1st Annual
Limerick Postgraduate Conference
“An Exhibition of Postgraduate Research in Limerick”
June 13th, 2012
Hosted at Mary Immaculate College
South Circular Road, Limerick

Delegate Information Booklet

www.limerickpostgraduateresearch.ie
Welcome.
This conference aims to exhibit the research of the postgraduate community in Limerick City; a creative community that brings forward both contemporary research perspectives and vibrancy, founded upon the work built by peers in their respective fields. We wish to broaden our knowledge by bringing together academics for the exchange of multidisciplinary thought.

This conference has been spear-headed by the Postgraduate Society of Mary Immaculate College (MIC) and was organised in conjunction with the PSU (Postgraduate Students’ Union, UL). Our aim is to produce and further develop a support network for the postgraduate population of Limerick City and to present their work in a ‘peer group’ environment while also giving the postgraduate students the opportunity to further their career.

It is the individuals, not just the data, who build connections that in turn create lasting research partnerships.

Opening Ceremony
The opening address will be given by Professor Michael A Hayes, President of Mary Immaculate College (pictured left). This will be followed by Professor Eda Sagarra’s Keynote Address and a Roundtable Discussion with a panel of experts including Prof. Sagarra.

Keynote Address
Today’s keynote address will be delivered by Professor Emerita Eda Sagarra, former Pro Chancellor of Trinity College Dublin.
Being appointed to the office of Chancellor or Pro-Chancellor in Trinity College Dublin is considered to be the highest accolade that the University can bestow. The office is reserved for the most distinguished graduates and academics, who have made exceptional contributions to Trinity College over the course of their career. Professor Sagarra’s research interests include: Modern German & Austrian literature and society, women writers, national stereotypes and German-Irish relations in literature & history. Her research projects include: Literary & social history of servants in Germany, German book market, Irish perceptions of Germany and Grillparzer.

We are delighted to welcome Professor Sagarra to the 1st Annual Limerick Postgraduate Conference.
Roundtable Discussion
Room T1.17
The Value of Postgraduate Research in Limerick
- Reflections of the past, present and future

The Roundtable Discussion will commence after Prof. Sagarra’s Keynote Address. Each panel expert will give a brief talk on their position of the value of postgraduate research in Limerick.

Professor Jim Deegan
Director of Postgraduate Studies in Education, MIC
Professor of the Sociology of Education

Dr Catherine Kavanagh
Director of Postgraduate Studies in Arts, MIC
Lecturer of Philosophy

Dr Helen Kelly Holmes
Assistant Dean of Research, UL
Lecturer of Sociolinguistics & New Media

Elaine Kiely
Careers Advisor to Postgraduate Students, UL

The Keynote Speaker and Panel Experts will open up the floor to a question and answer session.
Getting to Mary Immaculate College...
Getting around Mary Immaculate College

Registration will take place in the TARA building from 8.30am until 10.00am
# Conference Schedule

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<td>08:30</td>
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<td>08:30 – 10:00</td>
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<td>Panel of experts including: Prof. Jim Deegan, Dr. Catherine Kavenagh,</td>
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<td>Culture and Literature</td>
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Session 1  

1A – Philosophy

Belief, Justification and Knowledge: The value of epistemological research
Treasa Campbell, Department of Philosophy, Mary Immaculate College

Newman for the Post-Modern Age (Newman, Wittgenstein and the Ethics of Enquiry)
Ann Guiney, Department of Philosophy, Mary Immaculate College

The Influence of German Idealism on Twentieth Century Philosophy with Specific Reference to Goethe, Gadamer and Wittgenstein
Gerard Meagher, Department of Philosophy, Mary Immaculate College

The Role of Biography in the History of Philosophy
Michelle Cooney, Department of Philosophy, Mary Immaculate College

Room: T1.15

1B – Social Change

Housing as an indicator of poverty in Limerick City – An examination of 19th century sources
Ruth Guiry, Department of Geography, Mary Immaculate College

Population Mobility in a ‘Globalised’ Countryside: Insights from Co. Monaghan
Shane O’Sullivan, Department of Geography, Mary Immaculate College

What the maps say about civic engagement
Ciara Younge, Department of Geography, Mary Immaculate College

Room: T1.16

1C – Science

Plant/microbe interactions: A study of mutualism between Medicago truncatula and Piriformospora indica
Martin Hayes, Department of Applied Science, Limerick Institute of Technology

Unique fungal sources of industrial biocatalysts
Katrina McPhillips, Daniel J. Walsh, Patrick G. Murray, Shannon ABC, Department of Applied Science, Limerick Institute of Technology

Diversity of Desulfonating Bacteria in the Mycorrhizosphere
Jacinta Gahan and Achim Schmalenberger, Department of Science and Engineering, University of Limerick

Room: T1.17

1D – Education

A Critical Examination and Evaluation of Partnership in North South Teacher Education Development
Fiona Bailey, Department of Education, Mary Immaculate College

Enhancing Education for Sustainable Education through a process of Collaborative Curriculum Integration
Mantoetse Jobo, Department of Education, Mary Immaculate College

Can competencies play a role in health education teaching?
Sharon Moynihan, Department of Education and Professional Studies, University of Limerick

An economics evaluation of the Limerick based health education programme, ‘Health Information at Your Fingertips’
Lisa Hickey, University of Limerick

Room: T1.18
2A – Theology

Mimetic Theory and Film: A contemporary medium for ‘new evangelization
Brendan Coughlan, Department of Theology, Mary Immaculate College

The Bishop Envisioned by Pope John XXIII: A Signpost for the Contemporary Irish Catholic Church
Paul Gadie, Department of Theology, Mary Immaculate College

The All-Embracing Maternal Church: The Communion Ecclesiology of Henri de Lubac
Paudie Holly, Department of History, Mary Immaculate College

2B – Psychology

Methodological issues regarding the study of self-regulatory individual differences in functional counterfactual thinking
David Moloney, Department of Psychology, Mary Immaculate College

Context and meaning in cognitive tasks: Preliminary analysis
Alan McAuliffe, Department of Psychology, Mary Immaculate College

How does the left hand know what the right hand is doing? The intermanual transfer of acquired skilled hand movement
Deirdre Ryan, Department of Psychology, Mary Immaculate College

2C – Business and Economics

Investigate Group Energy Systems in Industrial Parks in Ireland
Daniel Cassidy, Department of Mechanical and Automobile Engineering, Limerick Institute of Technology

How do information systems (IS) managers engage with the process of aligning business and IS strategies in public service organisations?
James Holohan, Limerick Institute of Technology

Forecasting the Term Structure of European Credit: An Empirical Analysis
Frances Shaw, Department of Accounting and Finance, Kemmy Business School, University of Limerick

2D – Medicine and Health

Tissue Engineering: Advancing Cardiovascular Stent Grafts
Laura M. Davis, Centre for Applied Biomedical Engineering Research (CABER), Department of Mechanical, Aeronautical & Biomedical Engineering, University of Limerick

Vascular Graft Development: Cell-Material Interactions
Claire L. Meaney, Centre for Applied Biomedical Engineering Research (CABER), Department of Mechanical, Aeronautical & Biomedical Engineering, University of Limerick

Ragwort: A possible medicinal weed??
Catherine O’Keeffe, Gary Stutte and Michelle McKeon-Bennett, CELLS Laboratory, Department of Applied Science, Limerick Institute of Technology
Session 3

15.15

3A – Culture and Literature

Room: T1.15

Who Watches the Novel - Deconstructing the Hero through the Medium of Sequential Narrative

John Harnett, Department of English Language and Literature, Mary Immaculate College

Wim Wenders’ film ‘Paris, Texas’ in the context of mobility and space

Franziska Schratt, Department of German Studies, Mary Immaculate College

The Truth is Out There! Audience Perceptions of Subjectivity, Objectivity and Truth in Documentary

Kayleigh Swords, Department of Media, Mary Immaculate College

The Quest for Race and Gender Equality in the Theatre of Olympe de Gouges 1748-1793

Vivien Hennessy, Department of French Studies, Mary Immaculate College

Death, Society and the Authentic Vampire

Michelle Cooney, Department of Philosophy, Mary Immaculate College

3B – Science and Technology

Room: T1.16

The feasibility of using Molecularly Imprinted Polymers to detect drugs of abuse in saliva samples

Jessica Quane, Dr. Siobhan Moane, Dr. Patrick Murray, Shannon ABC, Limerick Institute of Technology

Novel bio analytical applications of molecularly imprinted polymers

Jeremiah Hayes, Dr. Patrick Murray, Dr. Siobhan Moane, Shannon ABC, Limerick Institute of Technology

Has the use of biocides in dairy farming contributed to the development and spread of antibiotic resistance in microorganisms?

Aideen Dowling, Jean O’Dwyer, Dr. Catherine Adley, Centre for Environmental Research, Chemical & Environmental Science Department, University of Limerick

An assessment of the spatial and seasonal distribution of microbiological contamination in groundwater derived potable water supplies

Jean O’Dwyer, Aideen Dowling and Catherine Adley, Centre for Environmental Research, Department of Chemical and Environmental Science, University of Limerick

3C – Health and Culture

Room: T1.17

Limerick’s House of Industry and the Insane; a belittled refuge for the mentally ill

John O’Neill, Department of History, Mary Immaculate College

The Changing Attitudes towards Disability in Ireland (1940-2000)

David Loughnane, Department of History, Mary Immaculate College

Improving social accountability interventions in health care

Pieternella Pieterse, Department of Politics and Public Administration, University of Limerick

An investigation into the Efficacy of Filial Play as a Family intervention with parents of disadvantaged backgrounds

Cóilín Ó Braonáin, Department of Learning, Society and Religious Education, Mary Immaculate College

3D – Education and Learning

Room: T1.18

‘Exploring ideals of emancipation in education’: Participatory Action Research and Arts Based Educational Research

Richard Hayes, Department of Arts Education and Physical Education, Mary Immaculate College

Moderate to vigorous physical activity levels of Irish primary school children at school

Deirdre Hegarty, Department of Arts Education and Physical Education, Mary Immaculate College

‘She took him to the cleaners’.….a comparative analysis of the use of delexical verbs by EFL/ESL learners across four different corpora

Justin James McNamara, Department of Applied Linguistics, Mary Immaculate College
Exhibition

Dereliction and Resurrection: The Limerick Sailors’ Home
Phyl Guerin, Limerick School of Art and Design, Limerick Institute of Technology

Outside Room T1.15

Poster Presentations

Social Sciences and Humanities

Occupational Therapy and Unemployment: Exploration of lifestyle change
Claire Farrell, Department of Clinical Therapies, University of Limerick

The Iowa Gambling Task in context: Does context affect behaviour
Alan McAuliffe, Department of Psychology, Mary Immaculate College

The Development and Evaluation of Methods to Reduce the Administrative Burden Posed by Occupational Health and Safety Legislation in Ireland
Áine Newell, Peter Davern, Fiona Wixted, Department of Chemical and Environmental Sciences, University of Limerick

“I see myself in a different light”: Participants’ views of a group occupational therapy programme to promote wellbeing during unemployment
Susan O’Mahony and Alison Warren, Department of Clinical Therapies, University of Limerick

Teaching and Education

An exploration of the adoption, implementation, management of, and attitudes, to ICT in higher education teaching and learning in Ireland
Yvonne Diggins, University of Limerick

Pre-school and Primary School Teachers’ Perceptions of School Readiness in Ireland
Maria Donnelly and Dr. Judi Pettigrew, Discipline of Occupational Therapy, Department of Clinical Therapies, University of Limerick

Enabling Teaching for Social Change: The Global Schoolroom
Mags Liddy, Department of Education and Professional Studies, University of Limerick

Exploring the role of the Teaching Practice Tutor in advising and assessing student teachers’ use of ICT on their teaching practice placements
Tony Sheridan, Department of Education and Professional Studies, University of Limerick

Modelling Science and Mathematics Integration at Second-Level in Ireland: Taking an Inquiry-Based Approach to Learning
Gráinne Walshe, Dr Jennifer Johnston and Dr George McClelland, National Centre for Excellence in Mathematics and Science Teaching and Learning, University of Limerick

Technology and Science

National Electronic Prescribing Systems: A Blueprint for Ireland
James Brennan, Department of Computer Science and Information Systems, University of Limerick

Potable Water Distribution Network Model for Quality and Operations Management
Anne-Marie Brady¹, Paul Vesey¹, Josephine Treacy², ¹School of the Built Environment, Limerick Institute of Technology, ²School of Science, Engineering and I.T., Science Department, Limerick Institute of Technology

Optimisation of Processing and Packaging Conditions for Fresh-Cut Pineapple
Elizabeth Finnegan, Food Science Research Centre, Department of Life Sciences, University of Limerick

Understanding the factors influencing the formation of disinfection by-products in drinking water: Quantification and Characterisation of aquatic humic substances
Huma Sanawar, Josephine Treacy, Paul Vesey, Department of Applied Science; School of Science, Engineering and Information Technology, School of the Built Environment; Limerick Institute of Technology
Baily, Fiona: A Critical Examination and Evaluation of Partnership in North South Teacher Education Development

A number of partnerships between Higher Education Institutions (HEIs), including Teacher Education Institutions (TEIs) in the global North and South have been developed in recent decades with the aim of bridging the North/South knowledge divisions which currently exist. Concurrently, the usage of the term 'partnership' has increased in a range of development co-operation policy documents and funding guidelines; we are no longer donors and recipients; instead we are development partners. Traditionally, development relations have been characterised by notions of superiority, charity, mistrust, dependence, paternalism and power asymmetries. The partnership model, however, is asserted as challenging traditional asymmetrical relations. Its advocates cite its contribution to enabling Southern perspectives, agency, influence, ownership and autonomy, increasing synergy and sustainable results. Its detractors argue that partnership is simply rhetoric, serving only to reinforce and maintain Northern dominance and power; that current partnership models and practices are not doing enough to redistribute power, or that it is in essence a driver of advanced liberal governance.

The key question, which this research is asking is; What is the nature and impact of partnership within the context of North South TE development? The aim of this research is to make visible and tackle both the processes and structures which maintain dominance and dependency and also those which do serve to challenge inequality and asymmetry in development relations.

Brady, Anne-Marie: Potable Water Distribution Network Model for Quality and Operations Management

The field of Water Distribution Network Modelling is well established with numerous municipalities and operations companies across Europe and the US using them on a daily basis. The usage level in Ireland is far lower. Most Irish local authorities have Geographical Information Systems (GIS) for above and below ground water services assets; however this data is rarely used to develop distribution network models. The absence of data for domestic consumption is one of the major barriers for the development and subsequent calibration and testing of network models. Furthermore, no standardised approach for network models exists for Irish local authorities.

This project aims to outline a generic methodology for the creation of a GIS based water distribution network model, which will be calibrated using a genetic algorithm based approach. Collaboration with stakeholders such as a local authority is necessary for this project. Analysis of existing geospatial and operational data currently available within local authorities will provide a better understanding of the network, its condition and elements, including pipes, valves and meters. This data will be used to create and calibrate a computer based water distribution network model. Utilising this model, this project will develop operating procedures for on-going monitoring, maintenance and network improvement.

This project will also model chlorine residual levels in order to assist in the development of cost effective disinfection regimes that both minimise disinfection by-product formation and maintain acceptable taste and smell typically associated with high chlorine residual levels.

Successful completion of this project will address acknowledged problematic areas such as leakage and network condition monitoring in order to assist in existing leak detection procedures and operations maintenance.


Prescribing medicine to a patient is one of the most universal treatments in the medical world, and a prescription is one of the most common medical records. In the last few decades, computer technology has spread to all sectors of society, and is now beginning to make an impact at a national level in some countries in the prescribing domain. Electronic prescribing (e-prescribing) systems in primary care and secondary care are beginning to appear, and are now included in the national electronic health record
Campbell, Treasa: Belief, Justification and Knowledge. The value of epistemological research

The importance of any meaningful contribution to epistemology can hardly be overestimated, since it deals with the ground-work of knowledge itself, and therefore of all scientific, philosophical and moral principles. The project outlined in this paper argues for a humanisation of our understanding of knowledge, belief and justification. In Philosophy, the study of knowledge can become very abstract and distant from human action itself. In the mists of complex logical formulas or theorising about hypothetical parallel worlds, the human element is often neglected. This paper will propose a research pathway for epistemology which is firmly grounded in the practical realities of how humans actually operate in the world. The goal is to ensure that the limitations of human cognition are never abstracted from, for they delineate the very scope and form of epistemological investigation.

Cassidy, Daniel: Investigate Group Energy Systems in Industrial Parks in Ireland

Ireland’s District Heating Technology (DHT) is in its infancy in terms of country wide usage. However, slowly but surely the technology is making in-roads and it is a certainty that DHT will be utilised to bring the Irish energy market in-line with European directives on; renewable energy technologies Including Combined Heat and Power (CHP), Carbon emissions and smart energy grids. District Heating Networks (DHN) are well established in Europe predominantly in the Scandinavian and eastern European countries where climate and historic use of the technology has influenced a major investment in DHN, updating and expanding old networks and creating new, state of the art DHN and support systems to serve high population centres and their urban residential and commercial/industrial satellite zones. Developing large DHN in Ireland that will readily target or emissions and energy network and allow Ireland to meet its renewable and emission targets is the challenge that has to be overcome in Ireland the purpose of this project is to look at industrial parks as the seed points for DHN in Ireland as these areas have greater thermal requirements and higher heat demand densities and available land on which to develop the District Heating facility and from here expand to nearby urban centres. The Project will research planning and evaluating heat requirements for initial plant sizing and expansions and creating efficient layouts, a method for accurately charging customers and reinvestment and expansion.

Cooney, Michelle: Death, Society and the Authentic Vampire

The representations of the vampire serve to question the boundaries and dichotomies of life and death, real and unreal, masculine and feminine. However, one cannot speak of the modern and postmodern vampire theme without a return to the blueprint for all modern Gothic vampire myths: Bram Stoker’s Dracula. Bram Stoker’s novel Dracula progresses the vampire, socially, from a creature that roams the night and avoids contact with humans to a creature that actively interacts and relies on humans and struggles with metaphysical questions. What makes the vampire attractive to the human condition is that he, Count Dracula, offers three very enticing offerings to the living, untold financial wealth, sexual desire and above all immortality. This paper discusses a novel interpretation of Bram Stoker’s Dracula using a hermeneutic methodology derived from the work of Martin Heidegger. Specifically it argues that the character of the vampire embodies the concept of the das-Man as outlined in Being and Time, Heidegger’s seminal text.
For opportunities, for example, the National Digital Learning Resources (NDLR) service, a portal and platform for higher education institutions, focusing on the development of open and flexible teaching and learning services and supports, which are available to higher education institutions, focusing on the development of open and flexible teaching and learning opportunities, for example, the National Digital Learning Resources (NDLR) service, a portal and platform for higher education open educational resources. This PhD study explores the adoption, implementation, of digital tools and equipment to enhance the teaching and learning experience.

The integration of ICT into these strategies, however, the adoption, implementation, of digital tools and equipment to enhance the teaching and learning experience.

Despite historical antipathy towards, or even hostility for, philosophical biography, there is at present an explosion in the number of these biographies that have appeared on the market. Given this, the main purpose of this paper is to analyse whether this type of intellectual biography has any relevance to the history of philosophy. However, there are a number of items that must be dealt with before assessing the relevance of biography to philosophical texts. These things include: what distinguishes biography from any other form of literary narrative, the methodological approach to biographical writing and the characteristics of a good intellectual philosophical biography. This paper will examine these three points before addressing the primary question of the relevance of biography to the History of Philosophy.

This paper will deal with the challenges posed by inculturation. A principal objective of the Second Vatican Council was to articulate the enduring message of the Gospels in a secularized world. One of the greatest obstacles to this mission is the persistent inculturation of Christians through electronic media, and in particular television and film. However, in this paper I will determine that the application of mimetic theory to film can actually elucidate the Gospel message. In particular I will utilize the work of the pre-eminent theologian Raymund Schwager who advanced an existing hypothesis originally espoused by Rene Girard which maintained that the antecedent of communal violence is mimetic rivalry. Mimetic theory asserts that human desire is triangular and has three movements, which eventually culminates in the selection of a random scapegoat who is murdered to maintain social equilibrium. For Schwager Jesus is the necessary scapegoat of the New Testament whose death sheds light on our latent tendencies towards violence. In this paper I will establish that this Scapegoat mechanism is visible in contemporary film and conclude that as a medium; film can effectively facilitate new evangelisation.

Effective arterial replacements for the minimally invasive treatment of abdominal aortic aneurysms (AAAs) are still an under-developed solution. AAAs are a permanent and irreversible dilation of the aorta which may rupture if untreated. Currently there are two treatment procedures; endovascular aneurysm repair, using a stent-graft, and open surgical repair.

Various synthetic and naturally derived extracellular matrix (ECM) materials have been investigated in recent years for their suitability as a vascular graft replacement material with biological scaffolds showing great potential in vascular treatments. However, effective storage of biological scaffolds is a major limitation which can result in biomechanical changes in the scaffold. A proposed solution to the identified problems of stent-graft migration and endoleaks focuses on the use of a tissue-engineered (TE) collar to create a biological seal between the device and the host artery. This TE approach aims to develop a cell based vascular substitute with the inherent ability to restore, maintain and improve tissue function.

The findings from this research to date in conjunction with future in vitro bioreactor and computational fluid dynamic studies, further confirm the potential in developing a physiologically mimetic tissue-engineered cardiovascular graft for the treatment of AAAs that can be delivered as an off-the-shelf product.

The term Information and Communication Technology (ICT) in education refers to the use of a broad range of digital tools and equipment to enhance the teaching and learning experience. The global recession of the 21ST Century has seen a national emphasis on higher education, and in particular a ‘flexible approach’ to higher education, as the future of, and the resolution to, Ireland’s economic recovery. Ireland does not have an explicit national strategy for ICT integration into higher education teaching and learning, however the issue of ICT has been integrated into more generalised strategies. The integration of ICT, into these generalised strategies, has resulted in the development of services and supports, which are available to higher education institutions, focussing on the development of open and flexible teaching and learning opportunities, for example, the National Digital Learning Resources (NDLR) service, a portal and platform for higher education open educational resources. This PhD study explores the adoption, implementation,
management of, and attitudes, to ICT in higher education teaching and learning in Ireland. This research reviews existing national explicit and implicit policies and initiatives focussing on ICT for higher education teaching and learning and gives an insight into the role of the ‘ICT Leader’ though the NDLR service Institutional Coordinators. This research carries out case study research based in the two higher education institutions in Ireland, including faculty and student surveys.

Donnelly, Maria: Pre-school and Primary School Teachers’ Perceptions of School Readiness in Ireland

Decisions to send a child to school are often made on the basis of parents and pre-school teachers’ perceptions of a child’s abilities and skills required for a successful transition. However, there may be disparity between how pre-school and primary school teachers define school readiness. The primary objective of this study was to establish current pre-school and primary school teachers’ perspectives of school readiness in Ireland and to compare these perspectives.

The research also explored the current role occupational therapy has in school readiness in Ireland. A postal questionnaire was used to collect data. Quantitative data was analysed using SPSS and common themes from open-ended questions were derived through thematic analysis. Discrepancies and commonalities between what pre-school and primary school teachers’ perceive to be the most important concepts of school readiness were highlighted. The most important child attributes according to participants are communication and language competence, socio-emotional competence, independence, self-control and social skills. Primary school teachers’ perceived chronological age as most important. This was not indicated by pre-school teachers. All participants suggested that readiness is multidimensional and should include external factors. Limited involvement of therapists in transition planning suggests that teachers may have an insufficient understanding of the contributions of occupational therapists.

Results showed teachers from both groups hold similar perspectives in relation to school readiness. This study also highlighted the need for occupational therapists to advocate for their role as specialists in the field, qualified to support children in making a successful transition to school.

Dowling, Aileen: Has the use of biocides in dairy farming contributed to the development and spread of antibiotic resistance in microorganisms?

Antibiotic resistance has been recognised as a global health problem. The increase and spread of resistance to antibiotics linked to reports of co- and cross- resistance between antibiotics and biocides raised speculations on potential hazard of biocide use. Biocides are antimicrobial agents that have been in use for hundreds of years for disinfection, antisepsis and preservation. They are used in all areas of the food industry and are widely available in household products for cleaning purposes and play a key role in animal husbandry. Despite this widespread use most fungal and bacterial species remain susceptible to biocides. However over-reliance and inappropriate use of biocides has led to the emergence of biocide tolerant pathogens. Biocide tolerance has been reported in common foodborne pathogens, such as *E. coli* and *Salmonella* spp. This resistance could be linked to cross-resistance to antibiotics and a potential public health risk. To prevent biocide and antibiotic resistance it is important to incorporate best practice, this includes ensuring disinfection guidelines are in place. This is especially relevant in the farming sector where large quantities of disinfectant are used daily under varying conditions. Increased awareness and improved farming practise could lead to better hygiene and therefore minimise antibiotic resistance.

Farrell, Claire: Occupational Therapy and Unemployment. Exploration of lifestyle change

Unemployment is a significant social issue in Ireland today with 14.2% of the population unemployed (CSO 2012). There are strong correlations between unemployment and poor psychological health and well-being (Waddle and Burton 2006). Occupational Therapists have the potential to collaborate with this population to promote well-being (AOTA 2009, Southwaike 1994). The aim of the study was to evaluate an occupational therapy group intervention designed to assist people who are unemployed to stay healthy. The methodology used for this research was a qualitative phenomenological approach through semi-structured interviews. Interviews were analysed using thematic analysis. Three men and two women volunteered to participate in the study. They were aged between 37 and 53. The period of unemployment from recruitment to the programme ranged from one to twenty four months. The themes that emerged from the data include; taking ownership and initiating change, empowered with new skills and confidence, power of group influence and role adjustment. The results highlight the important role of Occupational Therapy in
Finnegan, Elizabeth: Optimisation of Processing and Packaging Conditions for Fresh-Cut Pineapple

The last decade has seen unprecedented growth in the demand for various fresh-cut fruit products, in particular, tropical fruits. However, due to this rapid pace of technology change, there are significant knowledge gaps, leading to poor and inconsistent end-product quality. This study investigated the effects of intrinsic factors (origin, physiological age (PA) and seasonality) and extrinsic factors (process severity (PS); cut-size, blade-sharpness and dipping treatments) on quality deterioration and respiration rates (RR) of fresh-cut pineapple (Del Monte Gold® Extra Sweet Pineapple cv. MD-2). Water loss, browning and softening were the primary attributes responsible for deterioration and were affected by PA, cut-size and seasonality (P<0.05), but not by origin. Dipping in a 1% citric acid/ascorbic acid solution reduced browning and improved aroma, but accelerated textural loss. Flavour scores were not affected by most factors investigated (P>0.05), but were affected by PA and PS. Modified atmosphere packaging (MAP) is a dynamic process during which respiration and package permeability determines the atmosphere surrounding the product. Immediately after cutting, the initial RR was very high, which decreased and then stabilised within 24 hours. On average, initial and equilibrium RR were 8.13 and 2.62 mlCO₂/kg.h respectively. Although initial increases in RR were observed for all treatments, the RR at equilibrium ranged from 1.74 to 4.1 mlCO₂/kg.h. The high initial rates (due to a short-lived stress response) were affected by raw material quality and PS. Predicting the RR of fresh-cut produce is important in designing postharvest management systems. A mathematical model was developed to predict RR initially and at equilibrium for all the factors studied. These models have a practical application in designing optimum MAP to maintain fresh-cut quality and lengthen the shelf-life. From the RR data obtained, O₂ and CO₂ permeabilities required in packaging materials were defined, and are currently being validated.

Gahan, Jacinta: Diversity of Desulfonating Bacteria in the Mycorrhizosphere

In 80-90% of land-plants, growth is dependent on symbiotic associations with mycorrhizal fungi and their bacterial colonizers to facilitate biogeochemical cycling of essential nutrients. These associations are particularly important for sulfur (S), which in soil is ~95% organically bound, predominantly as sulfonate-S, and unavailable for direct assimilation by plants. Fungal depolymerization of humic material may release mono/oligomeric sulfonates available to specific bacteria for mineralization to plant-available inorganic sulfate. This study analyzed the magnitude and diversity of the hyphal associated bacterial community involved in desulfonation. Quantification of cultivable heterotrophic bacteria on/in hyphae and bulk soil resulted in 10⁶ CFU/g and 10⁵ CFU/g, respectively. Bacterial isolates were selected that grew advantageously in minimal media with toluenesulfonate (MM2TS) as sole S-source when compared to a sulfur free control medium. Optical density measurement at 590 nm identified 53 isolates with greater relative growth in MM2TS (P ≤ 0.05). Restriction fragment length polymorphism identified 36 taxonomically distinct isolates, of which, 31 were cultured from hyphae. Community analysis based on Denaturing Gradient Gel Electrophoresis indicated greater relative 16S rRNA gene diversity in the hyphal bacterial community. The results suggest a comparatively large, and taxonomically diverse hyphal associated bacterial community partially involved in mineralization of sulfonate-S.

Gadie, Paul: The Bishop Envisioned by Pope John XXIII. A Signpost for the Contemporary Irish Catholic Church

In 1959 Pope John XXIII called the Second Vatican Council, using the time before its opening in 1962 to educate the bishops. It was they who were to take the central role and in the process learn to act collegially and work conciliarly. The preparatory commissions, the Roman Curia and the conciliar ‘mechanism’ were to support them and their work. Pope John outlined these expectations in allocations delivered before and in his opening speech to the Council. Focussing on three such moments I wish to clarify his vision for his Council. A vital decision during its first session saw confirmation of the bishops’ emerging self-understanding, later explicated in the promulgated, conciliar documents. Pope John’s vision may serve as a useful signpost for the contemporary Irish Catholic Church to revisit. It may assist the bishop, the Episcopal Conference and Church members to gain a clearer and more
equitable understand of his role: as a successor of the Apostles, chosen by the Spirit and pastoral governor of the local Church - a role shared with the ordained and non-ordained faithful.

**Guerin, Phyl: Dereliction and Resurrection. The Limerick Sailors’ Home**

With subscribers such as the Rothschild’s, and William Inman, one of the foremost transatlantic ship owners of 1856 contributing to the foundation of a Limerick Sailors’ Home, the allure and intrigue that surrounds a standing memorial to a once active seafaring community is investigated using the multi-disciplinary skills of a Fine Art practice.

A position of meditation and emotive response is sought to draw attention and create greater awareness of a house, raised through public subscription, an area, that still retains buildings of maritime use and importance, and the inherent qualities of altruism that still exist within the city today.

Given that Limerick was the major port of emigrant embarkation from Munster to the US, Canada, Australia and New Zealand up to 1853, the thematic exploration of emigration and refuge concerning both sailors and their emigrant cargo is explored with regard to James Spaight and Charlotte Grace O’Brien, two Limerick activists in these fields. In addition to the legacy of internationalism that still exists in the Windmill area of the city, this exhibition will frame both the dereliction and ongoing resurrection of the aforementioned deeds and exploits through the medium of photography and text.


My research into John Henry Newman and Ludwig Wittgenstein’s approach to the question of certainty – what it is and how we experience it – opened my eyes to how much Newman has to say to the post-modern community. He was a prophetic philosopher in many ways. While the continental tradition worked its way from the idea of a prejudice free interpretation of experience to the realisation of the centrality of the individual hermeneutic and its ongoing interaction with the interpretative bounds set by tradition and custom, Newman had appreciated the unique and irrevocable place of this individual a century and a half before. His understanding of the potential of each human being to make a contribution to change at the level of authority and his appreciation of the role of difference, speak to us in the present age, from a sociological, philosophical and theological perspective. This paper will focus on Newman’s ontological epistemology as it emerges from a comparative study with Wittgenstein. It will show how the application of his understanding establishes grounds for a neo-aristotelian ethics of enquiry which restores existential responsibility from its hiding place under the cloak of objectivity that has dominated since the time of Kant.

**Harnett, John: A deconstructive look at the archetypal figure of the hero in literature as portrayed and renewed through the medium of sequential narrative**

This paper takes a deconstructive look at the archetypal figure of the hero in literature as portrayed and renewed through the medium of sequential narrative, specifically in relation to the maturation and academic relevance of the graphic novel. This paper will attempt to align the framework of analysis as conducted by Sigmund Freud in relation to dream theory with some of the most prominent theorists from within the industry of sequential narrative itself, thus helping to establish some of the unique properties of a symbiotic form of narrative based on a combination of iconic representation and the written word. Furthermore, and in conjunction with this above-mentioned venture towards an attempted lexicon from which to decode such a highly polysemous form of narrative some of the key areas of semiotics will also be woven into the argument as a whole and contextually applied to a specific graphic novel from within the medium, namely Alan Moore and Dave Gibbon’s seminal Watchmen. This will inevitably return the focus of the paper to the complexity and psychological depth the novel itself reflects on a re-interpreted and deconstructive look at the figure of the hero.

**Hayes, Jeremiah: Novel bio analytical applications of molecularly imprinted polymers**

Astaxanthin is a high value compound with commercial applications in a range of industries from fish farming to cosmetics. Astaxanthin is produced naturally by microalgae such as Haematococcus pluvialis. A molecularly imprinted polymer (MIP) was synthesised with astaxanthin as the template molecule so it could be used to extract and therefore purify astaxanthin from microalgae for use in commercial applications.

The astaxanthin MIP was used as sorbent material for molecularly imprinted solid phase extraction (MISPE) of astaxanthin from crude solvent extracts taken from the microalgae Haematococcus pluvialis. The
eluent from the MI-SPE procedure was analysed by Liquid Chromatography Quadrupole-Time of Flight mass spectrometry for confirmation of astaxanthin isolation from the crude extract. This method provides a useful cost effective and greener method than those currently in use for the extraction of astaxanthin from a biological source.

Hayes, Martin: Plant/microbe interactions: A study of mutualism between *Medicago truncatula* and *Piriformospora indica*

Within soil, plants and microbes have always been in close contact with one another. From this relationship several associations between the two developed. One such association being a mutualistic one, which can enhance the ability of both organisms to survive within the community of a particular habitat and even permit organisms to exist within a habitat that would otherwise be too stressful for individual organisms to exist alone. This study involves the plant- *Medicago truncatula* (Barrel medic) which is widely used as a model species to study plants in the legume family (e.g. bean, pea, alfalfa, vetch...). Legumes form symbiotic relationships with nitrogen fixing bacteria, and legumes account for 20% of the protein in our diet. *Piriformospora indica* is a recently identified root endophytic fungus of the order Sebacinales which is reported to increase growth of many plant species (Varma *et al.*, 1999; Waller *et al.*, 2005). My objective is to study the interaction between a legume *M. truncatula* and *P. indica* to determine whether or not mutualism develops, and to quantify the effects on growth of legumes. Microscopic analysis of the roots of *M. truncatula* seedlings grown in culture tubes, and inoculated with *P. indica* spores; indicate that the *P. indica* can infect the roots. The effect of this association on growth of *M. truncatula* is still being analysed. The research into plant-microbe interactions may lead to practices that improve drought/heat tolerance of crops, combat pathological effects of diseases, and increase yield of economically important crop species.


This paper seeks to explore the interface between Participatory Action Research (PAR) and Arts Based Educational Research (ABER). Offering perspectives on methodology and field research, the paper explores the means through which PAR and ABER actively support each other in a common effort to attain some element of transformation, emancipation or change agency. This research is phase 2 of a long-term research project and has formed my doctoral research. Through a PAR framework, the research set out to enable pupils (in a post-primary, disadvantaged setting) to evaluate their own attitudes towards and engagement in the arts. In co-constructing an arts-based intervention, pupils were challenged to consider alternative perspectives and revisit the world from “a different direction, seeing it through fresh eyes, and thereby calling into question a singular, orthodox point of view” (Barone & Eisner, 2012, p. 16). In conclusion to the paper I will offer emergent findings around PAR and ABER.

Hegarty, Deirdre: Moderate to vigorous physical activity levels of Irish primary school children at school

**Background:** Childhood physical activity (PA) can reduce the risk of developing anxiety, depression, chronic diseases and premature death and enhance attention span and academic success. The purpose of this study was to assess whether Irish primary school children meet the school day PA guidelines to accumulate 30 or more minutes of PA at moderate to vigorous intensities (MVPA).

**Methods:** Sixth and fourth class Irish students (N=18; 7 boys, age 12 ± 0.4 years, BMI 19.57 ± 1.51kg/m²; 11 girls, age 11 ± 1 years, BMI 19.87 ± 2.87kg/m²) wore GT3X or GT1M accelerometers for 5 consecutive days during school hours.

**Results:** Three children (2 boys and 1 girl) met the school time PA guidelines. The average amount of time spent in MVPA was 24.21 ± 10.96 minutes. There was no significant difference between boys’ and girls’ mean MVPA however boys spent slightly more time in MVPA than girls (Boys: 29.02 minutes; Girls: 21.16 minutes).

**Conclusion:** The majority of children in this study did not meet the school PA guidelines. These findings suggest that there is a need for an intervention to increase primary school children’s PA especially within the school day.
Hennessy, Vivien: The Quest for Race and Gender Equality in the Theatre of Olympe de Gouges 1748-1793

While the French Revolution of 1789 heralded many radical changes, including an abolition of the Ancien Regime and the establishment of the much welcomed principles of equality and citizenship as laid down by the philosophy of the enlightenment, many citizens found that their rights remained ignored. Marie Olympe de Gouges, the feminist pamphleteer, political writer, novelist and playwright sought to redress the inequalities inherent in late eighteenth century French society. While she is most famous for her political writings, notably her vindication of female rights as outlined in her Déclaration des droits de la femme et de la citoyenne (1791), her theatrical works are curiously and erroneously neglected. This paper will examine the trope of equality in her theatre as it pertains to the rights of colonial slaves and women, and will contribute to the renewed interest in pre and post-revolutionary research into female authorship.

Hickey, Lisa: An economics evaluation of the Limerick based health education programme, 'Health Information at Your Fingertips'

The objective of my research is to examine the effectiveness of the 'Health Information at Your Fingertips' program, which is a new health education program for adults age over 55 and it is ran by the VEC in County Limerick. The program has been designed in association with the Limerick County Vocational Education Committee (VEC), the National Adult Literacy Agency (NALA) and the University of Limerick. Older adults who have some experience with computers were invited to take part and were then randomly allocated to the experimental or control group. The experimental group received guidance and tutoring for 12 weeks on how to search for health information in a safe and efficient manner. The objectives of the course are to improve older individual's engagement with online health information, increase their own health competency, increase health literacy levels and improve their general computer and Internet skills. The course content focus on different a health issue every week (e.g. diabetes, exercise and diet, osteoporosis, heart health, and health insurance) and each week participants examine a minimum of two relevant websites (one Irish and one non-Irish). A cost effectiveness and qualitative evaluation will be undertaken on the programme and preliminary results are currently available.

Holly, Paudie: The All-Embracing Maternal Church: The Communion Ecclesiology of Henri de Lubac

This paper, which is in five sections, will examine the communion ecclesiology of Henri de Lubac. It will highlight how de Lubac situates the origins of a communion ecclesiology in a profound anthropological context. In de Lubac’s theology it is clear that communion of life is inherent in what it means to be human. Therefore, to understand ourselves, we must first understand that we are part of a network of relationships. De Lubac develops his ecclesiology on the basis of his reading of the scriptures, both First and Second Testaments. He follows the theme of communion from its scriptural roots through to the Patristics, where he locates his idea of the motherhood of the Church. The paper will trace how de Lubac develops and supports his ideas on the basis of his reading of the scriptures and the Patristics. The communion ecclesiology developed by de Lubac is the lens through which he understands the sacramentality of the Church and its whole sacramental life. The paper will develop this theme, with particular reference to the Eucharist. Finally this presentation shows that communion ecclesiology, for de Lubac, is of practical and pastoral concern. It has implications for society as a whole. The true practice of communion ecclesiology has ramifications for morality, religious life and social action.

Holohan, Jim: How do information systems (IS) managers engage with the process of aligning business and IS strategies in public service organisations?

Strategic alignment (SA) within the Information Systems (IS) management field concerns the integration of strategies relating to business and IS. The topic has been among the top 10 IS management issues since the mid-1980s and research has shown that it can significantly enhance organisational performance. The vast majority of research to date is dominated by positivist studies into private companies in the USA. The SA literature demonstrates that the challenges faced by those organisations wishing to attain SA are mainly relational and not technical. My proposed research will be carried out within public service organisations (PSOs) as distinct from private organisations and I will do so through an interpretive epistemology, integrating case study design with grounded theory methodology. There is a paucity of research into alignment of business and IS strategies in PSOs and the role IS managers play in the process. My
contribution will be to develop substantive theory consisting of a theoretical framework that explains the roles IS managers play in aligning business and IS strategies within a PSO context. I have chosen three cases within the Institute of Technology sector to carry out my research.

**Jobo, Mantoetse: Enhancing Education for Sustainable Education through a process of Collaborative Curriculum Integration**

The core of Education for Sustainable Development (ESD) is to improve the quality of lives of every global citizen. Sustainable Development (SD) as a concept was decisively defined by the Brundtland Commission report as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (World Commission on Environment and Development, 1987). The fluidity of the concept requires it to be located within the framework of society, economy and environment; with the underlying dimension of culture as an essential ingredient. Although socio-cultural factors and the socio-political issues of equity, poverty, democracy and quality of life are seen as ESD contextual issues (Venkataraman, 2009) in the Northern Hemisphere, they embedded in Environmental Education (EE) in the Southern African context due to the inseparable nature of society and environment, hence EE and ESD are regarded as synonymous in the South.

Transformative education that challenges academic isolation prevalent in the whole education system in Lesotho as a result of disciplinary approach towards teaching and learning is imperative for educating for sustainability. Interdisciplinary collaboration amongst teacher trainers to empower them to deal with uncertainty in exploring ways of integrating aspects of SD is deemed necessary in this study. This will enhance curriculum integration, encourage creative and critical approaches to teaching and learning, long-term thinking and innovation in addressing complex sustainability issues. This study investigates the learning processes that teacher trainers in Lesotho College of Education (LCE) develop when collaborating inter-disciplinarily to develop an integrated curriculum espousing ESD.

**Liddy, Mags: Enabling Teaching for Social Change. The Global Schoolroom**

My research examines a case study for teacher professional development, exploring its impact on teacher lives and identity, which may enhance their engagement with global development and justice in their teaching. Centring on the micro-politics of teacher professional development, this research aims to name and codify the professional development work in the Global Schoolroom programme as exemplary of empowering and enabling professional development, acknowledging the teachers as co-learners in dialogic relations. My central research question is: do experienced teachers become empowered through professional development opportunities to become actors for social change and global development? Teachers work within the economy of knowledge negotiating the power/knowledge dynamic with regard to globalisation, citizenship and development concerns which influence their self-concepts of teacher role and identity. This analysis draws on Bourdieu’s theory of habitus, where individual dispositions are embodied within the objective conditions of the teaching profession. Their situation also affords subjective reflection on role of citizenship in a globalised context, centring on meaningful knowledge production through networks of civic and professional commitment. The aim of this research is gain insight into their subjectivity in relation to these issues and to examine their learning on global development from their engagement as an overseas volunteer.


Polio dominated the 1950s in Ireland. It was to be a platform for change, in that it awoke in the Irish psyche a drive to help the physically disabled. This period saw the government and lay people taking action, as never before, to help disabled people. A number of organisations were formed during this period. At first these dealt exclusively with the Polio epidemic. When Polio was dealt with they used the resources they had to treat other disabilities.

In this paper I will discuss disability in the 1950s and how Polio was a turning point in the way the physically handicapped were treated in Ireland. I will also discuss the roots of treating people with a disability and the different associations who, when the Polio epidemic was in decline, moved forward to treat other forms of physical and mental disability. I will focus on the work of the Central Remedial Clinic and services in the Mid-West. The central Remedial Clinic was set up to care for those who were left disabled by the Polio epidemic. It was set up by Lady Valerie Goulding and Kathleen O’ Rourke. It was the first centre of its kind in Ireland. It
started as a small non-residential treatment centre in Dublin and it became the biggest centre for treating physically disabled people in Ireland. This paper will describe its evolution and growth. I will also describe other special centres that were founded in the mid-west to cater for disabled people. Furthermore, I will discuss their invaluable contribution to society at large.

Maloney, David: Methodological issues regarding the study of self-regulatory individual differences in functional counterfactual thinking

Two studies examined the relation between autonomy and counterfactual thinking (mental simulations of alternative outcomes to reality). Participants attempted or imagined themselves attempting a mental multiplication task that ended in failure. Subsequently, participants “undid” factors they felt had led to the negative outcome. Given that high autonomy persons see themselves as independent and driven by self-focused motives, it was predicted that a highly autonomous orientation would be associated with higher numbers of self-focused and controllable counterfactual thoughts. The results supported these predictions, but the method of eliciting counterfactuals moderated the findings. High autonomy participants generated more self-focused and controllable counterfactuals than low autonomy participants only after actually attempting the mental multiplication task. The findings suggest that individual differences may be important in terms of the types of counterfactual thoughts people generate. The importance of self-regulatory individual differences to counterfactual thinking is discussed.

McAuliffe, Alan: Context and meaning in cognitive tasks. Preliminary analysis

Psychological research has often discussed the role context and meaning has for a person taking part in cognitive tasks. However more often than not, psychological theories overlook their importance in the expression of behaviour. More recently, there is a growing emphasis on cognitive processes and emotions as being contextually determined (Barrett, Mesquita & Smith, 2010). We explored context and meaning using two tasks: the Iowa Gambling Task (IGT) and the Go – No Go Association Task (GNAT). 120 were recruited in pairs of two for the IGT study – 60 participants acted as social facilitators and 60 participants completed the IGT. Conditions were created where the context of the study was altered – the experimental group were informed that the person recruited with them was going to be affected by their performance and the control group were not. 75 participants took part in the GNAT where the meaning of the stimulus was altered in three conditions. Reaction time and error ratings were analysed. In the IGT, we found that performance differed between groups, but it also highlighted ambiguity using the IGT. In the GNAT, there were differences between the three groups; however there is need for further clarification as to what role meaning may play.

McAuliffe, Alan: The Iowa Gambling Task in context. Does context affect behaviour?

Research has highlighted that people taking part in lab based tasks are highly sensitive to situational context and environmental settings (Schwartz, 2010). The purpose of this study was to explore context. The Iowa Gambling Task (IGT) was used. The IGT is a widely used decision making task involving risk and uncertainty and said to mimic real life decision making. We administered the IGT in 2 different contexts – social and non social and compared performance between groups. We created a social context (n=30) by having two people in the psychology laboratory concurrently, one taking part in the IGT and the other in a ‘waiting room’ type setting to take part in the IGT after. Participants were informed that their performance affected the next person to take part in the study i.e. the person in the waiting room. However, the other person solely acted as a social facilitator and did not complete the IGT. The non-context group (n=30) were recruited the same way but were not informed that their performance affected the next participant. We found that performance in IGT differed significantly between groups however ambiguities remain. This may be due to the nature if IGT and we attempt to elaborate on this in current research.

McNamara, Justin James: ‘She took him to the cleaners’.... A comparative analysis of the use of delexical verbs by EFL/ESL learners across four different corpora

The importance of metalanguage to teachers and students alike is well-documented, for example McCarthy and Carter (2006), Carter, McCarthy, Mark and O’Keeffe (2011). From nouns to adjectives and adverbs to verbs students need to be able to identify the class of the word they are using. Historically, it has been claimed that there are four types of verbs: lexical, modal, auxiliary and multi-word. But, a relatively new notion in the literature is that of delexicality. Delexical verbs, such as take, have and go in take a shower,
have dinner or go ape, are verbs that form collocational patterns and in doing so take on more of the meaning of the word that they collocate with and lose their original lexical meaning (so we do not literally take a shower or catch a bus etc.). In terms of form, these delexical verbs occur in different ways such as a verb followed by a noun, a verb followed by an adjective and so on. They are, indeed quite important for L2 learners as they allow students to learn, remember and retrieve language in chunks and thus increase their vocabulary size. However, their meaning can be somewhat opaque to learners. This paper aims to explore in detail the notion of delexical verbs, using real data, to show the salience of these verbs. The data for this paper will be drawn from four different corpora: the British National Corpus (BNC), the Cambridge Limerick and Shannon (CLAS) corpus the Limerick Corpus of Irish English (LCIE) and the researcher’s own compiled corpus the Limerick College of Further Education Corpus (LCFEC), comprising data from English language classes. The BNC was consulted first and foremost to analyse the occurrence of certain delexical verbs. Based on frequency results, the following verbs were chosen as the main focus of the study: make, take, give, get, go, have, do, bring and come. As lexical, or main verbs, these verbs had very high occurrences. Therefore, it was thought that it would be interesting to analyse what occurs with these verbs across the datasets in order to examine delexicality across different contexts of use. Of particular interest will be the comparative with learner data so as to ascertain whether there is evidence that, by a certain level, they are able to use delexical verb patterns.

McPhillips, Katrina: Unique fungal sources of industrial biocatalysts

Thermophilic microorganisms, such as thermophilic fungi, are an important source for many industrial thermostable enzymes. Xylanases randomly cleave the β-1,4 linkages in the structural polysaccharide xylan, found in plant cell walls. This work evaluated a number of thermophilic fungal species for xylanase production. A novel extracellular, thermostable xylanase was produced in a liquid culture medium from a selected thermophilic fungus containing Sorghum and Corn Steep liquor as carbon and nitrogen sources respectively. Initial enzymatic screening of the liquid culture grown at 122 hours illustrated xylanase activity of approximately 6.4 IU/ml. The optimum temperature and pH for enzyme activity were approximately 60°C and pH 6.0 respectively. The xylanase was purified by centrifugal filtration, size exclusion chromatography and pH 6.0 respectively. Future research in this project will include purification & characterisation of the enzyme system utilised by the thermophilic fungus for xylan metabolism. Industrial applications for thermophilic xylanases include their use in ethanol & xylitol production, food & beverage production and in paper & textile manufacturing.

Meagher, Gerard: The Influence of German Idealism on Twentieth Century Philosophy with Specific Reference to Goethe, Gadamer and Wittgenstein

Consideration of the direct relationship between German Idealism and early twentieth century philosophy opens up many valuable links between literature and philosophy. The protean nature of Goethe’s morphology underscoring the Philosophical Investigations provided the essential groundwork for Wittgenstein’s twin notions of ‘Language Games’ and ‘Family Resemblances’. This thesis demonstrates clearly that the radical pervasive effect of Goethe’s influence served in general hypostasis to Wittgenstein’s overall philosophical outlook. The affective potential of such influence acted as a potent catalyst in the formation of new ideas, ultimately leading to major shifts in Wittgenstein’s thinking and outlook. This thesis further contends that the veritable explosion of so many new ideas in Wittgenstein’s post Tractatus period, were as much cultural and genetic, as cerebral.

The ideas of Weimar Classicism and German Romanticism, instilled in Wittgenstein through long familiarity with the works of Goethe, were zygotically rooted in the fibre of his being. These same ideas were a chthonic treasure trove stored deep within the kernel of Wittgenstein’s consciousness, nourishing his deepest thoughts endogenously, rather than an external fountain of ideas from which he occasionally supped. This Goethean anschauung demanded no less a price than the transformation of the philosopher as well as his philosophy.

Meaney, Claire L.: Vascular Graft Development. Cell-Material Interactions

The World Health Organisation states that cardiovascular disease is the leading cause of death worldwide. Vessel replacement is an imminent step for many end-stage cardiovascular pathologies. With this in mind, it is no surprise that vascular graft development is a prominent area of research today. Current vascular grafts, for vessel replacement, have associated issues of stenosis, thrombogenicity and low patency rates.
New biomaterials for this application are continually emerging. Cellular compatibility is a crucial prerequisite of clinical implantations. The development of a healthy endothelial layer is central for successful graft implantation and compatibility. Ideally, all materials could be evaluated through in vivo testing. However this is not economically viable and ethically practical. The ideal feasible alternative is in vitro testing. Comprehensive evaluation can be obtained by exposing cell-seeded material to physiological fluid forces in a laboratory setting. Comprehensive pre-clinical evaluation can be obtained by exposing cell-seeded materials to relevant physiological fluid environments to assess and understand the cellular behaviour and triggered pathways - often regulated by inherent properties of the underlying material. This study uses an in vitro bioreactor system to produce "healthy" and "pathological" flow regimes for cell-seeded naturally derived scaffolds and study the respective cellular behaviour.

Moynihan, Sharon: Can competencies play a role in health education teaching?
The aim of this paper is to outline the findings from a Delphi study. The importance of knowledge, skills and attitude competencies in developing effective health promotion/education teachers is discussed. The study employed the use of a Delphi techniques collect data on the topic. This design (smaller scale) was influenced by the success of Barry et al (2009). Three rounds of Delphi technique were undertaken with a panel of experts in the area of health education/promotion in schools. The questionnaire was distributed electronically. The first round of the Delphi was qualitative in nature, where participants listed the competencies they deemed to be the important for health educators. The competencies that emerged from round 1 were analyzed, categorized and presented for the second round where participants rated them on a scale of importance. The final round required them to identify their prioritized competencies from the list and arrange in order of importance from 1-10. The competencies deemed by participants to be the most important are presented according to three different categories, knowledge, skills and attitude. The paper will discuss the types of competencies cited and their implications in the context of health promotion education in schools.

Newell, Áine: The Development and Evaluation of Methods to Reduce the Administrative Burden Posed by Occupational Health and Safety Legislation in Ireland
Recent updates in core occupational health and safety (OHS) legislation in Ireland have placed an increased administrative burden on the Irish employer. Compliance with OHS legislation requires a significant commitment in terms of time, money and personnel which is potentially damaging to many organisations struggling to survive in the current economic climate. A survey distributed to organisations nationally has identified the completion of risk assessments, safety statements and safety training administrative tasks as the most significant OHS administrative burdens. Online or electronic applications have been identified by 88% of respondents (n=180) as the preferred method of completion of OHS administrative tasks. Small and medium organisations have been identified as having greater difficulties with OHS legislative compliance than large organisations. The information obtained in the surveys (n=205) will be used to develop an online application aimed at reducing the administrative burden posed by OHS legislation in small and medium enterprises. The effectiveness of this online application will be measured throughout a trial by small and medium organisations. This trial will be used to determine the applications potential to reduce the administrative burden posed by OHS legislation in Ireland.

Ó Braonáin, Cóilín: An investigation into the Efficacy of Filial Play as a Family intervention with parents of disadvantaged backgrounds
Irish socially and economically disadvantaged parents were trained in Child Parent Relationship Therapy (Landreth & Bratton, 2006). The authors hypothesised that socio-economic cultural differences might impede the training and the study sought to identify any such factors. Mixed methods were used to ascertain the efficacy of training and subjective reasons for non-compliance respectively. Quantitative results were mixed, with the main effects non-significant, although one sub-scale concerning parental perceptions of their children as unique persons reached significance. A Pearson’s correlation indicated that those parents who completed training experienced fewer child problems and greater empathy towards their children, albeit the correlation fell just short of statistical significance (p = .07). Of 8 participants only 3 completed the training and no participant was present for all training sessions. Qualitative data suggested that authoritarian parenting beliefs created resistance to Rogerian child-centred filial play. Parents also
demonstrated poor self-esteem and expectations of negative evaluation by other group members, possibly due to issues of self-concept. Further research might explore the possibility of shame-proneness as the underlying cause of apparent esteem deficits.

O'Dwyer, Jean: An assessment of the spatial and seasonal distribution of microbiological contamination in groundwater derived potable water supplies

The microbiological quality of drinking water is a concern to consumers, water suppliers, regulators and public health authorities alike. The potential of drinking water to transport microbial pathogens to a great number of people is well documented in Countries at all levels of economic development. The outbreak of Cryptosporidium, a protozoan parasite, in Galway in 2008 provides a good example. The municipal treatment of drinking water provides a barrier to the transmission of bacterial pathogens, however, in relation to private water supplies in Ireland, this treatment is often absent and an individual septic tank system is utilised instead. Approximately 200,000 households within the Republic of Ireland depend on their own private water supply, usually from groundwater by means of a borehole and well (Central Statistics Office, Census, 2006). The drilling of boreholes is undertaken without any technical specification or standard, is completely unregulated by the state and largely unsupervised by a professional engineer or hydrogeologist. As a result of this poor management; many private wells in Ireland are at risk of pollution, at least intermittently, and bode serious implications for human health. This study sets out to investigate the relationship between the geophysical properties of productive aquifers and the overall microbiological status of groundwater.

O'Keeffe, Catherina: Ragwort. A possible medicinal weed??

Ragwort, (Senecio jacobaea), has long been identified as a threat to Irish horse breeders and farmers due to the toxic effects suffered by livestock when ingested. Legislation (Noxious Weeds (Thistle, Ragwort and Dock) Order, 1937) is in place enforcing the removal of all traces of ragwort from fields where livestock are grazing. However from a medicinal point of view, folk remedies suggest the use of ragwort extract as an external treatment for ulcers and wounds as well as a rinse for throat infections indicating an antimicrobial aspect to some compound(s) found in the plant. The question is, are the medicinal and toxic properties of this plant due to a single one compound or family of compounds?

A method developed at LIT has shown the presence of up to 11 pyrrolizidine alkaloids in wild Irish Ragwort, including seneciphylline (>2.5x10² mg/Kg FM (fresh material)) and jacobine n-oxide (<4.0x10² mg/Kg FM). Wild ragwort has been found to contain large quantities of antioxidants, specifically polyphenols, which provide a wide variety of medicinal properties.

Studies using the Oxygen Radical Absorbance Capacity (ORAC) assay have shown that ragwort contains 0.65 µM Trolox equivalents per gram (µM TE/g) of fresh plant material; it was also found that these samples contained approximately 8.9 mg Gallic acid equivalents per gram of fresh plant material of polyphenols.

O'Mahony, Susan: “I see myself in a different light”. Participants’ views of a group occupational therapy programme to promote wellbeing during unemployment

Occupational therapy is founded on the health promoting benefits of engagement in meaningful occupation. Research in this area has identified the link between occupation, health and wellbeing. Unemployment rates in Ireland are high and continue to rise, despite the economic recession officially ending. Unemployment negatively affects physical and mental wellbeing. Within the profession of occupational therapy there is a paucity of research of participants’ perceptions of interventions targeted at maintaining the wellbeing of the unemployed.

The purpose of this qualitative study is to explore the participants’ experience of an eight week group intervention which aimed to promote wellbeing during unemployment. Five participants completed an individual, semi-structured interview and the transcripts were analysed thematically. Three main themes emerged: change, self-evaluation and group support. The programme supported change in patterns of thinking and doing and facilitated self-evaluation. Group support was equally an important element.

In conclusion, participation in the group was a positive and empowering experience. It facilitated greater awareness of the importance of maintaining one’s health during unemployment. The findings highlight the
role occupational therapy can play in supporting people maintain their physical and mental wellbeing during unemployment and ensuring they are ready to re-enter the workforce when employment becomes available.

O’Neill, John: Limerick’s House of Industry and the Insane. A belittled refuge for the mentally ill

This paper will discuss the House of Industry of Georgian Limerick in an attempt to highlight the significance of this institution as an asylum for the mentally ill and the important role the House played, both directly and indirectly, in lunacy reforms of the early nineteenth century. The register of the house, made available to the public late 2011, newspaper reports, official legislation, and fictional and travellers accounts will be used to argue that this institution was fulfilling the role of a public lunatic asylum long before the much acclaimed provision of the pauper district asylums from the 1820s, and that the governors were classifying the institution as such. By its closure the institution was labelling itself in adverts placed in the local press as a hospital for incurable lunatics, but ever since its establishment had been a dependant place of asylum for the insane, especially in times of social upheaval. An investigation of these sources indicate that representations of the house and its insane inmate population influenced and set precedents for how lunacy and lunatics were treated in political, popular and social spheres. Lunacy as threatening and the economics of care will be discussed to illustrate the above.


The introduction of new terminology to describe the concept and processes of rural globalisation, which include, the new countryside; the global countryside; and the rural renaissance, highlight the significant role played by globalisation in transforming the socio-economic fabric of rural space. Globalisation cannot be considered a ubiquitous force which has treated all spatial areas equally. There are numerous regions located throughout the globe experiencing significant in-migration and a rapid expansion of the non-agricultural sector, whilst other regions have remained stagnant. The number of migrants arriving into Ireland soared after the accession of eight East European states into the EU in 2004, but the number of migrants settling in Ireland has begun to drop markedly as a consequence of the current global economic downturn. This paper will highlight and analyse spatial patterns of rural in-migration in Ireland and present insights from County Monaghan. The economic benefits associated with rural in-migration have been relatively overlooked with few studies undertaken on this topic in comparison to urban immigration. This presentation will provide important lessons for rural development organisations in respect to harnessing the economic potential provided by migrants within a rural space.

Pieterse, Pieternella: Improving social accountability interventions in health care

This research focuses on social accountability, which is a fairly new phenomenon in the international development arena. “[S]ocial accountability is understood as an ongoing and collective effort to hold public officials and service providers to account for the provision of public goods which are existing state obligations, such as primary healthcare, education, sanitation and security” (Houtzager & Joshi 2008:3). This research strives to provide new insight into whether and how social accountability interventions can improve the quality of public services, such as healthcare, by concentrating on the frontline staff who deliver it. Research into social accountability mechanisms has focused on popular participation, but overlooked the persons whose behaviour these interventions seek to change; frontline staff members whose underperformance has undermined the quality of public services throughout developing countries (World Bank 2004). By taking the literatures of healthcare staff motivation (Ferrinho et al, 2004, Serneels & Lievens, 2008) and corruption (Rose-Ackerman, 1999, Klitgaard, 1998, Lambsdorf, 2010) into account, this research aims to broaden understanding of the underlying causes of corruption in primary health care, and clarify which elements of social accountability interventions promote positive behaviour change in healthcare staff, with the overall objective of improving its effectiveness.

Quane, Jessica: The feasibility of using Molecularly Imprinted Polymers to detect drugs of abuse in saliva samples

At the beginning of 2012 it was announced that a major crackdown on drug driving was to be introduced by the minister for transport. This came from an increase each year since 2007 which saw over 400 drivers being penalised for drug driving. Currently, the Gardaí are limited in the availability in road side drug testing
Ryan, Deirdre: How does the left-hand know what the right-hand is doing? The intermanual transfer of acquired skilled hand movement

Motor control researchers (Kelso & Zanone, 2002; Kovaks, Shea, & Muhlbaier, 2009) have proposed several different processes to account for the acquisition and transfer of ‘crossing over’ skills from one hand to the other (intermanual transfer). There are three major models of the processes that underpin the intermanual transfer of acquired hand skills (Proficiency (Laszlo et al., 1970), Callosal Access (Taylor & Heilman, 1980), and Cross Activation Models (Parlow & Kinbourne, 1989)). This paper presents the results of a series of studies designed to test the conflicting predictions of these three models. The studies employed finger tapping and finger sequencing tasks, and measured participant’s performance (speed, accuracy) at learning and transfer stages of skill acquisition and production. The paper will consider the effect of task complexity (simple/complex motor skill), learning paradigm (overt/covert), transfer type (mirror/visuo-spatial), and feedback conditions (visual, auditory, knowledge of results) on intermanual transfer. The results suggest that direction of transfer (right to left/left to right) is dependent on a number of factors including task type, transfer type, and feedback conditions. The findings are discussed in terms of how they might add to the present body of knowledge on intermanual transfer of acquired skilled hand movement.

Sanawar, Huma: Understanding the factors influencing the formation of disinfection by-products in drinking water. Quantification and Characterisation of aquatic humic substances

Humic acids form a significant fraction of aquatic natural organic matter (NOM). They are known to react with disinfectants during the production of drinking water. Thereby, humic acids act as major precursors to hazardous disinfection by-products (DBPs). Information on the complex chemical structures of humic acids is unresolved and the mechanism of DBP formation is unclear. This research focuses on understanding the extent of DBPs formation under different treatment and source water conditions, including the NOM character of abstraction waters. This poster will explain how humic acids, in the presence of disinfectants, can form toxic by-products such as trihalomethanes (THMs) and haloacetic acids (HAAs). The quantification of humic acids in water using a liquid-liquid extraction procedure followed by UV-Visible spectrophotometric analysis at 520 nm will be described. Humic acids will also be characterised by Infrared Spectroscopy in an effort to understand the molecular nature of NOM in source waters. The importance of characterisation and quantification of humic acids to prevent the formation of DBPs will be demonstrated in this poster. This research will provide support for the regulation of disinfectant by-products with regard to the EU Drinking Water Directive and public health issues.

Schratt, Franziska: Wim Wenders’ film ‘Paris, Texas’ in the context of mobility and space

In his 1984 film Paris, Texas, the German director Wim Wenders tells the story of a man who surfaces in the American desert. He does not know where or who he is. The unraveling events can all be analyzed in the context of travel and identity formation. On a road trip through the USA the man comes to terms with his past by gaining closeness as well as distance to his relationships. At the climax of the film, in close proximity, the intensity of feeling is enormous, and the consequences are wide-reaching. Wenders shows
an extreme case of identity formation within his main protagonist, who is a stranger to himself at first, but slowly remembers and recreates his personality. Travelling, which Wenders uses in this and many other films as a means of finding the self, enables the protagonist to clear his mind and structure his thoughts. With each mile in the car, human bonds become stronger and the desire to reconcile grows. Distance at times opens eyes and helps to see things clearer. This presentation sets out to explain how mobility and space are used in order to emphasize character traits and development of identity.

Shaw, Frances: Forecasting the Term Structure of European Credit. An Empirical Analysis
This paper extends the Diebold Li dynamic Nelson Siegel model to a new asset class, credit default swaps (CDSs). The similarities between the term structure of CDSs and the term structure of interest rates allow CDS curves to be modelled successfully using a parsimonious three factor model as first proposed by Nelson and Siegel (1987). CDSs and yield curves are modelled using the Diebold and Li (1996) dynamic interpretation of the Nelson Siegel model where the three factors are representative of the level, slope and curvature of the curve. Our results show that the CDS curve fits the data well and allows for the various shapes exhibited by the CDS data including steep, inverted and downward sloping curves. In addition to in sample fit of the modelled curve we explore the out of sample forecasting abilities of the model and using a univariate autoregressive model we forecast 1, 5 and 10 days ahead. Our results show that although the one day ahead forecast under performs the random walk, the 5 and 10 day forecast consistently outperforms the random walk for both yields and CDSs. This study reaffirms the ability of the Diebold Di (1996) methodology to forecast yields and provides new evidence that this methodology is efficacious when applied to CDS spreads.

Sheridan, Tony: Exploring the role of the Teaching Practice Tutor in advising and assessing student teachers’ use of ICT on their teaching practice placements
Recent changes to the Teaching Council’s Policy on Initial Teacher Education require programmes to include a significantly extended period of Teaching Practice (TP) for student teachers. However the model of undertaking TP remains largely untouched, meaning current issues with assessment/supervision of students may remain. One issue with the current module is the potentially conflicting roles of the TP Tutor in being both adviser and assessor and how this dual role may jeopardise one or both aspects. Another issue identified in the literature is the increasing ICT literacy of Student Teachers and levels of classroom usage of ICT. Concerns are raised about the limited research into the effects this ICT integration has on teaching and learning. Research shows Tutors are an important factor in shaping a Student Teacher’s ICT usage. However the majority of TP tutors have in general limited personal and professional experience of ICT. Questions must be asked about how student teachers are integrating ICT into their classrooms and to what extent the role of the Tutor has in this. This research project questions; to what extent are Tutors providing effective pedagogical mentoring in relation to the use of ICT in teaching and learning and do they have the skills to assess ICT supported lessons effectively?

Swords, Kayleigh: The Truth is Out There! Audience Perceptions of Subjectivity, Objectivity and Truth in Documentary
From its inception, documentaries have claimed to be about the search for truth. Audiences have traditionally assumed that the presentation of this truth was factually accurate and came from an objective standpoint. However, academics now agree that not only is truth subjective, and that therefore documentaries are not always necessarily factually accurate, but that it is also impossible for such a construction to be made from a completely objective viewpoint as subjectivity will always have a part to play in it from a production point of view. This research was conducted on a group of 200 students in Mary Immaculate College in order to discern if this viewpoint is also held by audiences and if they believe that documentary is, or should be, a factually accurate objective presentation of a truth.

Walshe, Gráinne: Modelling Science and Mathematics Integration at Second-Level in Ireland. Taking an Inquiry-Based Approach to Learning
Science and mathematics are closely related disciplines, but as school subjects they can be quite separate. Integration of science and mathematics may assist second-level students to improve their interest and performance in these subjects (Pang and Good 2000) . A science and mathematics integration focus could also permit the development of an inquiry-based and problem-solving approach in science and
mathematics education (Wilhelm and Walters 2006). The emphasis on contextualised mathematics in the new Project Maths curriculum makes it now more feasible to foster the connections between these school subjects. This study is investigating the design and development of a suitable model of science and mathematics integration at second-level. In order to design an appropriate model, the teachers of science- and mathematics-related subjects in five second-level schools were surveyed. Based on findings from the survey and the literature, it was decided to map the overlapping content on the science and mathematics syllabuses, develop an appropriate Teaching and Learning Sequence for overlapping science and mathematics topics, and develop a series of Critical Integrated Skills Activities. The poster will present an overview of the research project, and will give further detail about the survey of science and mathematics teachers.

Younge, Ciara: What the maps say about civic engagement

Community and voluntary activity has been seen by researchers and commentators as an important cog in the Irish way of life over the last century. Such activity has both contributed to and arisen from the economic, political, religious, and social in both urban and rural areas in Ireland and quantitative research in this area is sparse. When taking note of the emergence of these community and voluntary groups/initiatives in Ireland it can be said that they were born of a time of ‘crisis circumstances’ (Varley & Curtin, 2002). Voluntary groups/initiatives vary significantly and their varying scale and other features can be tied to the mechanisms of collective citizen action and interfaces with institutions of governance. It is believed that a higher level of civic participation leads to more effective governance, as those who actively participate in civil society also exercise their civic duty to vote. As a result of this link it was hypothesised that higher voter turnout is linked to a higher participation in voluntary activity. Data from the EU27 Member States and Ireland were investigated and correlations were discovered between indicators of representative democracy and participative democracy in a variety of geographical contexts proving this hypothesis.