



Doctoral College

**Post Graduate Researcher (PGR) Research Showcase 19
June 2024**

9am to 4pm

Schumann Building S114 & S115

Book of Abstracts

Planning Committee:

Elizabeth O'Callaghan; Caoimhe Barry Walsh; Professor Ann MacPhail; Dr. Niamh Lenahan; Dr. Gerard Downes;
Anne O'Dwyer

**‘Research with Impact – An Interdisciplinary Postgraduate Showcase’
Conference Programme**

Time	Venue: Schumann Building Room S114 & S115
09.00-09.30 am	Registration
09:30 am	Welcome and Opening Remarks Professor Ann MacPhail, Associate Vice President Doctoral College, UL Venue: Room S114
09:40-10:20 am	Parallel Sessions 1 & 2: 10-minute presentations Theme 1: Equality, Diversity & Inclusion Room S114 Theme 2: Innovation Room S115
10.20-10.40 am	Comfort Break
10:40-11:25 am	Keynote Address Speaker: Dr. Lisa Moran , Dean of Graduate Studies TUS Midwest Venue: Room S114
11:30-12:15 pm	5-in-5 presentations Venue: Room S115
12.15-1.00pm	Academic Address Speaker: Dr. Nicolaas Blom Associate Professor in Educational Leadership, School of Education, Education & Health Sciences UL Venue: Room S114
1:00-2.00 pm	Lunch Break
2:00-2:45 pm	Poster presentations on corridor outside Room S114 & S115
2:45-3:25 pm	Parallel Sessions 3 & 4: 10-minute presentations Theme 1: Sustainability Room S114 Theme 2: Health and Wellbeing Room S115
3:25-4.00 pm	Close

Parallel Session 1 Venue: Room S114		Parallel Session 2 Venue: Room S115	
Chair & Moderator: Professor Ann MacPhail		Chair & Moderator: Dr. Niamh Lenahan	
Time	Speaker Title	Time	Speaker Title
09.40-09.50	Agata Lynch	09.40-09.50	Rachel Beck
09.50-10.00	Safiye Ergun	09.50-10.00	Ailin McMahon
10.00-10.10	Joshua Mangvwat	10.00-10.10	Huddon Mandizvidza
10.10-10.20	Imene Addad	10.10-10.20	Daire Fitzmaurice
Parallel Session 3 Room S114		Parallel Session 4 Room S115	
Chair & Moderator: Professor Ann MacPhail		Chair & Moderator: Dr. Niamh Lenahan	
Time	Speaker Title	Time	Speaker Title
2.45-2.55	David Horan	2.45-2.55	Ruth Buckley
2.55-3.05	Finn Lannon	2.55-3.05	Mairead Grogan
3.05-3.15	Bright Udemezue	3.05-3.15	Elma McMahon
3.15-3.25	Zehor Ktitni	3.15-3.25	Mayank Vashishtha

5-in-5 Presentations Venue: Room S115	
Chair & Moderator: Dr. Niamh Lenahan	
Time	Speaker Title
11.30-11.35	Yue Xu
11.35-11.40	Jade Gill
11.40-11.45	Ihsan Kamil
11.45-11.50	Alannah Scully
11.50-11.55	Yeojin Kil
11.55-12.00	Michael Grant

Title: Implementing dotted crystallization and deep neural networks for process modelling and Optimization of Crystallization of APIs.

Name: Mayank Vashishtha

Faculty: Science and Engineering

Supervisor: Bernal Chair Professor Gavin Walker and Dr. Vasanth Kumar Kannuchamy

Abstract:

Crystallisation from solution is an important process in pharmaceutical industries and is commonly used to purify active pharmaceutical ingredients. Crystallisation involves phase change and the mechanisms involved are random which makes the process stochastic. This creates a variation in the time required to reach a fixed percentage of yield from batch to batch. In this work, we propose a new technique called dotted crystallisation, where carbon dots are used to dictate and regulate events associated with nucleation and crystallisation processes. Following the rules of two-step nucleation theory, the carbon dots intentionally added to a supersaturated solution of curcumin anchors the crystallising compound to form prenucleation clusters that evolve into stable nuclei. Using curcumin as a model compound, we showed that the nucleation of this compound in isopropanol can be regulated, and the nucleation rate can be improved via addition of small quantities of carbon dots to the supersaturated solution. Our results confirmed that the nucleation rate of curcumin by dotted crystallisation was roughly four times higher than the nucleation rate by conventional cooling crystallisation and produced smaller sized crystals with a narrow size distribution. A deep neural network model was developed to capture the hidden and complex, non-linear relationships that exist between the mass of API crystallised as a function of a wide range of operating variables. In fact, the ANN model predicts the crystal growth kinetics with near to 100% accuracy (98 %) for the inputs in the training and testing dataset. The model requires only the operating conditions such as temperature, agitation speed and experimental parameters such as the initial concentration, seed size, seed mass and time as the inputs and it accurately predicts the mass crystallised.

Title: Integrating Social Factors into Public Procurement for Sustainable Construction: Enhancing Social Value Creation.

Name: Joshua Mangvwat

Faculty: Science and Engineering

Supervisor: Dr. John P. Spillane

Abstract:

Abstract Purpose: The research delves into the pivotal role of public procurement in enhancing social value and sustainable practices within the construction industry. The study investigates the intersection of public procurement and construction practices to clarify the connection between social factors and sustainable development. **Design/Methodology/Approach:** Through a qualitative inquiry informed by institutional theory, the structure and flexibility of thematic analysis is adopted. The right six steps of reflexive thematic analysis examine data gathered from 6 out of 19 semi-structured interviews with senior construction professionals in Nigeria. **Preliminary Findings:** The findings reveal significant challenges within the procurement process, such as rigid policies, lack of transparency, and ethical concerns, which impede on sustainable project delivery. Social factors emerge as crucial influencers that could impact community welfare, health and safety of site workers, and project management practices. **Research Impact/Implications:** The study underscores the importance of addressing these challenges and leveraging social factors to drive sustainable development within the construction industry; particularly the impact on at least 63% of regions of the world rated as developing countries. It emphasises the need for policy improvements, enforcement of ethical procurement practices, and institutional initiatives to advance sustainable construction. **Practical Implications:** Offering insights for policymakers, practitioners, and scholars, it contributes to a nuanced understanding of social factors in construction considering the SDGs. **Originality/Value:** This study contributes to the discourse on social innovation and sustainable development within the construction industry. By understanding research gaps through theoretical perspectives, it explains the transformative potential of public procurement as a policy tool in fostering sustainable practices within the construction ecosystem. **Keywords:** social innovation, sustainable practices, public procurement, construction industry, qualitative inquiry, policy improvements.

Title: Real-Time Monitoring and Advanced Characterization of Vanadium Flow Batteries using In-Situ Techniques”.

Name: Pupak Amini

Faculty: Science and Engineering

Supervisor: Dr. Robert Lynch

Abstract:

Flow batteries are an interesting method for adaptable massive systems of energy storage that address the challenge of renewable energy intermittency. One of the most significant energy storage technologies is the all-vanadium redox flow battery (VRFB), which has numerous advantages including a long cycle life, separated storage capacity, high efficiency of energy, safe and non-flammable aqueous electrolytes, green design, low maintenance costs¹. The monitoring of these systems is key to their efficient and rapid operation. The present study aims to expand the current theoretical understanding by exploiting recent advances in VFB monitoring. To this we use in-situ optical and electrochemical monitoring techniques to quantitatively investigate the electrochemical and physical processes occurring at the working electrode in a three-electrode cell, enabling an understanding of the factors limiting performance in VFBs. This is important in order to provide a quantitative basis on which to develop the next generation of VFBs. In this study, we investigate the VIII-VIV reaction using rotating disk and ring electrode experiments, cyclic voltammetry in conjunction with the variation of electrolyte concentration, and in-situ spectroscopy. extending this work to the other two redox couples and instrumenting laboratory-scale VFBs with spectroscopic and electrochemical probes, to obtain detailed experimental measurements, arrays of fibre-optic-based probes will be incorporated to monitor in situ the electrolytes' UV-visible spectroscopy.

Title: 'Responsible Design for Birth: Determining how design can provide responsible and meaningful interventions for hospital births

Name: Ihsan Kamil

Faculty: Science and Engineering

Supervisors: Dr. Muireann McMahon, Dr. Eoin White, Prof. Leonard O'Sullivan and Dr. Mendinaro Imcha

Abstract:

Aim of this research is to conceptualise effective, novel, and meaningful responsible design interventions for hospital births in Ireland, thus assessing and utilising design as a catalyst to effect positive and impactful change for the betterment of both maternity care services and global movements to more responsible production and consumption patterns. The growing global need for sustainability and resource efficiency is beyond question, with academia, industry, and governments focussing on this ever-rising global challenge. Additionally, with healthcare services contributing significantly to waste streams, scope for addressing environmental sustainability within healthcare is presented. The utilisation of single-use (SU) materials and single-user products in healthcare have been a longstanding practice, particularly in controlling pathogens but also partially due to consumerist and capitalist agendas. The healthcare sector, with its need for sterility and infection control, heavily relies on SU materials, contributing to significant waste generation. The prevalent utilisation of SU products and disposal through incineration, result in the irrecoverable loss of materials. Furthermore, research examining sustainability and responsible product design in healthcare are very limited, let alone those focussing on the maternity care context where unique patient needs are found. Unlike other sectors within healthcare, in the vast majority of cases, maternity care supports a normal natural, physiological process where most 'patients' are healthy individuals. Moreover, maternity care uniquely involves the provision of care for two or more 'patients,' namely; mother and baby. Given these considerations, maternity services must allow for varying levels of need where most mothers and babies have positive outcomes whilst others may require varying levels of more specialised care. In summary, transitioning to circular and responsible design principles in healthcare, particularly in Irish maternity care, demands a holistic approach that addresses environmental concerns without compromising safety and hygiene whilst simultaneously considering unique stakeholder needs.

Title: Effects of Ultra-Cold Temperature on Pharmaceutical Secondary Packaging Integrity and Legibility at -80°C

Name: Michael Grant

Faculty: Science and Engineering

Supervisor: Dr. Sean Moore & Dr. Amrit Kumar

Abstract:

Pharmaceutical packaging is changing fast, as more and more pharmaceuticals in development are temperature-sensitive and need to be stored, labelled, and shipped in an Ultra Low Temperature (ULT) supply chain. The need for cold chain packaging, distribution, and storage of drugs below -20°C has grown due to the recent pandemic. This creates a challenge for the industry to ensure the safety and quality of temperature-sensitive drug products, as well as an opportunity for packaging manufacturers to develop and improve drug packaging solutions. This study can provide valuable insights for the packaging industry and contribute to the common goal of achieving a more sustainable future. The aim of this research is to conduct a comparative study to identify the optimum material combination for secondary packaging when exposed to extremely low temperatures within the cold chain. The scope of this study is to evaluate the current secondary packaging product materials offered to customers who use cold chain to distribute products and explore strategies and criteria to improve them by optimizing packaging materials in an empirical setup. The research strategy was developed with primary empirical research methodology to address the research problem. The research questions at the outset are as follows: 1. What is the optimised materials solution for pharmaceutical secondary packaging within cold chain supply at Ultra-Low Temperatures (ULT) of between -20 to -80 °C? 2. What are the effects of ultra-cold temperature on pharmaceutical secondary packaging integrity, label legibility and drug traceability?

Title: Formulation and Evaluation of Reduced-Sugar Strawberry Jam Sweetened with Stevia (Rebaudioside-A)

Name: Mindani Watawana

Faculty: Science and Engineering

Supervisors: Dr. Fabiana Andrea Hoffmann Sarda and Prof. Daniel Granato

Abstract:

The growing demand for healthier, low-calorie food products has driven the need for natural sweetener alternatives to replace refined sucrose (Arshad et al. 2022). People with diabetes also demand healthy alternatives for their diets. This study aimed to develop a reduced-sugar strawberry jam formulation by incorporating Rebaudioside-A, a non-caloric high-intensity sweetener derived from *Stevia rebaudiana* leaves, as a sugar substitute. The research involved optimizing the jam formulation by varying the concentrations (1-5%) of Rebaudioside-A (RAJ) to achieve an acceptable product from the sensory standpoint. Pectin, a natural gelling agent, was added to improve texture. The physicochemical characteristics were evaluated and compared to a sugar control jam (SCJ). Sensory analysis assessed the acceptability and perception of texture, taste, odor, colour, and overall impression. The results showed that RAJ-sample exhibited a higher antioxidant activity for DPPH, FRAP, TPC and Total Monomeric Anthocyanins assays in comparison to SCJ. Water activity was 8% higher in RAJ compared with SCJ ($p < 0.001$). There was a significant reduction (85%) in caloric content in RAJ compared to SCJ. Sensory evaluation revealed that the optimized formulation was moderately accepted by the participants, with no significant differences in perceived odor, colour and texture compared to the control. However, some participants detected a slight lingering aftertaste associated with using Rebaudioside-A. The findings contribute to the growing body of research on the application of natural sweeteners such as Rebaudioside-A, in the food industry and provide insights into the formulation challenges and sensory implications of using these sweeteners in fruit-based products. This research also has the potential to make a significant impact on public health and the food industry by providing a healthier, low-calorie alternative to traditional sugar-products. Arshad, S., Rehman, T., Saif, S., Rajoka, M.S.R., Ranjha, M.M.A.N., Hassoun, A., Cropotova, J., Trif, M., Younas, A. and Aadil, R.M. (2022) 'Replacement of refined sugar by natural sweeteners: Focus on potential health benefits', *Heliyon*, 8(9).

Title: Developing 3D Cell-Laden Testicular Hydrogel Microspheres on Microfluidic T-Junction

Name: Jishnu Padacherri

Faculty: Science and Engineering

Supervisor: Dr. Eoghan Cunnane

Abstract:

INTRODUCTION: Male infertility presents a profound concern with far-reaching societal implications (1). Current therapeutic approaches remain empirically driven and often inadequately address this complex issue (2). To formulate effective strategies for male infertility, it is imperative to establish preclinical testicular models that accurately recapitulate the intricate architecture of testicular tissue and the natural human testicular milieu (3). This research project undertakes this critical endeavour by introducing fabricating testicular microgel models at high throughput using a microfluidic approach. **MATERIALS AND METHODS:** 1. Sodium alginate (SA) hydrogel preparation: The SA hydrogel was synthesized by blending SA with a crosslinker, calcium-ethylenediaminetetraacetic acid (Ca-EDTA). Crosslinking was initiated using glacial acetic acid, with the intent of optimizing the hydrogel's compositional formulation for cell culture. 2. Characterization of the SA Hydrogel: The microstructure of the hydrogel was examined via scanning electron microscopy (SEM). Pore size characterization was achieved by measuring individual pore diameters. Nanoindentation technique was used to measure key mechanical properties of hydrogels, like modulus, hardness, viscoelastic behaviour, and adhesion. The biocompatibility of the SA was checked by encapsulating the CHO-GFP cells and culturing it for 3 weeks. 3. Production of cell-laden microspheres: Cell-laden microspheres were generated through a combination of equimolar concentration of sodium alginate/Ca-EDTA resuspended in cells and microsphere generated using T-shaped microfluidic junction. These microspheres closely emulate the inner cell niche of seminiferous tubules and the outer cell niche of testis cells. **RESULTS:** Among the 32 combinations of SA hydrogels synthesized, 6 were selected for subsequent use. The microstructure of the SA hydrogel was analysed via SEM to evaluate pore diameter. The viscoelastic property of SA hydrogel was investigated by the nanoindentation technique. The storage modulus, G' (elastic response) and loss modulus, G'' (viscous behaviour) of the SA hydrogel were measured. The biocompatibility of SA was confirmed through the survival of viable CHO-GFP cells in an 18-day culture. **DISCUSSION:** These models, can reproduce the natural human testicular environment and enable high throughput analysis of various culture conditions and biological stimuli, thereby paving the way for a more comprehensive grasp of underlying mechanisms and the evaluation of male infertility therapeutic interventions. **REFERENCES:** Vollset SE(et al.) *The Lancet*;396:1285–1306,2020. Crafa A (et al). *Journal of Clinical Medicine*,12(9), 3152,2023. Robinson NB (et al.) *International Journal of Surgery*.72:9–13.2019.

Title: Towards Filling User Data Gaps for Cardiologists

Name: Grainne Tyrrell

Faculty: Science and Engineering

Supervisor: Dr. Eoin White and Prof. Leonard O' Sullivan

Abstract:

Background: User data is imperative to design of products and systems that are suitable to the user, and a lack of applicable user data can lead to user-product mismatch. User-product mismatch in the field of cardiology is associated with increased surgeon musculoskeletal disorders, as well as use-related error causing patient harm. The objective of this study was to investigate user data gaps in the design of cardiovascular devices. Method: The phases of this study were two-fold; firstly, 57 design engineers involved in the product development of cardiovascular devices, and 20 cardiologists were surveyed to identify what data are missing from the literature which could improve the design of devices. Secondly, this knowledge was leveraged to assess live case video footage to further quantify areas for improvement in terms of user experience. Quantitative data were statistically analysed using SPSS. Qualitative data was thematically analysed using NVivo. Results: Priorities of engineers during the design process differ from the needs of cardiologists when using devices. A paucity of specific user-related data which are not readily available in the literature was reported. Both cohorts identified the grasps and manipulations required to operate a device as the most important factor to have influence on the user experience. 21 grasps and manipulations unique to cardiovascular procedures were identified. Of these, only 5 had relevant user force data in the standards referenced during device development. Impact: By quantifying the needs of both those who design devices, and those who use devices, we can gain a deeper understanding of the roadblocks that inhibit effective and optimal design. These findings can signpost the way forward for both academics and industry in their efforts towards filling user gaps in cardiology. This in turn allows for improved user experience, and reduced patient risk.

Title: Analysing the Response of Breast Cancer to Epigenetic Inhibitor TH1834

Name: Zohourian Nazanin

Faculty: Science and Engineering

Supervisor: Dr. James Brown

Abstract:

Cancer is a severe global health concern, affecting 1 in 2 individuals in their lifetime. Worldwide, breast cancer is the most commonly diagnosed female cancer with ~2.3 million cases annually and is the second leading cause of cancer-associated mortality in women with 685,000 deaths yearly. In Ireland, 1-in-9 women will get breast cancer, with 690 deaths each year. Resistance to anticancer drugs is a considerable obstacle in effectively managing and treating breast cancer. This resistance can be caused from both genetic and acquired factors which results in reduced survival rates. However, exploring new precision drugs that target essential tumor features holds promise for improving patient outcomes. Non-mutational epigenetic changes alter cells transcriptional profile, and are a key feature found in many tumors. Contrasting genetic mutations, epigenetic changes are reversable, and restoring a normal epigenetic profile can inhibit tumor growth and progression. TH1834 is an epigenetic inhibitor designed by Dr Brown's group which targets both epigenetic regulation and the DNA damage response and has demonstrated anti-tumor specificity against breast cancer both in vitro and in vivo. Importantly, in vivo TH1834 demonstrated efficiency against cancers with not clinically approved targeted-treatments. The exact molecular mechanisms underpinning the anti-cancer activity of TH1834 are still poorly understood. Here, we will use next generation sequencing to profile TH1834-induced transcriptomic and epigenetic changes to clinically relevant breast cancer subtypes, defining unique subtype-specific actions and potential synergies with current chemotherapeutics. Profiling the mechanisms and effectiveness of new epigenetic drugs in breast cancer offers insights into potential new therapeutic options and combinations.

Title: The Development of a Cyber Situation Awareness Framework for ISAC Participants when Managing SaaS Cyber Incidents

Name: Ruth Buckley

Faculty: Science & Engineering

Supervisor: Professor Bashar Nuseibeh, Professor Markus Helfert, Associate Professor Liliana Pasquale and Dr Faeq Alrimawi

Abstract:

Information Sharing and Analysis Centres (ISACs) are communities of organisations who share cyber information in order to better understand a common threat landscape. The threat to organisations from cyber events is increasing in frequency and complexity. Organisations can improve their cyber situation awareness through the sharing of cyber information in an ISAC. Establishing cyber situation awareness (SA) is key to how the organisation and its strategic leaders make decisions regarding the cyber stance of the organisation and of the sector. The thesis reports on the establishment of the Local Government Ireland ISAC (LGI- ISAC) over three years from 2021 to the present and how its development has influenced the research questions and research objectives. The literature on ISACs does not discuss or identify a model or framework for achieving cyber situation awareness. Similarly, it does not identify the necessary component cyber information elements required to enable cyber situation awareness at various times in the cyber incident management lifecycle. During the first two years of operation, the sectoral ISAC members shared information which included cyber incidents experienced by SaaS (Software as a Service) providers of services to the local authority sector. The third-party SaaS vendors operate in public cloud environments. This poses a cyber dilemma for organisations and sectors. The research problem evolved to determine what information is necessary to enable organisations achieve cyber situation awareness when a third-party SaaS provider suffers a cyber incident which has a direct impact or potential to impact some or all the ISAC members simultaneously. A design science research approach is appropriate for this research problem. A focus group comprising 24 highly experienced cyber leaders, all of whom are members of a public sector ISAC, discuss six research questions centred around how they would manage a cyber incident underway in a SaaS provider. By applying thematic analysis to the qualitative data output from the Irish focus group, an ex-ante artefact for a cyber situation awareness framework artifact is built based on an existing SA framework model (Endsley 2015, p.9) from the scientific literature.

Title: Navigating the Researcher Bias Tightrope: Ensuring Objectivity in Apprenticeship Research

Name: Elma McMahon

Faculty: Science & Engineering

Supervisor: John Spillane & Jim Bradley

Abstract:

An apprenticeship is a planned programme of education and training, which formally combines learning and training in the workplace with that in an education setting. Apprenticeships play a pivotal role in skill development, making it imperative to identify factors contributing to their success or failure to enhance their efficacy. Evaluating researcher bias is a significant milestone in the ongoing journey of researching factors influencing apprenticeship completion within the built environment sector. Throughout the course of this research, various methodologies and data sources have been employed to delve into the multifaceted nature of this topic, shedding light on the complexities and nuances inherent in apprenticeship programmes. These methods have been meticulously scrutinised to identify and predict potential biases that may arise during the research process. To minimise bias, the research design incorporates several strategies including pretesting questionnaires and creating feedback loops established to refine data collection instruments, addressing any ambiguities or inconsistencies. By being cognisant of researcher bias and implementing these preventative measures, this study aims to provide a more accurate and holistic understanding of the factors affecting apprenticeship completion by implementing proper data collection and analysis methods.

Title: Cuspness in Türkiye's Regional Policies

Name: Safiye Ergun

Faculty: Arts, Humanities Social Sciences

Supervisor: Prof. Owen Worth

Abstract:

This PhD research proposes novel ideas for studying regions in International Relations and the case of Türkiye by advancing an underdeveloped concept. Türkiye is in a complicated location between Europe, the Middle East, Central Asia, and sub-regions like the Mediterranean, Black Sea, and Caucasus. Its multiregional location affects its foreign policy and regional policy directions. Türkiye occasionally gives signs to be a member of the EU, but in fact, it has been wait-listed for candidacy since the 1960s. Occasionally, Türkiye gives signs of engagement in the Middle East, but the Arab League does not extend observer status to non-Arab states. It also attempted to integrate with Greater Central Asia and took an active part in the Turkic Council's establishment, but despite the country's big dreams, the Council could not achieve the expected success. All these efforts by Türkiye with different regional units and its inability to fully integrate with any of them make Türkiye a "cusp (~limbo) state" because it is restlessly on the edge of plenty of regions. Being a cusp state impacts Türkiye's foreign relations. This thesis examines how cuspness has shaped Türkiye's engagement with the regional worlds. It will look at the regional policy directions of the country through key texts from Türkiye's foreign policy (leadership speeches and regional treaties) by implementing content and discourse analysis. Overall, this research will help develop both knowledge about Türkiye as a regional actor and the field of Regional/Area Studies.

Title: Investigating Blended Learning Implementation in Algerian Higher Education post Covid-19 Pandemic: EFL Teachers' and EFL Students' Perspectives.

Name: Imene Addad

Faculty: Arts, Humanities Social Sciences

Supervisor: Dr. Elaine Riordan

Abstract:

In recent years, there was a noticeable blended learning adoption post-covid19 among Algerian higher education institutions, with a considerable amount of research that focused on direct relationships of the blended learning approach. However, there is little to no research on how the blended learning environment functions and interacts as a system. The purpose of the current mixed-method study is to examine the implementation and dynamics of blended learning in Algerian higher education, using the Complex Adaptive Blended Learning System (CABLS) framework. Through qualitative interviews and thematic analysis, alongside quantitative data collection, the study explores how the BL environment functions as a complex system, identifying the interdependent relationships and key factors that influence effective BL integration. The findings aim to provide comprehensive insights into the technological integration in language teaching and learning processes and to foster a better understanding of the complex, systemic interactions within the CABLS framework. This, in turn, seeks to optimize collaborative approaches to BL and inform policy and practice improvements in Algerian universities, contributing to the broader discourse on educational technology in environments undergoing rapid educational shifts.

Title: Illustrating Nineteenth-Century (Limerick) Histories: Exploring the Public History Potential of Webcomics

Name: Rachel Beck

Faculty: Arts, Humanities Social Sciences

Supervisor: Dr. Karol Mullaney-Dignam

Abstract:

Public historians working in the digital realm use a versatile range of media to connect with those outside of academia, such as online exhibitions, interactive websites, games, shortform videos, and microblogging. However, one medium has been overlooked: webcomics. Webcomics are very cheap to produce and are usually free to read, making them accessible to a global audience. However, their potential as a vehicle for doing digital public history has been overlooked. This project aims to investigate the suitability of webcomics for doing history with the public. It will do so through the creation of a longform webcomic on the Russells of Limerick, aimed at a non-academic international audience. Through the webcomic, the project intends to involve a range of publics in the creation and interpretation of history. The project aims to promote equality by breaking down barriers between 'experts' and 'laypeople' and democratising history production. A pilot study conducted in spring 2023 indicated that the webcomic form allows readers to critique an academic interpretation of history with confidence. It aims to attract a diverse array of demographics to take part - not only from Ireland, but from around the world. The goal of the project is to include these publics as equal partners with the historian in interpreting the Russells and their world. The project is also innovative in that it is the first to pay sustained scholarly attention to the Russells, whose influence on the development of nineteenth-century Limerick has not been fully investigated until now. It is hoped that this research will have a significant impact on awareness of webcomics as a public history tool and on scholarly understanding of the Russell family and their world. Ultimately, the project will enhance public history practice and provide new insights into one of Limerick's most successful flour-milling empires.

**Title: Evaluating the Efficacy of Intervention for Promoting Gender Balance in Physics:
A Mixed-Methods Analysis of the SOPHia Project's School Visit Workshops**

Name: Agata Lynch

Faculty: Arts, Humanities and Social Sciences

Supervisors: Prof. Amanda Haynes, Mary O'Donoghue and Dr. Ian Clancy

Abstract:

The large and prevailing gender disparity in the Leaving Certificate Physics exam leads to low numbers of women pursuing physics at the tertiary level and subsequently in senior roles in academia and industry. The SOPHia Project, devised at the University of Limerick (UL) by the Department of Physics and the Science Learning Centre, in partnership with the Institute of Physics in Ireland, aims to improve gender balance in physics by positively changing female students' opinions towards the subject through a series of interventions, including a school visit program whereby undergraduate students from UL deliver an interactive workshop to students in Irish schools. As part of my doctoral studies, funded by the interfaculty "FAHSS and S&E 'Athena Swan' PhD scholarship," I have conducted an evaluation of the SOPHia school visit program using both quantitative and qualitative methods. In my presentation, I will showcase a typical school visit workshop session and highlight the opportunities it presents for altering female students' perceptions of physics, while also comparing its effects on male students. I will present the results of the quantitative analysis of the intervention's immediate effect, measured with a pre-post questionnaire, and the qualitative inquiry into its sustained effects, evaluated through focus groups with students. The measured effects of the intervention are highly encouraging, showing that it is very effective in impacting female students' opinions about physics, while still being beneficial for male students, albeit to a lesser extent. With sustained rollout, the school visit program has the potential to offset negative stereotypes surrounding physics. The SOPHia Project was funded by the Science Foundation Ireland Discover Programme.

Title: Media framings of Syrian migration to Ireland in The Irish Times and Irish Independent

Name: Moufida Benmoussa

Faculty: Arts, Humanities and Social Sciences

Supervisors: Dr. Martin Power and Prof. Amanda Haynes

Abstract:

The conflict in Syria, currently in its 13th year, caused the world's largest refugee crisis since WWII. According to the UNHCR, since the escalation of the Syrian civil war in 2011, 6.9 million Syrians have fled the country to neighboring countries, and one million crossed the Mediterranean Sea to be hosted in European countries. To cope with the Syrian refugee crisis, Ireland established the Syrian Humanitarian Admission Programme (SHAM) in 2014 and the Irish Refugee Protection Programme (IRPP) in 2015, followed by its second phase in 2019. In light of these events, Irish print media played a significant role in covering the Irish government's decisions, political stance, and public opinion on the debate on taking Syrian refugees into Ireland. In this study, I aimed to identify media framings of Syrian migration to Ireland in the two most-read newspapers in Ireland: The Irish Times and Irish Independent. Moreover, I sought to identify the factors impacting a story's coverage and structure on Syrian migration to Ireland. To do so, I adopted a multiple-component methodological approach drawing on framing theory and semi-structured interviews with media professionals who contributed to producing the sampled news articles. The findings of my study revealed that The Irish Times and Irish Independent's discussion of Syrian refugee crisis involved pro-migration and anti-migration frames. However, the pro-migration frames were dominant in the coverage. The impact of my research is mainly social. It explains the Irish people's perception of Syrian migration and refugees through the Lense of the most read newspapers in Ireland, The Irish Times and Irish Independent. It also explains these newspapers' media professionals and contributors' strategies in framing the social issue of migration.

Title: The Representation of Speech Acts in ELT Textbooks: A comparative study of Algerian middle-school ELT textbooks and the Touchstone textbook series

Name: Affaf Benmesli

Faculty: Arts, Humanities Social Sciences

Supervisors: Dr. Elaine Vaughan and Prof. Michael McCarthy

Abstract:

Pragmatic competence is considered as a key component for successful communication, and a number of communicative competence models acknowledged its importance besides linguistic competence (see Bachman (1990); Celce-Murcia et al. (1995)). The current literature indicates that one aspect of pragmatics that has received much attention is that of Speech Acts (Taguchi 2015). The latter stems from the idea that utterances are used not only to present information but also to perform actions (Austin 1962). Indeed, performing appropriate speech acts requires awareness of the differences that exist between the native and the target language and culture (Kasper and Rose 2002). In the language learning classroom, one way to teach pragmatics is through ELT textbooks, which are considered as a rich source of input and the backbone for language learning and teaching (Vellenga 2004). However, these have been criticised for offering inadequate opportunities for learning authentic language (Bardovi-Harling 2001). Through this study, therefore, I aim at analysing, evaluating, and comparing between pragmatic contents found in two sets of ELT textbooks intended for beginner and intermediate levels: the local Algerian middle-school EFL textbooks and the global Touchstone textbook series. The content analysis focuses on how speech acts, requests and refusals, are treated in the textbooks. The study also uses semi-structured interviews with Algerian middle-school teachers and the textbooks' writers to investigate their perceptions about the textbooks' contents and the implementation of pragmatics in ELT contexts. Yielded results from this study will contribute to highlighting the importance of pragmatics and understanding how it is covered in ELT textbooks. They will also be useful for teachers to enhance their language teaching and for textbook and syllabus designers to develop ELT materials in the future.

Title: The Full Guarantees of the Irish Criminal Trial v's Trial Waiver Systems – A Rights Based Approach in Protecting the Interests of the Accused.

Name: Pamela Gubbins

Faculty: Arts, Humanities and Social Sciences

Supervisors: Dr. Gerard Coffey and Prof. Shane Kilcommins

Abstract:

In the Irish criminal justice system, it is central to the rule of law that defendants are granted the fundamental right to a fair trial under Article 38.1 of the Irish Constitution. The Courts have used various Articles of the Irish Constitution to write several procedural and substantive requirements into criminal law. Article 38.1 provides 'no person shall be tried on any criminal charge save in due course of law.' This 'due process' clause ensures that where an individual is being investigated or prosecuted for a criminal offence, they have certain procedural and substantive protections available. Principles established under the European Convention on Human Rights may also inform the Constitutional dimensions of the right to fair trial, namely under Article 6. However, throughout Europe and across the world, the full guarantees of the criminal trial process are beginning to disappear, it has become common for defendants to relinquish their rights to trial proceedings by means of trial waivers. These waiver systems include plea bargaining and guilty pleas, cooperation agreements and abbreviated proceedings. It is common practice for the law and public consciousness to depict the criminal trial as the primary route in guaranteeing criminal justice, however, in practice many accused persons are convicted in the absence of a full trial by means of these systems. Many procedural and philosophical questions can be raised regarding these incentivised practices. Domestic and international normative frameworks that regulate these new practices have however, failed to keep up with their growth with surprisingly little guidance or jurisprudence on this rapidly expanding practice. Subsequently, this research examines the scope, objectives, limitations, and restrictions of trial waiver systems in three international jurisdictions (New Zealand, Germany, and Scotland) against the full guarantees of the criminal trial in the Irish jurisdiction, and the impact on the rights and protections afforded to criminal defendants.

Title: Investigating Politeness Strategies in Request Emails: The case of Algerian PhD supervisees.

Name: Zehor Ktitni

Faculty: Arts, Humanities and Social Sciences

Supervisor: Dr. Brona Murphy

Abstract:

Abstract: In pragmatics, politeness is regarded as key to smooth communication and successful interpersonal relationships. With the widespread use of the internet in various life sectors, it can be said that Computer-Mediated Communication (CMC) has been revolutionised. In this respect, emails have lately become one of the very popular means of communication especially in education (Hassini 2006, p. 30). In this regard, studying students' email communication from a politeness perspective has been a subject that triggered many researchers' curiosity. Accordingly, many studies around this topic (Biesenbach-Lucas 2007; Hallajian and David 2014; Al Khatib 2021; among many others) exist, yet their findings seem not to have a clear consensus. Rather, they suggest that whenever the setting changes, new results are found. Further, the former studies usually focus on looking at the emails exchanged between teachers and their students. Little focus, however, has been put on studying emails sent to/ from supervisors and supervisees. On that basis, this research puts email communication at the core of the study and analyses it from an (im)politeness perspective. It endeavours to look closely at the kind of (im)politeness strategies used by Algerian supervisees, enrolled in an ISPhD program at the University of Limerick -Ireland, to their supervisors. This study adopts a third wave politeness approach that is basically a synthesis of different classic and postmodern theories to politeness (Brown & Levinson 1987; Culpeper 1996; Watts 2003; Spencer-Oatey 2008; Leech 2014), for the sake of ensuring that the phenomenon is comprehensively studied. To this end, a mixed methods approach was followed. To be more specific, a small corpus composed of email threads, written by Algerian students exchanged with their supervisors, was compiled. Further, 12 follow up interviews were conducted with Algerian students to explore their perceptions about the topic. Initial findings suggest that Algerian PhD students' emails tend to include more politeness markers than impoliteness ones, through the use of a variety of positive and negative strategies. Also, supervisees heavily make use of academic titles when addressing their supervisors (Dr./Prof.). More importantly, the type of relationship between the supervisee and their supervisor(s), being formal or friendly, was found essential in choosing the kind of politeness strategies used by students. Tracking the intercultural transition, of the first cohort of Algerian PhD students, to the new Irish educational and cultural setting might help in reducing the potential friction in academic communication for the next cohorts. Therefore, the final findings of the current study may contribute in providing some useful insights into how effective supervisor-supervisee email communication looks like. Furthermore, it is hoped that the research results could be integrated in English for Academic Purposes (EAP) modules, pre-sessional courses, and study abroad programmes.

Title: An arts practice investigation of singing/songwriting as an arts-based research method and its potential role of enhancing meaningful migrant involvement in health policy development in Ireland

Name: Sarbik Guha

Faculty: Arts, Humanities Social Sciences - Irish World Academy of Music and Dance

Supervisors: Prof. Helen Phelan and Prof. Anne MacFarlane

Abstract:

This research investigates singing/songwriting as an arts-based research method for enhancing meaningful migrant involvement in health research and policy development in Ireland. The aim is to expand knowledge of music, singing and songwriting as tools for community engagement, intercultural exchange, and participatory health research, particularly in migrant health research. Supported by the Irish Department of Health's Refugee and Migrant Health Partnership (RMHP), an additional aim is to develop and evaluate the Irish World Music Café model of using music-based social gatherings to foster relationships and meaningfully involve refugees and migrants in Irish public health policy-making. The research objectives are to: 1. Support the development and evaluation of a series of Irish World Music Cafés as intercultural trust-building spaces focused on involving migrants and refugees in participatory health research and health policy-making through music, singing and songwriting 2. Develop and facilitate participatory spaces for reflection, collaborative musicking and songwriting with migrants/refugees and policymakers within health research and policymaking processes 3. Create songs reflecting the lived experiences and perspectives of refugees, migrants and policymakers within Ireland's health and policymaking landscape, developing a dissemination campaign to amplify their voices 4. Contribute to interdisciplinary research models supporting policy development and implementation This investigation uses a hybrid arts practice research methodology where investigative songwriting is the primary method, combined with four allied methodological tools: autoethnography, ethnography, narrative inquiry and poetic inquiry. The research outputs includes a doctoral thesis as well as creative outputs including songs and performances. This novel interdisciplinary project aligns with several UN sustainable development goals (SDGs 3,10,16, 17), promoting health and inclusivity and democratizing health research/policy processes by strengthening partnerships. It can contribute to the development of the innovative space occupied by arts and health research, promoting a cultural competency discourse that can build sensitivity across Ireland's healthcare systems and beyond.

Title: Philosophy of Time and African Time-Travel Films

Name: Bright Udemezue

Faculty: Arts, Humanities Social Sciences

Supervisors: Asst. Prof. Giuseppe Torre and Asst. Prof. Basil Vassilicos

Abstract:

Abstract Time-traveling films rely on the interplay of concepts like time, narrative, and film theory to convey their stories. These movies frequently depict altered states of existence and alternate realities as they unfold. This intervention aims to explore the concept of time-travel from the perspective of African culture. The analysis will examine the film *Sankofa* (directed by Haile Gerima in 1993) and consider the connections between John Mbiti's and Gilles Deleuze's philosophies of time to conduct the exploration of the concept of time-travel from the perspective of an African understanding of time. The perception of time differs among cultures. In a general sense, we can say that African culture views time as progressing from the past to the present, which influences their thought process in a manner that aligns with both Deleuzian and John Mbiti's concepts of time. This stands in contrast to the understanding of time in cultures such as Europe and North America, where it is three-dimensional, encompassing the past, present, and future. Using the film *Sankofa* as a primary example, this intervention aims to explore philosophical and cultural concepts of time in West and Africa. This analysis will develop the following key arguments: The concept of two-dimensional time preceding a three-dimensional time framework. Time's lived experience is exclusive to the present, built upon the foundation of the past. The role of the past is to enable a shift from the present to a different present. A two-dimensional Deleuzian/Mbiti philosophy of time can enhance understanding of African time travel films in relation to African culture.

Title: Exploring stakeholders' experiences of comprehensive geriatric assessment in the community and out-patient settings: A Qualitative Evidence Synthesis

Name: Christina Hayes

Faculty: Education and Health Sciences

Supervisors: Prof. Rose Galvin, Dr. Molly Manning and Dr. Christina Fitzgerald

Abstract:

Background Comprehensive Geriatric Assessment (CGA) is a multidimensional interdisciplinary process that addresses an older adult's bio-psycho-social capabilities to create an integrated and co-ordinated plan of care. While there is established quantitative evidence that demonstrates the positive impacts of CGA on clinical and process outcomes, less is known about how older adults and service providers experience CGA. This study aimed to systematically review and synthesise qualitative studies reporting the experiences of CGA of community-dwelling older adults, caregivers and healthcare professionals in community and out-patient (OPD) settings. Methods: This qualitative evidence synthesis involved a systematic search across 5 databases targeting qualitative or mixed methods studies that reported qualitative findings on stakeholder experiences of CGA. The protocol was registered on PROSPERO (Registration: CRD42021283167). The methodological quality of the included studies was appraised using the Critical Appraisal Skills Programme checklist for qualitative research. Results were synthesised according to Noblit and Hare's seven-step approach to meta-ethnography. Results: Fourteen studies were included where CGA was completed in the home, general practice, out-patient setting in acute hospitals and in hybrid models across the community and acute OPD settings. Synthesis identified four key themes: (1) CGA is experienced as a holistic process (2) The home environment enhances CGA (3) Time, the prevailing healthcare model and interprofessional communication influenced the success of CGA in the community (4) Conflicting perspectives on the meaningful involvement of older adults, carers and family in the CGA process. Conclusion: The findings demonstrate that CGA in a home-based setting allows for a more holistic approach to care while increasing patient satisfaction and accessibility to healthcare. Although potential barriers to the delivery of CGA include current fragmented health service structures and a lack of understanding of CGA, factors such as enhanced communication, carer, and older adult involvement in the CGA process are potential facilitators to its implementation.

Title: Physical Education, Physical Activity and Youth Sport from the perspectives of three key national stakeholders in the space: A Qualitative Analysis

Name: Mairead Grogan

Faculty: Education and Health Sciences

Supervisors: Dr. Brendan O’Keeffe (University of Limerick), Prof. Ann MacPhail (University of Limerick) and Dr. João Costa (University College Cork).

Abstract:

Aim: To conduct a qualitative analysis of semi-structured interviews with key stakeholders across the physical education (PE), physical activity (PA) and youth sport (YS) domains. Interviews with key stakeholders sought to investigate their policy documentation relative to this space. Methods: All relevant, active policy stakeholders in PE, PA and YS in the Republic of Ireland were identified. Their key policy documents were compiled into a matrix, reviewed, and deductive content analysis carried out. A Venn Diagram established alignment with PEPAYS key domains. The top three stakeholders were extracted from the matrix. Live Coding was employed to analyse interviews. Results/Findings: Healthy Ireland, the Department of Education (including NCCA) and Sport Ireland were selected for interviews as the most prominent stakeholders. Each focused on one domain to address, as reflected in the Venn Diagram. While stakeholders, ‘recognise the importance of all domains’, their policy has a core focus area with various objectives, such as, enhancing health and well-being, increasing sport participation levels, and fostering physical literacy among youth. Stakeholders rely on ‘trusted sources’, seeking ‘reliable sources of evidence’ from national and international contexts when articulating policy. Other preliminary themes identified included the necessity for cross-sectoral connectivity among the PEPAYS domains, avoiding over-reliance on education as ‘the saviour’ of issues in this space. The importance of coherency between research and policy, as well as effective dissemination of information between research, policy and practice to create meaningful and aligned courses of action was highlighted. Challenges of working across PE, PA and YS in a shared space rather than separately included funding, measurements of success and fostering effective stakeholder collaboration to align priorities, work within parameters and co-ordinate efforts. Conclusion: This preliminary qualitative analysis of semi-structured interviews with key stakeholders in the PEPAYS domains revealed the complexity and interconnectedness of policy-making in these realms. Thus, emphasising the need for continued collaboration and consideration of diverse perspectives to address challenges (Lorusso 2021). The next phase entails interviewing remaining stakeholders to deepen understanding of PEPAYS policy. Followingly, a survey (n=100) will be disseminated to all stakeholders to explore emerging themes and further investigate the research topic.

Title: Fighting for What's Fair: Collective Action responses to Economic Inequality

Name: Finn Lannon

Faculty: Education and Health Sciences

Supervisor: Dr. Jenny Roth

Abstract:

Economic inequality significantly influences people's thoughts and actions regarding wealth gaps. Global trends show an increase in collective action tendencies, such as protesting or signing petitions for ingroups. Our research explores collective action goals among middle-status group members responding to economic inequality. Drawing on social identity theory, we hypothesized that heightened inequality leads to increased collective action intentions. Experiment 1 (N = 74) establishes a causal link between economic inequality and intentions for middle-status group members both to reduce inequality and enhance ingroup status. In a pre-registered second experiment (N = 432), we investigated legitimacy appraisals and intergroup comparison direction as explanatory variables. Legitimacy of ingroup status and societal inequality mediated the impact of economic inequality on distinct collective action goals. Upward intergroup comparison heightened intentions to improve ingroup status but not to reduce inequality. These findings contribute to understanding the consequences of economic inequality and drivers of collective action.

Title: Assessing the Feasibility of ULMedX in Improving Physical Function in Participants Living with Cardiovascular Disease

Name: Daire Fitzmaurice

Faculty: Education and Health Sciences

Supervisors: Prof. Matthew Herring, Prof. Catherine Woods, and Prof. Brian Carson

Abstract:

Introduction: Research has shown the positive effects of physical activity (PA) and exercise in managing chronic diseases. Exercise Referral Schemes aim to encourage PA participation among individuals with chronic conditions through healthcare practitioners referring them to supervised exercise programs. This study evaluates the feasibility of ULMedX, a 12-week structured exercise program, in improving the physical function of individuals with cardiovascular disease. Methods: In this study, a pre-test post-test design was employed with a sample size of 29 participants (89.7% males, total mean age of 66.17 ± 10.9 years). Participants attended exercise sessions twice weekly for 12 weeks, focusing on cardiovascular endurance and supplemented with local muscular endurance training targeting major muscle groups. Assessments at baseline and 12-week follow-up included lower body strength (5xSTS), functional mobility (TUG), and aerobic capacity (6MWT). Statistical analysis employed paired-samples t-test for 6MWT and Wilcoxon-signed ranked test for 5xSTS and TUG due to non-normal data. Results: 100% of participants completed assessments at baseline with 86.21% of participants completing assessments at 12-week follow-up. The ULMedX programme had a mean attendance rate of $55.31 \pm 32.22\%$ over 12-weeks. There was a significant difference in 5xSTS ($p = .025$) and TUG scores ($p = .007$). There was also a significant difference in the 6-minute walk test scores ($p = .001$, $d = 0.667$) with an average increase of 26.48 ± 39.72 m across all participants, which is also a clinically meaningful change. Discussion and Conclusion: The results suggest that participation in ULMedX could have a notable impact on enhancing aerobic capacity and lower limb strength among individuals with cardiovascular disease. Such clinically significant improvements have the potential to enhance the quality of life for these participants. While this study demonstrates the feasibility of programmes like ULMedX, further research should focus on participant uptake and attendance at these programmes.

Title: Exploring the Use of Qualitative Methods in Core Outcome Set Development

Name: Marci Livingston

Faculty: Education and Health Sciences

Supervisor: Dr. Katie Robinson

Abstract:

The heterogeneity of outcomes measured in clinical trials presents a challenge for researchers aiming to assess the effectiveness of interventions. Systematic reviews and meta-analyses rely on grouping similar outcomes across studies, necessitating ways of reducing this heterogeneity. One promising approach is the inclusion of a Core Outcome Set (COS) into clinical trial protocols. COS provide a minimum set of outcomes relevant to specific healthcare conditions. The development of COS follows a consensus-driven approach meant to include the input of various stakeholders throughout the development process. Increasingly, COS developers are turning to qualitative methods to ensure that outcomes important to individuals with lived experience of a condition or intervention are included in a COS. Despite a growing trend towards incorporating qualitative methods into COS development, there remains a gap in understanding their utilisation, rigour, and rationale among developers. Previous research highlights the importance of patient and stakeholder input in COS development but lacks an in-depth examination of how qualitative methods' integration in the early phases of COS development achieve this goal. This PhD and its associated work packages aim to address this gap by exploring how COS developers employ qualitative methods, assessing the rigour of qualitative work within COS development, and exploring choices of COS developers to use or not use qualitative methods. Work package one is underway and includes a scoping review of current COS and their use of qualitative methods. The outputs from this PhD will contribute to methodological guidance for COS developers, aiding in the improvement of qualitative research practices within the COS development process.

Title: Support needs of East Asian migrant family caregivers in a host country: A Scoping Review

Name: Wenyi Tang

Faculty: Education and Health Sciences

Supervisors: Ruth Ryan, Irene Cassidy and Stephen Gallagher

Abstract:

Background: Family caregiving is a critical component of the healthcare system. Caring for a family member can be a challenging experience, especially for those living in a foreign country. East Asian migrant (EAM) family caregivers often face unique challenges in host countries due to cultural differences, language barriers, and unfamiliarity with the local healthcare system. This scoping review critically examines the characteristics, key concepts, and themes surrounding the support needs of EAM family caregivers in their host country. Method: A scoping review of the existing literature using the Joanna Briggs Institute (JBI) framework. A comprehensive search strategy to identify relevant articles in 5 databases CINAHL, PsycINFO, Scopus, MEDLINE, and Web of Science published between 2012 and 2023. Results: In total, 26 studies fulfilled the inclusion criteria. Among the studies qualitative research dominated (n=18), followed by quantitative studies (n=5), and mixed-methods studies (n=3). This study highlighted the diverse support needs spanning cultural sensitivity, education and training, and social support, highlighting significant gaps in the availability and accessibility of culturally and linguistically appropriate health and social care services. The analysis underscores the demand for health and social care providers to develop cultural competencies. Discussion: The findings reveal a need for customised, culturally and linguistically attuned health and social care interventions tailored to support EAM family caregivers in their role. It is imperative that health and social care providers, policymakers, and community organisations collaborate in developing resources that are accessible, comprehensible and adaptable to the needs of EAM caregivers. This research advocates more inclusive and effective health and social care systems that not only enhances caregiver health and well-being but contributes to the broader goal of equitable healthcare for diverse populations.

Title: The changing perspectives of assessment in addressing the reconfiguration of a Physical Education Teacher Education (PETE) programme

Name: Hsiu Wei Yang

Faculty: Education and Health Sciences

Supervisor: Prof. Ann MacPhail

Abstract:

In the Irish context, assessment discourse has been moving towards teachers assessing their own students' work and implementing Assessment for Learning (AfL) strategies. Research on the implementation of AfL and formative assessment strategies in physical education practice in physical education teacher education highlights the effectiveness of teaching towards an instructional alignment approach (Scanlon et. al., 2022). It has been suggested that the alignment of teaching assessment philosophies and practices should happen across teacher education programmes and be embedded throughout all modules (Young et. al., 2022), providing opportunities for pre-service teachers to experience AfL throughout their teacher education programmes and further enhance their assessment literacy. This project explored the extent to which nine physical education teacher educators who have worked/work in the same four-year undergraduate Physical Education programme experience the changes to the programme aligned with the recent reconfiguration of all teacher education programmes. Results convey that the physical education teacher educators held similar philosophies and assessment perspectives. AfL and Instructional Alignment was not clearly emphasized in the reconfigured programme and the physical education teacher educators perceived that embedding AfL and Instructional Alignment in the reconfigured programme posed challenges. This finding raises interest about how physical education teacher educators consider best embedding assessment concepts into a physical education teacher education programme.

Title: Physical Education Teachers' Professional Development Through Social Media: A Systematic Review

Name: Yue Xu

Faculty: Education and Health Sciences

Supervisors: Prof. Ann MacPhail and Prof. Ash Casey

Abstract:

1 / 2 PEPAYS 2024 Munster Technological University, Kerry Campus Abstract Submission Template Oral Presentation: Title: Physical Education Teachers' Professional Development Through Social Media: A Systematic Review Author's Name(s): Yue Xu, Prof. Ann MThe aim was to explore the extent to which physical education teachers engage with social media platforms as a means of community for learning. The search strategy was composed of the PEO framework and the PRESS checklist. Databases used included ERIC, SportDiscus, Scopus, Web of Science, and ERIC (Proquest). Search terms related to social media/ social network/ social platform, physical education/ pe, teacher/ educator/ instructor. Thesaurus used for avoiding missing relevant articles. A total of 2621 studies imported for screening via Covidence. Two authors independently screened titles and abstracts of the remaining 2189 articles to determine whether they met the inclusion or exclusion criteria. Inclusion criteria includes: Population focus is physical education teachers; Social media is used to access resources related to teacher professional learning or communication between teachers; Any study design; Any types of publication; English and Chinese language. 20 articles were fully assessed based on five categories: authors & year; country; aim of the study; type of study; social media platforms. The study spans from 2014 to 2023. The US (11) emerges as the most prominently featured country, while Asia and low-income countries are notably underrepresented. Qualitative methods (10) dominate across 20 papers, followed by mixed methods (2) and quantitative methods (2). Singular platforms (10) are commonly utilized, with Twitter (12) being the most frequently mentioned. Initial analysis of the articles convey a number of themes. 'Roles and behaviours' capture the differing responsibilities physical education teachers undertake such as leaders / experts and providing support and advice. 'Attractions' capture what attracts physical education teachers to engage with social media platforms and includes accessibility to information and a sense of belonging to a community. 'Anxieties' captures concerns physical education teachers share such as feeling overwhelmed with the vast amount of information and the uploading of appropriate material.

Title: Girls' Stories: Development and Implementation of a School-Based Narrative Intervention to promote Migrant Girls' Belonging and Wellbeing

Name: Jade Gill

Faculty: Education and Health Sciences

Supervisors: Dr. Jennifer McMahon and Dr. Anca Minescu

Abstract:

Difficulties in fostering young migrants' wellbeing are well-documented (Montgomery & Foldspang, 2007; Schwartz et al., 2010), particularly in adolescent migrant girls, who report more anxiety, emotional problems, and avoidance than their male counterparts (Mhaidat, 2016). Schools play an integral role in promoting migrant students' wellbeing, yet there is little evidence of effective school social-emotional interventions (Belhadj Kouider et al., 2014), with existing interventions deemed not fit-for-purpose (Bennouna et al., 2019). Guided by Seligman's PERMA theory of wellbeing (2011) and ecological systems theory (Bronfenbrenner, 1979), this research programme aims to address the urgent lack of gender-specific school supports migrants in Ireland, a gap emphasised by UN Sustainable Development Goal #4 and Ireland's Research and Innovation Strategy (Impact 2030; Pillar #4). This research aims to explore social-emotional interventions that promote wellbeing in adolescent migrant girls, through four studies: (1) identifying evidence-based social-emotional interventions to support migrant girls (scoping review), (2) identifying how Irish post-primary schools are currently supporting adolescent migrant girls (survey), (3) ascertaining the lived experiences of adolescent migrant girls (focus groups with teachers and adolescent migrant girls), and (4) designing, implementing, and evaluating a school-based narrative intervention to increase wellbeing in adolescent migrant girls. This research programme is guided by a youth advisory panel of adolescent migrant girls, to ensure the centrality of the youth migrant voice. Youth-adult research partnerships are considered paramount in youth wellbeing intervention design (Warraitch et al., 2024; Malla et al., 2021). This research has the potential to profoundly impact the lives of migrant girls, and those who work with them. It will also help facilitate social-emotional integration and identity development, through forging new narratives in a changing world. Additionally, this research has the potential to enhance migrant girls' mental health and wellbeing, thereby reducing the financial cost of providing mental health supports to this population.

Title: Safety attitudes/behaviours and their link to personality traits, a comparison between healthcare and other industries

Name: Yeojin Kil

Faculty: Education and Health Sciences

Supervisors: Dr. Anna Chatzi and Dr. Margaret Graham

Abstract:

Background: Human factors have been studied as a main problem for workplace incidents and accidents. In particular, aviation has regulated policies and operation systems by applying human factors. Personality traits are a key focus within human factor research due to their influence on safety. Understanding the influence of personality traits on safety attitudes/behaviours within healthcare is crucial due to complex operation systems. Relevant studies were searched and analysed. **OBJECTIVE:** To contribute to enhancing safety work practice within healthcare by analysing research activity **METHODOLOGY:** This scoping review was conducted in July 2023 on the databases: APA PsycINFO, APA PsycARTICLES, CINAHL, SCOPUS, and Web of Science. Reference lists of existing literature were also searched. Studies were screened by inclusion criteria. **RESULTS:** 60 studies were included in the review. The included studies were published across different countries between 2001 and 2023. The studies were grouped into Driving/traffic and Industrial safety. Conscientiousness, sensation-seeking, extraversion, agreeableness, normlessness, and neuroticism were mostly studied. Two publications were searched in healthcare; agreeableness, conscientiousness, and sensation-seeking were addressed. Higher levels of agreeableness and conscientiousness and lower sensation-seeking were linked to safety attitudes/behaviours. **DISCUSSION:** The correlation between personality traits and safety attitudes/behaviours was studied in various industrial sectors. Personality traits have both positive and negative correlations with safety attitudes/behaviours depending on the category. Healthcare has shown similar results to other industrial studies. The scarcity of research hinders the understanding of the entire healthcare field. Some studies exhibited inconsistency in utilising safety attitudes and behaviours, despite the conceptual disparity. **CONCLUSIONS:** Personality traits influence safety attitudes/behaviours in terms of workplace safety. However, there are two identified research gaps.

Title: Enhancing Technology Education for Students with ASD: A Scoping Review

Name: Maria McCarthy

Faculty: Education and Health Sciences

Supervisors: Dr. Donal Canty and Dr. Nicolaas Blom

Abstract:

Enhancing Technology Education for Students with ASD: A Scoping Review. Recently there is renewed interest in supporting students with neurodiverse needs in education. However, despite the calls of various stakeholders to support inclusive education opportunities, there is a scarcity of research targeted on involving students with ASD in project-based environments. This study aims to analyse the existing body of research specifically looking at the relationship between students with Special Educational Needs and STEM education, with a particular focus on technology education. This scoping review adheres to the recommendations of the Joanna Briggs Institute that follows the framework of Arksey and O'Malley (2005) and will be reported in alignment with the PRISMA extension of scoping reviews (PRISMA – SCR). The preliminary findings of this study suggest that there are limited studies highlighting research-informed pedagogical strategies to cultivate the capability of students with SEN in technology education domains. More specifically, although there is some evidence to suggest that some students with ASD have an aptitude towards creativity and high degrees of empathy, very few studies have explored effective methods to support the development of creativity, modelling and empathy in design and technology contexts for these students. It is important to recognise that mere access to STEM education does not automatically guarantee success; research-informed techniques must be developed and adopted to support students with additional needs, particularly in technology education. Future research stemming from this scoping review will inform engagement with technology teachers and SNAs to develop educational interventions.

Title: Older adults experience of transition to the community from the Emergency

Department: A qualitative evidence synthesis.

Name: Brian Condon

Faculty: Education and Health Sciences

Supervisor: Prof. Katie Robinson and Dr. Anne Griffin

Abstract:

Background: Older adults comprise a growing proportion of Emergency Department (ED) attendees and are vulnerable to adverse outcomes on discharge. Interventions to reduce older adults' risk of adverse outcomes following an ED attendance are proliferating and often focus on improving the transition from the ED to the community. This study systematically reviewed and synthesised qualitative studies reporting older adults' experiences of transition to the community from the ED. Methods: A systematic literature search of six databases was completed in March 2022 and updated in March 2023. Ten studies were included following full text review representing the experiences of over 334 older adults from four different countries. Findings from included studies were synthesised as a meta-ethnography. Results: Older adults often reported un-resolved symptoms on discharge (theme1) which negatively affected transition home and return to daily life. Unresolved symptoms were also a major driver of ED re-attendance shortly after discharge (theme 2). Although older adults wanted a planned discharge home with organised transport (theme 4) however, this was not often achieved. Fragmented care at the point of transition home (theme 3) was a reoccurrence experience for older adults alongside inadequate healthcare provider communication/instructions on ED discharge (theme 5). Conclusion: Study findings identified key areas for consideration in service development and intervention development for older adult's care when transitioning from the ED to the community. Healthcare providers need to explicitly address expectations about symptom resolution during discharge planning as a collaborative process with older adults.

Title: Feasibility of ctDNA and immune response analyses in a population of Irish patients with high-risk Diffuse Large B cell Lymphoma

Name: Ailin McMahon

Faculty: Education and Health Sciences

Supervisors: Prof. Ruth Clifford and Dr. Elizabeth Ryan

Abstract:

Approximately 40% of patients with Diffuse Large B cell Lymphoma (DLBCL) will be refractory to treatment or will relapse. Early identification of these high-risk patients is an essential step towards earlier consideration of alternative treatments and in facilitating access to emerging targeted therapies through clinical trials. This remains an unmet clinical need and may be important in elderly patients to reduce toxicities associated with unnecessary chemotherapy. Circulating tumour DNA (ctDNA) is shed by tumour cells into the blood stream and can be analysed using a peripheral blood sample. Detection of certain mutations and changes in ctDNA levels can be used as biomarkers for treatment resistance or relapsed disease. Genetic testing for lymphoma patients attending Irish cancer centres is currently limited, though technological advances, particularly in next generation sequencing (NGS) platforms, have made genetic testing much more accessible. As DLBCL is also associated with immune dysregulation, tracking of certain circulating immune markers in addition to ctDNA may improve patient risk-stratification. This study aims to investigate the feasibility of introducing ctDNA sequencing for Irish patients with DLBCL. We also aim to explore the correlation between circulating molecular (ctDNA) and immune markers, with the goal of improving risk stratification of these patients. We will analyse the molecular and immune profiles of 20 patients with ABC-subtype DLBCL, examining both diagnostic tissue and serial peripheral blood samples through NGS, multiplex immunohistochemistry and flow cytometry. This data will be analysed in conjunction with patient outcomes to identify if there is an association with survival. The impact of this research is to serve as a proof of concept for expansion into a larger clinical trial. If successful it will provide the evidence required for translation into routine clinical practice for patients with DLBCL attending Irish cancer centres.

Title: Decarbonising Southern Africa’s State-owned Power Companies

Name: Huddon Mandizvidza

Faculty: Kemmy Business School

Supervisor: Prof. Eoin Reeves

Abstract:

State Power Companies (SPCs) constitute nearly half of global power sector emissions. Notwithstanding current low-emissions, low-and medium-income countries (LMICs) are SPC dominated, face substantial energy infrastructure gaps, and remain in the lower rungs of development with lofty catch-up ambitions. Predictably, future global electricity demand growth will be driven by these countries. Thus, LMICs can “carbon lock-in” the world when the rest of the world has decarbonised. Using a mixed methods approach with a panel dataset of twelve power State-owned Enterprises (SoEs) and four influential SPC case studies drawn from Southern Africa spanning 2010 - 2020, this study draws empirical insights into how this region – with typical SPC dominance, energy generation gaps and catch-up ambitions, is decarbonising the power sector. Also, how climate policy and the political economy might have shaped observed decarbonisation trajectories. Results emphasize that not all decarbonisation strategies and climate policies are feasible in State dominated LMIC power sectors where political economy factors often get prioritised. Also, emission levels are not always a consideration in SPC investment decisions.

Title: Life Course Transitions and Everyday Consumption: Exploring Opportunities for Sustainable Consumption Practices

Name: Alannah Scully

Faculty: Kemmy Business School

Supervisors: Prof. Deirdre O'Loughlin and Dr. Maria Lichrou

Abstract:

This early-stage study investigates life course transitions within the context of everyday consumption, placing particular focus on sustainable consumption practices. The purpose of this research is to explore the opportunities that emerge through life course transitions to facilitate and augment sustainable consumption. Everyday practices may be reconsidered, adapted or adopted due to major life course transitions, such as becoming a parent. These transitions have the potential to positively impact sustainable consumption practices. Through in-depth qualitative research, this study will explore the experiences of consumers in respect to life course transitions and how they interrelate with sustainable consumption. Specifically, the research will focus on consumption decisions before and after becoming a parent, in order to further examine opportunities for pivoting towards more sustainable consumption practices. A longitudinal approach will be adopted, conducting unstructured interviews, to capture the experiences of soon-to-be parents and new parents during various stages of the transition into parenthood.

Title: What Explains Socioeconomic Inequality in Study Abroad Participation? New Evidence from Large-Scale Administrative Data

Name: David Horan

Faculty: Kemmy Business School

Supervisors: Dr. Darragh Flannery and Prof. John Cullinan

Abstract:

Within the EU, the number of higher education students participating in the Erasmus+ programme reached 2 million between 2014 and 2020. This trend coincides with a growing literature highlighting an array of benefits associated with international student mobility. For example, empirical evidence shows that studying abroad can lead to improved language proficiency, better graduation grades, increased personal development skills, as well as enhanced labour market outcomes. Furthermore, political support for the expansion of the programme, running from 2021-2027, is evidenced by the doubling of the latest allocated budget to €26.2bn. However, despite growing numbers of students participating in study abroad programmes, concerns around inequalities in participation in these programmes remain. In this context, we use a large-scale, high-quality administrative dataset from Ireland to comprehensively examine the relationship between short-term study abroad participation and socioeconomic status (SES). We find that affluent students are 1.5 times more likely to spend time studying abroad compared to their non-affluent peers. Further analysis suggests that prior academic performance and field of study explain a large part of the observed difference in mobility rates across SES groups but a significant proportion is unexplained. Results from our heterogeneity analysis indicate that inequalities are most acute within business related courses and amongst high performing students. In contrast, no difference in mobility rates across SES groups is observed for students enrolled in language courses. Our findings are both timely and relevant following the launch of the latest Erasmus+ programme, which has a stated policy aim of supporting groups of students with lower participation rates in study abroad programmes. Our analysis also highlights potential inequalities in student experiences' while in higher education across socioeconomic groups and provides useful evidence on where policies can and should be targeted to reduce social inequalities in study abroad participation.

Title: In vitro optimisation of innate immune cell functional assays

Name: Brian Gleeson

Faculty: Interfaculty

Supervisor: Prof. Elizabeth Ryan

Abstract:

Background: The aim of this study was to optimise laboratory protocols used to assess innate immune cell functions. Methods: The human monocyte cell line THP-1 was cultured in vitro and visualised using an Invitrogen EVOS M5000 Microscope. 5×10^5 cells/ml were used for each experiment. Monocytes were incubated overnight with 100 ng/ml PMA, 0.5 μ g/ml CL097, or 1 μ g/ml CL097. ELISA was performed using Biolegend ELISA Max Standard Set Human IL-6 kit and BioTek Eon Microplate Spectrophotometer. Stimulated cells were stained with PE-anti-CD80 (BD Pharmingen L307.4) and APC-anti-HLA-DR (Biolegend LN3) antibodies. 20,000 events were acquired on a BD Accuri C6 Flow Cytometer gated on single live cells. Cells were treated with 10 ng/ml PMA, 0.5 μ g/ml CL097, or 1 μ g/ml CL097 for 1 hour and quantified using CellROX Green Flow Cytometry Assay Kit (Invitrogen). Data was analysed using Fiji ImageJ, GraphPad PRISM and FlowJo software. Results: THP-1 cells demonstrated comparable changes from circular to elongated morphology across treatment conditions. Only the 1 μ g/ml CL097 treatment condition led to substantial production of IL-6 by ELISA. In contrast, treatment with PMA or CL097 produced modest but comparable increases in CD80+ HLA-DR+ cell activation by flow cytometry. Treatment with RPMI alone is a better CellROX assay negative control than N-acetylcysteine antioxidant, while treatment with TBHP is the best positive control for this assay. PMA and/or CL097 are not effective at inducing reactive oxygen species. No synergistic effect was observed for double stimulated cells for any assay. Discussion: While THP-1 cells are valuable for in vitro studies, they are not representative of primary human cells. They are basally activated with diminished cytokine production, surface marker expression, and ROS production upon stimulation. Further protocol optimisation using human blood cells is necessary using LPS instead of PMA or CL097.