



2024 Higher Degree by Research Conference

Online

Wednesday 28 &
Thursday 29 August





Acknowledgement of Country

Charles Darwin University acknowledges and respects the many Australian First Nations traditional custodians of the lands upon which our campuses and centres are located.

We acknowledge and pay our respect to the Larrakia who are the traditional custodians of the lands upon which our Darwin, Casuarina, Waterfront and Palmerston campuses are located.

We acknowledge and pay our respect to the Arrernte who are the traditional custodians of the lands upon which our Alice Springs campus is located.

We acknowledge and pay our respect to the Jawoyn, Wardaman and Dagomon who are the traditional custodians of the lands upon which our Katherine campuses are located.

We acknowledge and pay our respect to the Gadigal who are the traditional custodians of the lands upon which our Sydney campus is located.

We acknowledge and pay our respect to the Turrbal and Yuggera who are the traditional custodians of the lands upon which our Brisbane centre is located.

We acknowledge and pay our respect to the Warumungu who are the traditional custodians of the lands upon which our Tennant Creek centre is located.

We acknowledge and pay our respect to the Yolngu who are the traditional custodians of the lands upon which our Nhulunbuy centre is located.

We also acknowledge and pay our respect to the Mirrar (Jabiru), the Kungarakana and Warrai (Batchelor, Adelaide River), the Anindilyakwa (Groote Eylandt) and the Tiwi (Tiwi Islands) people.

We acknowledge Australian First Nations peoples' long tradition of sustaining their communities and environments over thousands of years. They are the first educators and first innovators.

They are the holders of knowledge that makes an important contribution to the improvement of our local, national and global communities.

We extend our respect to Elders - past, present and emerging - and to all First Nations people.

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Vice-Chancellor and President

Welcome to the 2024 Charles Darwin University (CDU) Higher Degree by Research Conference. As students at CDU, you are part of CDU's vision to be Australia's most connected university by being courageous and making a difference in the Northern Territory, Australia and beyond. I encourage you all to be courageous and make a difference.

At CDU, we empower our emerging scholars to become the best and brightest next generation of thinkers and creators. Each year, over fifty research students from across our university come together to present new ideas, innovative methodologies, and groundbreaking research outcomes. This incredible showcase highlights the many ways our university is shaping the future.

CDU's campuses span thousands of kilometres, from Casuarina to Katherine, Nhulunbuy to Alice Springs, and Sydney. Students from within and outside the NT are participating. We are presenting a fully digital conference this year to ensure that everyone has an equal experience, no matter where you are joining from.

The conference theme, **'Purposeful Research – Making a Change in Real Life,'** reminds us that having an

impact is something we can plan for from the outset. It encourages us to be ambitious and intentional when setting our goals and to connect them with our context, wherever we are coming from.

CDU believes in the transformative power of training, education, and research to change people's lives for the better. We have a collective responsibility to ensure that our training, education, and research are of high quality, delivered by outstanding educators and researchers, and accessible and meaningful. What we do matters to our communities.

My deepest thanks go to everyone who has made the program possible, particularly the students whose insights, ideas and enthusiasm are the heart of everything we do.

You make CDU.

Professor Scott Bowman AO
Vice-Chancellor and President



Deputy Vice-Chancellor Research & Innovation

At CDU, our research tackles challenges in our communities and out on country. As the university for northern Australia, we are particularly committed to fields critical to the prosperity, cohesion, wellbeing, and sustainability of our region.

Across our Faculties, Centres and Institutes, researchers are producing cutting-edge, globally significant research in fields ranging from Indigenous and tropical health to environmental science, AI and cybersecurity, and public policy.

The Higher Degree by Research Conference is fast becoming a cornerstone of our annual program and is a fantastic showcase of our research success. HDR students make a critical contribution to our research output by participating in fieldwork, driving research questions, supporting projects and bringing their unique insights to everything they do. Many of them will go on to shape our future governments, industries, organisations, businesses, and communities.

Each year, the conference provides invaluable exposure to their work, offering opportunities for feedback from peers and the cross-pollination of ideas. Importantly, events like these allow our students to practice the presentation skills that will be essential as they advance in their careers.

Thank you to everyone involved in making this year's program a success.

Professor Steve Rogers
Deputy Vice-Chancellor Research and Innovation



Dean of Graduate Studies

Purposeful Research - Making a Change in Real Life

Welcome to Charles Darwin University's 2024 Higher Degree by Research conference. This year's conference comprises a mix of research presentations and candidature milestone presentations. Both presentation types provide an opportunity our HDR students to showcase the importance of their research and the progress being made.

The conference theme – **Purposeful Research - Making a Change in Real Life** – encapsulates the significance of CDU HDR research and its real-world impact.

The conference can help all researchers to reflect on their own research contributions, which often involve expanding knowledge, advancing methods, as well as imparting practical benefits via positive environmental, economic, social, organisational, policy and regulatory outcomes.

The CDU HDR conference presentations frequently serve as practice runs for students attending national and international conferences and are often the starting point in dissemination process.

Effective dissemination also includes publishing papers and articles, along with promoting research outputs via media. Media exposure is great for promoting research more widely, and often kick starts citation as well as leading onto other research opportunities.

The CDU media team can assist in this regard, especially if you can clearly relate your research to topical real-life themes – the focus of this year's conference. To support our HDR students in this endeavour our Research Communications Officer (raphaella.saroukos@cdu.edu.au) will be using the conference to help identify HDR research and researchers to feature in CDU press releases.

Well done to everyone presenting at the conference, it is great to see our HDR students taking advantage of this opportunity to share your research with others.

Professor Steve Greenland
Dean of Graduate Studies

Research Centres and Institutes



Menzies School of Health Research

Menzies School of Health Research is one of Australia's leading medical research institutes dedicated to improving the health and wellbeing of Aboriginal and Torres Strait Islander peoples. They are also a leader in global and tropical health research into life-threatening diseases.

Visit their website: www.menzies.edu.au



The Molly Wardaguga Research Centre

The Molly Wardaguga Research Centre was established in April 2019 and is dedicated to the late Molly Wardaguga, the founding member of the Malabam (now Malal'a) Health Board in Maningrida, Arnhem Land. Molly's vision to support women's cultural and birthing aspirations in remote locations.

Visit their website: www.cdu.edu.au/mwrc



The North Australia Centre for Autonomous Systems (NACAS)

The North Australia Centre for Autonomous Systems (NACAS) conducts integrated industry-focused research into the application of Autonomous Systems across industries, businesses, and other sectors in northern Australia and the Asia Pacific regions. It aims to assist the Northern Territory Government, local industries, and businesses to facilitate and support workforce transformation in north Australia while attracting national and international investment into research innovation.

Visit their website: <https://nacas.net>



RIEL

Research Institute for the Environment and Livelihoods

RIEL

The Research Institute for the Environment and Livelihoods (RIEL) is nationally and globally recognised as a leader in tropical savanna research in north Australia. RIEL's research strengths in the region include biodiversity conservation, savanna and arid adaptation and environments, water and catchments, and communities and livelihoods. RIEL works with our partners in northern Australia and the region to ensure sustainable management of resources and these unique ecosystems.

Visit their website: www.cdu.edu.au/riel



ENERGY AND RESOURCES INSTITUTE

Energy and Resources Institute

The Energy and Resources Institute (ERI) provides high-quality research and consultancy for all aspects of energy and resources, including engineering, scientific, economic, environmental, social, community, legal, policy and digital considerations. Their vision is to be a global leader in enabling the energy and resources industry to develop and adopt carbon abatement, net-zero and sustainable solutions.

Visit their website: www.cdu.edu.au/eri



The Australasian Centre for Resilience Implementation for Sustainable Communities

The risk of natural, health and human-made disasters is ever present and increasing in likelihood. Pandemics, geopolitical instability and climate change are creating challenges that exceed the resources of formal support agencies to meet everyone's needs. How we prepare for potential adversities, and how we respond to them when they occur, will define both the impact of the event and the speed of recovery. The Australasian Centre for Resilience Implementation for Sustainable Communities (RISC) seeks to enable community psychosocial resilience through empowerment: the development of control, coherence and connectedness in individuals and communities. RISC is a multi-disciplinary research and consultancy collective engaging Charles Darwin University academics and clinicians with industry, government and community to attenuate the human impact of the next disaster event.

Sustainable Development Goals

Our HDR presentation session themes are based on groupings of the UN Sustainable Development Goals (UNSDGs) <https://sdgs.un.org/goals>. The 17 UNSDGs are:

SUSTAINABLE DEVELOPMENT GOALS



www.un.org/sustainabledevelopment/

The content of this publication has not been approved by the United Nations and does not reflect the views of the United Nations or its officials or Member States.

SESSION	THEME NAME AND THE UN SUSTAINABLE DEVELOPMENT GOALS INCLUDED
1 Wednesday 11am - 12:30pm	Environment and Sustainability Goal 7: Affordable and clean Energy Goal 11: Sustainable cities and communities Goal 12: Responsible Consumption and Production Goal 13: Climate Action Goal 15: Life on Land
2 Wednesday 11am - 12:30pm	Work and Wellbeing Goal 8: Decent work and economic growth Goal 9: Industry Innovation and Infrastructure
3 Wednesday 11am - 12:30pm	Equality and Justice Goal 5: Gender Equality Goal 16: Peace, Justice, and Strong Institutions
4 Wednesday 1:30pm - 3:00pm	Environment and Sustainability Goal 7: Affordable and clean Energy Goal 11: Sustainable cities and communities Goal 12: Responsible Consumption and Production Goal 13: Climate Action Goal 15: Life on Land
5 Wednesday 1:30pm - 3:00pm	Good Health and Wellbeing Goal 3 - Good Health and Wellbeing
6 Wednesday 1:30pm - 3:00pm	Quality Education Goal 4 - Quality Education
7 Thursday 10:30am - 12:00pm	Quality Education Goal 4 - Quality Education
8 Thursday 10:30am - 12:00pm	Sustainable cities and communities Goal 11: Sustainable cities and communities
9 Thursday 1:00pm - 2:30pm	Governance, Economy and Environment Goal 11: Sustainable cities and communities Goal 12: Responsible Consumption and Production Goal 13: Climate Action Goal 15: Life on Land
10 Thursday 1:00pm - 2:30pm	Good Health and Wellbeing Goal 3 - Good Health and Wellbeing

Day 1, Wednesday, 28 August 2024

TIME	DETAILS	VENUE
8:45 - 9:00am	Welcome to country – Bilawara Lee	Online
9:00 - 9:15am	VC Welcome	Online
9:15 - 9:30am	Dean of Graduate Studies – Research & Innovation Address	Online
9:30 - 10:10am	Keynote Session Professor Jacqueline Ewart School of Humanities, Languages and Social Science Griffith University Title – <i>Research: Making it real: How to make your research matter?</i>	Online
10:10 - 10:30am	Morning tea	
11:00 - 12:30pm	Concurrent HDR Presentations Session 1 – Environment and Sustainability Session 2 – Work and Wellbeing Session 3 – Equality and Justice	Online
12:30 - 1:00pm	Lunch	
1:30 - 3:00pm	Concurrent HDR Presentations Session 1 – Environment and Sustainability Session 2 – Work and Wellbeing Session 3 – Equality and Justice	Online
3:00 - 3:30pm	Q&A	Online
3:30pm	Close of Day 1	



Keynote Session: Wednesday 28 August

Professor Jacqueline Ewart – *Research: Making it real: How to make your research matter?*

Professor Jacqueline Ewart was a journalist and media manager for more than a decade. She has worked as an academic for the past 27 years.

Professor Jacqueline Ewart's research focuses on communication across various phases of extreme climate change events (including disasters) and the involvement of politicians in these types of events. She also researches news media representations of various minority groups including Muslims and Indigenous Australians. She has undertaken extensive research into radio audiences including talkback and community radio audiences.

Professor Ewart has held nationally competitive funding including \$1.26 million for the award-winning Reporting Islam Project in which 1000 journalists, journalism educators and journalism students were trained in how to be more informed when covering stories about Muslims and their faith. She has authored, co-authored, and edited seven books, two of which were published in 2020.

Session 1: Environment and Sustainability

TIME	DETAILS		
11:00am - 11:07am		Elena Turner Faculty of Arts and Society	<i>Energy-efficient Housing in Australia: Incentives and Barriers to Large-scale Adoption</i>
11:07am - 11:22am		Candida Duff Faculty of Science and Technology	<i>Using stable and radioisotopes to inform catchment residence times in northern Australia</i>
11:22am - 11:29am		Yihan Li Faculty of Science and Technology	<i>Investigating the sources and drivers of inorganic carbon to Australian streams using isotopic approaches</i>
11:29am - 11:36am		Samy Leyton Faculty of Science and Technology	<i>The True Costs of Mining in Northern Australia</i>
11:36am - 11:51am		Huifeng Wang Faculty of Science and Technology	<i>Determination of dwelling time strategy in GMAW additive manufacturing using FEM simulation for SS316L</i>
11:51 am - 12:06pm		Acacio Da Costa Guterres Faculty of Science and Technology	<i>The persistence of fortified biochar in a vegetable-rice cropping sequence</i>
12:06pm - 12:21pm		Trish Mooney Faculty of Science and Technology	<i>What drives higher foraging rates for endangered Glossy Black-Cockatoos on Kangaroo Island?</i>

Title: *Energy-efficient Housing in Australia: Incentives and Barriers to Large-scale Adoption*

Abstract:

In times of climate uncertainty and overheating, Passivhaus is globally tagged as a housing solution for significant emissions reduction (up to 90 per cent compared with conventional housing) and constant cooling. Existing studies have focused on the supply side of Passivhaus with a limited understanding of the demand-based factors influencing Passivhaus adoption in Australia. Adoption of Passivhaus principles to date has been very low. Transitioning to net zero carbon emissions by 2050 will depend on the large-scale adoption of high energy-efficiency housing, as exemplified by the Passivhaus concept. The purpose of the study is to develop a conceptual model to enhance understanding of the demand-side factors influencing Passivhaus adoption. Drawing from innovation adoption theories, the study aims to develop a conceptual model that identifies consumer behaviour to Passivhaus, which enhances understanding of incentives and barriers to large-scale Passivhaus adoption. The study model will be tested via 38 in-depth interviews followed by 535 questionnaires with existing and potential Passivhaus consumers in Australia. The conceptual model may reveal that identified constructs of perceived usefulness, perceived ease of use, relationships between climate change and energy efficiency, and socio-demographic factors of income and occupation have positive impacts on consumer intentions towards Passivhaus adoption. The study presents a conceptual model of energy-efficiency innovation adoption by integrating and refining four established theories. The model offers unique insights into the demand for high energy-efficiency housing in Australia via new research into consumer behaviour, incentives, and barriers to large-scale adoption of Passivhaus principles.

Presenter: Elena Turner – Doctor of Philosophy , Pitch Presentation

Title: *Using stable and radioisotopes to inform catchment residence times in Northern Australia*

Abstract:

The tropical freshwater ecosystems of Australia, including rivers, creeks and wetlands, hold immense ecological and cultural value. However, significant knowledge gaps remain regarding the origin and age of water that sustains these ecosystems. With the current push to develop northern Australia, knowledge of the water that sustains these ecosystems would help assess their vulnerability to development and climate change. This project aims to investigate water sources and ages and to predict the time it will take for water (and any introduced contaminants) to move through the system by analysing water isotopes (i.e., 2H, 3H, and 18O), radiocarbon, and other water chemistry. Surface water sampling will target springs, creeks, and larger rivers, at the end of the dry season. Higher frequency samples will be collected at two focus sites to provide a more detailed understanding of the seasonal variation in water ages and transition times. Weekly rainfall samples will be collected at several sites across northern Australia to determine the precipitation isotopic signature and to develop local meteorological water lines (LMWL) for use in future studies. Additionally, sub-daily rainfall samples will be collected in Darwin. The additional rainfall data will augment the current Australian isotope dataset, which contains little data from northern Australia and the LMWLs will be available for future hydrological studies. The outcomes of this research will help predict how climate and anthropogenic impacts could affect the function of Australian wet-dry tropical ecosystems and inform water resources management in northern Australia.

Presenter: Candida Duff – Doctor of Philosophy, Full Presentation

Title: *Investigating the sources and drivers of inorganic carbon to Australian streams using isotopic approaches*

Abstract:

The export of terrestrial carbon through aquatic ecosystems is a key component of the global carbon cycle. Riverine carbon (i.e. the carbon that is transported by rivers) can originate from terrestrial ecosystems ('biogenic' carbon) or the weathering of rock material ('geogenic' carbon), yet the relative contributions of these two sources to riverine carbon export remain poorly understood. To assess these contributions, we collected samples from 161 rivers across tropical and temperate rivers in Australia. Riverine DIC and CO₂ concentrations spanned from 46.7 to 9773.4 mmol/L and 15.7 to 1711.7 mmol/L, respectively. $\delta^{13}\text{C}$ -DIC and $\delta^{13}\text{C}$ -CO₂ ranged from -28.4‰ to -5.8‰ and from -12.1‰ to -28.9‰, respectively. Hydrochemistry and isotope data indicate a minimal influence of rock weathering processes, with biogenic carbon being the predominant source of riverine carbon at >80% of the sites. DIC and CO₂ concentrations were driven by climatic factors, catchment areas, and river network connectivity, with higher concentrations observed in the tropics compared to the temperate region. The hydrological shift between wet and dry seasons played an important role in carbon distribution, with higher DIC and CO₂ concentrations in the dry season compared to the wet season. Moreover, we found that degassing was a key driver of CO₂ concentrations and isotopic composition. This research represents the first step towards constructing a national-scale framework for identifying and understanding the sources and dynamics of carbon in Australian rivers. Ultimately, our work will contribute to improving the Australian carbon budget and assessments of the amount of carbon stored on land.

Presenter: Yihan Li – Doctor of Philosophy, Pitch Presentation

Title: *The True Costs of Mining in Northern Australia*

Abstract:

Mining projects, while providing economic benefits, often impose significant environmental liabilities that extend beyond the life of the mine, impacting ecosystems and communities. Current environmental assessments may overlook significant costs associated with mining activities, particularly in regions like northern Australia. This study assesses the environmental liabilities of the McArthur River Mine in the Northern Territory, focusing on the shift to open-pit extraction and subsequent expansion. We use the Replacement Cost, Welfare Replacement Value, and Basic Value Transfer methods to estimate marketable and non-market environmental costs, including the loss of human well-being benefits, freshwater loss, the opportunity cost of wild aquatic resources, and loss of native vegetation. The study highlights the importance of comprehensively evaluating environmental liabilities to inform decision-making and strengthen regulatory frameworks in the mining sector. This research enhances the understanding of the long-term impact of mining activities on ecosystems and local communities, emphasising the need for more robust environmental evaluations to mitigate adverse effects effectively.

Presenter: Samy Leyton – Doctor of Philosophy, Pitch Presentation

Title: *Determination of dwelling time strategy in GMAW additive manufacturing using FEM simulation for SS316L*

Abstract:

Additive manufacturing (AM) is a layer-by-layer deposition process and has rapidly developed in the last decades. The interlayer temperature (IT) is an important parameter in the AM processes and can influence the products significantly. To keep the IT in an acceptable range (around 150°) dwelling time was introduced in this study. Previous research revealed that a constant dwelling time is not an optimal strategy for a multilayer AM process, because at the beginning of the welding, only a shorter dwelling time, such as 30s, is needed, while with the layers increasing the heat accumulates then more dwelling time is needed. The relationship between dwelling time and IT was studied using numerical simulation (ANSYS software) for a 20-multi-layer AM process. Then the dwelling time strategy was deduced according to this relationship. The study revealed that the efficiency of the dwelling time for reducing the temperature will reduce with layers increasing, so in a constant dwelling time strategy, 210s can control the IT around 150°, and the total dwelling is 3990s. With the dwelling strategy, 2-10 layers (90s), 11-16 layers (150s), and 17-20 layers (210s) the IT can be controlled around 150°, but the total dwelling time is 2400s, which is 60% of the constant dwelling time. An experiment with this strategy was applied using a Fanuc welding robot, and the 3D structural product showed a better appearance than using a constant dwelling time in the same total dwelling time. Therefore, the dwelling strategy is an efficient way to increase the manufacturing speed and accuracy of the AM process.

Presenter: Huifeng Wang – Doctor of Philosophy, Full Presentation

Title: *The persistence of fortified biochar in a vegetable-rice cropping sequence*

Abstract:

Vegetables and rice are grown sequentially in paddy field areas of Timor-Leste. However, the productivity and profitability are low due to low soil infertility. Rice husk biochar has been trialed, and the result has shown to be an effective fertilizer for increasing yields. However, trials conducted in the past used high rates of biochar 20-30 t ha⁻¹. Due to low rice production, this high-volume application makes widespread utilization unlikely for rice husk biomass. The current study is designed to test the effect of combined and separate biochar, N, and P applications on soil nutrients, productivity, and profitability of vegetables and rice in a vegetable-rice cropping sequence. This experiment was undertaken at Maliana Municipality in 2020-2021. The experiment used a split-plot design to test the performance of capsicum and the subsequent rice crop in response to biochar, N, and P, which were applied separately and in combination. The main plot was the application of biochar, N, and P for capsicum in the dry season and its residue for subsequent rice crops. The sub-plots were the three-way factorial designs of biochar, N and P. Results showed that an interaction between biochar, N, and P significantly increases capsicum yield, and it is residue significantly increases subsequent rice yield compared to the control treatment. In addition, gross margin analysis also showed that the interaction between biochar, N, and P significantly increased the farm profitability of both capsicum and rice crops.

Presenter: Acacio da C. Guterres – Doctor of Philosophy, Full Presentation


Title: *What drives higher foraging rates for endangered Glossy Black-Cockatoos on Kangaroo Island?*

Abstract:

The South Australian Glossy Black-Cockatoo subspecies has been restricted to Kangaroo Island since the mid-1900s, following extensive habitat clearance. A successful long term Recovery Program saw the population increase to around 370 individuals before around half of drooping sheoak feeding habitat for the population was burnt in the 2019-20 bushfires on Kangaroo Island. Observations suggest that it may be 10-15 years before regenerating sheoak develops cone crops of sufficient size to provide a useful food source for the cockatoos. This study looks at aspects of foraging habitat use by the cockatoos, aiming to detect any differences between fire affected regions on western Kangaroo Island and areas to the east that were not been impacted by the fires. Preliminary results and analyses indicate that birds in fire-affected flock regions may have adapted to reduced availability of foraging habitat by feeding on a higher proportion of trees. Other factors influencing foraging include habitat age and rainfall. Younger revegetation areas that were planted pre-fire are providing potentially high-quality habitat to support the cockatoos' recovery in burnt flock regions. Remnant sheoak habitat not burnt in the fires in these regions also provides important feeding habitat post-fire. These results provide evidence of the value of both revegetation and remnant areas for the recovery of an endangered bird after a catastrophic event.

Presenter: Trish Mooney – Doctor of Philosophy, Full Presentation

Session 2: Work and Wellbeing

TIME	DETAILS		
11:00am - 11:07am		Beverley Babbage Faculty of Arts and Society	<i>iPads as a multimodal learning tool to support Indigenous languages and traditional ways of learning</i>
11:07am - 11:22am		Pritika Faculty of Science and Technology	<i>Risk Evaluation and Attack Detection in Heterogeneous IoMT devices using Hybrid Fuzzy Logic Analytical Approach</i>
11:22am - 11:37am		Stephen Enciso Faculty of Arts and Society	<i>Why The Middle Arm Industrial Precinct Is Bad Public Policy</i>
11:37am - 11:52am		Alexander Hatzikalimnios Faculty of Arts and Society	<i>Is there an explicit "Right to Work" in Australia? Did the response to the Covid-19 pandemic impact this right?</i>
11:52am - 11:59am		Oscar Metclafe Faculty of Science and Technology	<i>An ecosystem services economy can build a Forever Economy with and for Martuwarra Living Waters</i>
11:59am - 12:14pm		Abhijith Beeravolu Faculty of Science and Technology	<i>A 3D-based scoring system for diagnosing bronchiectasis in children</i>

Title: *iPads as a multimodal learning tool to support Indigenous languages and traditional ways of learning*

Abstract:

Globally, First Nations languages are under threat. For millennia, First Nations languages have been passed on intergenerationally through oral transmission and multimodal traditional ways of learning. Schools and communities look towards technology as a tool for stemming the loss and maintaining, preserving and revitalising languages. The development of custom apps and online tools can be expensive and time-consuming. The multimodal capabilities of the iPad and its out-of-the-box features and commonly available apps are seemingly overlooked. How can these multimodal capabilities of the iPad as a creative learning tool cater to First Nations pedagogies, allowing First Nations students to engage in a way that aligns with their traditional ways of learning? To explore this question, this project will apply a mixed methods approach honouring Indigenous methodologies, focussing on three schools on Yolŋu Country, in remote Northeast Arnhem Land in the Northern Territory, that have been part of an iPad project. Interviews (individual and group) and observations will be conducted with approximately 40-50 participants over several visits, including Yolŋu and non-Yolŋu educators and Yolŋu students, to reflect on the project and investigate the effectiveness of creative iPad learning activities aligned with Yolŋu pedagogy. Anecdotal evidence supports this premise. Given most data will be qualitative, interviews will be recorded and transcribed using OtterAI for interpretative analysis of coding and themes. Reading and interpreting of transcription data, combined with Field Notes and Memoes, looking for common themes and similarities within and across groups. NVivo will be used for data analysis. Classroom observations of students working with and without iPads will also be compared, investigating behaviour, actions, and attitudes. If warranted from qualitative data, written surveys will be conducted with educators. The creation of a framework linking Yolŋu traditional pedagogies and creative iPad activities would provide schools and communities with evidence-based research to support language program development and student learning. These results could potentially be applied to other First Nations communities and languages.

Presenter: Beverley Babbage – Master by Research, Pitch Presentation

Title: *Risk Evaluation and Attack Detection in Heterogeneous IoMT devices using Hybrid Fuzzy Logic Analytical Approach*

Abstract:

The rapidly expanding Internet of Medical Things (IoMT) landscape fosters enormous opportunities for personalized healthcare, yet it also exposes patients and healthcare systems to diverse security threats. Heterogeneous IoMT devices present challenges that need comprehensive risk assessment due to their varying functionality, protocols, and vulnerabilities. Hence, to achieve the goal of having risk-free IoMT devices, the authors used a hybrid approach using fuzzy logic and the Fuzzy Analytical Hierarchy Process (FAHP) to evaluate risks, providing effective and useful results for developers and researchers. The presented approach specifies qualitative descriptors such as the frequency of occurrence, consequence severity, weight factor, and risk level. A case study with risk events in three different IoMT devices was carried out to illustrate the proposed method. We performed a Bluetooth Low Energy attack on an oximeter, smartwatch, and smart peak flow meter to discover their vulnerabilities. Using the FAHP method, we calculated fuzzy weights and risk levels, which helped us to prioritize criteria and alternatives in decision-making. Smartwatches were found to have a risk level of 8.57 for injection attacks, which is of extreme importance and needs immediate attention. Conversely, jamming attacks registered the lowest risk level of 1, with 9 being the maximum risk level and 1 the minimum. Based on this risk assessment, appropriate security measures can be implemented to address the severity of potential threats. The findings will assist healthcare industry decision-makers in evaluating the relative importance of risk factors, aiding informed decisions through weight comparison.

Presenter: Pritika – Doctor of Philosophy, Full Presentation

Title: *Why The Middle Arm Industrial Precinct Is Bad Public Policy***Abstract:**

The Middle Arm Industrial Precinct (MAIP) is the key pillar in the Northern Territory Government's plan to achieve a \$40 billion economy by 2030. It is a project that has received scrutiny for its claim to be a 'Sustainable Development Precinct'. The masterplan for the project reveals that it is designed to expand the gas industry in the Territory, providing a crucial link to the fracking of the Beetaloo Basin. The project's 'green' credentials depend entirely on the plans to establish carbon capture and storage technologies to offset the emissions that an expansion of the fossil fuel industry would inevitably bring. In this paper, I argue the MAIP is bad public policy. I begin by setting out the principles of good public policy, making reference to the concept of the common good. I then explain what is currently known about the MAIP project, highlighting the difficulty in acquiring precise knowledge due to a lack of transparency on the part of the NT Government, as well as deceptive communication. I demonstrate that, based on all the available information, there are good reasons to think the MAIP, if allowed to proceed, will pose significant risks to human health and exacerbate the catastrophic effects of human-induced climate change.

Presenter: Stephen Enciso – Doctor of Philosophy, Full Presentation

Title: *Is there an explicit "Right to Work" in Australia? Did the response to the Covid-19 pandemic impact this right?***Abstract:**

The emergence of the covid pandemic began knocking on Australia's doors in early 2020, with the Australian Government deciding to shut down borders, restrict movement, close down businesses and lockdown its citizens in their homes for substantial periods of time in the name of public health. A by-product of the covid pandemic was the rapid production of a vaccine that was offered as the solution for Australians who were sitting in their second lock-down in mid-late 2021. The Australian Government stated that choosing to get vaccinated against covid should remain voluntary and free, with the Prime Minister at the time (Scott Morrison) emphasising that employers need consider whether they were to adopt such policies in the workplace. As there is no enshrined right to work in Australia, this research will work to formulate a response to this gap in Australia's legislature. This will be achieved by analysing common law and legislation surrounding work rights during the covid pandemic in an attempt to formulate what the right to work could look like in Australia. The research will address methods that could help ensure that Australian citizens have their rights to work maintained and protected when future emergencies arise. This research will attempt to define the right to work in Australia and provide commentary on how this right was impacted during the covid pandemic with the intention to determine how it could be protected in future emergencies.

Presenter: Alexander Hatzikalimnios – Doctor of Philosophy, Full Presentation

Title: *An ecosystem services economy can build a Forever Economy with and for Martuwarra Living Waters*

Abstract:

The north Australia economy often exports benefits from while internalising costs to local communities. This research investigates ecosystem serviced (ES) economies for development at a catchment scale. It uses a case study, two-way approach with the Martuwarra Fitzroy River Council (MFRC; Kimberley, WA) that builds on a literature review with dialogue, workshops and system modelling to weave diverse worldviews, knowledge, and values. In stages, first is to understand the current pastoral and extractive economy supplemented by conservation and tourism; second, how Martuwarra might co-deliver benefits via ES-based industries versus expanded extraction, and third, that ES initiatives be supported by verifiable measures and indicators. Findings to date are that (1) work impacting Indigenous peoples is legitimate only when it is collaborative with free, prior, informed and continuing (FPIC) consent; (2) pastoralism across the region becomes uneconomic if enteric methane greenhouse gas (GHG) emissions costs are internalised at \$14 to 35/tCO₂-e; (3) while few projects are operating within Martuwarra, proposed and potential pastoral, agricultural, minerals and energy projects are extensive and sometimes overlap aquifers, environmental and cultural assets that may be irrevocably degraded while increasing GHG emissions for limited local benefit. Remaining work is to engage and understand aspirations of the people of Martuwarra to address risk and model desirable economic futures to inform public policy, self-determination, and investment. A hybrid approach is desirable because the opportunity cost of business as usual may be healthy Country and to preclude ES opportunities that offer durable long-term local benefits to people and Country.

Presenter: Oscar Metcalfe – Doctor of Philosophy, Pitch Presentation




Title: *A 3D-based scoring system for diagnosing bronchiectasis in children*

Abstract:

Bronchiectasis involves the abnormal bronchial dilation and destruction of the bronchial walls due to recurrent (>3) episodes of chronic (>4 weeks) wet/productive cough or inflammation. This condition needs immediate attention because, without early diagnosis and proper treatment, it can cause permanent lung damage, significantly worsen quality of life, and increase the risk of severe respiratory complications. It is confirmed radiographically using chest C.T. scan. The key diagnostic feature is an abnormally increased broncho-arterial ratio (BAR) exceeding 0.8mm. Additional supporting findings may include bronchial wall thickening, lack of bronchial tapering, and mucus plugging. Developing imaging methods (2D and 3D) facilitate quicker studies and detailed evaluations for healthcare professionals according to the lobes and segments. Challenges such as inclined nature, oblique orientation, and partial volume effect can make it difficult to obtain accurate measurements of structures in the upper and middle lobe from a single high resolution computer tomography (HRCT) slice. This research has two main goals: 1. To develop a system using various imaging methods, especially 3D, to reconstruct important lung structures; and 2. To evaluate and score the bronchial arteries for abnormalities according to lung lobes and segments. We applied modified Reiff scores to 20 full length HRCT scans to grade bronchiectasis severity, yielding promising results with our proposed methods. Further studies are required to compare and validate the performance of our methods with human readers.

Presenter: Abhijith Beeravolu – Doctor of Philosophy, Full Presentation

Session 3 : Equality and Justice

TIME	DETAILS		
11:00am - 11:15am		Robert Kerr Faculty of Arts and Society	<i>Can the decisions of the Queensland Coordinator General be made democratic, fair and just?</i>
11:15am - 11:30am		Shelley Eder Faculty of Arts and Society	<i>Prison officers, authority and legitimacy; a study of r/onthelock</i>
11:30am - 11:45am		Megan Bayliss Faculty of Health	<i>Is Reading Brene Brown an act of political, social, and cultural resistance to traditional intellectuals?</i>

Title: *Can decisions by the Queensland Coordinator General be made democratic, fair and just?*

Abstract:

This project identifies unfair Queensland Law. Governments pass statutes to control and regulate both industry and the population. This project is restricted to the extractive mining industry and their interaction with fee simple titleholders and those with customary Native Title, via the Queensland Coordinator General (QCG). To identify the power granted to the QCG, I have undertaken a doctrinal analysis of the Acts pursuant to the granting of powers to the QCG. I identified powers that were discriminatory, and which enhanced benefits to the mining industry, at the expense of titleholders and the community. I am conducting qualitative research utilizing Participant Action Research of all stakeholders. I have interviewed private registered proprietors and will interview Traditional Owners to understand the impacts sustained. I requested that both classes of landholder provide solutions they believe will respect the circumstances of all parties. To understand all stakeholders, I will interview the legal representatives of landholders, mining company officers and QCG department officials. After finalizing the investigation, the project will propose improvements to statutes that impact stakeholders, to provide respect, fairness and equity. The philosophy guiding this project is “Justice as fairness”, articulated by John Rawls, with emphasis on the rights theory of Ronald Dworkins. The powers under statute were granted when it was believed industry must be restricted to the absolute minimum, enabling employment and economic growth. The community perception has changed. Corporates must hold a social licence. The expectation is that corporations respect sustainability and the democratic and cultural community rights.

Presenter: Robert Kerr – Doctor of Philosophy, Full Presentation

Title: *Prison officers, authority and legitimacy; a study of r/ontheblock*

Abstract:

Prison plays a central role in a state’s power over its citizens, and although prison officers are the front-line administrators of this power their perspectives are relatively understudied in the field of penology. The prison officer needs to maintain order and compliance in a potentially chaotic and dangerous environment and studies have shown that, although prison officers do wield an enormous amount of instrumental power over inmates, most of the time their authority in prison stems from soft-power; managing relationships, reasoning, listening, being assertive where needed and not using the instrumental means available to them to coerce. This study employs a qualitative thematic analysis of data obtained from an online prison officer chat group to focus on how the officers perceive their own authority, the strategies they employ to assert and deal with challenges to this authority, and the emotions and identity perceptions behind this role. Being online and anonymous, the data provides access to an authentic and personal kind of communication that may not be accessible in a face-to-face setting. Adding to more general research in this area, the findings allow us to understand in detail some of the narrative strategies employed by the officers and to peek behind the institutional veil to the emotional reality involved in asserting authority in prison. It is hoped that this study advances our understanding of the human dimension of this kind of work and that the findings might be considered as a background to proposals in the area of prison reform.

Presenter: Shelley Eder – Doctor of Philosophy, Full Presentation






Title: *Is Reading Brene Brown an act of political, social, and cultural resistance to traditional intellectuals?*

Abstract:

This research is an act of social and cultural resistance against the demeriting of educative literature as read and used by the masses. Resisting peer reviewed texts, the research locates books important to individuals in recovery from a life changing mental wellbeing challenge. Investigating the work of Social Work Professor, Brene Brown's bestselling popular psychology, the research breaks from traditional research designs and authors by utilising a framework used by the public and made popular by influential celebrities: book clubs. Despite extensive cross-cultural research informing her Shame Resilience Theory, Professor Brown remains derided in some academic circles. Within Mental Health, the impact of her work as a form of psychoeducation, remains untested – despite the juxtaposition of its popularity and derision. There is no peer-reviewed literature that links Brown to the Focused Psychological Strategies (FPS). There is no work identifying her as an organic intellectual who disseminates research to non-academic readers. This study juxtaposes Professor Brown's Theory with two other theorists, Gramsci and Byrne, to locate Brown as an organic intellectual that uses her research to reduce stigma by placing it into the hands of individuals in recovery and who are helping others. It is this psychoeducative modality with a bibliotherapeutic intervention of helping that forms a measure of Brown's books as suitable for the FPS. Using online book clubs for method and methodology, adults who have experienced a life-changing well-being experience and who have read a Brene Brown title during recovery, discuss their thoughts on the book, including who else they read, why, and who they share knowledge with. To create richer data, book clubs are videoed and held for one month on a private platform so participants can add written feedback and interact with each other's entries. This reconfiguration of evidence enables the intersection of shame resilience theory, psychoeducation, bibliotherapy and Gramscian theory as lived experience tools/theory. This provides Mental Health practitioners with an evidence base for using Brown's work as a psychoeducative and bibliotherapeutic recovery tool.

Presenter: Megan Bayliss – Doctor of Philosophy, Full Presentation

Session 4: Environment and Sustainability

TIME	DETAILS		
1:30pm - 1:37pm		Jiaxing Du Faculty of Arts and Society	<i>AI to the Power of HRM: Building a Trustworthy Future</i>
1:37pm - 1:44pm		Khim Gautam Faculty of Arts and Society	<i>Employee Turnover in VET Registered Training Organisations (RTOs) in Australia: Causes, Importance and Retaining Strategies</i>
1:44pm - 1:59pm		Hania Rehman Faculty of Arts and Society	<i>Institutional Pillars and Institutional Work in Sustainability Reporting: Scale Development & Validation</i>
1:59pm – 2:14pm		Porni Mollick Faculty of Science and Technology	<i>Climate Change and Water Extraction Impacts on North Australian Wetlands</i>
2:14pm - 2:29pm		Amila Kasun Sampath Udage Kankanamge Faculty of Arts and Society	<i>Technology Adoption in E-waste Urban Mining: A Unified Technology Adoption Model from Developing Country Perspective</i>

Title: *AI to the Power of HRM: Building a Trustworthy Future***Abstract:**

The integration of disruptive technologies like Artificial Intelligence (AI) is transforming Human Resource Management (HRM), necessitating strategic alignment between HRM and technology. However, AI adoption in HRM raises ethical, legal, and privacy concerns that must be addressed for responsible implementation. This study investigates the current state of AI applications in HRM through surveys and interviews with HRM professionals and experts. It explores the key challenges faced and potential methods to overcome them. Thematic analysis of the qualitative data is conducted to identify recurring themes and patterns. The findings reveal numerous benefits of AI in HRM, including streamlined processes, improved decision-making, and enhanced employee experience. However, significant challenges hinder adoption, such as algorithmic bias, data privacy issues, legal implications for employment contracts, and employee resistance. Organizational readiness, ethical frameworks, and regulatory guidelines emerge as critical factors for trustworthy AI-HRM integration. By identifying these challenges and proposing a multilevel framework for developing ethical and trustworthy AI-enhanced HRM systems, this research sheds light on responsible AI adoption in HRM. The findings guide HRM professionals, organizational leaders, and policymakers in navigating opportunities and risks. It contributes to the discourse on disruptive technologies' strategic role in shaping the future of work and organizational practices, benefiting stakeholders across industries.

Presenter: Jiaxing Du – Doctor of Philosophy, Pitch Presentation

Title: *Employee Turnover in VET Registered Training Organisations (RTOs) in Australia: Causes, Importance and Retaining Strategies***Abstract:**

High employee turnover is a challenge within Registered Training Organizations (RTOs) in Australia. This study aims to explore the several causes, its importance, and possible retaining strategies of staff turnover working in Vocational Education and Training (VET) RTOs Australia. Random sampling and surveys are used as a mixed-method approach to understand employee turnover in RTOs. Surveys will be administered to RTOs senior managers including Human Resource Representatives from approximately 20 RTOs across Australia. The study's main objectives include identifying reasons behind the turnover in the sectors and the consequences which they bring. After analysing the data from the survey, the research will identify key reasons/ causes of employee turnover within RTOs which include; employees' dissatisfaction with their job, unfavorable organizational culture, limited career progression opportunities, ineffective leadership strategies, and job insecurity due to change of migration process and policy continuously. In conclusion, the results will point to the vital impact of culture, leadership, competitive salaries, and many other factors on retaining key personnel. Maintaining productivity and staff morale and addressing turnover is crucial. Effective strategies to retain employees such as good leadership practices are paramount to reducing turnover rates. Understanding why employees leave can help RTOs implement targeted actions that create a workplace environment and improve effectiveness. Knowing these elements assists companies in keeping their staff members' aspect, upholding high-quality education, and fostering a workplace atmosphere.

Presenter: Khim Gautam – Doctor of Philosophy, Pitch Presentation

Title: *Institutional Pillars and Institutional Work in Sustainability Reporting: Scale Development & Validation*

Abstract:

Sustainability reporting has gained increasing significance in recent years, as it not only discloses important ESG information but also helps to assess and improve sustainability performance. As reporting is largely voluntary, greater institutionalisation tends to decrease uncertainty and increase transparency. However, there is a paucity of research on the institutionalisation of reporting practices within organisations through the institutional work of sustainability reporting managers (SRMs). This study aims to develop an Institutional Work by Institutional Pillar (IWIP) scale to measure the institutional work of SRMs in the oil and gas industry context. Employing a mixed methods approach, the study yields a 9-item, three-dimensional scale (regulative, normative, and cognitive pillar) with satisfactory model-fit indices, reliability, and validity. The higher-order (reflective-formative) model of the IWIP scale shows the cognitive pillar as the most crucial dimension, followed by the regulative and normative pillars. This study contributes to the literature by developing and validating the IWIP scale, which measures the institutional work of SRMs to institutionalise sustainability reporting practices. The scale has implications for the managers of oil and gas organisations as it allows for the measurement and potential improvement of the institutional work of SRMs.

Presenter: Hania Rehman – Doctor of Philosophy, Full Presentation

Title: *Climate Change and Water Extraction Impacts on North Australian Wetlands*

Abstract:

Wetlands provide vital ecosystem services at both local and regional scales. However, these environments are increasingly threatened by the effects of climate change and anthropogenic disturbances, i.e., through water extraction and changes to the hydrological cycle. We analyse the impacts of climate change and water extraction on wetlands and evaluate future changes through remote sensing time series and in-situ observations in northern Australia. The study will utilise random forest image classification and numerical modelling to quantify wetlands' dynamics and future connectivity conditions. The anticipated outcomes include a four-decade time-series analysis of wetland types, extent changes, and comparison with climatic variables in the Daly River basin, and to upscale this approach, to study 31 tropical savanna river basins in the Northern Territory. Results will be compared with existing regional-scale datasets. In a second step, the study aims to forecast connectivity changes in the wetland environments and flow conditions of three ecologically and culturally significant sites within the Daly River basin. This research will provide valuable insights into past, present, and future wetland dynamics and associated impacts on biodiversity and ecosystem services. These insights will be crucial for conveying and revising policies depending on climate change and water extraction intended to conserve and restore the Northern Territory's wetlands.

Presenter: Porni Mollick – Doctor of Philosophy, Pitch Presentation

Title: *Technology Adoption in E-waste Urban Mining: A Unified Technology Adoption Model from Developing Country Perspective*

Abstract:

Developing countries are under escalating pressure to manage the pandemic of electronic waste (e-waste), exacerbated by inadequate and outdated e-waste management practices. In fact, there exists a pressing need to transition towards sustainable technologies to address the increasing volume of e-waste and its consequences. However, conceptual models that promote an understanding of factors influencing technology adoption in e-waste urban mining are lacking. The study presents a conceptual model to offer insights into factors shaping technology adoption in the e-waste urban mining nexus. Drawing from the Diffusion of Innovation (DOI), Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Technology Organization Environment (TOE), the study aims to develop a conceptual model that enhances understanding of factors influencing the adoption of technology in the e-waste urban mining industry. The study model will be further tested via 25 interviews followed by 250 surveys with designated participants in both formal and informal sectors from a developing country perspective. The study proposed the Unified Technology Adoption Model tailored to the e-waste urban mining context to understand what factors influence the adoption of technologies. The proposed conceptual framework produces technological know-how, environmental pressure, organizational readiness, technology design, perceived usefulness, and perceived ease of use as crucial technology adoption factors. This is the first study that extensively conceptualized the factors that influence the technological adoption of e-waste urban mining from a developing country perspective. Also, the study extends the application of the adopted theoretical models since not many of these models have been contextualized within the urban mining nexus.

Presenter: Amila Kasun Sampath Udage Kankanamge – Master by Research, Full Presentation

Session 5: Good Health and Wellbeing

TIME	DETAILS		
1:30pm - 1:37pm		Emma Weaver Menzies School of Health Research	<i>Evaluating a childhood diabetes prevention program for children and their parent/ caregiver in Alice Springs/ Mparntwe</i>
1:37pm - 1:44pm		Hannah Clyfton-Myers Faculty of Health	<i>Can a brief measure of antenatal maternal personality detect postnatal mother-infant relationship quality?</i>
1:44pm - 1:59pm		Binh Quan Faculty of Arts and Society	<i>Impact of Tobacco Branding and Industry Reputation on Attitudes and Behaviors: Towards a Conceptual Framework</i>
1:59pm - 2:14pm		Demeke Mesfin Belay Menzies School of Health Research	<i>Association between postnatal mental health-related hospitalisation and child development and education outcomes: Systematic review and meta-analysis</i>
2:14pm - 2:29pm		Elvin Lufele Menzies School of Health Research	<i>Acceptability of preventative treatment of malaria in pregnancy with sulphadoxine-pyrimethamine plus dihydroartemisinin-piperaquine in Papua New Guinea</i>
2:29pm - 2:44pm		Tereza Hlavackova Faculty of Arts and Society	<i>Revitalisation of Indigenous traditions in food preparation</i>

Title: *Evaluating a childhood diabetes prevention program for children and their parent/caregiver in Alice Springs/ Mparntwe*

Abstract:

The prevalence of youth-onset type 2 diabetes is increasing among Aboriginal and Torres Strait Islander Australians with recent data indicating that Central Australia has the highest reported prevalence among Indigenous youth worldwide. Obesity and socio-economic disadvantage are contributing to this increase and structural racism and social inequities are likely underlying causes. Addressing this health condition requires responses that incorporate the social determinants of health, and are community led and initiated. *Merne Mwerre Artweye Areye-ka* is a childhood diabetes prevention program for children aged 6-11 years and their parent/caregiver that will be delivered in eight communities in Central Australia between 2023-2027. This program is the first of its kind to be delivered in Central Australia and is an adaptation of the *Tribal Turning Point Program* which was trialled in First Nations communities in North America. Findings from formative work highlighted a strong desire for this program to be delivered in this region by Aboriginal communities and that key program adaptations were required. Implementation of the program is now underway by the *Diabetes Across the Lifecourse Northern Australia Partnership* in partnership with the Central Australian Aboriginal Congress Aboriginal Corporation. This presentation will explore recommended adaptations requested by local communities prior to implementation, principles of cultural safety guiding the evaluation and the mixed methods process and outcomes evaluation used to enable further adaptations to be made that are relevant to local contexts, to increase appropriateness and acceptability.

Presenter: Emma Weaver – Doctor of Philosophy, Pitch Presentation

Title: *Can a brief measure of antenatal maternal personality detect postnatal mother-infant relationship quality?*

Abstract:

Maternal mental illness during pregnancy and the postnatal (perinatal) period can affect mother-infant relational quality (MIRQ). Child developmental, academic, and psychosocial outcomes throughout life are associated with MIRQ. Perinatal depression screening using the Edinburgh Postnatal Depression Scale (EPDS) is recommended in the Australian Clinical Practice Guidelines, yet the EPDS does not detect vulnerabilities to MIRQ. An antenatal measure of interpersonal sensitivity has been shown as a stronger predictor of postnatal mother-infant relational quality than EPDS scores across the perinatal period. My project aims to develop a shortened version of the 36-item Interpersonal Sensitivity Measure (IPSM). The IPSM administered during pregnancy can identify subsequent risk for both maternal mental illness and MIRQ. This research will comprise two studies. Study 1 will use data from the Avon Longitudinal Study of Parents and Children (ALSPAC) comprising more than 14,500 pregnant women enrolled 1991-1992. The IPSM was completed during pregnancy and the EPDS throughout the perinatal period. MIRQ was assessed with a 10 percent subsample of one-year-old infants and their mothers using a standardised observational measure. Study 2 will recruit a contemporary cohort of one-year-old infants and their mothers in Western Sydney. The IPSM and EPDS will be administered, and MIRQ will be assessed using a standardised observational measure. Dimensions of the IPSM will be examined in relation to MIRQ (using a standardised observational measure) and maternal depressive symptoms (using the EPDS). It is hypothesised that a shortened version of the IPSM would effectively identify subsequent risk for both maternal mental illness and MIRQ.

Presenter: Hannah Clyfton-Myers – Doctor of Philosophy, Pitch Presentation

Title: *Impact of Tobacco Branding and Industry Reputation on Attitudes and Behaviors: Towards a Conceptual Framework*

Abstract:

The tobacco epidemic is one of the biggest threats to public health in human history, and smoking has been identified as the leading cause of preventable deaths and a significant contributor to non-communicable diseases. Accordingly, smoking accounts for more than 8 million deaths annually in the world. Furthermore, smoking-related diseases incur healthcare expenses and productivity losses exceeding \$1 trillion annually. Despite strict marketing regulations around the world, smoking is still increasing in many countries. Tobacco branding and industry reputation are regarded as crucial factors in shaping smoking behaviors. The primary purpose of this paper is to develop a conceptual framework for exploring the influence of tobacco branding and industry reputation on smoker attitudes and behaviors. Based on the stimulus-organism-response (SOR) model, tri-component attitude model, and pleasure-arousal-dominance (PAD) emotional model, it is proposed that tobacco brand and industry reputation indirectly influence attitudes and behaviors through cognitive and affective components. This conceptual framework contributes to the growing body of marketing literature by providing direction for future theoretical and empirical research to reduce smoking prevalence.

Presenter: Binh Quan – Doctor of Philosophy, Full Presentation

Title: *Association between postnatal mental health-related hospitalisation and child development and education outcomes: Systematic review and meta-analysis*

Abstract:

This study consolidates existing knowledge regarding the association between postnatal maternal mental health-related hospitalisation and childhood development and education outcomes. We conducted a thorough search across MEDLINE, PsycINFO, CINAHL, Scopus, Embase, Google Scholar, and a reference list of accessed papers. A weighted random-effects meta-analysis and a sub-group analysis were conducted following the detection of heterogeneity. After Egger's test, a trim and fill analysis was executed, and the funnel plot indicated publication bias. We accessed 12 studies ($n = 536,471$), indicating children whose mothers with postnatal mental health-related hospitalisation had 54% higher pooled odds of developmental vulnerability in any domain (Pooled Odds Ratio (POR) = 1.54, 95% CI; 1.17-1.90), and 26% higher pooled odds in the social domain (POR = 1.26, 95% CI; 1.18-1.35) compared to children whose mothers did not have such hospitalisation. Children whose mothers experienced postnatal mental health-related hospitalisation had elevated pooled odds of below-average academic performance on any measure (POR = 1.85, 95% CI; 1.22-2.48), in spelling (POR = 1.48, 95% CI; 1.01-1.95), and in writing (POR = 1.37, 95% CI; 1.04-1.70) compared to children whose mothers did not have such hospitalisation. Children whose mothers experience postnatal mental health-related hospitalisation are at increased risk of vulnerability in any domain of development and below-average academic performance in any measure of educational areas. Early screening and treatment for mothers experiencing mental health-related conditions, social support, and access to perinatal mental health services are necessary to enhance the developmental and educational outcomes of children.

Presenter: Demeke Mesfin Belay – Doctor of Philosophy, Full Presentation

Title: *Acceptability of preventative treatment of malaria in pregnancy with sulphadoxine-pyrimethamine plus dihydroartemisinin-piperaquine in Papua New Guinea*

Abstract:

The World Health Organization recommends monthly intermittent preventive treatment in pregnancy with sulphadoxine-pyrimethamine (SP) given once for reducing the adverse consequences of pregnancy-associated malaria. Due to increasing malarial parasites resistance to SP, there is a growing need to find alternative drugs. We assessed consumer and provider acceptability of a novel combination for intermittent preventive treatment in pregnancy, using SP plus dihydroartemisinin-piperaquine (DP) in the context of a clinical trial in Papua New Guinea. Individual in-depth interviews were conducted with trial participants, healthcare workers and policymakers alongside focus group discussions with pregnant women (including trial participants) at health facilities enrolled in the clinical trial. Transcripts and field notes were analysed using both inductive and deductive thematic analysis applying a framework assessing: affective attitude, burden, ethicality, intervention coherence, opportunity costs, perceived effectiveness, and self-efficacy. Most trial participants (n=35, 67%) expressed positive feelings and attitudes towards SP plus DP; reported limited side effects; and found the size, number, colour, and taste of the medicine acceptable. Healthcare workers and policymakers were concerned that, compared to SP alone, additional tablets, frequency (three-day regimen), and tablet size may be a barrier to acceptability. There was high perceived effectiveness of SP plus DP; most mothers reported that they did not get malaria or feel sick during this pregnancy. In the context of the trial, there was good consumer acceptability of SP plus DP. Healthcare providers were concerned about the realities of acceptability and adherence to SP plus DP outside of the clinical trial.

Presenter: Elvin Lufele – Doctor of Philosophy, Full Presentation

Title: *Revitalisation of Indigenous traditions in food preparation*

Abstract:

Sustaining a local language and knowledge is an important factor for the wellbeing and identities of First Nations people. This research aims to understand the transmission of the Kunwinjku language and knowledge around food and examine some ways of supporting it. This project is based on intercultural collaborative work. The researcher – Tereza – has worked with members of the community of Gunbalanya, West Arnhem Land, speakers of the Kunwinjku language. The aim of the project is to build upon Kunwinjku pedagogies - primarily oral, person-to-person, relational teaching through visuals and stories – to support Kunwinjku food knowledge and language transmission. Part of this project is to find research methods suitable for our situation where people from different backgrounds meet. I mainly employ participatory action research and appreciative inquiry. To support food knowledge transmission, the project leaders co-designed a card game and tested the game with various people involved in the community of Gunbalanya, both Indigenous and non-Indigenous. Preliminary results show that playing a game together creates a safe and fruitful space for sharing, with the potential for great adjustability to particular participants and their wants and needs. This work is relevant to people involved in language revitalization and maintenance efforts.

Presenter: Tereza Hlavackova – Doctor of Philosophy, Full Presentation

Session 6: Quality Education

TIME	DETAILS		
1:30pm - 1:37pm		Shelley Worthington Faculty of Arts and Society	<i>Developing Stakeholder Perspectives in Enabling Education: A Boundary Object Approach</i>
1:37pm - 1:52pm		Khushi Chauhan Faculty of Arts and Society	<i>Aboriginal and Torres Strait Islanders Histories and Cultures: A Cross-Curriculum Priority</i>
1:52pm - 2:07pm		Isabelle Lys Faculty of Arts and Society	<i>The Australian Graduate Certificate in Higher Education: Is it more than just a tick box?</i>
2:07pm - 2:22pm		Jessica Blower Faculty of Health	<i>Choosing When and How to Broaden Their Horizons: What HDR Candidates Do When Not Studying</i>

Title: *Developing Stakeholder Perspectives in Enabling Education: A Boundary Object Approach*

Abstract:

During this presentation, I will share insights into how “boundary objects” could be used as a methodological tool to explore the various stakeholder standpoints involved in enabling programs in HE. The analytic concept of ‘boundary objects’ first coined by Star & Griesemer 1989, emerged from science and technology studies serving to mobilise a version of standpoint theory which emerged in the social sciences more broadly about the same time. I intend to use this methodological tool as a lens through which I will read the various materials collected from CDU’s operational landscape to better understand the distinct standpoints and thus be better able to fulfill, the various expectations of enabling programs within the education system.

Presenter: Shelley Worthington – Master by Research, Pitch Presentation

Title: *Aboriginal and Torres Strait Islanders Histories and Cultures: A Cross-Curriculum Priority*

Abstract:

First Nations people of Australia bear the burden of colonisation in many forms including educational disadvantage. The lack of engagement with the current educational system is depicted by the low attendance rates, disengagement, and the unremitting inability to match the national standards in reading and numeracy. Indigenous education reform has been a policy agenda for over 50 years, aiming for equity in education. Since the implementation of the Australian Curriculum in 2012, the national curriculum includes Aboriginal Histories and Cultures as a Cross Curriculum Priority (CCP) to ‘close the gap’ and engage Indigenous students. The intended use of the CCP is to familiarise all students with the Indigenous perspectives, ways of learning and to build mutual respect and recognition. This research aims to find out how this Cross Curriculum Priority is being embedded across schools in the Northern Territory urban primary schools that not only have a significant number of Indigenous students but also present a unique set of challenges for those students. In order to assess the current practice and perspectives, primary school teachers from the four major urban centres of Darwin, Palmerston, Katherine, and Alice Springs region were assigned a survey followed by voluntary semi-structured interviews. The methods aim to ascertain the planning and delivery of the CCP through the use of content descriptors cited in the Australian Curriculum and dig deeper into teachers’ perspectives on Indigenous engagement. Insights regarding the cultural responsiveness of Northern Territory primary school teachers may help improve or strengthen teacher practice and school ethos across the region so that eventually Indigenous engagement is more than a curriculum priority. Not only limited to the Northern Territory, an authentic understanding of Indigenous culture and perspectives is integral to a school’s philosophy and practice and ultimately a professional expectation of the educators.

Presenter: Khushi Chauhan – Doctor of Philosophy, Full Presentation

Title: *The Australian Graduate Certificate in Higher Education: Is it more than just a tick box?*

Abstract:

Globally and in Australia, there is increased pressure towards formalisation of university teaching, with expectation that completion of the Graduate Certificate in Higher Education (GCHE) by academic staff will lead to better teaching and learning practices (Kandlbinder and Peseta 2009) such as leadership in education, competence in scholarship of teaching and learning and use of technology in teaching. Some GCHE graduates are interrogated by their host universities regarding the efficacy and delivery of the course for audit purposes or to improve future local GCHE offerings (Ginns, Kitay et al. 2008, Ginns, Kitay et al. 2010). There has been no Australian study investigating the role GCHE plays in supporting transition from biomedical/health science scientist to teaching focused academics across different Australian universities. This Masters study has investigated the course content of GCHE, provision for education-focused training and how teaching focused academics experience the GCHE at two case study Australian Universities. Qualitative method including case study and triangulation of different data sources was performed on available online documents and policy, such as Enterprise Bargaining Agreements (EBAs), the course content of GCHE, and interview transcripts from graduates of GCHE, using Leximancer software. This conference presentation is final Masters presentation prior to submission of thesis in 2025. Future analysis of such public policies and documents (i.e. EBAs and course content of GCHEs) and experiences of graduates from completed training courses can provide an insight into impact of government and institutional governance across Australian universities in providing sustainable, impactful scholarship activities for teaching focused staff.

Presenter: Isabelle Lys – Master by Research, Full Presentation

Title: *Choosing When and How to Broaden Their Horizons: What HDR Candidates Do When Not Studying*

Abstract:





Australia's Higher Degree by Research (HDR) candidates are exposed to a wide variety of demands and challenges that necessitate recovery to restore spent energy and minimise stress. Recovery occurs from any activity that provides at least one of the following experiences: physically and mentally detaching from work or study (detachment), engaging in relaxing experiences (relaxation), pursuing new activities that provide a challenge (mastery), and experiencing control over leisure time (control). Examining how these experiences operate for HDR candidates is not well-understood. The limited recovery experiences research regarding students has tested the effects of these experiences in isolation, neglecting to explore whether profiles of recovery experiences exist. As such, this research utilised latent profile analysis in R to examine whether unique constellations of recovery experiences emerged for HDR candidates (N = 448) enrolled at an Australian higher education institution. Most participants were enrolled in a research doctorate (87.7%), had received a scholarship at some time throughout their candidature (71.7%), and enrolled in their HDR program full-time (73.3%) between 2019-2021 (62.6%). Two unique profiles of recovery experiences emerged: moderate recoverers (48.7%) and controlling mastery (51.3%). Both profiles mirror previously reported employee and undergraduate student profiles albeit with higher mastery and control compared to an Australian undergraduate student sample. Importantly, across both profiles, candidates reported low detachment, supporting the argument that the importance of detachment for effective recovery has been overemphasised in previous research. Results provide a foundation for a larger study exploring whether recovery experiences can reduce dropout and improve wellbeing for HDR candidates.

Presenter: Jessica Blower – Doctor of Philosophy, Full Presentation

Day 2, Thursday, 29 August 2024

TIME	DETAILS	VENUE
9:00 - 9:40am	Panel Discussion: <i>Essential Strategies for PhD Success: Completion, Publication, and Career Advancement</i>	Online
9:00 - 10:00am	Q&A session	Online
10:00 - 10:30am	Morning tea	
10:30 - 12:00pm	Concurrent HDR Presentations Session 1 – Quality Education Session 2 – Sustainable cities and communities	Online
12:00 - 1:00pm	Lunch	
1:00 - 2:30pm	Concurrent HDR Presentations Session 3 – Governance, Economy, and Environment Session 4 – Good health and Wellbeing	Online
2:30 - 3:30pm	Student Complaint & Conduct - Vibeke Foss (Senior case Manager, Student Conduct & Complaints) Award Presentation & Closing Remarks > Dean of Graduate Studies – Conference Winners Announcement > Thank you and Closing remarks	Online
3:30pm	Close of Day 2	

Session 1: Quality Education

TIME	DETAILS		
10:30am - 10:45am		Imroatul Hasanah Faculty of Arts and Society	<i>Developing 'Golnggris': A Language Learning App to Support Indonesian Secondary Students in Learning English</i>
10:45am - 11:00am		Binoy Joseph Faculty of Arts and Society	<i>Effects of Student Violence on Teachers in Northern Territory Schools</i>
11:00am - 11:15am		Michael Ifarajimi Faculty of Arts and Society	<i>From Proficiency to Higher Accomplishment: Inquiry into mentorship practices in the public school system in Nigeria - A Preliminary Report</i>
11:15am - 11:30am		Joanne Forrest Faculty of Arts and Society	<i>Articulations of Indigenous Allyship in Higher Education in the Northern Territory: a phenomenological exploration of the in-between spaces</i>

Title: *Developing ‘Golnggris’: A Language Learning App to Support Indonesian Secondary Students in Learning English*

Abstract:

English is a compulsory subject for secondary students in Indonesia, but many students struggle to acquire the necessary language skills. Furthermore, many teachers are still adapting to the new Indonesian curriculum, known as the Merdeka Curriculum. The curriculum is designed to foster independence in student learning and enable teachers to enhance technology-based instruction. This study seeks to address this challenge by developing an English-language learning application named ‘Golnggris,’ which is tailored specifically to assist Indonesian secondary students in their English language acquisition and support the implementation of the Merdeka Curriculum with a user-friendly and interactive digital platform for learning English. The methodology employed is Design-Based Implementation Research (DBIR), which encompasses four phases: exploratory, design and development, efficacy, effectiveness, and scale-up. The result of this study is expected to show a significant improvement in the language learning outcomes of Indonesian secondary students. Furthermore, ‘Golnggris’ is expected to boost students’ motivation and interest in learning English. It provides an interactive and engaging learning experience, allowing students to practice listening, speaking, reading, and writing skills in a fun and immersive manner. Teachers also benefit from this research as it provides them with a valuable tool to enhance their English language instructional practices. Additionally, the Indonesian government can benefit from the research findings by gaining insights into the effectiveness of technology in language learning, and by informing future policies and initiatives related to educational technology integration in Indonesian secondary schools.

Presenter: Imroatul Hasanah – Doctor of Philosophy, Milestone Presentation

Title: *Effects of Student Violence on Teachers in Northern Territory Schools*

Abstract:

The escalation of violence within schools is a growing issue of national and international significance. Nevertheless, the issue of student violence against teachers (SVAT) has received limited attention. While this topic is receiving increasing attention on a global scale, it remains in its nascent phase in the Australian context. There have been concerning reports of violence directed towards teachers in Australian schools in the past decade, particularly in the Northern Territory (NT). The current study sought to determine which teachers in NT schools were impacted by student violence, how it affected them, and what factors encouraged them to stay in the profession. The study seeks to provide a comprehensive understanding of the significant distress experienced by educators resulting from student aggression together with the background of children impacted by trauma. The research was carried out in two stages, with the first stage including the identification of educators who were affected by student violence through an online short survey, and the second stage included interviews with those teachers. Interpretative phenomenological analysis (IPA) was used to analyse the data. The research presents the narratives of thirteen school teachers who lived through the SVAT in their careers, as gathered through in-depth interviews. The study found that various covert and overt forms of SVAT caused distress although coping strategies enabled many teachers to remain in the profession. The findings will be disseminated to a broader audience through conference presentations and articles, enabling policymakers, Ministers of Education, and school principals to access them.

Presenter: Binoy Joseph – Doctor of Philosophy, Milestone Presentation

Title: *From Proficiency to Higher Accomplishment: Inquiry into mentorship practices in the public school system in Nigeria - A Preliminary Report*

Abstract:

This paper presents preliminary findings from a mixed-method study examining the impact of mentoring on beginning teachers in Nigerian public schools. Conducted in four states with a sample of 200 teachers, data collection included surveys, focus groups, and interviews. Grounded in Etienne Wenger's Community of Practice Theory, the study highlights mentoring within the school as a learning community, emphasising intersectional and cross-cultural competencies. It underscores the importance of developmental networks, collaboration and shared leadership. Initial quantitative analysis was followed by thematic analysis, aligning with the literature on mentorship's impact on professional development and retention. Findings revealed a lack of a general mentorship framework, with schools providing orientation programs based on individual contexts, and ascertained that Nigeria lacks a mandatory formal teacher mentoring program, with lack of support and poor remuneration cited as key factors driving early career departures. The study offers an operational framework for implementing mentoring programs in Nigerian public schools.

Presenter: Michael Ifarajimi – Doctor of Philosophy, Milestone Presentation




Title: *Articulations of Indigenous Allyship in Higher Education in the Northern Territory: a phenomenological exploration of the in-between spaces*

Abstract:

Indigenous Allyship (IA) has become an unqualified anthropomorphism: a zeitgeist of racial identity re-claiming and the power dynamics of othering. Without evidence-based qualification to date, multiple iterations of Indigenous Allyship: performative allyship, optical allyship and allyship activism (Kalina, 2020; Ibrahim, 2020; Phillips, 2020; Rudhuran, 2020; Hadley, et al. 2024; Hesford, 2021), have infiltrated the higher education landscape locally, nationally and internationally. This research will provide the first phenomenological and evidence-based research on articulations of Indigenous Allyship (IA), in the Northern Territory higher education context. This imported language is positioned as the phenomenon to be studied. The qualitative methodology applies Anzaldúa's Borderlands Theory, providing a language and conceptual framework of marginalised populations, to explore the in-between places and crossing of borders. Borderlands Theory is partnered with a variation on phenomenography, to de-centre the participants as objects of research, and to map their perceptions and interpretations of the phenomenon. The findings will reveal the qualitatively different ways Indigenous students and academics experience and conceptualise IA. New data may inform policy and practice, in the Indigenous higher education sector. The data's early findings counter the consistently negative and polarising narrative of Indigenous disadvantage in education in the Northern Territory, providing a new language of agency and process in academic mobility. This research will contribute to an international body of knowledge on Indigenous Allyship and begin conversations about articulations of Indigenous Allyship in higher education in the Northern Territory. It is expected that this critically relational social research will have local, national and international implications.

Presenter: Joanne Forrest – Doctor of Philosophy, Milestone Presentation

Session 2: Sustainable cities and communities

TIME	DETAILS		
10:30am - 10:45am		Suzanne Cant Faculty of Arts and Society	<i>Bureaucrat response to citizen-state programs in developing countries</i>
10:45am - 11:00am		Ghulam Murtaza Faculty of Arts and Society	<i>Mobility as a Service: Exploring Feasibility and Travellers Preferences in an Emerging Economy</i>
11:00am - 11:15am		Zaki Zain Faculty of Arts and Society	<i>Lived Experience of Minority Buddhist Communities in Indonesia (Study of Buddhist Communities in Palembang Sumatera and Boyolali Java)</i>

Title: *Bureaucrat response to citizen-state programs in developing countries*

Abstract:

Over the past two decades, international development donors have invested in programs that bring citizens and their governments together to improve services in developing countries. The success of these programs largely depends on the government's response to pressure by the active citizenry. However, there needs to be more understanding of state response (Joshi & Mc Cluskey, 2017; Grandivoinnet, 2015). Understanding how, why, under what circumstances, and which state officials respond is a crucial addition to improved program theory for these interventions. How bureaucrats respond is significant for improved access to and quality of services, which play a vital role in human development outcomes. This presentation on the realist research findings of the causal processes for outcomes of one citizenstate program in Bangladesh, Senegal, and Uganda explores participating local bureaucrats' intrinsic and extrinsic motivations. These include the skills and confidence they developed to advocate for increased resources from higher government levels for services, the admissions by some that they previously had low expectations about citizen competence, why the program did not work as intended for all bureaucrats, and how the program improved relationships between different actors in the governance of service delivery.

Presenter: Suzanne Cant – Doctor of Philosophy, Milestone Presentation

Title: *Mobility as a Service: Exploring Feasibility and Travellers Preferences in an Emerging Economy*

Abstract:

Mobility-as-a-Service (MaaS) is a novel concept in urban transport research that anticipates public transport's social, economic, and environmental impacts. Despite its potential, MaaS remains underexplored in developing countries, likely Pakistan. This study aims to evaluate the feasibility of MaaS and investigate travellers' preferences in Pakistan. The study's key objectives include designing MaaS products or bundles, identifying MaaS market segments, and estimating the demand or willingness to pay for MaaS products. To meet these objectives, the research undertakes mixed methods, such as qualitative and quantitative methods. Pursuing qualitative research, qualitative content analysis of nine focus group (FG) interviews was conducted with 6 participants from diverse backgrounds in each FG interview to gather textual data on transport modes and public transport characteristics to determine the MaaS attributes. The content analysis was guided by grounded theory, including axial coding, to develop themes leveraged to design the discrete choice experiments (DCE). DCE, one of the advanced stated preference methods, is the quantitative methodology this study has used to serve the study's primary aim of assessing feasibility and exploring the travellers' preferences for MaaS. DCE is a data-generation process that helps gather stated preferences data, relying on experimental design. Through designing an (efficient) choice experiment, we projected a hypothetical market for MaaS products with different combinations of attribute levels (called choice sets), each containing a set of mutually exclusive hypothetical alternatives (called profiles) which respondents are asked to choose their preferred one, to understand travellers' behaviour toward MaaS products. A set of MaaS product attributes with defined alternatives (profiles) takes one or more levels. The respondents' choices imply implicit trade-offs between the levels of the attributes in the different alternatives included in a choice set. Our stated choice experiment consists of 11 attributes (8 attributes with 2 levels and 3 attributes with 3 levels), including the MaaS package price, which was introduced to easily convert marginal utility estimates into willingness-to-pay (WTP) estimates for changes in the attribute levels. Using the choice experiment, a multidimensional choice dataset, along with travellers' socio-demographics, psychological and other latent variables (covariates), were collected from 624 respondents through a web-based Qualtrics survey. Each respondent was faced with ten choice tasks (MaaS product scenarios). Three major cities (Islamabad/Rawalpindi, Lahore, Multan) of Pakistan were selected to collect both qualitative and quantitative data. The conceptual framework for analysing the choices made in DCE is based on Random Utility Theory (RUT). For the empirical analysis of the choice dataset, yielding the estimates of traveller's utility and willingness to pay for MaaS products across different travellers' segments, advanced econometrics tools such as the Hierarchical Bayes-Multinomial Logit (HB-MNL) then Clustering was used as analytical tools. The study's findings indicate that the price of MaaS packages and transport modes significantly influence traveller decisions, with the Metrobus service emerging as a preferred option. Market segmentation reveals three distinct groups: price-sensitive, balanced decision-makers, and less price-sensitive consumers, each requiring tailored marketing and service customization.

Presenter: Ghulam Murtaza – Doctor of Philosophy, Milestone Presentation



Title: *Lived Experience of Minority Buddhist Communities in Indonesia (Study of Buddhist Communities in Palembang Sumatera and Boyolali Java)*

Abstract:

The study investigates the lived experience of diverse Buddhists as a minority in Islamic Indonesia. The study is designed to better understand the distinct historical, cultural, and religious lives of Buddhists within the contemporary social and political fabric of a predominantly Muslim Indonesia. Since this study is situated in a context where negative perceptions of cultural and religious 'differences' are part of the current discourse of Buddhist-Muslim relations in Indonesia, the research is in the interest of promoting intercultural and interreligious understanding. The research questions are designed to reveal Buddhist conceptions of their beliefs cultural practices and identity as the minority, and conceptions of their Buddhist future in Indonesia. The study engenders an interpretive ontology and is conducted from the perspective of phenomenography. A qualitative epistemology engages the methods of interview and observation for data collection. This study interviews 16 Buddhist participants. The analysis uses a phenomenographic perspective that focuses on the referential and structural aspects of conceptions (Marton & Pong, 2005) and the meaning and context of material culture (Reischauer, 2015). As a case study, this analysis aims to understand the variation in the understanding of the social lived experiences of minority Buddhist communities and the description of diverse material culture in Palembang, Sumatra, and Boyolali, Java. The findings contribute a contemporary description of Buddhist experiences in Indonesia and may interest future research investigation of intercultural and interreligious realities beyond Indonesia.

Presenter: Zaki Zain – Doctor of Philosophy, Milestone Presentation

Session 3: Governance, economy and environment

TIME	DETAILS		
1:00pm - 1:15pm		Mohammad Rajib Hasan Faculty of Arts and Society	<i>Social Capital and Wellbeing in an Emerging Economy: Evidence from Bangladesh Using a Generalized Structural Equation Model</i>
1:15pm - 1:30pm		Khaleda Yasmin Faculty of Arts and Society	<i>Struggling for Voices: A Tale of Political Harassment in Bangladesh</i>
1:45pm - 2:00pm		Rabaka Sultana Faculty of Science and Technology	<i>Comparative noise impact assessment between traditional and timber houses using the BIM-LCA model.</i>

Title: *Social Capital and Wellbeing in an Emerging Economy: Evidence from Bangladesh Using a Generalized Structural Equation Model*

Abstract:

Understanding wellbeing is fundamental to any effort to improve it; however, the measure of wellbeing, entirely based on either objective or subjective indicators, is subject to criticism. Using the latest (2018) World Values Survey (WVS) data and following Alkire and Foster (2011) method of multidimensional poverty, including subjective and objective indicators of wellbeing, this study examined the incidence, intensity, inequality, and determinants of wellbeing in Bangladesh by constructing the Multidimensional Wellbeing Index (MDWI). The MDWI was calculated using seven domains and twenty-five relevant indicators representing multiple dimensions of wellbeing and assigning weights using the Principal Component Analysis (PCA). While the index, MDWI, ranges from 0 to 1, the higher the index, the higher the level of wellbeing. Bangladeshi people, on average, are experiencing a moderate level of wellbeing (with an MDWI of 0.565), where the health domain and its related indicators were the largest contributors to wellbeing. Results of this study revealed notable differences in wellbeing by gender, age, income group, and education level of the households' heads and by sub-national location of the households. Significant differences in inequality in wellbeing were also observed by sub-national location and income, while income and other socioeconomic and demographic factors were strongly associated with wellbeing in Bangladesh. Overall, the results provide valuable policy insights into an important area of human development-wellbeing-which is also critical for achieving sustainable development goals for Bangladesh, in particular, and other developing countries, in general.

Presenter: Mohammad Rajib Hasan – Doctor of Philosophy, Milestone Presentation

Title: *Struggling for Voices: A Tale of Political Harassment in Bangladesh*

Abstract:

This case study unveils the pervasive political harassment in Bangladesh, shedding light on the gradual erosion of democratic values and the increasing autocratic tendencies of the ruling government. It illustrates how law enforcement authorities resort to intrusive measures, such as checking citizens' personal mobile phones, to identify affiliations with opposition parties. The study is based on in-depth interviews from four different groups, totalling 25 participants: voters (6), Election Commission Officials (6), civil society members (7), and politicians (6). Conducted with adherence to ethical protocols from Charles Darwin University and Bangladesh, the interviews were structured using semi-structured questionnaires. After obtaining consent, responses were recorded, and interview records were securely stored. Following coding and analysis, all recordings will be destroyed. Through two-hour in-depth interviews, the study underscores the imperative of upholding democratic principles and safeguarding citizens' rights in Bangladesh. Providing a comparative analysis of the 2014, 2018, and 2024 general elections, it reveals common experiences of arbitrary political arrests, particularly among opposition supporters and politicians. Notably, the study exposes the repeated arrests of one individual before each national election, highlighting politically motivated charges and severe treatment, including torture and threats of extrajudicial killing. Thematic analysis uncovers structural issues contributing to political repression, including voter intimidation and electoral manipulation. This case study underscores the importance of upholding democratic principles in Bangladesh and the imperative to safeguard the rights of its citizens.

Presenter: Khaleda Yasmin – Doctor of Philosophy, Milestone Presentation

Title: *Comparative noise impact assessment between traditional and timber houses using the BIM-LCA model.*

Abstract:

Concrete, the primary building material, creates noise throughout material procurement, fabrication, construction, and demolition. Noise affects humans and other animals in direct and indirect ways. For example, noise can cause hearing loss, hypertension, heart difficulties, and psychological issues like aggravation, sleep deprivation, reduced focus, mental well-being, limited cognitive development, and poor cognitive task performance. Life cycle assessment (LCA) is a widely used technique to calculate the comprehensive environmental impacts of human activities. Although various impact indicators are assessed in the LCA method, the present life cycle assessment still excludes noise impacts due to limited research on noise assessment methods. This paper presents a framework to quantify the environmental impacts of noise in the BIM-LCA of concrete. There are two health indicators for noise impact, such as annoyance and sleep disturbance. Later the corresponding health damages are evaluated by using disability-adjusted life year (DALY). As a case study, a Low-populated region (Darwin) and a high-populated region (Sydney) have been selected to compare the noise impact. The result indicates that 5029 and 119985 people will be highly annoyed due to concrete work in Darwin and NSW, respectively. In addition, 3178 and 76091 people will be highly sleep deprived in Darwin and NSW, respectively. After integrating noise impact, the DALY value increased 5 times more in NSW (0.11) than in Darwin (0.024). All those findings could help the policymaker to decide.

Presenter: Rabaka Sultana – Doctor of Philosophy, Milestone Presentation

Session 4: Good health and well being

TIME	DETAILS		
1:00pm - 1:15pm		Awube Menlah Faculty of Health	<i>Sterile Water Injections: Innovative approach for managing lower back pain among birthing women in a LMIC.</i>
1:15pm - 1:30pm		Ruth Canty Menzies School of Health Research	<i>Tobacco Retailer Density in the Northern Territory</i>
1:30pm - 1:45pm		Fais Nurul Hadi Faculty of Arts and Society	<i>Mobile-Based Language Learning (MALL) in Rural Indonesia: Ongoing Analysis and Unexpected Development</i>
1:45pm - 2:00pm		Anvitaa Chadha Faculty of Health	<i>Cost-effectiveness of the Birthing in our Community service from birth to age 18 for First Nations families</i>

Title: *Sterile Water Injections: Innovative approach for managing lower back pain among birthing women in a LMIC*

Abstract:

Around 30% of women in labour experience lower back pain, a common challenge during childbirth. Sterile water injections (SWI) have proven effective in managing this pain, as shown in previous studies. However, the applicability of this approach in the context of Low/Middle Income Countries (LMIC) such as Ghana remains unexplored. Investigating the effectiveness of SWI for lower back pain in the Ghanaian context is crucial for determining its potential benefits for birthing women. A non-randomised trial was conducted to determine SWI effectiveness in comparison to standard care. The sample comprised of 73 birthing women with severe back pain (51 interventional and 22 control group). Birthing women in the intervention group received 4 intradermal injections of sterile water 0.1ml in the skin surrounding the lumbo-sacral region whereas the control group had no injection. Self-reported pre and post pain scores using a Visual Analogue Scale were obtained prior to and at specific time intervals after the injections. Secondary outcomes measured included maternal and neonatal birth outcomes. The pain reduction observed in the intervention group was statistically significant compared to the control group. More women in the SWI group reported an at least 50% reduction in pain. Women in SWI group indicated positive impacts on the overall labour experiences when their satisfaction of intervention were evaluated. The findings demonstrate that SWI is a simple and effective method in managing low-back pain during labour and has the potential to offer an inexpensive and accessible option in birth settings within LMICs.

Presenter: Awube Menlah – Doctor of Philosophy, Milestone Presentation

Title: *Tobacco Retailer Density in the Northern Territory*

Abstract:

Smoking prevalence in the Northern Territory (NT) is the highest in Australia, estimated at 13.3% compared to 8.3% nationwide. Average daily smoking prevalence among First Nations people was recently estimated at 37.3%. This is a decrease of nearly 10% over the previous 15 years, however, there is considerable diversity in smoking prevalence and variations between major cities and regional and remote areas. Greater densities of tobacco retailers are found in areas with greater levels of disadvantage, both globally and in Australia and have been linked to higher smoking prevalence. Restricting the availability of tobacco was identified in the National Tobacco Strategy 2023-2030 as a priority area; however, no state or territory currently regulates the location or density of tobacco retailers. With data from Licensing NT and the Australian Bureau of Statistics, we used geographic software QGIS (Quantum Geographic Information System) to geolocate tobacco retailers and allocated remoteness (outer regional, remote & very remote) and socioeconomic status (SES). We report on the density of retailers by remoteness and SES. We found that there are 439 tobacco retailers in the NT with a density per 1,000 persons ranging from 1.25 in outer regional areas (including Darwin) to 2.05 in remote areas and 3.24 in very remote areas. Tobacco retailer density increased with geographic remoteness, consistent with findings in other parts of Australia. In remote areas where smoking prevalence is both the highest in the country and not declining like other areas, high retailer density is a major challenge to reduce disparities. Future work will include qualitative interviews with retailers and communities to investigate possible avenues for change and an analysis of tobacco control policy in the Northern Territory.

Presenter: Ruth Canty – Doctor of Philosophy, Milestone Presentation

Title: *Mobile-Based Language Learning (MALL) in Rural Indonesia: Ongoing Analysis and Unexpected Development*

Abstract:

In recent decades, the utilisation of educational technology has been of major interest in terms of its potential for improving the quality of education in rural areas of Indonesia. Transportation, connectivity, and infrastructure for better education have been improved significantly, the development of education in rural area remains relatively slow. In this case, mobile based language learning can be a valuable approach for teachers and students to advance their teaching learning activity. This research investigates the experience and attitudes of teachers and students in using mobile-assisted language learning (MALL) for English language teaching and learning in senior secondary schools of rural Lampung, Indonesia. It aims to reveal the barriers and enablers for teachers and students in using MALL in rural areas of Lampung. The study uses a mixed-methods approach, combining surveys and interviews toward selected teachers and students in Pesisir Barat, a rural district area of Indonesia. Recent analysis shows unexpected finding that the teachers' readiness in using MALL was quite low while the students' acceptance was relatively high. Moreover, the predominant barriers were mostly from socio-cultural and policy-making aspects rather than technical challenges associated with mobile technology interfaces. At this stage, research analysis also highlights the need to expand the research from an educational perspective toward sociocultural and policy dimensions of analysis.

Presenter: Fais Nurul Hadi – Doctor of Philosophy, Milestone Presentation

Title: *Cost-effectiveness of the Birthing in our Community service from birth to age 18 for First Nations families*

Abstract:

The Birthing in our Community (BioC) service in South East Queensland was established to address the rising rates of preterm birth among First Nations families, who have greater healthcare needs compared to babies born at term. The BioC service successfully reduced the odds of preterm birth and was found cost-effective compared to standard care (maternity care provided in the hospital) in the short-term (birth to 28 days). To investigate the cost-effectiveness of the BioC service from birth to age 18 compared to standard care, a decision analytic model was developed. The model estimated the costs to the health system, through analysis of a hypothetical cohort of women having a First Nations baby and utilised Disability Adjusted Life years (DALY) to quantify the burden of preterm birth. A probabilistic sensitivity analysis was conducted to assess for uncertainty in the model inputs. The incremental cost-effectiveness of the BioC service was AU\$16,404.92 per DALY averted. The importance of the BioC service that reduced preterm birth among First Nations families, is observed through this analyses. These results show that the BioC service is cost-effective till age 18, and the reduction of preterm birth achieved through the service is beneficial. The findings of this study could benefit those looking at such services for the future and inform the establishment of similar services beyond South East Queensland.

Presenter: Anvitaa Chadha – Doctor of Philosophy, Full Presentation

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