



Welcome to the Second All-Ireland Conference for Undergraduate Research (AICUR), hosted by the Centre for Teaching and Learning and all University of Limerick faculties.

What is AICUR?

AICUR is just like any other academic conference but what makes it special is that the presentations will be delivered by undergraduate students showcasing research work they have done as part of their studies.

The main aim of AICUR is to promote and applaud the fascinating and worthwhile research work that goes on at undergraduate level. In multi-faceted ways, it supports and recognises the development of UL's Graduate Attributes: articulate, proactive, responsible, collaborative, knowledgeable, and creative. The conference is designed to give undergraduate students (from first to final year) from colleges and universities across Ireland the opportunity to present their research and discuss their creative accomplishments through posters, performances, demonstrations and oral presentations. The goal is to give undergraduate students from across the country the opportunity to present their research work at an academic conference. This year's participants are paving the way for all future AICUR events and should feel themselves pioneers, exploring the parameters of what undergraduate research in higher education can achieve.

We have structured the programme to create interdisciplinary and cross disciplinary themes so that papers from different fields of study can come together allowing for, and encouraging students, and attendees alike, to interact with and learn from their peers across the academy. Apart from creating academic opportunities, we want to provide opportunities for a dynamic exchange of ideas as this is really at the core of AICUR. It is hoped that during the conference you will be able to meet and talk to undergraduate researchers and faculty across many disciplines and this, in turn, will provide an insight into how other disciplines approach research problems.

'By heightening awareness and creating dialogue, it is hoped research can lead to better understanding of the way things appear to someone else and through this insight lead to improvements in practice.'

Barritt (1986: 20)

The AICUR Organising Committee  
Limerick, 2015





## AICUR Organising Committee

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## Acknowledgements and Thanks

**Special Thank You** to the Deans and Faculties at the University of Limerick who contributed in many ways to the AICUR event. The AICUR Organising Committee would also like to thank our sponsors who have generously supported the AICUR awards.

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## Plenary Speaker



**Prof. Mick Healey** is a HE Consultant and Researcher and Emeritus Professor at the University of Gloucestershire, UK. He is also a Visiting Professor at University College London, an adjunct Professor at Macquarie University, Australia and an International Teaching Fellow at University College Cork. Until 2010 he was Director of the Centre for Active Learning, a nationally funded Centre for Excellence in Teaching and Learning at Gloucestershire. He was one of the first people in the UK to be awarded a National Teaching Fellowship (NTF) and to be made a Principal Fellow of the HE Academy. Mick is an experienced presenter. Since 1995 he has given over 500 educational workshops, seminars and conference presentations in 18 different countries.

He has written and edited more than 150 papers, chapters, books and guides on various aspects of teaching and learning in HE and is the Joint International Editor for the US *Council on Undergraduate Research Quarterly*. He is often asked to act as an advisor to projects, universities and national governments on aspects of teaching and learning in HE. Mick is a frequent visitor to Ireland. He was a Visiting Expert for the HEA evaluating teaching and learning components of the PRTLI programme in 2003 and has been an international advisor to the National Academy for the Integration of Research, Teaching and Learning since 2007. He has given presentations for AISHE and LIN and delivered workshops at Athlone, Carlow, Cork, DIT, Dublin ITT, DUC, Galway, Limerick, St Patrick's and TCD. ([mhealey@glos.ac.uk](mailto:mhealey@glos.ac.uk); [www.mickhealey.co.uk](http://www.mickhealey.co.uk))

### **Title: Challenging the Boundaries of Undergraduate Research**

#### Abstract

Undergraduate research is “An inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline.” (Council on Undergraduate Research, undated)

“*all* undergraduate students in *all* higher education institutions should experience learning through, and about, research and inquiry.” (Healey and Jenkins, 2009, 3)

The above two quotes suggest that the concept of undergraduate research (UGR) is an area of disagreement. This interactive presentation will explore some different viewpoints about the nature of UGR and with reference to specific examples will suggest that a broader definition than has previously been commonly used in undergraduate research conferences would be a fruitful way forward.



### **Some recent references on the topic of the presentation**

A full list of references may be found at [www.mickhealey.co.uk](http://www.mickhealey.co.uk)

- 2005 Linking research and teaching exploring disciplinary spaces and the role of inquiry-based learning, in Barnett, R (ed) *Reshaping the university: new relationships between research, scholarship and teaching* McGraw-Hill/Open University Press, 67-78
- 2005 *Institutional strategies to link teaching and research* York: HE Academy (Jenkins A and Healey M) 66pp [http://www.heacademy.ac.uk/assets/York/documents/ourwork/research/Institutional\\_strategies.pdf](http://www.heacademy.ac.uk/assets/York/documents/ourwork/research/Institutional_strategies.pdf)
- 2007 *Linking teaching and research in departments and disciplines* York: HE Academy (Jenkins A, Healey M and Zetter R) 96pp (ISBN 978-1-905788-38-5) <http://www.heacademy.ac.uk/ourwork/research/teaching>
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- 2010 The research-teaching nexus: A case study of students' awareness, experiences and perceptions of research, *Innovations in Education and Teaching International* 47(2), 235-246 (Healey M, Jordan F, Pell B and Short C)
- 2012 Developing and embedding inquiry-guided learning across an institution, in Lee V (ed) *The Power of Inquiry as a Way of Learning in Undergraduate Education, New Directions in Teaching and Learning* (Jenkins M and Healey M) (pp27-37)
- 2013 *Developing and enhancing undergraduate final year projects and dissertations*. York: HE Academy (Healey M, Lannin M, Stibbe A, Derounian J) 93pp [www.heacademy.ac.uk/projects/detail/ntfs/ntfsproject\\_Gloucestershire10](http://www.heacademy.ac.uk/projects/detail/ntfs/ntfsproject_Gloucestershire10)
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- 2014 *Engagement through partnership: students as partners in learning and teaching in higher education*. York, Higher Education Academy. Healey M, Flint A, Harrington, K) 76pp <https://www.heacademy.ac.uk/engagement-through-partnership-students-partners-learning-and-teaching-higher-education>



## **Student Presentations** (listed in alphabetical order by presenter name)

### **Biomass Gasification: Technology and Feasibility**

Juliana Araujo, Renewable & Electrical Energy Systems (Limerick Institute of Technology)

#### **Abstract**

The use of renewable resources is a common topic worldwide. Furthermore, the demand for more accurate and efficient methods to generate energy has become the main objective of numerous companies. The primary focus of this project is the study of the biomass gasification process which involves few thermochemical stages as the partial oxidation of the biomass. As a result, we have a gaseous fuel that can be used for the generation of power and/or heat. The gasification process is not a new method. It has been applied in different areas of the industry. However, the use in a small scale is not as common as the combustion process. In addition to that, biomass is a powerful fuel. In Ireland, a wood gasification boiler is an alternative to generate heat for the heating system in a building. The scope of this study includes biomass, the gasification process, the generation of heat and an overview of the gasification boiler. The aim of the research is to evaluate the gasification process used in a gasification boiler. Moreover, it will analyse if it is feasible for a house and it will also explain the advantages and disadvantages of this type of boiler. The data, which have been collected, include prices of installation and boilers, the raw material, efficiency of the process and other sources of energy to compare the results. The gasification generates less ashes and waste material than combustion. It is expected that a wood gasification boiler would have a good payback time.

### **The Value Versus The Detriment of a Digital Footprint**

Laura Barry, Psychology and Sociology (University of Limerick)

#### **Abstract**

The shift from traditional communication into the digital sphere has resulted in a huge empowerment of the everyday media user as they become both consumers and producers of information. Although there are a huge number of beneficial ways that the internet has re-structured media, a simple yet crucial issue is being missed: where there is internet, there is data collection. The term 'filter bubble' refers to an algorithmic process of modifying output based on previous web behaviour and is employed by most web browsers. In this paper, I look critically at how this modification process of data essentially disables the users autonomy whilst strengthening that of web based companies. The research question was explored by means of a literature review drawing from both classic and contemporary examples to provide a more rounded view of the influential role of media, and the possible consequences of these recent changes. It is concluded that as we become progressively more dependent on the internet as our main source of information it is necessary to consider how these increasingly narrow perspectives which we are being provided with are likely to affect



individuals' beliefs and actions both in relation to public and private matters. The controversies of data surveillance and algorithmic modification need in particular to be addressed on a more integrative level with young people, who are especially vulnerable to digital media influence.

## **Creative Connections: A Cluster Analysis of Creative Types**

Lauren Beadleston, Psychology (University of Limerick)

### **Abstract**

Creativity is commonly studied from an artistic point of view, but expanding research has redefined creativity to include other types of creative expression, such as artistic, scientific, relationship, and everyday creativity. Recently, focus on creative research has also highlighted that the social groups we identify with also influence perceptions of what is creative and beliefs in our own abilities (creative self-efficacy), leaving a literature gap in how those perceptions and beliefs relate to the types of creativity people express. For this study, student participants will complete a questionnaire with self-report measures of creativity, creative identity, and creative self-efficacy. Cluster analysis will be used to describe the relationship between creative identity and creativity types, through identifying subgroups of people in how they exhibit different types of creativity alongside varying creative identities. \* This analysis will be useful in designing ways to encourage creativity within groups, and could be applied in business or educational settings, as well as further creativity research.

## **'Aiming High': The Centre for Academic Achievement and Limerick's Socio-Economically Disadvantaged Students**

Richard Bourke, English and History (University of Limerick)

### **Abstract**

The Centre for Academic Achievement (CAA) was established in 2006 as an action research project at Dublin City University. CAA provides afterschool classes that introduce primary school students from disadvantaged socio-economic backgrounds to specialised areas of study similar to courses undertaken at University. The purpose of CAA is to address a major deficiency in the Irish primary education system which was described in a needs analysis report published in 2000 by primary school principals as 'the problem of disproportionate education failure among economically disadvantaged students'. Today the CAA has contributed to the education of over a thousand Irish students, expanding beyond DCU, and in September 2014 began classes in UL. Working under CAA's Director, DCU academic Dr Eleanor Healion, this research project examines feedback from CAA Limerick's students and staff to suggest improvements to the programme's effectiveness in increasing educational attainment in Limerick's socio-economically disadvantaged areas. By increasing the duration of the programme, diversifying the available subjects, professionally tailoring the syllabus and facilitating further links between UL and Limerick's disadvantaged communities, this research suggests how CAA's effectiveness can be improved in making higher education a tangible ambition for young people who



have had little to no exposure of its benefits. In addition, this project assesses how students, institutions and society can support the CAA in transitioning from a limited research project to a permanent educational tool that can reduce that 'disproportionate education failure' and contribute to the ambition for a more accessible higher education system and a more equal society.

## The Impact of Language Assistants in the Second Language Classroom

Stephen Brady, Applied Languages (University of Limerick)

### Abstract

The past few decades have seen an increase in the number of Language Assistants who are being sought after in order to help out in a second language classroom setting. This holds especially true as we enter a new period of globalization whereby the English language is now considered the 'global lingua franca'. The purpose of this research paper is to look at the role of the Language Assistant and to investigate their impact in the second language classroom. The research undertaken for the purpose of this paper is empirical and was gathered through questionnaires given to UL students who had worked in Argentina as Language Assistants for their Co-Operative Placement and includes both quantitative and qualitative results. The value of this research, while small in measure, could have quite a large significance for those who organize and take part in this practice as well as for the T.E.F.L. model which is a billion dollar industry and which is likely to grow in the future. The value is of even greater significance considering that there has been very little research done on the impact of Language Assistants. The research illustrates that Language Assistants use more Target Language than teachers and that students respond more frequently in the Target Language to Language Assistants than to teachers. It also shows a need for more training for Language Assistants, something which could help to maximize the impact of the Language Assistant both in what they teach and how they teach.

## Motivation in Language Learning

Samantha Browne, Applied Languages (University of Limerick)

### Abstract

This study concerns the role of motivation in language learning. It attempts to identify and isolate the primary factors which influence students' motivation to provide us with a richer understanding of the term and its impacts on students' overall success and attitudes towards the language. Although the concept of motivation is the subject of a large volume of literature and debate, there is still a lot that is not fully understood. It is agreed, however, that along with ability and aptitude, motivation is key to language learning, and the development of genuine proficiency. This study explores the experiences of students new to a language, as well as those studying these new languages further down the line. Its aim is to gather information about how learners perceive their experiences and describe what motivates them, with the aim of reaching a better description of motivation at an individual and local level.





## Stress Reduction and Well-being – Evaluating a Stress Control Course

John Burke, Psychology (University of Limerick)

### Abstract

**Background/Purpose:** Symptoms of stress and anxiety are currently the most common referral to Primary Care services. Dr. Jim White's "Stress Control" course has proven to be a successful stress management intervention and is now used as the principal first-step stress management intervention in the NHS UK and HSE Ireland. The purpose of this research is to provide empirical data on the effectiveness of the "Stress Control" course. **Aim/Objectives:** The programme is developed and altered to reflect the latest research findings in health psychology. The latest design focuses more on well-being in light of the phenomenon of 'languishing', whereby the absence of mental illness does not equal mental healthiness. The investigation will examine the latest course design's effectiveness in reducing stress and assess the degree to which participants' well-being increases as a result of attending the classes. **Methods:** A quantitative, between-subjects repeated-measures design with a control group will be used. Participants will be administered the Depression, Anxiety and Stress Scale (21-item), the Perceived Stress Scale and Satisfaction with Life Scale before and after the six-week intervention. The change over time will be mediated by a control group, which will be subjected to the same measures via an internet survey before and after the same 6-week interval. **Results/Conclusions:** The results will ensure the quality service provision in Primary Care is maintained throughout the continuing alterations made to the Stress Control course.

## Syria's Twitter Revolution for the English-speaking West

Nancy-Jane Carragher, Applied Languages (University of Limerick)

### Abstract

This paper tackles the role of Twitter in spreading breaking news about Syria's uprising to Western English-Speaking societies. The most socially-mediated conflict to date, Syria represents an interesting case study of citizen journalism that highlights both the helpful and the damaging effects of Twitter on conflicts and the societies that receive news via this new untested and medium. This paper aims to juxtapose overwhelming positive reactions to the revelations on Twitter that emerged during the conflict, and recommends caution with such inevitably motivated accounts of the situation. The research itself is framed upon the theoretical backgrounds of Discourse Analysis and more specifically, Computer-Mediated Discourse Analysis. A both quantitative and qualitative approach was developed, using Corpus Linguistics to provide concrete figures alongside a thorough linguistic analysis, following certain established sociolinguistic methods. As Twitter is so new and difficult a social media to explore, this project's value is its examination of this linguistic treasure trove that is yet to be fully exploited. The paper aims to propose a new way to overcome the various new features and untraditional format of Twitter by analysing each one individually, their uses and effects in



regards to the community-building function of the online social media. This project shows not only that it is entirely possible to conduct a Discourse Analysis despite the shortcomings or challenges of the Twittersphere but also highlights just how important it is to do so, and presents various findings regarding the spread of pro-prising forces in Syria's targeted and oftentimes biased discourses.

## **A Study of Coaching Behaviours of Leinster Juvenile Athletics Coaches**

Catherine Corcoran, Physical Education (University of Limerick)

### **Abstract**

The purpose of this study was to examine those factors which may impact upon the coaching behaviours displayed by juvenile athletics coaches within the Leinster region. At present, a considerable void exists in the literature between the importance assigned to such coaching behaviours and the efforts expended to understand same (Reimer and Chelladurai, 1995). Thirty-two coaches, a number from each of the eleven counties of which the Leinster juvenile region is comprised, completed both a descriptive data questionnaire and a survey exploring self-perceptions of those coaching behaviours displayed. These self-perceived behaviours were later analysed using the Revised Leadership Scale for Sport (Zhang, Jensen, & Mann, 1997). An analysis of variance (ANOVA) was then carried out in an attempt to determine the relationship between age, prior coaching experience, coach education and leadership. Perceived behaviours were typically positive, however extremely low levels of democratic behaviour were recorded by the majority of coaches regardless of age, prior coaching experience or coach education. While age and prior coaching experience were found to have a significant positive impact on both situational consideration and training and instruction, no notable correlation was observed between coach education and perceived coaching behaviours. The above findings highlight the value of significant coaching experience, prior to undertaking a leading coaching role. The need for broader and potentially lengthier coach education programmes, focusing on authentic situations is additionally supported.

## **The Impact of Strength Training on Swimming Performance: A Systematic Review**

Emmet Crowley, Sports and Exercise Sciences (University of Limerick)

### **Abstract**

Significant gaps appear in the literature with regards to the influence of strength and conditioning exercises on swimming performance. These include the lack of specificity of exercises to swimming performance, lack of variety of exercises researched, factors that impact swimming performance and strength and conditioning exercises that have a direct transfer to swimming performance. Therefore, the aim of this systematic literature review was to highlight and propose effective measures of how to bridge these gaps. Electronic databases were searched, including MedLine, PubMed, Sport Discus, Science Direct, Web of Science and SpringerLink.



Specific key words (Swimming training) AND (Strength, Resistance, Power, Crosstraining) NOT (Waterpolo, Triathlon, Fish) were used to search the databases up to September 2014. 10 studies met the inclusion and exclusion criteria. Inclusion criteria included competitive, regional, national and elite swimmers who participated in a strength training program. Exclusion criteria included swimmers with injuries, Paralympian's, Triathletes, Waterpolo players, Turns, Dives/Starts, untrained or novice swimmers, master swimmers and cardiovascular diseases. Analysis of the data has shown that poor methodologies have left studies with inconsistent and unreliable results, making the literature difficult to interpret. There is evidence that strength training is an effective training tool in improving swimming performance (1, 3), when an increase in either stroke length (1) or stroke rate (4) or both (3) is observed, when sports specific strength and conditioning exercises are applied (4, 2). The analysis has highlighted the necessity for further research in this area with detailed and thorough intervention based studies.

## Patient and Physiotherapist Perceptions of the Patient-therapist Interaction in Musculoskeletal Physiotherapy: A Systematic Review

Paul Cullinane, Physiotherapy (University of Limerick)

### Abstract

**Purpose:** To investigate patient and physiotherapist perceptions of factors linked to a good patient-physiotherapist interaction. **Relevance:** Patient-satisfaction and outcome with physiotherapy can be influenced by the quality of the interaction between the patient and the therapist (Monnin & Perneger, 2002). In order to provide effective rehabilitation, physiotherapists need to be aware of the elements of rehabilitation that are important to patients (Ohman, 2005). **Participants:** 253 musculoskeletal (acute and chronic conditions) patients and 75 physiotherapists (private and public) were sampled in the thirteen studies reviewed. **Methods:** The electronic databases Academic Search Complete, AMED, Biomedical Reference Collection: Expanded, Cinahl Plus with Full Text, Medline, PsychARTICLES, PsycINFO, and SPORTSDiscus were searched during March, 2014. Titles were screened; abstracts were read where appropriate. Cross-referencing of relevant journal articles and systematic reviews was performed simultaneously. Study quality was determined using the CASP Tool. **Analysis:** The analytical process used in this systematic review was adapted from Sandelowski & Barroso (2007). The analytical process, which was simultaneously performed by two investigators, involved 3 stages; extraction, grouping, abstraction of findings. **Results:** 6,714 journal articles were scanned; thirteen met the eligibility criteria. The main themes identified were physiotherapist interpersonal/communication skills, patient-education/self-management advice, individualised, patient-centred care, knowledge, experience and skills and organisational and environmental factors; these were all perceived as important facilitators by both patients and physiotherapists respectively. Patients were generally dissatisfied when any of these components were lacking from the interaction process. **Conclusion:** By considering the results of this review, patient-physiotherapist interactions may be enhanced which could improve patient-outcomes.



## **Tumblr as a Community of Practice: The Role of Language in the Construction of Group Identity**

Amy Diviney, Applied Languages (University of Limerick)

### **Abstract**

This study aims to investigate whether the users of Tumblr, a microblogging site, can be considered a Community of Practice (CofP) (Wenger, 1999). Tumblr is deemed suitable for a study of this kind as it attracts a large user base predisposed to be creative and vocal (Bruns, 2006). Through analysing Tumblr users' communication and interaction, this project will evaluate the nature of the language used on the site, and will attempt to correlate this language use with the construction of group identity. Language modification is commonly practiced by groups such as teenagers and gangs as a means to illustrate who is a part of the group and who is not, and this study hypothesises that Tumblr's language variation is crucial to allow for the development of its CofP. Wenger (1999) claimed there are three conditions necessary for the establishment of a CofP: mutual engagement, shared repertoire and joint enterprise (Wenger, 1999). Following the principles of Computer-Mediated Discourse Analysis (CMDA) (Herring, 2004), this study will analyse a corpus of the language use present on the site and compare this data with the phonology, morphology, syntax and pragmatics of Standard English to illustrate how they differ. The findings will be used to evaluate whether the three features of a CofP are present on the site. The results of this study will provide an insight into the social aspects of computer-mediated communication (CMC) and illustrate whether the phenomenon of language variation and group identity formation can be observed in an online context.

## **An Investigation into Irish People's Awareness of Features of Irish-English**

Laura Dunphy, Joint Honours (University of Limerick)

### **Abstract**

As part of this project, I aim to investigate the awareness among Irish People of their variety of English. Even though there has been a vast amount of research done on Irish English (Hickey 2007, Harris 1993, Filppula 1999), explorations of how the Irish themselves feel about their use of the English language are quite limited. The main purpose of this study is therefore to reveal the extent of awareness among the Irish of Irish English as a variety, while also investigating Irish people's perceptions of Irish English i.e. do the Irish see their variety as informal or non-Standard. These questions intend to be examined across three age groups; 19-29 year olds, 30-40 year olds and those over the age of 40 years old in order to examine any variation across age. A written questionnaire asked participants to comment on eleven sentences which contain common examples of both lexico-grammatical and pragmatic features of Irish English, based on the work of the scholars above.



Results and conclusions are currently being conducted in order to examine their awareness and perceptions of such features.

## **Relationship Between Adductor Squeeze Test & Bilateral Drop Jump Performance in Monitoring Fatigue in Gaelic Games Athletes**

Mark Eaton, Sports and Exercise Sciences (University of Limerick)

### **Abstract**

**Background:** Anecdotal and literature evidence in recent years suggests that groin injuries have had an effect on return to play for a large number of Gaelic Games players. Mechanisms of overuse of open chain strength training, neuromuscular fatigue and the nature of the game movement have all been purported as contributory factors. **Objective:** The aim of this study was to monitor localised groin muscle fatigue (groin squeeze) in Gaelic games athletes using a sphygmomanometer and bilateral drop jump performance to understand if players experience localised fatigue and how long the fatigued state lasts for. **Validation of the groin squeeze test** may be useful for pre-match/training to assess player readiness. **Methods:** 13 participants conducted three trials baseline for groin squeeze and for 0.3 m drop. Participants then took part in normal pitch-based training, followed by repeats of the baseline tests at time = zero, 5mins, and 10mins after training. **Results/Conclusions:** Preliminary data collection suggests: **Null Hypothesis (Ho)** No relationship exists between bilateral drop jump performance and adductor squeeze test in measuring acute and chronic fatigue in field sport athletes and **Alternative Hypothesis (Ha)** A significant relationship exists between bilateral drop jump performance and adductor squeeze test in measuring acute and chronic fatigue in field sport athletes. This study will aid Gaelic Games athletes and coaches to monitor fatigue and prevent the onset of groin injuries in field sports.

## **“By the Power Vested in Me”: A Critical Analysis of Power of Decision Makers to Refuse Refugee Status Under Article 1F (a) of the Refugee**

Francesca Farrington, Law (Trinity College Dublin)

### **Abstract**

The extent of a State's obligation to protect refugee's human rights has consistently caused controversy. Rights which are proclaimed to be intrinsically linked to an individual's human dignity have been flouted by states on the basis that a refugee is not entitled to the full spectrum of state protections. This has led to the perverse conclusion that human rights are not founded upon human dignity but are instead conditional upon citizenship. This proviso has led to a particularly dangerous evolution within the refugee process. Under Article 1F (a) of the Refugee Convention 1951, a person claiming refugee status may be excluded on the basis of participation in certain International Humanitarian Law violations. The power to establish culpability is



vested, not with our judiciary, but with our unelected decision-makers. It is contended that this misappropriation of power is not merely a flaw in the structural integrity of the refugee process; it is potentially a violation of constitutionally protected rights, fundamental international law principles and the Rule of Law itself. This presentation will investigate the constitutionality of denying refugees their right to due process in matters involving criminal liability. Furthermore we will examine how this perversion of justice interacts with the separation of powers, and finally whether there exists a legitimate reason for limiting the right to due process under international law. The evasion of fundamental responsibilities is made all the more contentious when we consider the devastating consequences which may accompany the denial of asylum. Can expediency ever justify the exploitation of our most vulnerable?

## **Consent Practices in Recruiting Students as Research Participants**

Cathal Ffrench, Psychology and Sociology (University of Limerick)

### **Abstract**

Previous research on consent practices shows that there is an overwhelming preference for saying 'yes' to consent giving and that there is a noticeable difference between the ways in which consent practices are to operate in theory and how they actually take place in practice. While such research examined consent practices in non-academic settings, here we examine consent practices in research participation for student participants. For this study, 40 recruitment practices with students at a local university will be recorded. Students will be recruited to participate in a qualitative study on 'privacy' and this recruitment process will be recorded. A discursive analysis will be conducted on the transcripts of such recordings. It is anticipated that findings will relate to how students orient to requests for research participation and highlight issues that they think are relevant for agreeing to participate in research studies. In times when students are increasingly being used as research participants for a range of research studies, the findings from this study aim to examine a rather central feature of their participation, namely 'agreeing to participate'. Furthermore, this study will enable a critical reflection of many taken-for-granted norms and expectations of students and their roles in academic settings.

## **Succession Law: The Position of the Surviving Spouse/Civil Partner and the Impact of Relationship Breakdown on a Will**

Emma Glynn, Law Plus (University of Limerick)

### **Abstract**

**Purpose:** The aim of this presentation is to research and set out clearly and concisely the law on succession in respect of spouses and civil partners in a manner that is accessible to the general public. **Objective:** Succession is a complex area of law that potentially affects every citizen during their lifetime, whether it is in respect of



making their own will or in the context of an inheritance. Our objective is to present our research on the following three areas of succession in a comprehensive and accessible manner:

1. Position of surviving spouse/civil partner:
  - The entitlements of a surviving spouse/civil partner in a testate estate (S111, S111A)
  - Key differences between S111 and S111A
  - Issues regarding wills made before marriage
  - Whether the surviving spouse can claim both the legacy under the will and the legal right share
  - Partial intestacy
2. Impact of relationship breakdown:
  - Spousal desertion (S120(2))
  - Impact of judicial separation on the succession rights of spouses
  - Impact of a decree of divorce on the succession rights of spouses
3. Family home (sole/co-owned)
  - When the home can be appropriated (S56)
  - What constitutes a 'dwelling'?
  - What if the value of the legal right share is less than the value of the home?
  - Role of the personal representatives

Methods: Our research will be undertaken by gathering and analysing information from both primary and secondary sources including but not limited to The Succession Act 1965, relevant case law, Succession law textbooks and database articles.

## **'Moving Sensations': An Auto-ethnographic Investigation of the Relationship Between Music and Movement'**

Dorota Gola, Voice and Dance (University of Limerick)

### **Abstract**

This presentation is about my current research as a voice and dance student at the Irish World Academy of Music and Dance. Whenever I listen to a certain type of music, I feel physical sensations in different parts of my body, which I believe lead me to moving. My research aims to find the origins of such sensations in order to use them to create movement. The main questions that I am currently asking (as this research is in progress) are: how does the physical sensation of a stylised musical sound get manifested through the movement of the body? How do I become aware of the sensation? How and where exactly does it manifest in the body? And, how does this sensation get projected/amplified through movement? In my own process as a dancer and creator, working with physical sensations triggered by sounds allows me to find new ways of developing choreography. As this is practice-based research I am currently listening to a number of different types of music and through internal exploration in a studio context locating the part(s) of my body where I feel the impulses. I then investigate if and how they make me move internally and externally. In other words, I am aiming to find the effects that music has on my body and how the body reacts to sound stimuli. This



presentation will summarise my findings and provide an insight into the use of sensation for the creation of artistic work.

## **Muggles, Goblins and House-elves: Colonial Relationships in J.K Rowling's *Harry Potter* Series**

Lyndsey Hall, Arts Joint Honours (University of Limerick)

### **Abstract**

The Harry Potter series presents discrimination towards a number of different groups, from Muggles (non-magic humans) to sentient magical creatures. There is a clear hierarchy in place in wizarding society, which positions wizards as superior to all other beings. While the issue of discrimination against Muggles is a prominent one in the wizarding world that leads to war, the exploitation of magical creatures is of little importance to the common wizard. This project will explore the hierarchical structure of wizarding society that has led to the discrimination of Muggles and magical creatures, particularly house-elves and goblins. It will further analyse the colonial nature of these relationships. The colonial relationship is evident in the domination, discrimination, exclusion and exploitation of these groups. The domination and superiority central to the colonial relationship is evident in the interactions between wizards and Muggles, as the range of attitudes towards Muggles, from paternalism to dehumanization, resemble those of the colonizer towards the colonized. The fundamental colonial features of domination and exploitation are demonstrated in the wizard's enslavement of house-elves, and different character's reactions to the institution of slavery resemble Albert Memmi's description in his book *Colonizer and Colonized*, of colonizers who either refuse or accept the colonial relationship. Finally, wizarding treatment of goblins reveals colonial exploitation, discrimination and exclusion. Goblins suffer discrimination through negative stereotypes and suffer the same exclusion from society as colonized populations. Goblins are also exploited for their metalwork in the same way some colonized populations have lost their cultural artefacts.

## **Comparison of the Effectiveness of Group-based Exercise Versus Individual, one-to-one Exercise on Disability in a Musculoskeletal Pain**

Amy Hayes, Physiotherapy (University of Limerick)

### **Abstract**

**Purpose:** This review was conducted to compare the effectiveness of group-based exercise versus one-to-one exercise on disability in a musculoskeletal pain population. **Relevance:** Musculoskeletal disorders are an extremely common cause of pain and disability in the general population. Physiotherapy, in the form of exercise, is strongly recommended in the management of musculoskeletal disorders. However it is unclear which mode of physiotherapy is optimum. If group exercise is as effective as exercise delivered on a one-to-





one basis, it could be a cost-effective and clinically-effective mode of delivering exercise intervention in this population. **Description/Methods:** Eight electronic databases were systematically searched to identify randomised controlled trials comparing the effect of group-based exercise to one-to-one exercise on disability in a musculoskeletal population. Articles were excluded if interventions included multidisciplinary involvement, a mix of one-to-one and group exercise, if exercise was not a component of both intervention arms and if only one of the intervention arms was included. Nine RCTs met the criteria and were assessed using the PEDro Scale. **Results:** There is strong, consistent evidence that there was no significant between-group difference in the effectiveness of group and one-to-one exercise interventions. Only two studies demonstrated a significant between-group difference in favour of group exercise. However this difference was not maintained at long-term follow-up. **Conclusion:** Overall, there is consistent evidence that group exercise is as effective as one-to-one exercise in clinical practice in reducing disability in this population.

## The Effects of Additional Abdominal Fat Mass on GAA Performance

Patrick Hogan & Kevin Coleman, Sports and Exercise Sciences (University of Limerick)

### Abstract

**Background:** An athlete's body composition is acknowledged as an important factor in successful sports performance. Longitudinal studies of the change in body composition of inter-county GAA players reveals within season fluctuations in body-fat mass approximating to  $\pm 5$ kg, predominantly around the abdomen. To date, the effect of additional abdominal mass on the physical performance of GAA players has not been investigated. **Objective:** This study aimed to quantify the effects of an additional 5kg mass around the abdomen on components of fitness associated with successful performance in GAA. **Methods:** 12 male GAA players ( $21.3 \pm 2.5$ y) completed two GAA-simulated high-intensity interval (H.I.I.T) training sessions with and without a 5kg weighted vest positioned around the abdomen on separate days. Change in leg power was measured by counter-movement jump (CMJ). Each session comprised of 7, four minute periods of running at 70%  $VO_{2max}$  followed by a CMJ measurement and a rest period. **Results:** Prior to the H.I.I.T session, addition of a 5kg weight vest lowered mean CMJ height by  $\sim 6\%$  ( $46.6 \pm 5.4$  vs.  $49.5 \pm 5.5$  cm;  $p < 0.05$ ; Wilcoxon-Signed-Rank Test). Across the full simulation, the addition of the mass had a significant effect on the CMJ height ( $p < 0.05$ ) and HR ( $p < 0.05$ ). CMJ height was reduced while HR increased. **Conclusions:** The addition of a 5kg mass has a detrimental effect on performance measures important in GAA.

## Expression Profile of SoxB111 in *Hydractinia Echinata*

Amy Houlihan, Zoology (NUIG)

### Abstract

SoxB transcription factors have been shown to have a role in both the maintenance of neural stem cells and their differentiation to mature neurons. Studies of the roles and mechanisms of the SoxB family of genes in



cnidarians; the outgroup to the Bilateria, should give some insight into how ancestral pathways gave rise to the complex nervous systems seen in animals today. The aim of this project was to characterize the expression of *SoxBIII* in *Hydractinia echinata* at all life stages; from fertilization, through larval development and metamorphosis to the mature adult colony, to assess when and where the gene is active. Functional study through RNA interference (RNAi) knockdown was also performed to complement the expression analysis and discover the effects of knockdown on the adult feeding polyp. *SoxBIII* was shown to be expressed in the larval ectoderm after migration of cells from the endoderm. In adult polyps, expression was seen in proliferating cells and also in differentiated cells following migration. Knockdown showed a reduction in differentiated neuronal cells expressing both RFamide and NCol3 proteins

## Nutritional Status and Compliance with Food Based Dietary Guidelines Among Collegiate GAA Players and Control Subjects

Ciara Keenan & Rebecca O Sullivan, Food Science and Health (University of Limerick)

### Abstract

Optimal nutritional intake is paramount for team sport performance; however nutrition is often overlooked in the amateur sport setting. The aim of this study was to evaluate the nutritional status of collegiate GAA players (hurling players) versus that of control subjects and to note the compliance or lack of, to food based dietary guidelines. Body composition, details of physical activity, food choices, dietary habits and attitudes towards food were assessed among 18–21 year old hurling players (n=30) and control subjects (n=20).

Players assigned to the premier collegiate squad were recruited for participation via contact with team management. Body composition (body mass index (BMI), basal metabolic rate (BMR), weight, body fat, muscle mass and visceral fat) was determined by bioelectrical impedance using the Tanita scales. Habitual dietary intake was assessed using a 3-day food diary and food portion size determined using a food atlas. Macro and micronutrient intakes were calculated using the weighed intake software package (WISP). A detailed questionnaire determining food choice and attitudes was also administered. Statistics were conducted using SPSS. Both groups adhered to the recommended energy contribution from carbohydrate, protein and fat. However alcohol consumption remained high, particularly among the control subjects with a range of 0–30 drinks weekly. Adherence to dietary guidelines was adequate among both GAA players and controls however the intake of specific micronutrients were suboptimal. While energy requirements may be adequate certain micronutrient intakes may be suboptimal in amateur sports players. Therefore nutritional education should be a primary consideration for team sport management.



## Partitions of Integers and Tying Knots

Adam Keilthy, Mathematics (Trinity College Dublin)

### Abstract

A popular, and accessible, area of research in modern mathematics is that of Partition identities. A partition of a number is a way of writing it as the sum of smaller numbers. Counting the number of partitions of a number has historically been a very challenging task, but the study of it has led to several interesting identities. For example, the number of partitions of  $n$  with odd parts is equal to that of partitions with distinct parts. These have applications in computer science, pharmacy and statistical physics. This summer, I worked alongside Dr. Robert Osburn to derive a series of these identities from the study of knots, tying together two very distinct fields. Through both simulation and proof, we were able to find 43 such identities. In this talk I will discuss some of our simpler result, their implications and applications.

## Characterisation of the Inclusion of Spray Adhesive and Powder Binder in Dry Fibre Preforms

Eoin Keyes, Mechanical Engineering (UL)

### Abstract

As part of efforts to increase the use of composite materials in aerospace applications, manufacturers are developing more cost effective processes for manufacturing aerospace quality components. Out Of Autoclave (OOA) processes offer the potential for manufacturing large parts with significantly less capital expenditure than autoclave processes, therefore, are the subject of extensive research. Although the use of dry fibre reinforcement in OOA processes offers significant cost savings over the pre-impregnated reinforcement used in autoclave manufacturing, it is more challenging to ensure accurate placement of reinforcement in the finished part. To combat this, manufacturers use either spray adhesive or a thermoplastic binder to hold the reinforcement in the correct position during infusion. The effect of these inclusions will be characterised using industry standard tests for interlaminar shear strength and fracture toughness.

Samples were manufactured using spray adhesive and thermoplastic binder powder and their interlaminar properties compared to those of samples with no interlaminar inclusions. The results showed that the interlaminar shear strength of the carbon/benzoxazine composites tested was unaffected by the presence of the powder binder, but reduced by approximately 50% by the spray adhesive. The fracture toughness of the samples was reduced by approximately 25% by the spray adhesive, but increased by approximately 30% by the powder binder. Additionally, it was found that the presence of the powder binder affected the permeability of the preform during infusion.



## **Development of a Peel Testing Device for the Evaluation of Composite Rings Manufactured by Laser Assisted ATP**

Lorcan Kinsella, Mechanical Engineering (University of Limerick)

### **Abstract**

Laser assisted automated tape placement (LATP) is a new method for manufacturing composite materials with tremendous economic potential. UL is at the forefront of developing this technology and took delivery of a new €1M tape placement machine in June 2013. Before a LATP operation can begin the machine's processing parameters must first be determined. Being a relatively new manufacturing method the optimum processing parameters to achieve premium autoclave level mechanical properties have yet to be fully established. The aim of this project is the optimisation of LATP processing parameters through the evaluation of interlaminar bond strength using a wedge peel test method. This was achieved through the design of a new LATP winding tool for the manufacture of wedge peel test specimens and the design and development of existing wedge-peel test fixtures. This allows for relatively fast manufacture and test of wedge peel test specimens reducing the time required for process parameter optimisation prior to part manufacture

## **Direct Provision in Ireland: The Effects for Male Asylum Seekers on Well-being and Accumulation of Social Capital**

Finn Lannon, Economics and Sociology (University of Limerick)

### **Abstract**

This research looks at the Irish national policy of Direct Provision for those seeking asylum in the country. Direct provision is a system of lesser welfare entitlements given to asylum seekers in Ireland. Recipients receive full lodging in hotel or hostel accommodation, which is state run and largely privately owned, with dispersal on a 'no choice' basis throughout the country (IRC, 2013). Full meals are provided and a nominal personal allowance is given. This research examines the extent to which the policy implemented by the Irish government, covers some of the basic needs of asylum seekers, but effects well-being and inclusion in society as well as their means of accumulating social capital. The study conceptualises whether or not male recipients of direct provision in Ireland are excluded from production, consumption, social networks, decision making and an adequate quality of life. The research will focus on the lives of men living under direct provision, and gather qualitative data using a series of semi structured interviews with recipients of direct provision, in order to get an in-depth insight. I use an increasingly popular concept in social research as a basis for this study; social capital. The aim of the research is to determine what effects there are for men living under Direct Provision in Ireland. Are these men being excluded and trapped in a society by its welfare policy? Or have they found means of accumulating social capital? And whether or not their social well-being is affected as a result of living under direct provision.



## Employing Molecular Techniques to Estimate Hybridization Rates of *Typha Latifolia* and *Typha Angustifolia*

Joseph D Marsili, Biology (Study Abroad, University of Limerick)

### Abstract

Two plant species- native *Typha latifolia* and exotic *T. angustifolia*, hybridize to form *T. x glauca* (F1 hybrid). Fertile F1 hybrids backcross to either parental species creating advanced-generation hybrids. These hybrid swarms threaten wetlands by forming dense monocultures that out-compete native species and thus lower plant biodiversity. Our goal is to use previously-identified microsatellite markers from *T. latifolia*, *T. angustifolia*, and a related species, *T. minima*, to quantify hybridization rates in cattail populations across the Midwest. We have sampled plants from 32 populations in 7 Midwestern states and have identified 6 previously described microsatellite loci that discriminate between the parent taxa and hybrids. We are currently screening 7 additional loci. Contrary to a smaller study in the same region that found *T. latifolia* stands to be rare, we found that approximately 30% of the populations sampled contained pure *T. latifolia*. However, none of the populations contained pure *T. angustifolia*. Similar to another study of comparable size, we found regional differences in the relative abundances of each species. In comparing our two most sampled states (IL and MN) we found a significantly greater abundance of *T. x glauca* in Minnesota than in Illinois ( $P=0.034$ ). Furthermore, we found that the abundance of hybrids is negatively correlated with the abundance of the native *T. latifolia*. Our preliminary data suggest that the hybrid is replacing both parental species within the Midwestern region, which could have implications in the management of *Typha* stands as well as conservation of the native parental species.

## Clinical and Epidemiological Aspects of Snakebites Which Occurred in a Region of the Brazilian Cerrado

Christina Martins, Science without Borders (Limerick Institute of Technology)

### Abstract

This paper is a qualitative study of the snakebites that occurred in the Brazilian Cerrado region. Snakebites are considered a public health problem in countries such as Brazil that report approximately 20,000 cases per year. The effects differ according to quantity of venom inoculated, the affected body region and the snake species. In this sense, the animal identification is essential, once it requires a specific treatment by antivenom. Therefore, the main aim of this paper is to characterize the epidemiology of snakebites which occurred in a region of Brazilian Cerrado. Snakebites data reported in the period between 2006 and 2011 were analysed using the statistic Test Z ( $\alpha = 5\%$  and 95% confidence), and the Kruskal-Wallis test. 1,923 cases were analysed with an average of 320.5 cases per year. From these, 74% of accidents came from the urban



area and the highest frequency of accidents remained among males (63%). The most affected age group was between 20-49 years (50%). The period of the occurrence of the accident was in the summer, caused largely by Bothrops (14%). The most affected anatomical region was the lower limbs (42.17%). Only 30% of patients received antivenom therapy as treatment. The majority of the cases progressed to healing (97.1%), being treated within the first three hours (74.15%). Based on the obtained data it was possible to trace the epidemiological profile of snakebites in the region. Therefore, it will be possible to establish the best methods for treatment and prevention regarding these accidents.

## Personal and Community Safety for Older People

Kathleen McAuliffe, Social Care (Institute of Technology Tralee)

### Abstract

Our personal safety enables us to live a life free of constraints on our day to day living, community involvement, hobbies, work and home life. This research set out to improve the older people's levels of safety and their ability to continue to live independently in their own homes. The project was a combination of qualitative and quantitative research and methods used were focus groups, telephone interviews and questionnaires. The research provided a clear description of the respondent's profile, investigating people's situation with regard to safety within their homes, personal safety, and the nature and extent of people's social interaction in order to give useful information about possible barriers to community involvement. Personal safety has many dimensions including physical and emotional health and the ability to communicate effectively with family, friends and services. The research was conducted in the greater Tralee area and the researcher engaged with active retired groups, North & East Kerry Development, Tralee Older People's Forum, HSE, Gardaí, Family Resource centres, Tralee Town Council and community & voluntary organisations. The research findings and recommendations provided statutory and voluntary agencies with a guide for future strategic planning and policy development. Other outcomes included a number of seminars with expert speakers on various aspects of safety and the compilation of a directory of services for older people. The findings demonstrated the levels of personal, home and community security and identified specific safety aspects that could be improved. It also highlighted gaps in existing services available to older people.



## Mathematical Modelling of Particle Wall Adhesion in a Dry Powder Inhaler

John McCarthy, Mathematical Sciences (University of Limerick)

### Abstract

Dry powder inhalers are drug delivery systems in which drugs are delivered directly to the lungs in powder form. The drug particles are very small (5 micrometres) and because of this, they do not flow very well. To enable the small particles to flow, they are attached to larger inert particles forming a conglomerate. One concern of pharmaceutical companies developing such devices is whether or not the drug particle will adhere to the wall as particle-wall collisions take place during the use of the inhalers. The goals of this project were to model the collisions mathematically and determine various parameter values for which the particles will adhere. The project combined both analytic and numerical techniques for solving the differential equations of the model. The numerical techniques were carried out using the computing environment MatLab. I successfully modelled a number of interactions between the particulates and the inhaler wall. I also obtained the parameter values which allowed for adhesion. One particular application of this work is aiding modifications of particulate properties to reduce the problem of adhesion. This in turn reduces the problem of insufficient drug delivery for the inhaler.

## Fitness Profiling of Female Gaelic Football Players

Ciaran McElhinney, Sports and Exercise Sciences (University of Limerick)

### Abstract

The aim of the current study will be to evaluate the anthropometric characteristics and fitness profiles of female Gaelic football players to establish normative values for selected fitness parameters. As the sport has evolved in recent years, a greater emphasis has been placed on the conditioning of players. Displaying optimal levels of particular physical attributes is consistently linked with successful and elite performance in Gaelic games. Approximately 100 female Gaelic football players will be recruited to participate in the study to ensure an appropriate sample size for statistical power. Participants will be categorized as goalkeepers, defenders, midfielders and forwards to note any positional differences in the anthropometric and physical fitness characteristics measured. Height, body mass, flexibility and skinfold thickness (body fat percentage) will be recorded. Muscular power will be assessed using a drop-jump and a counter-movement jump. Speed, agility and cardiorespiratory endurance will also be measured during the testing session. Based on appropriate previous literature on field sports and the nature of Gaelic football, it is hypothesised that midfielders will have the highest endurance capacity whereas defenders and forwards are expected to display better scores in the tests of speed, power and agility. There is a limited amount of literature and normative values for fitness measures available for female Gaelic football players. These results will be useful for coaches of female Gaelic football teams who seek to benchmark elite performance, set realistic performance standards and devise appropriate training programs for their players or teams.



## Attachment Strength Degradation of RSSB Downbonds

Shane McHugo, Production Management (University of Limerick)

### Abstract

For this presentation I will be demonstrating how I went about identifying attachment strength degradation in RSSB downbonds. This project was part of my final year project (FYP) for 2015. Integrated Circuit manufacturers are converting from silver plating to nickel palladium gold plating on the copper leadframe substrates. Various aspects need to be identified and compared in both plating types to see if the progression is beneficial. Aspects such as attachment strength and bond degradation need to be quantified and compared for valid reliability testing to proceed. This is essential for all new product developments associated with integrated circuits. The results of this study showed that no degradation was found by means of visual statistical and mechanical testing. Once this was identified the next step was to investigate had anything happened to the integrated circuits (IC's) such as wear and tear or damage due to high temperature storage. Using cross sectional analysis it was found that no damage or irregularities were found within the internal circuitry. This information in conjunction with previous data will be used to establish a gold standard plating, which will be used as a key performance indicator in the semiconductor industry.

## Carbon Nanoforms from Methane Pyrolysed Soot – Characterization and Thermal Processing for Energy Applications

James McQuade, Pharmaceutical and Industrial Chemistry (University of Limerick)

### Abstract

Hydrogen gas and carbon nanomaterials have huge applications in energy and in other areas of technology. The microwave plasma reactor is a promising new technology, potentially enabling the production of valuable carbon nanomaterials and hydrogen from natural gas at the same time, with no CO<sub>2</sub> emissions. This project examines carbon black generated by methane splitting in an experimental-scale microwave plasma reactor, with a focus on improving its conductivity for electrical applications. The carbon was treated in a pyrolytic reactor and the residues were purified by solvent extraction. Conductivity measurements, BET, electron microscopy, gas chromatography, and infrared spectroscopy were carried out to determine the effects of treatments on the purity and structure of the carbon. The extracts were examined by NMR and UV-Vis spectrometry to identify the extracted components, including hydrocarbons and carbon allotropes. Pyrolysis and chemical extraction with toluene were both found to increase the conductivity of the carbon. Conductivity increased more when extraction was carried out using soxhlet extraction rather than reflux. A larger effect was observed with higher pyrolysis reactor temperatures. Information about the composition of the treated and untreated carbons and of the extracts was obtained. An optimum carbon purification process was established and tested practically.





## Post-Celtic Tiger Literature

Tim Myers, Languages, Literature and Film (University of Limerick)

### Abstract

The Spinning Heart by Donal Ryan, Young Skins by Colin Barrett and Here Are The Young Men by Rob Doyle. Chapter 1: Alienation: Donal Ryan, Colin Barrett and Rob Doyle have each produced a piece of literature which is a marked departure from contemporary Irish Literature. Their works move beyond a sentimentalized and romanticized view of contemporary Ireland. Each writer presents the trials and tribulations of a modern day society in his own unique way. The theme of alienation is a predominant theme in all of their works; a theme which is especially prevalent in contemporary society. This chapter will examine the different forms of alienation, which afflicts many of the young male characters within the stories. Chapter 2: Masculinity: The central subjects in The Spinning Heart, Young Skins and Here Are The Young Men reveal masculinity is in a perilous position. These elegiac and emotionally laden narratives paint an unnervingly accurate appraisal of young male masculinity in present-day Ireland. Chapter 3: Femininity: The Spinning Heart and Young Skins paint a contrasting portrayal of femininity in present day Ireland. This chapter will compare the conflicting generational representation of femininity. It will also examine the close minded mind-set with regards to effeminate men, which is especially prevalent in provincial areas. My research methods are literature reviews, interviews and a collection of statistical information. The collection of statistical information is primarily focused on the alienation chapter. Fortunately, I also managed to obtain an interview with the author of Young Skins, Colin Barrett.

## 'The Struggles of Immigrants and Their Children in the Land of the Free:

### Brooklyn, The Namesake and Americanah

Clare Nee, English and History (University of Limerick)

### Abstract

The concerns of this project focus primarily on elements of the immigrant mind-set and culture that complicates their transition in America and that of their children's upbringing. In Brooklyn, the power of the church is to the detriment of a young Irish woman on the cusp of womanhood discovering her sexuality. The American born children of immigrants often have even a more difficult experience. Feeling the tug of two different cultures and having to appease the expectations of both can lead to serious questions of identity and understanding of what it means to be an American child of immigrant parents. Often in frustration, attempts are made to abandon one culture completely in favour of the host culture. However this only creates more confusion and aggravation. Interestingly, it can also often be the parents who set this into motion as explored in Americanah. As they view America to be a new fresh start for them and their children, the abandonment of their culture is seen as the price of admission in the New World. Such links to the



motherland like language are abandoned in favour of a mono-linguist upbringing. While only minutely affecting them as children, as they progress to adolescence and further on adulthood they begin to question their heritage and lack of cultural links. Never feeling fully at home in culture or another but stuck in a kind of cultural limbo that must eventually be confronted. In *Americanah* and *The Namesake* the characters feel a yearning for that of their parent's culture and world that is at once close and yet distant.

## **Questioning Constitutionally, False Confessions, Intellectual Disability and the 5<sup>th</sup> Amendment**

Maria Ní Fhlatharta, Business (NUIG)

### **Abstract**

Over the last two decades, there has been a shift in law and policy from treating the issues of persons with disabilities as one of charity, to an urgent human rights matter that must be addressed. Many nations should be commended for the improvements seen in anti-discrimination law, education rights and allowances for reasonable accommodations, which is creating a growing culture of community inclusiveness as opposed to the isolated and institutionalised status quo. The rights of persons with disabilities continue to be realised within mainstream society, however this is not universal through all areas of society. There is a tendency to ignore issues of disability in the criminal justice system for example. While the disability rights movement and prisoners' rights movement have both gained traction over the last number of years there has been a failure to recognise the intersection between the two. This has had exceptionally negative consequences for a number of people with disabilities, as will be examined in detail throughout this paper. Specific focus is given to issues and barriers at the point of entry to the criminal justice system. The research takes a specific look at the link between false confessions and intellectual disability and examines what reasonable accommodations could be implemented to make the criminal justice system accessible to all.

## **A Hidden Benefit of the Quinn Litigation: The Birth of Irish Decryption Law: A Challenging Equilibrium**

Doireann Nic Mhathúna, Law and French (Trinity College Dublin)

### **Abstract**

To evaluate the future application of Irish decryption law, in particular the accessibility to decryption passwords, and its obstacles regarding the balance of constitutionality protected rights. This issue raises the question whether creation of decryption legislation will adequately protect privacy rights. This paper seeks to reconcile these two antagonistic issues of whether a balance is possible between the necessity of decryption passwords, in relation to key pieces of evidence and the right to privacy, culminating in a solution that balances both. At present the lack of legislation and clarity regarding this issue in Irish law draws our



attention to a similar dilemma tackled in parallel jurisdictions. The US courts have only begun to grapple with this area of law, proving difficult the balance between the Fourth and Fifth Amendment regarding access to an encrypted electronic device. The present lacuna in the law unearths the modern dilemmas regarding the suitability of law in dealing with technological advances such as that of decryption coding; a complex, sophisticated piece of technology that is noted as analogous to unearthing an accumulation of the minds content. Using the Quinn litigation as its starting point, this paper highlights a necessity for modernisation regarding court procedure and whether evidence obtained through these technological means is a just and fair manner to obtain possibly damning evidence. This issue is treated in a comparative framework drawing on American and neighbouring jurisdictions in order to find solutions to this newly born area of Law.

## Accessibility in Video Games

William Nolan, Computer Games Development (University of Limerick)

### Abstract

People with disabilities are often overlooked when it comes to the design of software and video games. My research aims to investigate the various challenges facing the creators of this content, and to discover why the inclusion of accessibility features is not more prevalent given the sizeable portion of the population who identify as having a disability. I will discuss various potential accessibility features and give examples of both the best and bad practice with respect to each. I will also briefly examine a number of organisations which work to promote inclusiveness in this area, with particular emphasis on charities who work with children with severe disabilities in order to allow them to enjoy the medium of video games in spite of their limitations.

This research aims to prove that these oft cited “challenges” are, by and large, easily surmountable through intelligent design and adequate planning. I believe that the various examples of potential features will confirm this assertion, and demonstrate why the inclusion of features which make games more accessible should not be neglected, and why their inclusion is both a good idea socially and financially for developers.

## Language Learning in Different Contexts: Insights from Language Learning at the University of Limerick

Aoife O'Brien, Applied Languages (University of Limerick)

### Abstract

At the heart of this research project is a focus on the higher education language learning experiences as described by language learners at the University of Limerick. The study surveys groups of learners before and after their study-abroad experience; the first cohort are second year students about to experience the study abroad setting, and the second group have returned after a study abroad experience. Many factors associated with language learning are explored in the literature which forms the foundation of this project



and the questionnaires and interview prompts designed to explore the UL student experience in this respect. Tanaka and Ellis (2003) claim that learner beliefs about language learning, as much as aptitude, motivation or environment impact upon learning. This paper reports on student responses to questions about learning contexts and experiences, some of which were quite unanticipated, and presents an overview of the students' own perceptions of their language learning.

## Research into Incorporating Usability Guidelines for Senior Web Users into Modern Web Development Practices

Ethan O'Brien, Electronic and Computer Engineering (University of Limerick)

### Abstract

The issue of web accessibility for older internet users has been a topic of research for over a decade. Despite this research repeatedly producing many of the same recommendations, the majority of websites don't cater to the needs of elderly users. Over the years many of those recommendations were amalgamated into sets of guidelines which were intended to support web developers by providing a comprehensive checklist for accessibility. The goal of this project is to investigate how these guidelines can be incorporated into modern methods of web development in order to increase the level of accessibility of new websites to older web users. The proposed solution developed in this project will not implement the complete set of guidelines due to time constraints but will implement enough of a variety of the guidelines to prove that it could be done. The solution will focus and be tested only on screens in the range of laptop and desktop screen sizes (approx. 12" to 24" diagonally) but will use modern practices such as responsive web design to ensure it is at least somewhat applicable to mobile devices too - these will be of increasing relevance to senior users in the future. The solution developed in this project will use:

- a sample of guidelines from WCAG 2.0 that are relevant for senior web users as the guidelines to be implemented.
- "Bootstrap" as the responsive frontend framework to have the chosen guidelines incorporated into.

## The Good, the Bad: the Ambivalent – The Implications of Ambivalent Social Relationships for Physical and Psychological Well-being.

Rebecca O'Brien, Psychology and Sociology (University of Limerick)

### Abstract

Objectives: There has been an abundance of research conducted concerning the benefits and implications of positive and negative social supports on health, both in relation to psychological and physical health, and particularly in terms of cardiovascular health. Yet relationships are neither purely positive nor negative; instead they are multifaceted consisting of characteristics that are both positive and negative (i.e.



ambivalent). The implications of ambivalent relationships have not been sufficiently examined in social support theory or research (Uchino, 2007). This study sought to identify associations between ambivalent relationship quality and physical (i.e. resting systolic, and diastolic blood pressure, and heart rate) and psychological health. Methods: As part of a larger study on social relationships and well-being, healthy undergraduate students visited a campus laboratory. Participants completed validated psychometric measures of ambivalent relationships (the Social Relationships Index) and psychological wellbeing (the Hospital Anxiety and Depression Scale). Blood pressure and heart rate were measured using a Dinamap monitor. Results and Discussion: Hierarchical regression analyses will be conducted to examine associations between ambivalent relationships and outcomes (anxiety, depression, and resting cardiovascular levels). The possible mediating role of personality will also be addressed. The results will be discussed in light of research linking social relationship quality to health and well-being.

## Getting Graphene into Shape for Industrial Applications

Eoghan O'Connell, Applied Physics (University of Limerick)

### Abstract

Two-dimensional (2D) materials have raised massive interest in these and many other areas following the demonstration of the amazing properties of the 'wonder' material graphene, promising a multitude of applications, and having led to concentrated research efforts worldwide and recently multi-million currency investments by industry. Despite the furore it has raised, graphene itself has strong limitations in electronic applications due to contamination on the material surface. This project aims at inspecting both chemical vapour deposition (CVD) and shear exfoliation of graphite (SEG) graphene samples via high resolution electron microscopy. This will enable nano-scale assessment with regards to the second goal: exploration of methods to clean these samples via annealing procedures, and investigations as to whether and under which conditions these membranes can be kept clean. The project entails collaboration with members of the Manchester University Graphene group as well as with researchers from Trinity College Dublin (TCD/CRANN). Thus far, the characterisation of graphene is aimed at comparing the CVD and SEG samples. Although CVD grown graphene is widely used, this project may show that SEG graphene contains larger flakes, is of higher quality, and is more resistant to contamination than CVD. Two methods for cleaning (acetone rinsing and activated carbon annealing) have produced varied results, with no definite answers as to the exact effect they have on the graphene surface. However, the work being done in this project may show that activated carbon is not a suitable method for graphene cleaning, as has been claimed in the past.



## The Effects of Concentric, Isometric, and Combined Concentric and Eccentric Strength Training on Flexibility: A Literature Review

Elaine O'Connor, Physiotherapy (University of Limerick)

### Abstract

**Purpose:** This literature review aimed to identify the effects of various strength-training constructs on flexibility, namely concentric, isometric, and combined concentric and eccentric training. **Relevance:** Injury may be related to flexibility deficits and therefore, flexibility training is often recommended to reduce injury and return-to-sport times. Static stretching and eccentric strength-training can improve flexibility (O'Sullivan et al., 2012). However, stretching effects are short-lived, and eccentric contractions can be painful. **Methods:** One reviewer independently searched nine electronic databases to identify clinical trials investigating the effects of concentric, isometric, or combined concentric and eccentric training on flexibility. Included studies utilised flexibility measurements of fascicle length through ultrasonography, or goniometry to measure range-of-motion. After applying inclusion and exclusion criteria, 6 papers were reviewed and their methodological quality assessed using the PEDro scale. **Results:** The studies' methodological quality was relatively poor, the highest rating being 6/10 in two studies. The results do not provide a clear consensus regarding the most effective form of strength-training, as flexibility alterations were inconsistent. The results however indicate that including an eccentric component leads to greater improvements. **Conclusion:** This review indicates the need to perform further research into other forms of strength-training, and to compare their effects to stretching. The study results were quite varied, resulting in no agreed program to improve flexibility. Furthermore, although performing eccentric-only contractions indicated flexibility increases, they can be painful. Further research in active, healthy subjects may initiate agreed flexibility training and injury-prevention programs, and a greater knowledge-base of the mechanisms responsible for flexibility improvements.

## The Influence of an Emerging Self-concept on Developing Autobiographical Memory in 2-6 year olds

Tara O'Grady, Psychology and Sociology (University of Limerick)

### Abstract

The phenomena of the absence of memories from the first two years of life is highly documented in the literature as infantile amnesia, but there is much debate on what processes are behind this and also what causes its decline. Autobiographical memory is evident in children from seven years of age but what happens between these ages to lead to the emergence of the memory system is as of yet unknown. Autobiographical memory is the ability of an individual to have a coherent life story; memories can be located in time and space. Several research papers have associated an emerging self-concept with the ability to create a life-story. A child who has a stable self-concept will be able to attach memories to a "me" to create a sense of



coherence in memories. The aim of this study was to conduct interviews with children between the age of 2-6 to look at their episodic and semantic memory; self-concept and IQ. These concepts have not been looked at together previously. It is thought that children who show a stable self-concept will show more coherence in both their episodic and semantic memories. Interviews were carried out with the children and then parents/guardians were contacted to verify responses given. Results are pending. The expected results are that when a child shows a stable self-concept they will show greater ability to orientate their memories in space and time.

## Using Corpus-based Materials to Increase Language Awareness for Secondary School Students Focussing on the Irish Language

Neasea O'Leary, Applied Languages (University of Limerick)

### Abstract

The aim of this research is to analyse the effectiveness of corpus-based materials for language awareness-raising activities for secondary school Irish students. It consists of twenty-four leaving cert students of an Irish class and their teacher. The methodology for this research consisted of giving students corpus-based materials to work from, and giving follow up questionnaires to assess their evaluations of such materials. After offering a brief explanation of the background of the corpus-based materials, hand-outs were distributed to both the students and the teacher including instructions about how to use the corpus-based materials, which focussed on two areas of the Irish language which students often struggle with... The follow-up questionnaires then consisted of twenty-three questions. The aim of the questionnaires was to determine the student's perceptions of the corpus-based materials and evaluate the advantages and disadvantages of the corpus-based materials in order to ascertain any problems students encountered. The preliminary results from the questionnaires revealed varying perceptions from the students. The main disadvantages of the corpus-based materials depicted were regarding the size of the corpus-based materials, their tedious nature and students' difficulties interpreting the concordance lines. However, there were many positive aspects including the fact that these materials made students more aware of the structure of the language highlighted in the tasks, and they promoted autonomous and real-life language learning. Furthermore, the corpus-based materials allowed the students to apply the grammar and information they had already learned and enabled them to differentiate between similar meaning words. Students also felt that the materials also had the potential to enhance their general essay writing and speaking as they became more familiar with naturally occurring language and how words are contextualised.



## Management of Left Main Coronary Artery Disease at University Hospital

### Limerick

Shane O'Regan, Graduate Entry Medical School (University of Limerick)

#### Abstract

**BACKGROUND** – Coronary artery bypass graft surgery (CABG) has long been the gold standard of treatment of left main coronary artery disease. However in recent years, percutaneous coronary intervention (PCI) has been increasingly used. This study compared PCI and CABG for treating patients with previously untreated left main coronary artery (LMCA) disease attending University Hospital Limerick (UHL) in 2013 and 2014. **METHODS** – The extent of coronary artery disease was calculated for each participant using the SYNTAX angiographic scoring system. The primary end points of this study were in-hospital major adverse cardiac and cerebrovascular events (MACCE) and length of hospital stay. MACCE were defined as death, Q wave myocardial infarction, CVA, the requirement for repeat revascularisation, and re-admission within 30 days. Average patient follow up was 293, when the occurrence of MACCE was reassessed. **RESULTS** – 57 patients with LMCAD attending UHL were identified from the clinical registry. 27 patients underwent PCI (median age 67.71) and 30 CABG (median age 68.59). Most of the preoperative characteristics were similar in the two groups. PCI was the treatment of choice in 90.5% of patients presenting to UHL with mild to intermediate left main disease (SYNTAX 0-32). However, when disease burden is severe (SYNTAX >33) the Heart team in UHL referred 77% of patients for CABG,  $p < 0.001$ . There was no difference in the occurrence of MACCE between the two groups with follow up, with the PCI group having a shorter length of stay than the CABG group (6.6 vs. 37.6 days,  $p = 0.06$ ). **CONCLUSIONS** - This study has provided baseline and outcome data on patients at UHL with left main disease and subsequently treated with PCI or CABG. At UHL, patients with mild to moderate coronary artery disease (SYNTAX 0-32) are most often treated with PCI. However, in the presence of severe disease (SYNTAX > 33) tend to be referred to a tertiary centre for CABG.

## Flipped Classroom: Engineering an Education

Alan O'Reilly, Civil Engineering (University of Limerick)

#### Abstract

Flipped Classroom is a pedagogy concept whereby students are given access to modified online lecture prior to the material being discussed in the classroom. The restructured video lectures have been so designed as to allow a standard fifty minute class slot to be imparted in less than ten minutes. The intentions behind this strategy is to allow the material to be immediately reflected upon in class and permits the lecturer run through practical problems within the lectures slots thereby clarifying potential problem areas of key concepts in a reduced time frame. The engineering staff at UL has carefully considered the cutting edge prospectus outline and structure so that graduates are ideally equipped to deal with real world scenarios and integrate well as part of a project team of life-long learners progressing into the future. Students that accept





to complete a Civil Engineering degree program at UL are aware of the 'new' and diverse teaching methods implemented across the board and such are likely to be reasonably open to a pedagogical shift for the benefit of the program. While it has been acknowledged by previous graduates that WT4014 – Introduction to Soil Mechanics is a vital module in terms of initiating their expertise in the field of soil mechanics, most students seem to agree that both the concepts and material covered within pose difficulties over and above those experienced in other modules. Consequently, the decision was made to 'flip' the WT4014 class and reassess the feedback and results of the participating students.

## Succession – Provision or Absence of Provision for Spouses, Children and Other Dependants

Aileen O Sullivan, Law Plus (University of Limerick)

### Abstract

As Part of a Final Year Project, we are undertaking a research project on the area of succession. In this research, we will be focussing on the particular area of the provision or the absence of provision for spouses, children and other dependants. Our research will provide analysis of s117 of the Succession Act 1965 (who is entitled to make an application and any other issues arising e.g. the duty of a parent, statute of limitations, etc.). Research will be conducted into the tests, criteria and factors the courts apply in considering such applications with deep analysis of case law. Our research project will be of great use to legal practitioners as well as those without a legal knowledge. We endeavour to present our research in a very accessible format to those who may begin the process of making their first will.

The research undertaken will take many forms. This will include core texts on succession and probate, case law, journal articles and the research will also involve liaising with solicitors who will provide feedback on a research paper, which the presentation will be based on.

## Pressure Drops in Gravity Fed Bi-phasic Flows

Niamh Richardson, Biomedical Engineering (University of Limerick)

### Abstract

Liquid-liquid biphasic flow regimes have evolved rapidly as companies use droplet microfluidics as micro-reactors to allow for high-throughput data processing. To allow for the development of a gravity fed PCR thermocycler, a greater understanding of the pressure drop associated with droplets in a flow regime is required. It is necessary to understand the pressure drop due to droplets in varying conditions. This project investigates these values. Gravity fed microfluidic PCR thermocyclers will allow for easy access to the droplet micro reactors once processing is completed. This project analysed the effects of droplet size, number, velocity and spacing between the droplets on the pressure drop within the flow. These characteristics were investigated experimentally. A gravity driven siphon generated the required flow regime and a varying head



height allowed for varying velocities. Droplets were generated by moving a hydrophobic tube between two immiscible fluids. The time taken for droplets to pass between two fixed points allowed for the pressure drop associated with each characteristic of the flow to be determined. The results obtained agreed with theoretical models. Of particular interest, at low velocity regimes the pressure drop within the flow field increased to a certain point and then began to decrease. It is thought that this is due to internal circulations within the droplet, which have not begun at low velocities.

## Monitoring Acute Fatigue and Player Burnout in Inter-county GAA Hurlers

Edel Roche, Sports and Exercise Sciences (University of Limerick)

### Abstract

Player burnout in GAA players is of growing concern amongst Sports and Exercise scientist. For this purpose, practical tests for monitoring fatigue and performance amongst GAA athletes must be implemented into training. The aim of this study was to monitor acute fatigue in inter-county hurlers using the countermovement jump (CMJH) and the adductor squeeze test as performance indicators. An additional aim of this study is to provide return-to-play criteria for the adductor squeeze test, aiding in the monitoring of groin injury development which is highly prevalent amongst field sport athletes. 25 healthy male GAA county hurlers (age 25.7 $\pm$  3.4y, height 183.6 $\pm$ 4.9cm, mass 83.8 $\pm$ 6.5kg and body fat 17.3 $\pm$ 4.0%) took part in the study. All subjects were participating in three strength and conditioning session a week as part of pre-season training. Participants were monitored over an 8 week pre-season training period. 3 trials of the CMJH (chronojump) and adductor squeeze test (traditional sphygmomanometer) were recorded pre-training, immediately post training, 5 mins post and 10 mins post training. Based on previous literature on field sports and the nature of Gaelic Football, it is hypothesized that countermovement jump height will decline from pre-immediately post training gradually starting to increase back to pre-training CMJ height as the athlete starts to recover, an adverse effect is hypothesised for the adductor squeeze test scores due to post activation potentiation (PAP). Additional, weaker adductor squeeze test score will be generally associated with weaker adductor muscle strength and greater risk of groin injury development (Engebresten et al, 2010; Tyler et al, 2002).



## **An Investigation into the Relationship Between Theory of Mind and Pragmatic Deficits in Children with Autism**

Jennifer Roche Kiely, Applied Languages (University of Limerick)

### **Abstract**

“Autism is not a disability. It’s a different ability.” Stuart Duncan

This project researched the relationship that exists between theory of mind and pragmatic language impairments in children and adolescents with autism. The way in which theory of mind develops in typically developing children and the age at which children normally become pragmatically competent were considered as a means of comparison in order to demonstrate and understand the deficits apparent in children with autism. The way in which these impairments contribute to difficulties with communication and social interaction for the individual were also taken into consideration and explored throughout the project. A critical review of the literature surrounding autism and theory of mind was conducted in addition to an analysis of the social and pragmatic deficits that are common in autism. The main purpose of this study was to gain a greater insight and understanding into the impairments in theory of mind and pragmatics experienced by children with autism. The way in which these impairments contribute to their struggle with communication and social interaction were also an objective of the study. **Keywords:** Autism, Theory of Mind, Pragmatics, Communication, Social Interaction.

## **The Perspectives of Chronic Spinal Pain Patients’ Regarding Psychosocial Factors in Pain: A Literature Review**

Jean Ryan, Physiotherapy (University of Limerick)

### **Abstract**

Chronic pain is a pervasive affliction, the incidence of which is estimated to be 35.5% amid the Irish adult population, with spinal pain being the most prevalent (Raftery et al 2011). People suffering from chronic pain report a multitude of personal consequences, including social withdrawal, fear, anxiety and reduced physical capacity. All of which have a detrimental effect on quality of life. Management of chronic pain is complex and has been largely unsatisfactory under the reign of the biomedical model. This may be due to its purely mechanical ideation of pain. Recently, the more holistic biopsychosocial approach has emerged as a superior form of management (Snelgrove and Lioosi 2009). However, its implementation has been challenging due, in part, to the beliefs and values maintained by the patient population regarding the biomedical model. Qualitative literature exploring the perspectives and experiences of patients with chronic spinal pain were included. Thirteen articles representing a total of twelve studies met the inclusion criteria and were analysed using methods of coding, grouping and abstraction. Themes emerging from the analytic process consisted of: explanatory models of pain, chronic pain as a moral event and the psychosocial impact of chronic pain.



Patients contend with challenges to morality, identity and psychological and emotional wellbeing. Psychosocial issues are rejected as a viable cause of their pain due to fear of a psychological diagnosis. It is imperative that clinicians identify and address the factors fuelling resistance to the biopsychosocial model in order to ensure optimal care of this condition.

## Evaluation and Treatment of Upper Paretic Member Post Stroke

Rafaella Santos Carvalho, Study Abroad (University of Limerick)

### Abstract

**Background:** Repetitive Transcranial Magnetic Stimulation (rTMS) is a noninvasive, safe and painless method, besides being an adjuvant therapeutic tool in the treatment of sequelae after stroke (stroke), particularly spasticity. **Objective:** To evaluate and treat through the electrophysiological effects of rTMS the default paretic flexor upper limb resulting from stroke. **Methods:** Exploratory research, descriptive and analytical, with a quantitative approach. Submitted to and approved by the Research Ethics Committee of UEPB in Brazil through the protocol number 25590213.1.0000.5187 and performed at the Laboratory of Neuroscience and Behaviour (LANEC). The volunteers were evaluated before and after the intervention with rTMS by Surface electromyography of the biceps muscle and medial portion of the triceps. For assisting rTMS, the stimuli corresponded to 90% of motor threshold, with frequency of 1 Hz in contralesional cortex. Statistical analysis was performed using SPSS version 18.0, adopting  $p < 0.05$ . **Results:** The data involved four women and one man, mean age  $15.8 \pm 53.4$  years and mean duration of  $44.4 \pm 28.01$  months injury. Through the electrophysiological effects to produce the cortical modulation, it was possible to obtain the plasticity and cortical reorganization, providing an improvement in motor functions to the long-term, which proves its use as an effective and supportive tool in the rehabilitation of neurological disorders. **Conclusion:** The use of rTMS presents itself as a potential tool capable of promoting improvement in functionality and treatment of hemiparetic patient.

## How GMS Status Influences Prescribing Practices in the Paediatric Population

Melissa Shack, Graduate Entry Medical School (University of Limerick)

### Abstract

In Ireland, access to healthcare is based on a two-tier payment system. Patients can hold a General Medical Service (GMS) card, allowing for full subsidization of their primary care visits to their General Practitioner (GP) or pay privately for services. Considering the growing concern over anti-microbial resistance, it is essential to explore ways in which healthcare status influences prescribing practices. **Methods:** A retrospective chart review was conducted at a rural primary care practice in Ireland. Patients  $< 16$  ( $N=100$ ) were randomly selected from the practice database. If the patient had their first birthday within last year and at least one visit in the past year ( $N=47$ ) then further data was collected regarding GMS status, demographics, and consult



visits details. Results: There were 69 private patients and 31 GMS holders. The average age was 6.74 years with 55 males. Of the private patients, 15/22 patients were prescribed antibiotics at their visit. Of the public patients, 10/20 were prescribed antibiotics. Although more private patients received antibiotics, a chi-square analysis was not significant ( $P=0.23$ ). Conclusion: Although a greater proportion of private patients were prescribed antibiotics, it is not statistically significant. However, previous literature have shown that private patients in Ireland are more likely to be prescribed antibiotics. Thus, it is still important to continue to study the differences in care between private and public patients. Overall, it is essential to determine how we can minimize antimicrobial prescribing in order to ensure to best quality of care for all patients, regardless of their GMS status.

## Physiotherapists' Perceptions of the Identification and Treatment of the Cognitive, Psychological and Social Barriers to Recovery in CLBP: A Qualitative Metasynthesis

Aoife Synnott, Physiotherapy (University of Limerick)

### Abstract

**Question:** What are the perceptions of physiotherapists regarding identifying and managing cognitive, psychological and social factors in people with low back pain (LBP)? **Design:** Systematic review and qualitative metasynthesis. **Participants:** Qualified physiotherapists with experience in treating patients with LBP. **Intervention:** Physiotherapists in 12 studies were questioned using focus groups or semi-structured interviews. **Outcome Measures:** Studies were synthesised in narrative format and thematic analysis was used to provide a collective insight into physiotherapists' perceptions. **Results:** Three main themes emerged; (1) Physiotherapists only partially recognised cognitive, psychological and social factors in LBP, with most discussion around factors such as family, work and unhelpful patient expectations; (2) Patients with LBP were often stigmatised as demanding, attention-seeking and poorly motivated when they presented with behaviours suggestive of these factors; (3) Physiotherapists questioned the relevance of screening for these factors since they were perceived to extend beyond their scope of practice, with many feeling under skilled in addressing them. **Conclusion:** Physiotherapists partially recognised cognitive, psychological and social factors in people with LBP. Physiotherapists expressed a preference for dealing with more "mechanical" aspects of LBP, with some stigmatising of behaviours suggestive of cognitive, psychological and social contributions to LBP. Physiotherapists perceived that neither their initial training, nor currently available professional development training, instilled them with the requisite skills and confidence to successfully address and treat the multidimensional pain presentations seen in LBP. Trial registration: CRD 42014009964



## Strength Measure Differences Between Achilles Tendinopathy and Healthy Controls: A Review of the Literature

Ariane Tabuena, Physiotherapy (University of Limerick)

### Abstract

**BACKGROUND:** AT is a common injury in athletes partaking in running or jumping activities. Strengthening exercises are regarded as an effective intervention for AT; however, the underlying mechanisms behind its effects are not fully known. Therefore, it is important to firstly establish the exact strength deficits present in those with AT. **AIM:** This literature review was undertaken to determine the baseline differences in strength parameters between individuals with Achilles tendinopathy (AT) and healthy controls. **METHODS:** Six electronic databases were systematically searched to identify articles comparing baseline strength measures between injured and non-injured legs within an AT population or between subjects with AT and painfree controls. Studies investigating strength parameters such as calf muscle strength/work/power/endurance or hopping/jumping parameters were included. Fourteen articles met the inclusion/exclusion criteria, and were appraised using the Critical Appraisal Skills Programme (CASP) checklist for case-control studies. **RESULTS:** The majority of studies found that symptomatic subjects/legs were significantly weaker than healthy controls. Isokinetic measurements were the most common strength measure used. The most consistent and sensitive measure appeared to be eccentric plantarflexion peak torque and total work at 90°/second. Similarly, hopping distance is a functional measure that seems to be sensitive enough to discriminate between AT and healthy controls. **CONCLUSION:** Subjects/legs with AT are significantly weaker than pain free controls and the contralateral non-injured sides. Studies evaluating strength differences in individuals with Achilles tendinopathy should use the most sensitive measures such as eccentric plantar flexion peak torque and total work and hopping distance.

## The Effects of Oral Contraceptive Use on Psychological and Physiological Health

Amy Walsh, Joint Honours (University of Limerick)

### Abstract

The present study examined the effect of oral contraceptive pills (OCP) on psychological and physiological variables. Three brands of OCP, differing in progestin type and potency were compared with a control group. It was hypothesised that there would be an effect on psychological variables due to OCP use, with Yasmin, the most potent OCP tested, producing the greatest effects. Participants aged 18-45 were recruited from the University of Limerick community. Weight, height and blood pressure were measured and a questionnaire measuring depression, anxiety, perceived stress and general health were completed. Statistical analyses revealed no significant effects on any psychological variables, although effect on physiological variables were observed, namely increased systolic blood pressure (SBP) in Dianette and Ovranette users. The week of pill



cycle also impacted SBP, with increases in week 4 compared with the control group. Similarly, the purpose for which participants were using the OCP had an effect on SBP; and those using the OCP for a reason stated as 'other' or for both contraceptive and acne purposes had higher ratings. An increase in diastolic blood pressure was also seen in the group who answered 'other'. The results are broadly in line with previous findings which demonstrate that OCP use is not linked to effects on psychological well-being, but can lead to an increase in blood pressure. The findings in relation to week of pill cycle, reason for OCP use and SBP are particularly interesting and pave the way for further research.

## What Knowledge and Conceptions do Irish Primary School Teachers Hold on Attention Deficit Hyperactivity Disorder

Victoria Ward, Humanities (LIT)

### Abstract

Attention deficit hyperactivity disorder (ADHD) diagnosis rates have increased significantly in recent times. A teacher's role is crucial in determining if a child will be referred for an ADHD assessment. Teachers' opinions and observations are also required for and play a huge role in the actual assessment process. For this reason, their knowledge of ADHD is also an important part of this process. This research has measured, on a small scale, Irish primary schoolteacher's knowledge and conceptions about ADHD using the Knowledge of Attention Deficit Disorders Scale (KADDs) questionnaire. Ninety teachers participated in the research from 11 primary schools in County Clare. A quantitative method was utilised enabling the research to be comparable with other pieces of research using the same questionnaire. Data in relation to the teachers' professional background were also gathered in order to analyse significant differences based on a variety of factors. The results were analysed as prescribed in KADDs test manual using the statistical software package SPSS. This research shows that Irish primary schoolteachers are more knowledgeable in regards to ADHD symptoms and diagnosis than they are in the areas associated features or treatments. It also shows that knowledge levels of Irish primary schoolteachers are higher than teachers in earlier research using the same questionnaire.

## Best Practices in Production Plan Fulfilment

Aidan White, Supply Chain Management (University of Limerick)

### Abstract

Global Supply Chains and servicing their diverse markets have become a very complex multi-dimensional web where an organisation strives to meet customer demand, the focus in manufacturing is on delivery performance, lead-time, productivity and inventory metrics to fuel and drive profit growth. Key to achieving this is efficient production planning. This is necessary to ensure products are produced at the minimum cost and in the right quantity and to the highest quality to meet customer demand and company needs. Trying to balance each of these factors is difficult. In order to ensure efficiency, it is important to measure the



performance of the planning process. Extensive research has been conducted into the use of performance metrics in organisations. It has been shown that selecting the correct metrics can lead to an enhanced performance in areas which are key to competitive advantage. Selecting the metrics that matter most to the customer, management and stakeholders can be core to organisational performance. The focus of this research is to identify what aspects of production planning need to be measured and the impact these have on the production planning process. This research will examine past research in the area of performance measurement. It will conduct a case study to investigate if this research is currently being used in practice and identify recommendations to address the gap between theory and practice in the area of performance measurement within the production planning process.

## Feeding Patterns of the Lesser Spotted Dogfish (*Scyliorhinus canicula*)

### Inhabiting Inshore *Nephrops norvegicus* Fishing Grounds

Alina Madita Wiczorek, Marine Science (NUIG)

#### Abstract

The lesser spotted dogfish (*Scyliorhinus canicula*), an abundant predator in Irish coastal areas, is a common bycatch of inshore *Nephrops norvegicus* pot fishing. Dogfish are commonly discarded alive after being enclosed in pots together with *Nephrops norvegicus* and associated by-catch of decapods and fish, which make up part of their diet. To get insight into interactions during enclosure time feeding patterns of the lesser spotted dogfish inhabiting *Nephrops norvegicus* fishing grounds were explored using stomach content and stable isotope analysis. Specifically it was investigated whether predation on *Nephrops norvegicus* was increased while trapped together in pots and whether dogfish target pots. The lesser spotted dogfish stomach contents revealed an increase in predation on *Nephrops norvegicus*, which however had minor effects on fisheries. While stable isotope analysis combined with stomach fullness indices gave evidence that it might be of advantage for the dogfish to be trapped in the pots further behavioural studies are required to determine whether they actively target pots. Stable isotope analysis showed that the main prey species of the lesser spotted dogfish were soft-bodied filter feeders and that stomach content analysis yielded erroneous results by over estimating hard-bodied prey species. While applying and evaluating new techniques, which yielded pertinent results this study resulted in an important contribution to advances in the field of stable isotope analysis and science in general.





Notes





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