ways to encourage employees and employers to use an employer-sponsored electronic personal health record (ESPHR) system from a consumer-centric viewpoint. Through a mixed method research approach, our study revealed that a focus on technology, human and organisational factors, rather than only technological factors, is a must for an effective ESPHR system. This study provides recommendations for a novel, technology-based, occupational health and well-being model and validates an extension of the established Technology Acceptance Model in relation to ESPHR systems.
Joshua Watts

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.121556
Email: j1.watts@connect.qut.edu.au
Country: Australia
Supervisors: Ian Mackinnon, Peter Talbot, Jose Alarco

Thesis title:
Controlled Synthesis of Boron Carbide Using Solution-Based Techniques

Description:
This thesis details enhanced techniques for the synthesis and characterisation of boron carbide powder. Controlled synthesis methods, in combination with a newly developed X-ray diffraction technique, allow for the production of high quality boron carbide with significant technological applications, as well as a deeper understanding of material structure.
Introduction

QUT Business School
Creative Industries Faculty
Faculty of Education
Faculty of Health
Faculty of Law
Science and Engineering Faculty

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.118759
Email: h.weston@connect.qut.edu.au
Country: Australia
Supervisors: Helen Partridge, Christine Bruce

Thesis title:
The Cultural Dimensions of Information Use Among Emirati Postgraduate Students

Description:
This thesis explored the cultural dimensions of information use of post graduate Emirati students in order to understand how information use is experienced in light of what is revealed when national culture is explored. Seven cultural dimensions of information use became evident in this mixed methods study. This research provides empirical data contributing to the discussion of how culture intersects with information use in higher education. New contributions are provided which underpin the relationship between culture and information use. They also support the design and implementation of pedagogical approaches that recognise cultural diversity of learners.
Yu Wu

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Monograph

Thesis title:
Pattern-enhanced Topic Models and Relevance Models for Multi-document Summarisation

Description:
This research aimed to integrate data mining and topic modeling for multi-document summarisation (MDS) to address the problem of information overload. It explored two different but complementary pattern-enhanced representations for documents, topics and queries to improve the accuracy of automatic MDS and, thus, fill the gap between summaries produced by automatic document summarisers and human-made summaries.
Felix Wunner

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication
Institute of Health & Biomedical Innovation

DOI: doi.org/10.5204/thesis.eprints.120081
Email: felix.wunner@connect.qut.edu.au
Country: Germany
Supervisors: Dietmar Hutmacher, Elena Juan pardo

Thesis title:
Design and Development of an Additive Manufacturing Technology Platform for Melt Electrospinning Writing - A Systems Engineering Approach

Description:
This thesis establishes an additive biomanufacturing technology platform for melt electrowriting. It has been hypothesised that applying systems engineering methodologies assists in developing control, reproducibility, and scale. The implementation of automated monitoring and parameter control helped to generate large data to identify the optimum settings. A conclusion is drawn between the geometry of a fibre and the quality of morphology, assessing robustness and reproducibility. Additionally, contemporary achievable scaffold fabrication heights of 2 mm to 7 mm is achieved and the influence of gravity is evaluated. The resulting technologies are utilised to design and develop a high-throughput printer.
Ziru Xiang

Doctor of Philosophy

Science and Engineering Faculty

Thesis type: Thesis by Monograph

DOI: doi.org/10.5204/thesis.eprints.116900

Email: ziru.xiang@connect.qut.edu.au

Country: China

Supervisors: Tommy Chan, David Thambiratnam

Thesis title:

Synergic Identification of Prestress and Moving Forces for Prestressed Concrete Bridges

Description:

This thesis is a comprehensive study of a synergic identification of prestress and moving forces for prestressed concrete bridges. An innovative synergic identification method is proposed, and validated by the numerical and experimental tests. Results illustrate that both moving/stationary excitation and the prestress force can be estimated accurately and stably for different kinds of bridges.
Sherif Zedan

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.117965
Email: sherif.lashen@connect.qut.edu.au
Country: Egypt
Supervisors: Wendy Miller, Connie Susilawati

Thesis title:
The Role of Stakeholder Management in Energy Efficiency Outcomes of Owner-Occupied Housing in Australia

Description:
This thesis highlights the importance of stakeholders’ interactions in enhancing the energy efficiency of housing. It uses stakeholder management as a framework to quantify the influence of stakeholders on energy efficiency outcomes. This framework is applied and tested on a number of owner-occupied houses in Australia to analyse the effect of stakeholders’ attributes (such as their roles, responsibilities, and interests) on the energy performance of houses.
Fangyi Zhang

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

Thesis title:
Learning Real-World Visuo-Motor Policies from Simulation

Description:
This thesis explores how simulation can be used to create the large amount of data required to teach a robot certain hand-eye coordination skills. It advances the state-of-the-art of deep visuo-motor policy learning by introducing a new modular architecture, a novel reinforcement learning exploration strategy, and adversarial discriminative transfer.
Chuanbin Zhu

Doctor of Philosophy
Science and Engineering Faculty
Thesis type: Thesis by Publication

DOI: doi.org/10.5204/thesis.eprints.118146
Email: chuanbin.zhu@connect.qut.edu.au
Country: China

Thesis title:
Improving One-Dimensional Ground Response Analysis by Incorporating Basin Effects

Description:
This project is an engineering-orientated investigation on earthquake hazard estimations in urban sedimentary basins. Urban sedimentary basins accommodate many significant metropolitan areas such as Los Angeles, San Francisco, Tokyo, Mexico City, and Taipei. This project develops and disseminates a practical and robust approach to mitigate seismic risks of safety-critical buildings and infrastructure, such as tall buildings, long-span bridges and nuclear power plants.
QUT momentum

For three years after graduation, QUT provides additional support to assist PhD graduates transitioning to their research future in industry, government, community or academia.

QUT momentum can support you with:

- Information resources
- Research development workshops
- Publishing
- Commercialisation
- Career advice
- Early career resources
- Grant writing
- Research networking

The QUT momentum blog provides access to:

- Doctoral alumni stories
- Networking and opportunities
- Research Graduates eYearbook

Find out more about QUT momentum on our website.