2025 Higher Degree by Research Conference

Thursday 17
(In-person & Online)

Friday 18 July
(Online)

CHARLES DARWIN UNIVERSITY
AUSTRALIA

CDU Vice-Chancellor and President Professor Scott Bowman

I am delighted to welcome you to the 2025 Charles Darwin University (CDU) Higher Degree by Research Conference. As research students, you are at the heart of our vision to become Australia's most connected university.

Your courage, determination, and commitment to innovation are driving transformative change across the Northern Territory, Australia, and beyond. At CDU, we are proud to support and empower you—our emerging scholars—as the next generation of thinkers, leaders, and creators.

Each year, this conference brings together more than fifty research students from across CDU to share groundbreaking methodologies, transformative ideas, and pioneering research outcomes. This vibrant showcase is a testament to how your work is shaping a brighter, more sustainable future.

With campuses spanning hundreds of kilometres—from Darwin to Katherine, Nhulunbuy to Alice Springs, Sydney, and beyond - we unite a diverse community of scholars from within and outside the Northern Territory in a bold pursuit of innovation and progress.

This year's conference theme, "Higher Degree by Research for Sustainable Futures," challenges us to design our impact from the very start. At CDU, we pursue ambitious, purpose-driven goals that are deeply embedded in our unique context.

We believe that transformative training, education, and research can revolutionise lives and catalyse societal progress. That is why our commitment is unwavering. We ensure that every learning experience is delivered by visionary educators and innovative researchers and that each initiative is accessible, meaningful, and of the highest quality.

What we do isn't just important; it matters deeply to our communities, powering sustainable futures and creating lasting change.

Your innovative insights, bold ideas, and unwavering passion have propelled this program to new heights. You are the catalyst for transformative change, consistently raising the bar of excellence and inspiring progress every day.

You make CDU.

Professor Scott Bowman AO
Vice-Chancellor and President

Deputy Vice-Chancellor Research and Community Connection

At CDU, we don't just conduct research—we tackle the complex challenges facing our communities and remote regions.

As the university for northern Australia, our mission is clear: we drive progress in the fields crucial to regional prosperity, cohesion, wellbeing, and sustainability.

Across our Faculties, Institutes and Centres, our researchers are breaking new ground on the global stage.

From advancing Indigenous and tropical health to exploring environmental science, enhancing AI and cybersecurity, and shaping forward-thinking public policy, our research isn't just breaking barriers—it's crafting sustainable futures.

Our Higher Degree by Research Conference has rapidly become a cornerstone of our annual program, a compelling showcase of research excellence dedicated to nurturing resilience and sustainability.

Here, HDR students are more than mere participants; they are the trailblazing innovators harnessing transformative fieldwork, sharp inquiry, and groundbreaking projects that illuminate the path toward a resilient, thriving future for our communities and the world.

Each year, our conference offers invaluable exposure to student work, creating a vibrant forum for peer feedback and the cross-pollination of ideas.

These events are more than just presentations—they are essential practice grounds where our students refine the presentation skills that will serve them throughout their careers.

Thank you to everyone whose passion and dedication made this year's program an outstanding success.

Professor Steve Rogers
Deputy Vice-Chancellor Research and Community Connection

CDU Dean of Graduate Studies

Higher Degree by Research for Sustainable Futures

Welcome to the 2025 HDR conference – Higher Degrees (by Research) for Sustainable Futures. This year's conference encapsulates the importance of CDU researchers' real-world impacts.

The 1987 Brundtland Report defined sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." Future sustainability therefore depends upon creating economic growth, while ensuring social inclusion and environmental protection.

Almost 40 years on communities and organisations around the world are facing an ever-growing array of urgent economic, environmental, and social sustainability challenges. This is despite over 190 countries signing up to the UN Sustainable Development Goals (SDGs), which were introduced in 2015 to provide a framework for guiding responses to global sustainability challenges.

Now more than ever the world needs its innovative thinkers to come up with solutions to the sustainability grand challenges. Hence this conference.

The conference will help all participants to reflect on their own research, and its contributions and impact in creating positive environmental, economic and social outcomes.

HDR conference presentations are often a starting point in the research dissemination process, serving as practice runs for national and international conferences, as well as platforms for discussing key themes that can be further developed in journal articles.

Effective dissemination also includes promoting research outputs via media, which often kick starts wider interest, debate and citations, as well as leading onto other research opportunities. The CDU media team can assist in this regard, especially if you can relate your research to topical real-life themes. 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 researchers to feature in CDU press releases. Please also feel free to reach out to Raph for media article writing support if you believe you have a newsworthy story.

This year's conference comprises a mix of short and longer presentations. Both provide an opportunity for our HDR students to showcase the importance of their research. We have a range of awards this year including best papers in each track and overall. Most awards are voted by participants so please do engage in this.

Finally, well done to everyone presenting at and attending the conference. It is great to see so many of our HDR students taking advantage of this opportunity to share their research with others. Enjoy!

Professor Steven Greenland
Dean of Graduate Studies

CDU 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**

Centre for creative Futures

At CCF we recognise that the work of making knowledge on these lands has never been contained to publishing in books or other written genres—and that these traditions remain vital and innovative. Inspired by these expressive co-creative traditions and under the guidance of First Nations authorities, CCF researchers employ a range of performative, artistic, and multimodal practices with a future-focused commitment to renewing worlds together.

The NT Academic Centre for Cyber Security and Innovation (ACCI)

The NT Academic Centre for Cyber Security and Innovation (ACCI) is a multidisciplinary research centre works to bridge the social-technical divide between academia, industry, and government, and provide research and training on technical and non-technical aspects to assist in improving cybersecurity and fight against cybercrime.

First Nations Sovereignty & Diplomacy Centre

The FNSDC team coordinate and develops short courses, modules and immersive workshops aiming to introduce the cultures of Indigenous sovereignties in Australia and their distinct ways of making diplomacy in both traditional and contemporary platforms. These courses are great for people working in community development, policy making, organisational management, education and research.

The Northern Institute

The Northern Institute is a hub for research expertise, leadership and impact for stakeholders. Northern Institute's researchers are recognised nationally and internationally as leaders in their fields. Our research teams work through partnership with context experts locally and content experts internationally to bring together a deep understanding of people, policy and place.

Visit their website: **www.cdu.edu.au/northern-institute**

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

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**

Research Institute for Northern Agriculture

The Research Institute for Northern Agriculture (RINA) is addressing the opportunities and challenges of sustaining and developing primary industry in northern Australia with a focus on agriculture, aquaculture and biosecurity research.

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.

Visit their website: **www.cdu.edu.au/risc-centre**

Sustainable Development Goals

Our HDR presentations are themed around the UN Sustainable Development Goals (UNSDGs) https://sdgs.un.org/goals. The 17 UNSDGs are:

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.

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 Yolŋu who are the traditional custodians of the lands upon which our Nhulunbuy centre is located.

We also acknowledge and pay our respect to the Mirrarr (Jabiru), the Kungarakan 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.

Contents

Day 1, Thursday, 17 July 2025

TIME	DETAILS	VENUE
8:45 am	Smoking Ceremony – Nadine Lee	Mal Nairn Auditorium
9:00 - 9:30 am	Welcome to country – Bilawara Lee, Vice-Chancellor – Welcome Address, DVCRCC – Welcome Address	Mal Nairn Auditorium & Online
9:30 - 10:30 am	**Keynote Session** **Topic: HDRs supporting Indigenous communities and organizations in the NT** Yvette Roe (Director Molly Wardaguga Institute for First Nations Birth Rights) & Ruth Wallace (Pro-Vice Chancellor, Faculty of Arts & Society)	Mal Nairn Auditorium & Online
10:30 - 11:00 am	**Morning Tea**	
11:00 - 12:30 pm	**Concurrent HDR Presentations** **Session 1** – Society & Education **Session 2** – Environment &Environmental Sustainability **Session 3** – Society & Health	Mal Nairn Auditorium & Online Casuarina Blue 05.1.01 - Lecture Theatre & Online Red 06.1.01 Lecture Theatre & & Online
12:30 - 1:30 pm	**Lunch Break**	
1:30 - 3:00 pm	**Concurrent HDR Presentations** **Session 4** - Environment, Systems & Impact **Session 5** – Economy, Production & Consumption **Session 6** – Society & Life Quality	Mal Nairn Auditorium & online Casuarina Blue5.1.01 & Online Red06.1.01Lecture Theatre & Online
3:00 pm	**Close of Day 1**	

Session 1: Society & Education

TIME	DETAILS		
15 Minutes		Roopali Misra - FAS	*Customer retention and attrition in higher education: sequential mixed methods investigation at an Australian university*
7 Minutes		Mfona Nakkazi Pauline - FAS	*Empowering young voices: designing didactic tools for early childhood Mambae literacy in Timor-Leste*
7 Minutes		Jiajing Lyu – FAS	*A qualitative study on graduate teachers' mental health and professional growth in Australian regional secondary schools: applied with GenAI chatbot interventions*
7 Minutes		Amy Norman – FAS	*Being, belonging and becoming through PLAY: an affective neuroscience perspective of early childhood social and emotional development*
7 Minutes		Josh Bilam – FAS	*GenAI use in university teaching and learning*
7 Minutes		Ayesha Farhan - FAS	*A framework for cognitive development: fostering critical and creative thinking skills, using iSTEM approach*

Title: *Customer Retention and Attrition in Higher Education: Sequential Mixed Methods Investigation at an Australian University*

Abstract:

Persistently high student dropout has frustrated CDU and universities globally. Annually this dropout costs universities, millions of dollars in lost revenue especially for student segments with the highest dropout (e.g., First Nations, low SES and students from remote and regional areas). Shallow understanding of dropout and universities not responding to the root dropout causes have been identified as the underlying problem. Further research is therefore required to understand these aspects and how they vary across different student segments.

This study addresses these literature gaps. A qualitative phase, conducted via 200 telephone interviews and focus group discussions has redefined the student dropout in higher education for different student segments, including low SES, regional or remote, First Nations, and women. Results from the qualitative phase of the project, provided valuable information about the main reasons for student dropout from units. Thematic analysis done for this phase of the project, highlighted the importance of different intervention strategies that could have helped students to reduce the dropout form the unit.

Information and results from the qualitative phase guided the next phase of this project. A quantitative phase has further enabled statistical modelling of dropout causes and testing for differences between student segments. This phase conducted via online survey has applied the Importance Performance Analysis (IPA) and sought input from students regarding the effective and important retention strategies that will be successful in reducing student dropout.

Results obtained from the two phases of this project, promise to provide invaluable information related to the massive issue of student dropout from Universities around the world. Even though the results are specific to Australian universities but will still provide great indications for understanding this problem in more detail. Results from the intervention part of the survey, would provide critical information that can help universities tailor their support and administrative system to provide timely support to the students and significantly prevent and reduce the dropout.

Presenter: Roopali Misra – Doctor of Philosophy, Full Presentation

Title: *Empowering Young Voices: Designing Didactic Tools for Early Childhood Mambae Literacy in Timor-Leste*

Abstract:

This paper presents a critical examination of a grassroots initiative to design didactic tools aimed at supporting early childhood literacy in Mambae, one of the indigenous languages spoken in Timor-Leste.

Positioned within a sociopolitical landscape where Portuguese and Tetum dominate formal education, Mambae and other minority languages often face systemic marginalization. This linguistic hierarchy contributes to early educational disparities and threatens intergenerational language transmission. Drawing on ethnographic fieldwork and participatory design methodologies, the project collaborates with local educators, caregivers, and storytellers to develop culturally grounded literacy materials. These include illustrated storybooks, oral storytelling activities, and visual aids that reflect Mambae cultural knowledge and linguistic structures. By embedding language learning within familiar cultural contexts, the initiative supports both linguistic competence and cultural affirmation in young learners. Framed through the lens of translanguaging and critical language pedagogy, the paper investigates how these tools function not only as educational resources but also as acts of resistance against dominant language ideologies. The work challenges deficit-based narratives about indigenous languages and illustrates how early childhood education can serve as a transformative space for empowerment and sociolinguistic equity. Findings offer insights into the implications of minority language literacy for broader discourses on decolonial education and language justice. The presentation will share practical strategies and community feedback, highlighting both challenges and successes in designing for linguistic inclusivity in post-colonial educational systems.

Presenter: Mfona Nakkazi Pauline – Doctor of Philosophy, Pitch Presentation

Title: *A Qualitative Study on Graduate Teachers' Mental Health and Professional Growth in Australian Regional Secondary Schools: Applied with GenAI chatbot interventions*

Abstract:

The ongoing teacher shortages in Australia and globally have been exacerbated by the post-pandemic period. This highlights the critical issues within the educational landscape, particularly in regional, rural, and remote (RRR) areas in Australia. This study examines the multifaceted challenges faced by graduate teachers in regional places, including high turnover rate, mental health struggles, and insufficient support systems. High levels of stress, burnout, and mental health issues have been linked to attrition, especially among early career teachers, as current research reveals that early career teachers are more prone to leave their teaching career within their first five years compared to their experienced counterparts. It thus implies an urgent need for effective solutions to enhance teacher retention. With the evolving role of artificial intelligence (AI) in education, particularly Generative AI (GenAI), this research explores the potential of GenAI affordances in providing innovative opportunities for mental health support for graduate teachers in secondary school settings. Previous research indicates that these technological interventions can provide accessible, culturally sensitive, and stigma-free mental health resources, potentially alleviating stress and promoting the well-being of higher education students. To date, however, there is very limited research on the use of GenAI for the purpose of therapy method among graduate teachers in Australia secondary school settings, especially for those who work in regional places. This study thus aims to synthesize existing research on the impact of GenAI in addressing mental health issues such as anxiety, depression, and burnout that graduate teachers face in Australian regional contexts, using qualitative research methods aligned with the grounded theory. Qualitative research involving interviewing secondary graduate teachers combined with their weekly logbook recording will take place in Darwin over the course of one year. By focusing on leveraging GenAI to improve teachers' personal competencies, reduce their work-related stressors, and facilitate cultural understanding, this research might contribute to policy development for fostering an inclusive and supportive educational environment that enhances graduate teacher efficacy and retention especially in Australian regional places.

Presenter: Jiajing Lyu – Doctor of Philosophy, Pitch Presentation

Title: *Being, Belonging and Becoming through PLAY: An affective neuroscience perspective of Early Childhood social and emotional development*

Abstract:

This study explores how affective neuroscience can inform early childhood education by investigating the emotional and developmental significance of play. Building on Jaak Panksepp's (1998) theory of primary emotional systems—particularly the PLAY circuit—the research distinguishes between spontaneous childled play and structured, teacher-guided instruction, addressing how their conflation creates uncertainty in pedagogical practice. The study introduces the PLAY–RfE model (Reading for Emotion; Lian, 2017, 2024), which integrates unstructured play with narrative-based emotional reflection. Using a quasi-experimental, mixedmethods design, it tracks change in children's engagement, emotional regulation, and social understanding across a 20-week period. Findings will inform neuroscience-aligned practices within the EYLF (AGDE, 2022), supporting emotionally attuned, developmentally appropriate education.

Presenter: Amy Norman – Doctor of Philosophy, Pitch Presentation

Title: *GenAI Use in University Teaching and Learning*

Abstract:

With the rapid rise of Generative Artificial Intelligence (GenAI) tools, there is growing concern in higher education about their impact on student learning and academic integrity. Overreliance on GenAI can diminish learner engagement and understanding while also increasing the risk of academic misconduct. This project aims to explore the relationship between GenAI-assisted learning and academic integrity, hypothesising that greater reliance on GenAI will have a negative correlation with both academic integrity and learning outcomes. This study will engage both students and educators at an Australian university through a series of dialogic tasks including think-alouds, ethical scenario dialogues, annotated GenAI reviews, and post-task critical friend interviews. Participants will reflect on their use and experience of GenAI in real time, providing insights into ethical decision-making, learning habits, and perceptions of academic integrity. The study expects to find a spectrum of GenAI use, from heavy reliance with minimal human input to fully independent, learner-driven academic work. It is expected that understanding of academic integrity will vary, with educators having more refined standards and deeper understanding than students. Students may demonstrate greater GenAI fluency, while educators may value long-term learning outcomes over short-term performance. As a third-space professional, supporting both students and educators, this study will inform my own approach to guiding the appropriate use of GenAI in assessments. More broadly, it aims to enhance institutional understanding of GenAI-assisted learning and academic integrity, offering insights for advisors, academic staff, and policymakers navigating the intersection of AI, pedagogy, and student support.

Presenter: Josh Billam – Doctor of Philosophy, Pitch Presentation

Title: *A Framework for Cognitive Development: Fostering Critical and Creative Thinking Skills, Using iSTEM Approach*

Abstract:

As the demand for a future-ready technical workforce intensifies, educational institutions are increasingly focused on equipping students with essential higher-order thinking skills such as critical thinking, problemsolving, and creativity. This study aims to develop a framework to enhance students' cognitive abilities by fostering critical and creative thinking skills. The research will compare two pedagogical approaches: traditional teaching and integrated STEM education, which incorporates the Design Thinking Process, which includes five iterative stages: Empathise, Define, Ideate, Prototype, and Test. Using mixed-methods research design, the study will investigate the impact of transdisciplinary integrated STEM versus traditional education on students' cognitive engagement. Quantitative data will be collected through pre-test and post-tests from middle school students in Darwin, whereas Qualitative data qualitative data will be gathered through semi-structured interviews with middle and high school teachers, who will reflect on the outcome of quantitative data and the effectiveness of each pedagogical approach. The findings aim to inform an educational framework for educators, administrators, and policymakers to implement strategies that nurture higher-order thinking skills in education. This research emphasises the importance of real-world learning, collaboration, and technology integration as key competencies for preparing students for a dynamic, futureoriented workforce.

Presenter: Ayesha Farhan – Doctor of Philosophy, Pitch Presentation

Session 2: Environment & Environmental Sustainability

TIME	DETAILS		
15 Minutes		Girum Gebremeskel Kanno - FST	*Does reusable mean less environmental impact? A systematic review of the environmental impacts of medical plastics, challenges, and gaps*
15 Minutes		Othusitse Lekoko - FST	*Contemporary fire regimes and elephant impacts in Baikiaea-dominated woodlands of the Chobe region, northern Botswana*
15 Minutes		Getahun Mengesha – FST	*Challenges and prospects of cotton farming in the tropics: lessons for northern Australia*
15 Minutes		Jyothi Bhandari – FST	*Enhancing the resilience of the Northern Territory's rain-fed cotton; a comprehensive approach to yield prediction and water management*

Title: *Does reusable mean less environmental impact? A systematic review of the environmental impacts of medical plastics, challenges, and gaps*

Abstract:

The application of medical plastics, such as disposable medical plastics, is increasing and causing different environmental and public health challenges during disposal. The individual and collective environmental impact of these plastics is rarely investigated. This review aims to summarize the environmental impacts of selected medical plastics in the healthcare systems using Life Cycle Assessment (LCA) at different life cycle stages. Five databases, PubMed, MEDLINE, Google Scholar, Science Direct, and CINAHL, were used for the search. The environmental impact of 46 plastic products was summarized at different life cycle stages. The environmental impact for a total of 46 single-use and 17 reusable medical products was assessed at the individual level and using a given functional unit. A wide variation of carbon footprint was observed among the single-use items (0.013-109 kg CO_2 eq.) A single-use operation room bed cover and surgical mask recorded the highest and the lowest values respectively. Similarly, for reusable medical products, the range was 0-19.8 kg CO_2 eq., with the reusable operation room bed covers recorded as the highest and a multi-use blade recorded as having the lowest carbon footprint. In the hotspot analysis, production and sterilization were the main contributors to the carbon footprint of single and reusable medical plastics. This comprehensive review could be used as evidence during procurement and environmental impact assessment at a health facility or national level. It can also be used as input for policymakers in future planning or during revising existing policy documents.

Presenter: Girum Gebremeskel Kanno – Doctor of Philosophy, Full Presentation

Title: *Contemporary fire regimes and elephant impacts in Baikiaea-dominated woodlands of the Chobe region, northern Botswana*

Abstract:

We assess the status of fire regimes in Botswana's premium wildlife eco-tourism Chobe region and ask whether market-based fire management could be applied to support broader ecological fire management and employment outcomes. We: (1) reconstruct fire regimes from the early 1990s coinciding with the cessation of commercial timber exploitation; (2) combine automated MODIS 250m and manually derived Landsat 30m burn scar products to generate a 33year Fire Frequency Index (FFI); (3) classify regional vegetation structural types derived from a 5-year (2021-2024) median early dry season Landsat image; (4) assess dry season elephant population density distributions in relation to fire occurrence. Overall, we report frequent (on average once every 2.5 years) predominantly relatively severe late dry season fires, characteristically in more open-canopied legume-dominated savannas and grasslands in the eastern sector of the region. Dry season elephant distributions were independent of fire occurrence. Wildfires plausibly cause relatively greater impacts to Baikiaea-dominated vegetation macro-structure than elephants. Multiple factors, including national fire exclusion policy, contribute to contemporary fire patterning in the Chobe regional landscape. We suggest that carbon market-based approaches have potential for contributing to ecologically sustainable fire management and local employment opportunities.

Presenter: Othusitse Lekoko – Doctor of Philosophy, Full Presentation

Title: *Challenges and prospects of cotton farming in the tropics: lessons for northern Australia*

Abstract

Cotton is the world's most widely grown fibre crop, providing a livelihood for over 100 million households globally. However, its environmental impact has become a growing concern. This study systematically reviewed published research articles in tropical regions to provide insights into the socioecological risks, challenges, and prospects of cotton production for growers and policymakers. We analyzed peer-reviewed articles published between 2005 and 2024 using qualitative and quantitative approaches (gross margin and break-even analysis). We found that cotton production in tropical regions faces significant hurdles, including extreme and unpredictable climate conditions, biodiversity loss, high carbon and water footprints, rising production costs, and social (health) risks. While organic and rainfed cotton have been proposed as eco-friendly alternatives to irrigated cotton, their lower yields raise concerns about long-term economic viability. We estimate that for rainfed cotton, a yield of 2,000–2700 kilograms (9 – 12 bales) per hectare is needed to offset the environmental opportunity cost of land clearing. Given the low yield of rainfed cotton, averaging 900 kilograms (4 bales) per hectare in the Northern Territory, the opportunity cost of cultivation would be substantial, as it comes at the expense of potential earnings from the emerging Australian Government's Nature Repair Market, which rewards biodiversity conservation. Moreover, large-scale land clearing for cotton in northern Australia may trigger trade restrictions on Australian cotton, particularly in the European market.

Presenter: Gethun Mengesha

Title: *Enhancing the resilience of the Northern Territory's Rain-fed Cotton; A Comprehensive Approach to Yield Prediction and Water Management.*

Abstract:

Australian cotton offers high profitability and the potential of becoming a cornerstone crop in the Northern Territory (NT). Rainfed cotton of NT relies on wet season rainfall, which makes it less water-intensive but more vulnerable to irregular rainfall patterns than irrigated cotton. This research will ameliorate the understanding of the flexibility of cotton crop to water in rainfed conditions of NT and propose development of resilient production system. The study will investigate how the changes in physiological and morphological traits over different growth stages informs post-wet-season water use and quantifies water use efficiency. Also, the project will evaluate the role of mulches and soil amendments in maintaining soil moisture and promoting cotton establishment. The project uses in-field trials with frequent physiological and morphological measurements and volumetric and isotopic analysis ($\delta18O$, $\delta13C$) to quantify water usage and productivity. Simulations will inform the influence of soil temperature and moisture on germination rates. Additionally, the study will explore the effects of mulch covers and amendments on soil moisture regulation, temperature buffering, and yield. This research will (1) Quantify the relationship of key physiological and morphological processes at different growth stages, and 2) demonstrate how changes in soil moisture over the growing period influences cotton establishment and growth and (3) investigate mulching and soil amendment strategies to improve cotton establishment. The findings of this study will offer growers insights into potential crop performance under challenging conditions and guide optimal supplementary irrigation strategies. It will propose improved soil management practices including mulching and amendments to enhance water retention and crop establishment. These advancements will support a more sustainable cotton production system.

Presenter: Jyothi Bhandari – Doctor of Philosophy, Full Presentation

Session 3: Society & Health

TIME	DETAILS		
15 Minutes		Behailu Derseh - Menzies	*Prevalence of prenatal alcohol use among Aboriginal and non-Aboriginal women in the Northern Territory, Australia: estimate from perinatal, emergency, and admission datasets*
15 Minutes		Alexandra Gregory - Menzies	*Meaningful measurement: protocol for a scoping review of parenting measures for Indigenous caregivers*
15 Minutes		Demeke Belay - Menzies	*Incidence and risk factors for mental health-related hospitalisation within the first postnatal year among Aboriginal and non-Aboriginal women in the Northern Territory*
7 Minutes		Abebayehu Zemedkun – FoH	*Exploring pain and frailty among older surgical patients in Ethiopia: association, effects on postoperative pain and clinicians' viewpoints*

Title: *Prevalence of prenatal alcohol use among Aboriginal and non-Aboriginal women in the Northern Territory, Australia: estimate from perinatal, emergency, and admission datasets*

Abstract:

Prenatal Alcohol Use (PAU) has detrimental effects on mothers and children. Robust prevalence estimates and information on associated factors are critical for informing interventions to reduce PAU's health and social impacts. This study aims to determine the prevalence and associated factors for PAU among women living in the Northern Territory (NT). We used individual-level, linked data from the NT perinatal data register, hospital admissions and emergency department presentations to estimate PAU for all 19,588 births to Aboriginal and non-Aboriginal women from 2013-2017. Permutation analysis was used to create four PAU categories – a record of no PAU, early PAU only, continued PAU, and "extreme" PAU. A multinomial logit model was used to explore factors associated with PAU. PAU prevalence for births to Aboriginal women was 13.11% (95% CI: 12.17, 14.04), including 5.91% early PAU, 4.34% continued PAU, and 2.86% "extreme" PAU. The total prevalence for non-Aboriginal women was 2.34% (95% CI: 2.06, 2.63), including 1.73%, 0.53% and 0.08% for each category, respectively. However, 17.97% (n=3520) of pregnancies missed records related to PAU. Age, smoking, and substance misuse-related hospitalisation were associated with an increased risk of PAU among both populations. Being a victim of violence was an additional risk among Aboriginal women. Having more than five antenatal care (ANC) visits was associated with less PAU. The study provides refined prevalence estimates for PAU across groups with increasing risk of harm. Early identification and effective engagement with women at risk of alcohol consumption during pregnancy is critical for improving outcomes for mothers and their children. The response should include targeted interventions to reduce PAU among high-risk women. Strengthening data collection is a core component of an effective response.

Presenter: Behailu Derseh – Doctor of Philosophy, Full Presentation

Title: *Meaningful measurement: Protocol for a scoping review of parenting measures for Indigenous caregivers*

Abstract:

With national attention on developing effective parenting supports and preventative programs for First Nations parents, it is essential to ensure that the measures that programs use to develop program evidence and track parents' progress are valid and meaningful to First Nations parents' experiences. This presentation outlines the protocol for a scoping review that will describe (1) the scope of measures of parenting constructs that have been utilised with Indigenous parents in Australia, the United States, Aotearoa New Zealand, and Canada (CANZUS), and (2) the characteristics of new or adapted measures of parenting constructs in these contexts. Specifically, this scoping review will report on measures that have been used with Indigenous parents over the last 25 years in the CANZUS regions, and articulate the types of parenting constructs measured, the process for development or adaptation, the extent to which Indigenous leadership and perspectives have been included, and the psychometric qualities of measures. This presentation is likely to be of interest to those working in the fields of First Nations health and wellbeing, family support and psychology, as well as lost HDR students wondering where to start with their scoping review.

Presenter: Alexandra Gregory – Doctor of Philosophy, Full Presentation

Title: *Incidence and risk factors for mental health-related hospitalisation within the first postnatal year among Aboriginal and non-Aboriginal women in the Northern Territory*

Abstract:

Aims to estimate the incidence of mental health-related hospitalisation (MHrH) within the first postnatal year, and associated risk factors, among Aboriginal and non-Aboriginal women in the Northern Territory (NT). A retrospective cohort study was conducted for all births to NT resident women from 2002 to 2017. An incident event was defined as a woman having an admission with a primary or secondary diagnosis of a mental health-related condition recorded in the inpatient activity. Modified Poisson regression was used to estimate the association of risk factors with the incidence of MHrH. The rate of any MHrH was 2.00% for births to Aboriginal women and 0.85% for births to non-Aboriginal women. For births to Aboriginal women, factors included prior MHrH (adjusted Incidence Rate Ratio (aIRR): 3.03), MHrH during pregnancy (aIRR: 5.63), alcohol consumption at 1st antenatal care visit (aIRR: 1.78), obstetric complications (aIRR: 1.63), low Apgar scores (aIRR: 1.73), and mothers aged 20-24 years (aIRR): 0.72). For births to non-Aboriginal mothers, factors included prior MHrH (aIRR: 4.26), MHrH during pregnancy (aIRR: 8.00), violence-related admission during pregnancy (aIRR: 3.50), smoking during pregnancy (aIRR: 1.92), labour complications (aIRR: 1.40), and obstetric complications (aIRR: 1.74). The incidence of MHrH within the first postnatal year was higher for births to Aboriginal women compared to births to non-Aboriginal women. For both Aboriginal and non-Aboriginal women, many risk factors associated with MHrH are either preventable or responsive to early intervention. Therefore, a holistic, comprehensive, and integrated healthcare model is needed to offer culturally sensitive services that can effectively identify and address complex risk factors.

Presenter: Demeke Belay – Doctor of Philosophy, Full Presentation

Title: *Exploring Pain and Frailty among Older Surgical Patients in Ethiopia: Association, Effects on Postoperative Pain and Clinicians' Viewpoints*

Abstract:

The combined burden of frailty and chronic pain due to population ageing poses significant challenges to healthcare systems. Studies have shown a bidirectional relationship between chronic pain and frailty, with each condition as a risk factor for the development of the other. In older surgical populations, both have significant perioperative implications, including an increased rate of complications and poor surgical outcomes. However, the prevalence of each condition and their occurrence in hospital settings, particularly among older surgical patients in sub-Saharan Africa, as well as the relationship with postoperative pain, is not well understood. Moreover, the perioperative health professional's perspective on the enablers and barriers of quality postoperative pain management is not well explored. Therefore, the primary aim of this study is to investigate the prevalence, determinants, and impact of preoperative frailty and chronic pain on postoperative pain-related outcomes among older surgical patients in Ethiopia, while exploring the viewpoints of perioperative healthcare providers on opportunities and barriers to quality postoperative pain management. This research is expected to provide an in-depth understanding of pain and frailty, laying the groundwork for large-scale projects and improving perioperative care for older adults, especially in low- and middle-income countries. Additionally, it will provide policy recommendations for perioperative care specifically targeting this demographic in Sub-Saharan Africa.

Presenter: Abebayehu Zemedkun Mekonen– Doctor of Philosophy, Pitch Presentation

Session 4: Environment, Systems & Impact

TIME	DETAILS		
15 Minutes		Candy Duff - FST	*Predicting precipitation isotope values ($\delta 2H$ and $\delta 18O$) in tropical regions using a discontinuous exponential model.*
15 Minutes		Vijayasri Sundarapuram Soundayan - FST	*Machine Learning-Based Optimization of Interleaver Patterns for Parallel Concatenated Block Codes with Arbitrary-Length Message Blocks*
15 Minutes		Porni Mollick - FST	*Integrating Machine Learning and Traditional Ecological Knowledge to Map Wetland Dynamics in Wet-Dry Tropics of Australia*
15 Minutes		Muhammad Umar - FST	*Parametric optimisation of hydrogen gas (H2) production from gasification of different types of biomasses using artificial neural network*

Title: *Predicting precipitation isotope values (2H and 18O) in tropical regions using a discontinuous exponential model.*

Abstract:

The stable isotopic composition of precipitation ($\delta^{18}O$ and δ^2H) is an important tool for hydrological research, with applications ranging from water resource assessment and groundwater modelling to forensics and ecological studies. While global and tropical-scale studies have highlighted the influence of climatic (e.g., convective intensity, moisture source) and geographic (e.g., altitude, distance from coast) drivers on $\delta^{18}O$ and δ^2H variability, data from northern Australia remain sparse. This study addresses that gap by compiling a high frequency $\delta^{18}O$ and δ^2H dataset from seven sites, four or which are previously unsampled, across this under-studied region. Using a discontinuous exponential model enhanced with machine learning, the study will identify convective patterns linked to monsoonal activity and predict $\delta^{18}O$ and δ^2H values at unobserved locations. Isoscapes and local meteoric water lines will be developed to characterise spatial and temporal variation in isotopic composition. Additionally, climate projections will be integrated to assess potential future shifts. The findings will contribute to improved isotope-based modelling in tropical regions and support hydrogeological investigations across northern Australia.

Presenter: Candy Duff – Doctor of Philosophy, Full Presentation

Title: *Machine Learning-Based Optimization of Interleaver Patterns for Parallel Concatenated Block Codes with Arbitrary-Length Message Blocks*

Abstract:

Parallel Concatenated Block (PCB) codes are a class of advanced error protection techniques. These codes employ two linear block codes, linked by an interleaver in the parallel form. The interleaver rearranges the position of original bits for a constituent block code, aiming to mitigate the effect of errors on the performance of the PCB code. Unlike other types of concatenated codes, such as product codes and PolarCyclic Redundancy Check (CRC) codes, PCB codes have a weaker error-correcting capability as some bits of the codeword are punctured. Regardless of this limitation, the parallel-based structure of PCB codes represents low complex and high-rate codes, making them attractive for the high-throughput-based applications. This design trade-off places greater emphasis on the interleaver. To date, PCB codes apply information, whose length is the square of the length of information considered for the constituent encoders. In this case, the minimum weight of the PCB code, represented as an important parameter for determining the error-correcting capability, is obtained from information with weight one. This research presents a novel permutation algorithm for the PCB code, whose length is multiple but not a square of the information length of the constituent codes, where the minimum weight of the PCB code from information with weight greater than one is expected. A machine learning-based approach using the Random Forest algorithm is adopted to optimize the permutation algorithm. Comparative simulations confirm that the PCB codes constructed by proposed interleavers outperform other well-known codes. This is evident for long-length based information.

Presenter: Vijayasri Sundarapuram Soundayan – Doctor of Philosophy, Full Presentation

Title: *Integrating Machine Learning and Traditional Ecological Knowledge to Map Wetland Dynamics in Wet-Dry Tropics of Australia*

Abstract:

Wetlands are critical ecosystems offering significant ecological, cultural, and socioeconomic services. In wet-dry tropical regions, particularly Northern Australia, wetlands face increasing pressures from climate change and anthropogenic activities. The Northern Territory contains largely pristine rainfed, river-fed, and groundwater-fed wetlands, yet they remain understudied due to their complexity, remoteness, and limited historical mapping, with the last major update in 2005. This study investigates wetland dynamics within the Daly River catchment, Northern Territory, integrating Random Forest classification with Traditional Ecological Knowledge (TEK). Time-series analysis from 2017 to 2024 was conducted using Sentinel-2 optical imagery and Sentinel-1 synthetic aperture radar (SAR) data at a 10 m spatial resolution. A range of water, soil, vegetation, and topographic indices (including HAND, slope, and elevation) were incorporated alongside TEK on seasonal wetland dynamics from Indigenous Rangers. The analysis identified seven primary wetland classes - Water, Grass sedge swamp, Forested swamp, Floodplains, Floodplains woodland, Mangroves, and Riparian vegetation - with a cumulative total wetland area increase of approximately 32% since 2017. Observed changes are likely associated with climatic variables such as rainfall variability, rising temperatures, and evaporation rates. Classification accuracy was high across all periods, with overall accuracies of 98% (Kappa 0.97) for 2017–2018, 97% (Kappa 0.96) for 2020–2021, and 98% (Kappa 0.98) for 2023–2024, validated using field observations and TEK. This research demonstrates the value of combining advanced remote sensing techniques with Indigenous Knowledge, providing a replicable model for wetland monitoring and management in tropical regions worldwide.

Presenter: Porni Mollick – Doctor of Philosophy, Full Presentation

Title: *Parametric optimisation of hydrogen gas (H2) production from gasification of different types of biomasses using artificial neural network*

Abstract:

Considering the current environmental crisis, hydrogen gas (H2) can be used as the fuel of the future if it's production will be cost effective and carbon neutral. In this study, extensive literature review has been done to collect experimental data to be used in the training of the artificial neural network (ANN) capable of predicting the H2 yield by taking 14 biomass and process parameters as input. An equation has been obtained from the trained ANN to be used in the optimisation process using the MATLAB®. The developed ANN model can predict H2 yield with good accuracy i.e. regression = 0.967 and average percentage error of 8.63%. Multiple optimised solutions are predicted due to multi-objective optimisation. Results show that in some cases the H2 yield has increased and in some cases input process parameters have been optimised without the change in the H2 yield as compared to experimental H2 yield. This work supports the advancement of biomass-based hydrogen production by optimisation of key process parameters. The outcomes can benefit researchers and industries working on renewable energy and carbon reduction strategies.

Presenter: Muhammad Umar – Doctor of Philosophy, Full Presentation

Session 5: Economy, Production & Consumption

TIME	DETAILS		
15 Minutes		Pradipta Chatterjee - FAS	*Unlocking potential: investigating adoption barriers to metal additive printing using a mixed methodology approach*
15 Minutes		Pranta Barua - FST	*Sunlight-powered cleaning: breaking down industrial dyes with nanofibers*
7 Minutes		Anita Rijal - FAS	*Investigating internal and external factors influencing the development of circular entrepreneurship: a case of the Northern Territory*
7 Minutes		Sachini Sugathapala – FAS	*Towards a global framework: a systematic review of sustainability tourism indicators to inform a performance index*
7 Minutes		Mingliang Yu – FAS	*Influence and acceptance of artificial intelligence-driven digital marketing innovations on consumer behaviour in Chinese e-commerce*
7 Minutes		Chenxiao Yu - FAS	*The impact of accounting harmonisation on stock market convergence among G20 economies*

Title: *Unlocking Potential: Investigating Adoption Barriers to Metal Additive Printing Using a Mixed Methodology Approach*

Abstract:

Adopting metal additive printing (MAP) technology holds transformative potential for various industries, promising enhanced efficiency, customisation, cost-effectiveness, and more sustainable production. However, widespread adoption remains limited despite its advantages due to multiple barriers. Understanding these barriers from the perspectives of different stakeholders is crucial for nurturing innovation and technological advancement. This study employs a mixed-methods approach, combining qualitative interviews with key stakeholders—including manufacturers, suppliers, and end-users—with quantitative surveys to gather comprehensive data and further insight. The qualitative data was analysed thematically, while the quantitative data will be subjected to one-way ANOVA and Tukey HSD tests to identify prevalent trends and correlations. Preliminary findings suggest that the primary barriers to adoption include operational barriers, high initial costs, lack of standardised processes, and limited awareness and expertise among potential users. Additionally, regulatory challenges and concerns about the reliability and quality of MAP-printed parts were prevalent. These barriers vary significantly across different stakeholder groups, highlighting the need for tailored strategies to address their concerns. This research aims to shed light on the multifaceted barriers hindering the adoption of MAP technology. By identifying and understanding these barriers, the study seeks to inform policymakers, industry leaders, and technology developers about the necessary steps to facilitate broader adoption. Ultimately, this work could benefit the manufacturing sector by accelerating the integration of innovative technologies, leading to increased competitiveness and sustainability.

Presenter: Pradipta Chatterjee – Doctor of Philosophy, Full Presentation

Title: *Sunlight-Powered Cleaning: Breaking Down Industrial Dyes with Nanofibers*

Abstract:

This study demonstrates superior photocatalytic performance using electrospun strontium-doped SnO_2 nanofibers. The synthesized one-dimensional nanostructures offer increased surface area, enhanced light harvesting, and improved electron transport pathways compared to conventional nanoparticles. Optimized 1% Sr-doped nanofibers achieved 84.74% methylene blue degradation under visible light, significantly outperforming undoped SnO_2 and its UV activity (69%). Electrochemical analyses revealed Sr doping reduces charge transfer resistance threefold while increasing carrier density. These improvements stem from Sr-induced structural modifications, including increased oxygen vacancies, reduced crystallite size, and higher microstrain. The electrospinning fabrication method enables precise dopant distribution, effectively shifting SnO_2's activity from UV-dependent to efficient visible light degradation of organic pollutants.

Presenter: Pranta Barua – Doctor of Philosophy, Full Presentation

Title: *Investigating internal and external factors influencing the development of circular entrepreneurship: A case of the Northern Territory*

Abstract:

Unsustainable production of goods has resulted in raw material depletion, increased waste, and elevated carbon emissions. Despite circular economy (CE) efforts of recycling and reusing, Australia exhibits the lower recycling rates (4.6%) compared to the global average of 7.2% (DCCEEW, 2024). In addressing these challenges, circular entrepreneurship emerges as a critical solution by unlocking and exploiting CE opportunities that generate ecological, social and economic values. The literature highlights higher recycling rates in urban areas while regional areas have lowest recycling rates, facing additional challenges concerning remoteness, limited recycling facilities and high transport costs. Circular entrepreneurship offers potential solution in mitigating these challenges by identifying business opportunities related to waste, for instance. Existing studies focus on either internal or external factors providing a limited understanding of circular entrepreneurship, while both factors are essential as they influence circular outcomes and each other. Therefore, this study aims to investigate how internal and external factors influence the development of circular entrepreneurship in a regional area by drawing on effectuation theory, institutional theory and network theory. Considering Northern Territory as a case study and employing action research design that includes survey in Phase-1, interviews in Phase-2 and a workshop in Phase-3, this study aims to generate insights into the regional entrepreneurial ecosystem, raise CE awareness among SMEs and involve SMEs in identifying CE opportunities. Moreover, findings can assist policymakers in devising policies and strategies to stimulate circular entrepreneurship. By integrating theories, this study seeks to advance understanding of circular entrepreneurship from individual to regional levels.

Presenter: Ania Rijal – Doctor of Philosophy, Pitch Presentation

Title: *Towards a Global Framework: A Systematic Review of Sustainability Tourism Indicators to Inform a Performance Index*

Abstract:

Tourism sustainability integrates economic, environmental, and social dimensions. Despite its global relevance, there is no standardized framework to assess sustainability across these three pillars, limiting comparability and informed decision-making. This study aims to address this gap by identifying and synthesizing tourism sustainability indicators, laying the foundation for the development of a composite Tourism Sustainability Performance Index (TSPI). For this purpose, a Systematic Quantitative Literature Review (SQLR) was conducted, analysing 120 peer-reviewed articles published between 2002 and March 2025. Following PRISMA 2020 guidelines, the review examined types of indicators used, methodological approaches, geographic trends, and how each study addressed the three sustainability pillars. The findings reveal a strong emphasis on environmental indicators, with 66% of studies adopting an integrated approach across all three pillars.

Quantitative methods dominate (44.2%), followed by mixed methods (36.7%). Research is largely concentrated in Europe and Asia, with significant gaps in contributions from Africa and South America. Key areas identified for future research include indicator standardization, integration of emerging technologies, and regionally adaptable measurement tools. This review provides the necessary groundwork for developing a globally applicable TSPI. By consolidating existing indicators and research trends, it supports the creation of a unified measurement framework that can inform policy, enable global benchmarking, and guide the tourism sector toward more sustainable and data-driven decision-making.

Presenter: Sachini Sugathapala – Doctor of Philosophy, Pitch Presentation

Title: *Influence and Acceptance of Artificial Intelligence-Driven Digital Marketing Innovations on Consumer Behaviour in Chinese E-commerce*

Abstract:

The COVID-19 pandemic has accelerated the shift towards e-commerce, and this trend continues even as countries recover. China, with its high smartphone adoption rate and advanced delivery systems, leads the world in e-commerce, contributing to 50% of global transactions (eMarketer, 2023). As technology advances rapidly, it's essential to understand the impact on consumer behaviour, especially in terms of acceptance and adaptation. With the rise of artificial intelligence (AI) in digital marketing, personalisation has become more prevalent in online shopping experiences (Liu et al., 2022). However, concerns about data privacy, security, and the need for genuine human interaction arise (Hoffman & Novak, 2018). These issues remain prevalent as consumers become more aware of their digital rights and the potential risks associated with online interactions (Smith & Anderson, 2022). This study aims to examine the balance between AI-driven marketing advancements and consumer reactions within China's e-commerce landscape. By employing a mixed-methods approach that combines quantitative survey data and qualitative interviews with e-commerce consumers, the research seeks to address the knowledge gap regarding the impact of AI on online shopping habits and preferences in China. The study will analyse consumer perceptions of AI-driven recommendations, live-streamed promotions, and targeted marketing strategies, identifying factors that contribute to changes in consumer behaviour, particularly in personalisation and interactivity. Findings will benefit retailers, digital marketers, platform developers, and policymakers by offering a deeper understanding of China's e-commerce landscape, contributing to the sustainable growth of this globally significant e-commerce market while balancing personalisation and privacy concerns.

Presenter: Mingliang Yu – Doctor of Philosophy, Pitch Presentation

Title: *The Impact of Accounting Harmonisation on Stock Market Convergence among G20 Economies*

Abstract:

The global evolution of accounting standards has significantly influenced the integration of international financial markets. Among numerous efforts, the adoption of International Financial Reporting Standards (IFRS) stands out as one of the most prominent initiatives for accounting harmonisation practices across countries, which influences stock market integration. This research examines the relationship between the accounting harmonisation and the stock markets' convergence in the G20 nations. Specifically, it explores how the adoption of IFRS affects the co-movement of stock returns and the impact of accounting standards on stock market integration in these large and diverse economies. Meanwhile, our analysis considers how institutional frameworks, enforcement mechanisms, and economic development levels influence harmonisation of IFRS and convergence of stock markets. Employing a combination of econometric methods, including correlation analysis and panel regression models. Furthermore, a correlation index is constructed for each market to quantify its dynamic correlation with other G20 stock markets. Prior IFRS studies focus on developed economies or regional blocs such as the European Union, overlooking global integration dynamics among diverse G20 economies. To address this gap, the present work empirically validates the relationship between IFRS adoption and stock market convergence through the analysis of co-movements in stock market index pairs. We anticipate finding a positive correlation, whereby G20 countries with stronger IFRS implementation illustrate higher levels of stock market co-movement, indicating greater convergence. We expect to provide valuable insights for policymakers, investors, and academics concerned with global financial stability, economic coordination, and accounting harmonisation in enhancing market efficiency.

Presenter: Chenxiao Yu – Master by Research, Pitch Presentation

Session 6: Society & Life Quality

TIME	DETAILS		
15 Minutes		Jonathan Howard - FAS	*Making sense of multilingual contexts: exploring the views of multicultural staff in a resettlement centre in Darwin, Australia*
7 Minutes		Alisha Karki - FAS	*Unveiling the dynamics: a shifting landscape of First Nation women-led enterprise; a case of the Northern Territory*
7 Minutes		Dejen Getaneh Feleke – FoH	*Exploring the barriers and enablers of access to child health care services in Debre Tabor, Ethiopia*
7 Minutes		Hafsa Yousuf Nipa – FST	*Bushfire emissions: evaluating the impact on air quality and human health in the Northern Territory*
7 Minutes		Kavini Welarathne – FST	*Explainable AI in analyzing the nature of Autism and cybercrime conversations on large underground forums*

Title: *Making sense of multilingual contexts: exploring the views of multicultural staff in a resettlement centre in Darwin, Australia.*

Abstract:

The following study will attempt to ascertain the views of multicultural staff in a resettlement centre in Darwin, Australia, with regard to multilingual contexts. In situations where individuals constitute a minority, their voices are often rendered particularly significant. The sensation of power is not experienced. There is a sense of disempowerment, as if one's voice is not heard or acknowledged. Sophia, a multicultural support worker at a resettlement agency in Darwin, Australia, discusses the difficulties and challenges experienced by new humanitarian entrants upon their initial arrival. "When you're the minority your voice is quite... You don't feel powerful. You don't feel like you've got a voice." In this instance, she is recounting an experience she had when she was residing in Tanzania. She describes her efforts to empathize with her clients' experiences, striving to understand their perspectives from their vantage point. The linguistic and cultural barriers experienced by people play a significant role in shaping their perception. Indeed, the experience of being an outsider, a foreigner, a stranger, a migrant, newcomer, an outcast, or an other is a shared experience among millions worldwide, encompassing those who have voluntarily or involuntarily departed their country of origin in pursuit of a new place of residence. This study, which is a component of a doctoral program, is from the perspective of the support workers that provide pathways for those seeking resettlement. The objective of this initiative is to illuminate the challenges and barriers that appear insurmountable to those seeking refuge, and at times, engender feelings of unwelcoming, neglect, and a sense of being in a position where they would prefer to move on. In the domain of humanitarian assistance, language functions as a pivotal factor in the way recently arrived humanitarian entrants navigate their resettlement processes. This phenomenon is particularly salient in contexts where individuals have been detained or confined in camps within host countries for extended periods, often spanning decades.

Presenter: Jonathan Howard – Doctor of Philosophy, Full Presentation

Title: *Unveiling the Dynamics: A Shifting Landscape of first Nation Women-Led Enterprise; A Case of the Northern Territory*

Abstract:

Women-led enterprises are significant accelerators for equitable economic growth; however, they consistently function under structural and sociocultural limitations, across remote and regional territories like the Northern Territory (NT), Australia. First Nations women entrepreneurs faced additional obstacles influenced by a colonial legacies, systemic injustices, and traditional responsibilities. Regardless their major contributions to social stability, livelihoods, and creativity many women continue to be marginalized and not adequately embraced within standard economic frameworks. The study aims to explore challenges and opportunities for female-owned enterprises in Darwin, NT, with a special focus on First Nations women. The study will adopt an integrated methodology, including a literature review and a set of survey questionnaires, to investigate female entrepreneurs' strategies in response to gender disparities, economic inequalities, and policies. At least 30 women entrepreneurs from various sectors, including education, health care, textiles, and hospitality, are expected to participate. This study aspires to influence policy makers, entrepreneurial frameworks, and academic dialogue on gender inclusive entrepreneurship by offering a broad understanding of the real-world circumstances of women entrepreneurs, especially those from indigenous community. The findings could aid community-based organizations dedicated to equitable economic participation, development organizations, and legislators.

Presenter: Alisha Karki – Master by Research, Pitch Presentation

Title: *Exploring the Barriers and Enablers of Access to Child Health Care Services in Debre Tabor, Ethiopia*

Abstract:

Access to high-quality health care substantially influences the survival of under-five children. In Ethiopia, the use of health care services is notably low, exposing children to a higher risk of morbidity and mortality. Previous research demonstrates that child mortality is reduced with improved access to child health care services. However, no studies have explored the barriers and enablers to under-five children's access to healthcare services in the Ethiopian context. This research aims to identify barriers and enablers to accessing child health care services and to understand parents' lived experiences accessing child health care services in Debre Tabor, Ethiopia. This research uses the Levesque et al. (2013) Access to Health Care Framework to guide the research. Qualitative methodology uses an exploratory study design to understand healthcare professionals' views and perceptions of barriers and access to child health services, and a phenomenology study design to understand the lived experience of accessing child health services. This study research will address critical gaps by identifying enablers and barriers to access to child health care services. This body of research will offer actionable insights to inform and guide local and national stakeholders, including policymakers, healthcare program managers, healthcare professionals, educators, and researchers, in developing targeted interventions to improve the accessibility to child healthcare and enhance child health outcomes in Ethiopia or other low- and middle-income countries.

Presenter: Dejen Getaneh Feleke – Doctor of Philosophy, Pitch Presentation

Title: *Bushfire Emissions: Evaluating the Impact on Air Quality and Human Health in the Northern Territory*

Abstract:

The Northern Territory (NT) of Australia experiences frequent bushfire events, particularly during the dry season (May-October). The region's climatic conditions promote rapid vegetation growth during the wet season, contributing to high fuel loads in the dry season. Early dry season burns are often implemented to reduce the risk of more intense wildfires later in the season. However, both early and late dry season fires release substantial amounts of smoke, including fine particulate matter ($PM_{2.5}$ and PM_{10}), which can significantly degrade air quality and pose serious public health risks. This study investigates the emissions from bushfire smoke and evaluates their impact on air quality and respiratory health outcomes across the NT. Using data from 2021 to 2024, the research integrates satellite-derived fire data, ground-based air quality monitoring records, meteorological datasets, and hospital admissions data. The methodology includes spatial analysis of fire hotspots, temporal assessments of particulate matter, and statistical correlations with hospital admission records for respiratory conditions. Although data analysis is ongoing, early observations suggest a likely link between intense fire activity and elevated particulate pollution, might exceeding national air quality standards. These pollution events appear to align with spikes in hospital admissions for respiratory issues, particularly among remote and Indigenous communities, who are disproportionally exposed due to both proximity and the use of cultural burning practices. The outcomes of this research are expected to inform more effective air quality management, public health responses, and policy frameworks aimed at reducing the health burden of bushfire smoke exposure in the NT.

Presenter: Hafsa Yousuf Nipa – Master by Research, Pitch Presentation

Title: *Explainable AI in Analyzing the Nature of Autism and Cybercrime Conversations on Large Underground Forums*

Abstract:

The increasing prevalence of Autism Spectrum Disorder (ASD) has sparked important discussions about its relationship with cybercrime. However, prior research on this connection has produced conflicting findings. Some studies suggest that individuals with autism may be more prone to cybercrime, while others indicate a lower likelihood of engaging. This contradiction highlights the complexity of the relationship between autism and cybercrime, emphasizing the need for a deeper investigation. Cybercrime forums serve as platforms for discussing illicit activities, including autism-related cybercriminal behaviour, with active participation from genuine actors. This study leverages Explainable AI (XAI) techniques to analyse large underground forums, uncovering the linguistic and sentiment patterns in autism-related discussions. Using Natural Language Processing (NLP), the research aims to extract insights from these conversations while ensuring transparency in AI-driven analysis. Previous studies indicate that autism-related terms are often associated with negative connotations. While acknowledging these associations, it is essential to recognize that individuals with autism may still be inadvertently involved in cybercrime discussions. A comprehensive examination will provide a more accurate understanding of the interactions between cyber criminals with autistic individuals, investigating the types of computer-related offenses, topics, tools, and techniques used in these spaces. The proposed research aims to contribute to cybercrime prevention and protect vulnerable individuals, fostering safer online environments. Furthermore, the study's outcomes will inform the development of policies that protect autistic and neurodiverse individuals in cyberspace.

Presenter: Kavini Welarathne – Doctor of Philosophy, Pitch Presentation

Day 2, Friday, 18 July 2025

TIME	DETAILS	VENUE
9:00 – 10:00 am	**ADR Panel Discussion** **Topic:** Essential strategies for PhD success (completions, publications & career advancement) – ADR & supervisor perspective **Panel Speakers:** Vinuthaa Murthy (ADR FST), Adelle Sefton-Rowston (ADR FAS), Kim Caudwell (ADR FoH) and Menzies ADR Delegate	Online
10:00 - 10:30 am	**Break**	
10:30 - 12:00 pm	**Concurrent HDR Presentations** **Session 7** – Society & Health **Session 8** – Environment & Society	Online
12:00 - 1:00 pm	**Lunch Break**	
1:00 - 2:30 pm	**Concurrent HDR Presentations** **Session 9** – Society & Education **Session 10** – Communication, Culture & Behaviour	Online
Thank You!		

Session 7: Society & Health

TIME	DETAILS		
15 Minutes		Annabel Tafe - FoH	*Reflective clinical supervision in midwifery*
15 Minutes		Rachel Buckley - Menzies	*Using participatory action research to co-design an emergency department model of care for youth in Australia's Northern Territory*
15 Minutes		Yuko Matsuoka – Menzies	*Reflexive adaptations in the field: navigating on-the-ground realities in field research*
7 Minutes		Ruth Hitchins – Menzies	*Flying for life in Timor-Leste: characteristics of aeromedical retrievals and model of care*
7 Minutes		Suellen Skinner - FoH	*Proposal for a co-designed Tai Chi Intervention for breast cancer patients in regional Australia*

Title: *Reflective clinical supervision in midwifery*

Abstract:

Reflective clinical supervision (RCS) is frequently recommended as a strategy to sustain the well-being of midwives, and to support quality midwifery care. RCS is however not offered routinely to midwives in Australia. Current RCS models used in midwifery vary, and their application is inconsistent. Evidence of best practice is scarce, particularly for models that name cultural safety and trauma informed practice as key principles. To map the extent of literature on models and frameworks of RCS for midwives that embed concepts of cultural safety and trauma informed practice, identifying key characteristics and knowledge gaps to guide future research. A scoping review of the literature was conducted on models and frameworks of RCS for midwives in accordance with the JBI methodological guidance and reported in line with the PRISMA-ScR. Sources of gray literature were included in the search. Results will inform a mixed methods research project aiming to explore the elements required to establish and sustain a RCS model for midwives providing midwifery continuity of carer for First Nations women. This scoping review identified six key characteristics of midwifery models of RCS: trusting alliance, safe reflective environment, session structure, supervisor characteristics, functions and guided reflection. There are no models of RCS specific to the Australian midwifery context, nor do any embed concepts of cultural safety or trauma informed practice. Addressing institutional racism and the establishment of a culturally safe midwifery workforce are national priorities, as unsafe care leads to poorer outcomes for First Nations mothers and babies.

Presenter: Annabel Tafe – Doctor of Philosophy, Full Presentation

Title: *Using Participatory Action Research to Co-Design an Emergency Department model of care for youth in Australia's Northern Territory.*

Abstract:

Youth in the Northern Territory (NT), particularly First Nations youth, have high rates of Emergency Department (ED) visits and hospitalisations and experience some of the highest rates of mental health-related hospitalisations, child protection, and youth justice involvement in the country. There are unique opportunities for prevention and linkages to care; however, ED's are often not designed or equipped to adequately address the needs of young people. This research describes how to co-design a new ED model of care using Participatory Action Research with young people, their voices, experiences, and perspectives central to the design. Our approach aimed to ensure that Indigenous Knowledges guided the design and were applied in a way that serves all young people. The co-design process took place over eight workshops, alongside PAR qualitative work with youth in the community and the ED workforce to create a novel model of care to be piloted for youth accessing the ED. Values and principles outlined the co-design team's approach to the PAR project, and naming our priorities provided a framework to guide the co-design. Other activities included understanding the ED environment, analysing NT health data, journey mapping, and a QI initiative. The co-design team also assisted in designing focus group guides and knowledge translation of qualitative research, adapting, changing direction, and refining the model based on findings. Our project demonstrates how PAR and co-design can create contextspecific knowledge production and tailored solutions for healthcare innovation. It highlights the potential for inclusive youth-led designed healthcare models to drive meaningful change in a Western health system whilst focusing on Indigenous knowledges and youth leadership.

Presenter: Rachel Buckley – Doctor of Philosophy, Full Presentation

Title: *Reflexive Adaptations in the Field: Navigating On-the-Ground Realities in Field Research*

Abstract:

Fieldwork in health research often reveals complex realities that challenge the assumptions outlined in he study protocol. Whilst adhering to pre-determined guidelines, researchers must practice reflexivity and adapt to emerging challenges – particularly in cross-cultural settings. This presentation reflects on practical challenges and complex realities encountered during fieldwork exploring the experiences and relationships of Community Health Volunteers in a non-government tuberculosis (TB) project in Zambia. During a 3-month period of fieldwork, in-depth interviews were undertaken with over 70 diverse TB project stakeholders from the community and health system in four public health facilities and their catchment areas. Supplemental data comprised observations, journaling, and TB project reports. Continuous reflexivity was used to guide adaptive decision-making in response to emerging challenges in the field. Methodological adaptations were made in response to real-world challenges. These included adapting consent procedures to prioritise participant understanding over formality, adjusting recruitment strategies to ensure broad representation, and refining interview guides to better elicit responses. Language use and transcription processes were negotiated with local researchers, balancing representation with cultural sensitivity. Power dynamics and insider-outsider positionality required reflexivity where participants expressed contradictory narratives or showed hesitancy linked to trust, stigma, or spiritual beliefs. Methodological adaptations reflect the importance of responsive, context-sensitive research practice. As living frameworks, ethics protocols guide principled action in complex environments. Reflexivity, flexibility, and respect for local ways of working are necessary to achieve ethical and analytical quality of field research, particularly in cross-cultural contexts involving diverse actors and layered power relationships.

Presenter: Yuko Matsuoka – Doctor of Philosophy, Full Presentation

Title: *Flying for life in Timor-Leste: Characteristics of aeromedical retrievals and model of care.*

Abstract:

The world's largest humanitarian not-for-profit airline, Mission Aviation Fellowship (MAF), is the sole aeromedical retrieval provider in Timor-Leste, where it has been providing emergency services for patients and their families from remote and isolated regions since 2006. Till now, there has been no research describing the characteristics and clinical outcomes for aeromedical retrieval (AR) patients from remote locations in Timor-Leste, nor any analysis of AR system strengths and weaknesses and how it could be strengthened. This study aims to describe patient characteristics, referral reasons and survival outcomes for AR patients in Timor-Leste between 2023-2024. It will then investigate how AR practices can be improved to enhance quality of care for patients and their families. A mixed methods approach will be used. In Phase 1 retrospective individual-level administrative data will be analysed using quantitative descriptive statistics: demographic characteristics of AR patients by District; reasons for referral using an adapted International Classification of Diseases (ICD-11) framework; and survival outcomes. Phase 2 will describe the AR model used in Timor-Leste, and semi-structured interviews will be conducted to better understand which AR structures and processes currently work, which don't work well, and what could be done to improve the AR process and outcomes. This study will inform best practice guidelines in a developing country and raise awareness of the issues impacting service delivery in a low resource context.

Presenter: Ruth Hitchins – Master by Research, Pitch Presentation

Title: *Proposal for a co-designed Tai Chi Intervention for breast cancer patients in regional Australia.*

Abstract:

Breast cancer occurs widely in the community and as treatments improve, more people survive the disease, often experiencing debilitating side-effects such as fatigue, depression and sleep disturbance. Preliminary evidence from a pilot study in China identified a Tai Chi protocol for breast cancer survivors that effectively reduced these side-effects. My study aims to examine how to adapt the Tai Chi protocol to a community health setting in regional Australia using a Co-design approach, followed by a small pilot trial of the adapted TC intervention to assess its acceptability. Gathering local knowledge from both consumers and cancer care providers will guide the development of the TC intervention to fit the context of the local community. This project hopes to demonstrate the feasibility of delivering TC to BC survivors in a regional Australian community and identify any cross-cultural challenges. We also anticipate finding positive clinical outcomes for the trial participants, supporting the case that TC is beneficial for BC patients. Although Tai Chi is recommended in Australia for breast cancer recovery, the evidence base is not yet strong. This study will lay the foundation for larger scale research to strengthen this evidence, as well as broaden the research into Tai Chi as an adjuvant intervention for all stages and types of cancer.
Presenter: Suellen Skinner – Doctor of Philosophy, Pitch Presentation

Session 8: Environment & Society

TIME	DETAILS		
15 Minutes		Kinley Wangchuk - FAS	*Addressing Bhutan's environmental challenges: pursuing climate justice and reparative action from China and India*
7 Minutes		Maria Sadiq – FAS	*Promoting sustainable behaviours among internal customers in construction industry of Australia*
7 Minutes		Maddison Stuart – FST	*Understanding buffel grass invasion for reptiles*
7 Minutes		Judy Harrison – FAS	*Can remote area and rural discrimination be recognised?*
7 Minutes		Elena Turner - FAS	*Theoretical framework mapping barriers of passive house adoption in Australia*

Title: *Addressing Bhutan's Environmental Challenges: Pursuing Climate Justice and Reparative Action from China and India*

Abstract:

In 2023 alone, China's fossil fuel emissions increased by 458 million metric tons, India's by 233 million metric tons, and global aviation emissions increased by 145 million metric tons (Borenstein, 2023). Nestled between these two major carbon emitters, Bhutan, renowned for its dedication to environmental conservation as a carbon-negative nation, confronts a pressing challenge — carbon incursion. Despite its sustainable practices, guided by the development philosophy of Gross National Happiness, Bhutan struggles with transboundary pollution, mainly from China and India. The consequences are evident, from receding Himalayan snows due to heatwaves, shifting seasons, to the drying up of the water sources, and other ecological degradation. For instance, in early May 2024, Bhutan experienced severe pollution, forcing a group of tourists to abort their landing at Paro International Airport. This underline growing threat to the tourism sector, the nation's second largest contributor. Although Bhutan receives compensation, notably through the Green Climate Fund (GCF), the funds are insignificant as compared to the environmental and livelihood damages it sustains. Additionally, in absence of climate governance and agreement involving Bhutan, China, India, and the neighbouring countries, Bhutan's climate grievances remain unredressed. Therefore, this research will highlight the pressing need for China and India, and the global community, to adequately finance Bhutan's climate efforts. These mutually beneficial compensations should encompass climate and wildlife assistance, socio-economic grants, as well as carbon trading among other measures, for supporting reparative actions, restoring damaged ecosystems, and supporting affected communities in mitigating the impacts of climate change.

Presenter: Kinley Wangchuk – Doctor of Philosophy, Full Presentation

Title: *Promoting sustainable behaviours among internal customers in construction industry of Australia*

Abstract

This paper presents a framework-based systematic review of existing research to understand the sustainable behaviours of internal customers in the construction industry. The TCM framework is adopted to provide an organized review of the theory, context, and methods used in the articles under review. Antecedents, decisions, and outcomes in the context of promoting sustainable behaviours among internal customers are also discussed in detail using the ADO framework. The review aggregates a large number of unique antecedents derived from 61 relevant articles and classifies them into four broad categories. Finally, TCM and ADO frameworks are used to identify research gaps in the existing literature on sustainable behaviours in the construction industry. Some of the important future research avenues, especially from the perspective of green human resource management (GHRM) practices, environmental-specific transformational leadership, and sustainability performance, are then explored.

Presenter: Maria Sadiq

Title: *Understanding buffel grass invasion for reptiles*

Abstract:

Buffel grass has historically been viewed mainly as a high value pastoral grass, however, increasing evidence indicates that it has become a prolific weed across Australia's interior. It has been linked to changes in reptile community structure and condition, yet the mechanisms behind these changes are poorly understood. I aim to assess how buffel grass invasion alters the abiotic and biotic factors that influence reptile communities. Habitat structure, thermal environments and predator prey interactions will be assessed in conjunction with the condition and composition of the reptile community in buffel invaded and non-invaded mitchell grasslands and gidgee woodlands. Habitat preferences of generalist and specialist taxa will then be assessed through a mesocosm experiment to experimentally determine what factors drive habitat selection. Reptile community composition and condition is expected to be greater in non-invaded habitats due to potentially greater prey availability and diversity, and more optimal thermal regimes. Predation risk is expected to be greater in native habitats with reduced ground cover, however, increase mobility through the environment is expected to mitigate predation pressure. Within mesocosm experiments, reptiles are expected to actively select away from buffel grass for native habitats, with preference to be driven by more favourable habitat structure and thermal conditions in native grasses. This research will finally identify how abiotic and biotic changes to the landscape impact reptile communities and inform land management. In a country where buffel grass eradication is impossible, effective management is vital to ensure biodiversity persists in increasingly invaded landscapes.

Presenter: Maddison Stuart – Doctor of Philosophy, Pitch Presentation

Title: *Can remote area and rural discrimination be recognised?*

Abstract:

This research examines how current treatment of 'remote' and 'rural' areas in human rights and antidiscrimination norms are under-optimised for human rights in these areas. The research centres on exploration and theory building through dialogical inquiry with: • human rights-engaged ACCO and nonACCO NGOs (national and NT) • human rights regulators (national and NT) • Northern Australia scholars, and • diverse peers (domestic and international) for participatory rights framing gap analysis and e-atlas making. This non-representative, qualitative mapping of the regime complex of 'remote' area and 'rural' rights governance, will help illuminate how normative practices and instruments to advance human rights are allowing injustice to make its way through. Using actor-network theory to consider this injustice as actor, the characteristics of this 'remote' area and 'rural' discrimination ('RARD') towards these populations will be visceralised. For example, situations where RARD advances purportedly inclusive words like 'for all' in advocacy or normative artefacts, onto-epistemically negating any reason to visibilise geo-demographic subalternisations. How RARD convinces contributors, legislators and international human rights drafters, is quite remarkable - revealing RARD as successful, mobile, seemingly immutable, discriminatory, logic. The research aims to increase the contributions of theory, language, imagination, arguments and tools to counter domestic and international practices of remote and rural area human rights derailment, attenuation or extinguishment. Chronic shortfalls in duty-bearer responses to poverty and living conditions in these areas will be de-reasonablised. Human rights norms and practices will be challenged to become de-coopted from peripheralizing and penalising practices, to enact de-subordinating solidarity with remote and rural populations.

Presenter: Judy Harrison – Doctor of Philosophy, Pitch Presentation

Title: *Theoretical Framework Mapping Barriers of Passive House Adoption in Australia*

Abstract:

Adopting an appropriate Passive House solution is not only an essential task of its climatic sustainable ambition, but also a key process in the successful adoption among consumers. The fundamental challenge is to recognise the possible barriers in the process of Passive House transition and adoption, which leads to a full understanding of the supporting resources required to overcome these obstacles and facilitates decision-making on adoption among consumers. This work aims to establish a comprehensive barrier identification framework for Passive House at the consumer level. The framework consists of two dimensions, including user characteristics and Passive House features, which are derived from the innovation diffusion theory and technology acceptance model. The proposed framework argues that indicators such as complexity, visibility, triability, awareness and knowledge are deemed as obstacles to Passive House adoption. The model will be tested via 535 questionnaires with existing and potential building consumers across all Australian states and territories to identify factors which influence housing attitudes and behaviours in relation to the adoption of high-performance buildings. The proposed framework will provide a systematic starting point for answering critical questions about factors shaping consumer Passive House adoption decisions, thereby developing effective strategies towards sustainable housing decisions.

Presenter: Elena Turner – Doctor of Philosophy, Pitch Presentation

Session 9: Society & Education

TIME	DETAILS		
15 Minutes		Isabelle Lys – FAS	*The Australian graduate certificate in higher education: is it more than just a tick box?*
7 Minutes		Shelly Rampal - FAS	*Humility in education: professional learning and wellbeing practice*
7 Minutes		Jonathan Woolven – FAS	*Education in emergencies: how does game-based learning affect South Korean students taking EFL lessons?*
7 Minutes		Fahmida Yasmin Chowdhury – FAS	*Lexical patterns in academic book reviews: a corpus-based study of evaluative language in applied linguistics*
7 Minutes		Hashani Kodithuwakku Arachchige - FAS	*The verbotonal method: its development and application in enhancing English fluency among Sri Lankan secondary students*
7 Minutes		Vanessa Lea – FAS	*Shining a light on short-lived solar: the lives, lifespans and afterlives of off-grid solar in Madagascar*

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 capability, 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. Generally, GCHE graduates provide feedback 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). To date, there is 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 three 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), GCHE course content, 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 respectively) 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/development activities for higher education academic staff.

Presenter: Isabelle Lys – Master by Research, Full Presentation

Title: *Humility in Education: Professional Learning and Wellbeing Practice*

Abstract:

'Humility in Education: Professional Learning and Wellbeing Practice' reflects a dedicated partnership between two educational organisations, a university in Northern Australia and one of the high schools in Northeast America, to explore how humility can be practiced in the high school classrooms. Student behaviours (Spaulding et al., 2010), microaggressions in schools (Banks et al., 2022) and social vigilantism (Saucier & Webster, 2009) among youth have been challenging and need to be addressed with the development and implementation of humble pedagogical practices (Gregory, 2014; Worthington & Allison, 2018; Clemente, 2023). This research conducted a five-phase Participatory Action Research with the high school learning community. High school certified teachers and non-certified staff were invited to participate in developing and implementing the practices of humility in the classrooms. The study used multiple qualitative data collection methods, including research group thinking labs, surveys, a sevenweek intervention, overt observations, student exit slips, participant interviews and focus groups. Content analysis and thematic coding of the preliminary data suggest that following research workshops and professional development sessions, the research group confidently addressed the strangeness associated with the teaching of humility and meticulously designed and implemented lessons using various pedagogical strategies and teaching methodologies. Students were receptive and highly engaged. However, a seven-week intervention was a relatively short period for implementing the humility lessons to reinforce and cultivate the sustainable expression of humility among students. The study proposes implications for future research, training, policy and DEI practices.

Presenter: Shelly Rampal – Doctor of Philosophy, Pitch Presentation

Title: *Education in Emergencies: How Does Game-Based Learning Affect South Korean Students Taking EFL Lessons?*

Abstract:

Emergency education brings into focus assumptions about the role of digital technology in facilitating communication. During a disaster, redundant communication technology may be more reliable and widely accessible to different communities. During the COVID-19 pandemic, South Korean schools used various media to educate and connect with students. Students suffered from stress (Im & Jeong, 2021), loneliness (Han & Lee, 2021; Lee, 2023), and decreased motivation and engagement (Choi et al., 2024; Kim, 2021). Teachers felt unprepared for distance education and wanted methods to stimulate interaction and learning (Kwon, 2021; Lee, 2023). Researchers (Han & Lee, 2021; Kim, 2021) have explored the challenges of using different media during the pandemic and offered recommendations for online learning (Choi et al., 2024). However, research is needed to explore methods for improving student well-being across a range of media. This research will investigate whether game-based learning (GBL) can mitigate the problems of motivation, engagement and learning achievement for primary school students taking paper, TV broadcast and online lessons. The research will be conducted in South Korea with sixty-four primary school students taking a two-week EFL course. GBL theories will be used to create original GBL activities. Quantitative data will be gained from questionnaires and achievement tests. A case study will use interviews with eight students to develop new themes. Together, this data will give a broad understanding of how GBL affects students. Ultimately, the research will offer policymakers and educators insight into whether GBL can benefit all children, regardless of how they access emergency education.

Presenter: Jonathan Woolven – Doctor of Philosophy, Pitch Presentation

Title: *Lexical Patterns in Academic Book Reviews: A Corpus-Based Study of Evaluative Language in Applied Linguistics*

Abstract:

Academic Book Reviews (henceforth ABRs) serve as a key evaluative genre in scholarly communication that allows reviewers to appraise knowledge, articulate stance, and align with disciplinary norms (Martin & White, 2005; Hyland, 2000; Motta-Roth, 1998). In this conference presentation, I focus on the second research question of my PhD project, which investigates the evaluatively loaded lexical patterns, such as frequent lexical items, collocations, and word clusters present in ABRs in Applied Linguistics. This study explores lexical patterns through a corpus-based approach (McEnery & Hardie, 2012; Biber, Conrad, & Reppen, 1998). A curated dataset of ten book reviews, drawn from two top-tier journals—Journal of Applied Linguistics and Journal of Second Language Writing—was analysed using corpus tools —AntConc and Sketch Engine. The findings reveal that high-frequency words carrying stance or evaluation are valuable, insightful, innovative, and comprehensive, while salient word clusters that appear are the book provides, a valuable contribution and critical reflection on. Sketch Engine found recurring collocations such as robust framework, clear argument, comprehensive review, and thoughtful analysis. Most frequent collocates of a specific word, such as 'chapter', are informative, detailed, rich, and uneven. The extensive exploration of lexico-grammatical patterns offers precise comprehension of evaluative language and genre-specific wordlists for L2 writers.

Presenter: Fahmida Yasmin Chowdhury – Doctor of Philosophy, Pitch Presentation

Title: *The Verbotonal Method: Its Development and Application in Enhancing English Fluency among Sri Lankan Secondary Students*

Abstract:

This presentation introduces the Verbotonal (VT) method, an innovative, student-centred approach to enhancing language fluency and intonation, which has shown promising results in improving English pronunciation and fluency skills among learners in China. Rooted in the understanding of auditory perception and the concept of the divided brain, the VT method leverages each hemisphere's distinct functions respectively—utilizing the left hemisphere's analytical abilities alongside the right hemisphere's holistic processing—to facilitate more effective language acquisition through auditory cues. Given the challenges faced by Sri Lankan secondary students in mastering English fluency due to native language interference, this study aims to explore the application of the VT method within the Sri Lankan context. The approach emphasizes active student engagement and perceptual training to improve pronunciation accuracy, rhythm, and stress patterns, addressing key difficulties in English language acquisition. By sharing the theoretical foundations of the VT method and its demonstrated outcomes abroad, this presentation sets the stage for a proposed study to evaluate its effectiveness in Sri Lanka. This foundational work hopes to inspire further research and innovative language teaching practices tailored to the needs of non-tonal language learners.

Presenter: Hashani Kodithuwakku Arachchige – Master by Research, Pitch Presentation

Title: *Shining a Light on Short-lived Solar: The lives, lifespans and afterlives of offgrid solar in Madagascar*

Abstract:

Off-grid solar (OGS) products are increasingly prevalent throughout Sub-Saharan Africa, with significant growth in product distribution since 2010, and continued growth expected in the coming decade (Lighting Global, 2020; Lighting Global/ESMAP et al., 2022b). OGS products, such as solar lamps and solar home systems, tend to have short lifespans of a few years, prompting questions such as 'What can be done to extend product lives?' and 'What happens to broken products in contexts where policies or infrastructure for hazardous and non-hazardous waste management are limited?'. To seek to answer such questions, I am interviewing OGS users, distributors, and repair technicians in rural and urban areas in southern Madagascar, and making observations of usage behaviour, repair techniques and disposal practices. Initial results indicate that villagers are embracing unbranded solar technology, cobbling together basic solar home systems to provide limited electricity. Issues are frequently encountered, with components such as batteries requiring replacement every one to two years. User behaviour is likely to have a significant effect on product lifespans. Where possible, users tend to attempt their own repairs, before reaching out to self-taught repair technicians who use rudimentary tools. While old batteries are collected and exported for recycling, other unrepairable products sit in people's homes in the hope that one day they will be fixed or otherwise considered valuable. The research findings may have implications for policymakers, product designers, and development practitioners working to promote renewable energy solutions and achieve the United Nation's Sustainable Development Goal 7: affordable and clean energy.

Presenter: Vanessa Lea – Master by Research, Pitch Presentation

Session 10: Communication, Culture & Behaviour

TIME	DETAILS		
15 Minutes		Lucy Stewart - FST	*Creative communicators, fostering wider understanding of cultural landscapes in Mparntwe (Alice Springs)*
7 Minutes		Jessica Conroy - FoH	*Invisible workers in paradise: mental health and psychosocial safety in island tourism enclaves*
7 Minutes		Tainah Facanha – FAS	*Living heritage: between narratives and architectures around St Mary's*
7 Minutes		Sidra Munawar – FAS	*Determinants of hotel guests' sustainable behaviours: evidence from an emerging economy*
7 Minutes		Thi Tuyet Anh Nguyen – FAS	*The impact of ESG practices on corporate valuation: Evidence from annual reports*
7 Minutes		Xiao Xiao - FAS	*Visualizing Kakadu national park from the perspective of Chinese landscape painting: a cross-cultural practice*

Title: *Creative communicators, fostering wider understanding of cultural landscapes in Mparntwe (Alice Springs)*

Abstract:

Sacred Sites are an integral part of cultural continuance for Aboriginal custodians in Mparntwe (Alice Springs), the apmereke artweye (traditional custodians) of Mparntwe have an unbroken custody of their traditional lands and it is their sacred duty to care for and protect their Sacred Sites. With unrelenting pressure on and damage to sites, custodians have joined forces with the arts community to increase understanding and awareness of their role in protecting their sites. Social issue storytelling, cultural interpretation and a longitudinal respectful collaboration is the basis for this unique project. Led by senior custodian Doris Stuart Kngwarreye, the Alice to Mpantwe sacred sites bus tours for creative communicators visit sacred sites within the Alice Springs town boundaries, tour participants are invited to develop creative responses to the inperson storytelling. Research Methods include: • Descriptive Phenomenology (lived experience, hermeneutic interpretation through written and creative form), • Participatory Action Research (directed by the knowledge of collaborators and community experts-by-experience), and • Multi-arts praxis (creation from a diverse range of available things/ layering visual elements to create visual storytelling) This transformative creative practice is essential to the contemporary expression of the complexity of living cultural landscapes. The aim is to connect a deeper understanding of creative practice and how creative practice can raise awareness, foster dialogue, and facilitate new understanding of cultural landscapes. The research will contribute to creative practice methodology through engaging social issue storytelling as a means of gleaning and expressing the significance of cultural landscapes in Australian contexts.

Presenter: Lucy Stewart – Doctor of Philosophy, Full Presentation

Title: *Invisible Workers in Paradise: Mental Health and Psychosocial Safety in Island Tourism Enclaves*

Abstract:

Tourism island resorts in Australia operate as enclave environments—geographically and socially isolated workplaces where staff live and work in close proximity, often under casual or seasonal contracts. These unique settings are marked by blurred work-life boundaries, limited access to support services, and high emotional labour demands. Despite anecdotal reports of stress, loneliness, and burnout, there is a striking lack of empirical research into the psychosocial conditions of this workforce. This doctoral research explores how psychosocial safety and social connection influence the mental health of workers in enclave tourism island (ETI) settings. Guided by attachment theory, social baseline theory, and polyvagal theory, the study examines how relationships, isolation, and environmental stressors affect staff wellbeing, coping behaviours, stress regulation, and burnout. A sequential mixed-methods design is used: a national online survey assesses psychosocial safety climate, mental health, and recovery/coping responses; follow-up interviews explore the lived experience of working and living on-site. As Australia introduces new workplace health and safety laws addressing psychosocial risk (Safe Work Australia, 2022), this study arrives at a critical time. The research aims to develop evidence-based guidelines tailored to remote, high-pressure workplaces to improve employee wellbeing, reduce turnover, and build sustainable organisational culture. The outcomes of this study will inform tourism operators, policy makers, and other residential workforce industries such as cruise ships, ski resorts, and remote mining. By shedding light on this overlooked workforce, the project advocates for safer, more supportive working conditions in some of the country's most beautiful—but psychologically demanding— settings.

Presenter: Jessica Conroy – Doctor of Philosophy, Pitch Presentation

Title: *Living Heritage: between narratives and architectures around St Mary's*

Abstract:

This research addresses the complexities surrounding the architectural heritage of former Stolen Generations institutions, focusing on the St Mary's site in Alice Springs. Following its acquisition by the Northern Territory Government, preservation efforts remain at an early stage. When I first visited St Mary's, I sensed the site revealed tensions and diverse ways in which different groups engage with and understand the place, reflecting its difficult past and uncertain future. As the research evolves, I am beginning to map the various groups, institutions, narratives, and ongoing practices connected to the site. These include past residents, heritage professionals, government bodies, and others who hold cultural, emotional, or practical stakes in how the place is remembered and maintained. This broad approach allows me to foreground the complexity and multiplicity embedded in St Mary's as a site of contested heritage. Employing ethnographic methods and cultural mapping, the study seeks to understand how these differing perspectives shape and complicate heritage practices. Rather than seeking a singular interpretation or preservation pathway, the research aims to trouble simplified narratives and promote more inclusive, reflective approaches to heritage. Ultimately, this work hopes to contribute to broader conversations around reconciliation, collective memory, and the responsibilities of engaging with difficult histories in contemporary heritage practice.

Presenter: Tainah Facanha – Doctor of Philosophy, Pitch Presentation

Title: *Determinants of hotel guests' sustainable behaviours: evidence from an emerging economy*

Abstract:

Climate change poses a serious global issue associated with environmental and human systems. The hotel industry plays a dual role, strengthening local economies through guest spending while causing environmental deterioration by using excessive amounts of chemicals, water, energy, etc. Therefore, promoting sustainable consumption behaviour (SCB) between hotel guests is vital for environmental sustainability. Environmental practices at hotels, such as conservation, recycling, waste reduction, etc., reduce ecological harm and encourage guests to practice sustainability. However, no study has yet explored the determinants of consumers' choice of hotels with a sustainable image and consumer characteristics that lead to their engagement in sustainable practices while in a hotel. Moreover, this is the only study that explains hotel guests' sustainable behaviour from a latent variables perspective and multiple segments created based on willingness to pay in a choice experiment. Thus, this study examines the role of market and non-market (environmental) hotel attributes and consumer characteristics on guests' sustainable actions. It integrates random utility, equity, and value-belief-norm theories to understand the interplay between values, norms, and perceived fairness in sustainability choices. Using a sequential mixed-methods approach, qualitative interviews will inform a broader quantitative e-questionnaire. Data will be analysed using qualitative content analysis, multinomial logit, and structural equation models. Furthermore, this research offers practical insights and a roadmap for hotels to convey climate conservation strategies that don't cost extra or affect guests' comfort. The findings are expected to inform strategies that promote sustainable consumption, benefiting both environmental sustainability and the hotel industry's long-term viability.

Presenter: Sidra Munawar – Doctor of Philosophy, Pitch Presentation

Title: *The impact of ESG practices on corporate valuation: Evidence from annual reports*

Abstract:

Although Environmental, Social, and Governance (ESG) practices are increasingly recognised as essential to corporate strategy, the nature and strength of their impact on firm valuation remain unclear. While some studies report a positive link between ESG engagement and firm value, others find weak, insignificant, or even negative relationships depending on industry, region, or specific ESG dimensions. This inconsistency highlights a critical research gap and the need for deeper investigation into how ESG practices affect corporate value. Moreover, previous research often relies on third-party ESG ratings, however, there is limited convergence among leading providers, such as ASSET4, Bloomberg and KLD, with significant differences in scoring approaches, definitions, and transparency levels. To address these gaps, this study develops a novel, datadriven ESG Practices Index by systematically extracting ESG information from firms' annual reports using text mining techniques, offering an objective measure of ESG practices. Panel data analysis is employed on publicly traded firms from both developed and emerging markets to examine the impact of ESG engagement on corporate valuation. Robustness checks will be conducted employing third-party ESG ratings. The findings will offer new insights into the theoretical link between ESG practices and firm valuation, as well as their varying impacts across markets. This research contributes to the literature on ESG disclosure and firm value and provides a new tool for scholars to explore ESG practices more deeply. The findings are expected to support better decision-making by investors, policymakers, and corporate managers committed to sustainable business practices.

Presenter: Thi Tuyet Anh Nguyen – Doctor of Philosophy, Pitch Presentation

Title: *Visualizing Kakadu National Park from the Perspective of Chinese Landscape Painting: A Cross-Cultural Practice*

Abstract:

This practice-based project takes Kakadu National Park, a region undergoing ecological challenges, as the case study area to explore the interpretation of Australia's nature with Chinese artistic expression and the reaction to its shifting landscape. The visual art is employed as a tool to reflect natural beauty and a medium to express ecological care for Australia's environmental issues. It attempts to depict the iconic landscapes of Kakadu, including the wetlands, plateaus, savanna woodlands, mangrove forests, and escarpments through the lens of environmental aesthetics and the techniques of freehand brushwork. Guided by the principles of heaven-earth-human unity, the natural landscape is portrayed as an artistic ecology featuring wholeness, harmony and energy. However, the threats of climate change consistently affect the ecosystems of Kakadu National Park. In response to this issue, the study pays special attention to the landscape transformation in addition to its wild beauty. The research consists of intensive field study and further studio creation, resulting in an exegesis and an art exhibition. The exegesis not only discusses the interaction of climate, nature, and human in an ecological-cultural framework, but also documents the process of art creation from field sketching to completed artworks and personal reflection of environmentalism, creation, and aesthetics. The project demonstrates the adaptation of Chinese brushwork to Australia's nature to highlight its sublimity, diversity, and transformation. Furthermore, intercultural practice enhances climate communication while providing a Chinese perspective for Australian viewers to appreciate their landscape.

Presenter: Xiao Xiao – Doctor of Philosophy, Pitch Presentation

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