

Research Matters

National University of Ireland, Galway

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Research Matters

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VP Letter



Welcome to Issue Six of Research Matters. In the following pages, you'll get glimpses of some of the important research related issues and activities at NUI Galway. As Horizon 2020 is launched this month, it presents us with excellent opportunities to apply our ambition, networking and winning qualities required for success in European funding. In preparation for this, over the last few months the Research Office has held 17 information and training sessions across the campus with over 400 participants demonstrating the strong interest in participating in the Horizon 2020 programme. Recently, NUI Galway was also awarded the HR Excellence in Research Logo in recognition of our commitment to implementing the principles of the European Charter and Code for Researchers. This recognition will strengthen research proposals, provide greater visibility for the university, and help attract excellent researchers to NUI Galway.

This issue also celebrates some of our female star researchers and their activities. In previous editions, we have always had a gender balance but this time we decided to place a particular focus on the amazing diversity and excellence of research carried out by our female colleagues. As you will discover, the future of NUI Galway and its female researchers is bright and we are constantly building a stronger and better university with great confidence and ambition.

**Professor Lokesh Joshi,
Vice President of Research**

From the Editor

Having worked as a journalist in the fields of science and education for over a decade, I deal with university communications staff on a regular basis. I can honestly state, albeit anecdotally, that in ten years I've dealt almost exclusively with women in all Irish university communications offices. This occurrence had been of little or no consequence to me until I started editing the current issue of Research Matters. Why? Because one can't help but feel that going through at least one university channel dominated by women has a disarming effect on the media in terms of their awareness of the gender balance reality in Irish higher education. For a variety of reasons, which will be explained in the introductory piece, it is not a level playing field.

The theme of this issue of Research Matters is Women in Research. The aim is to highlight some of the best female researchers here at NUI Galway, as well as research relating to gender and women's studies. As always there are a variety of other projects on going at the university. So other research – unrelated to the theme - is also highlighted.

John Holden,
Editor

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A Delicate Balancing Act



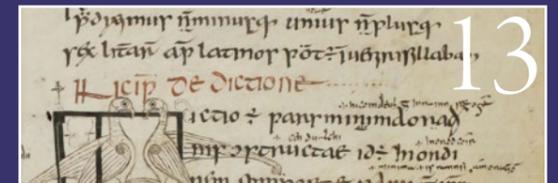
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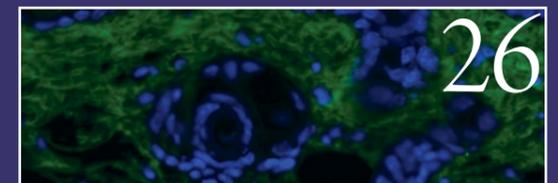
Horizon 2020



Japanese and Irish Literature



Matrix Biology



A Delicate Balancing Act

The gender balance in academia has improved in the last two decades, yet still the number of women at senior level is low. Corrective intervention in the short term is the most likely way to improve the balance.

Professor Pat O'Connor from the University of Limerick (UL) has recently completed her new book, *Management and Gender in Higher Education*. The focus of her research is, for the main part, the number of women working at professoriate and senior management levels in Ireland's universities. Some of her figures go back as far as 1976, shortly after the marriage bar was removed; this law prohibited women working in secondary teaching and the civil service from continuing in employment after they were married. But even in institutions where it wasn't prohibited it was still seen as socially unacceptable for married women to continue working.

Thankfully, we've moved on since then. O'Connor's research indicates significant improvements, in some areas at least. The UL professor is working from a better vantage point than most, as her institution boasts the best figures in terms of gender balance at high-level academia. Thirty four per cent of staff at UL professoriate level are women.

Overall, women account for 18 per cent of all professors in the country and 27 per cent of all associate professors. O'Connor's research was not helped by the fact that the HEA stopped collecting figures broken down by gender and level from 2005 to 2012. While there is a responsibility on all EU member states to provide such data, according to O'Connor, the HEA just kept returning the 2004 figures to the EU. However, the Authority has indicated that it has now resumed data collection.

Closer to home, figures obtained from the NUI Galway Equality Manager give a clear picture of the current gender landscape here. At professoriate level, there are presently nine female professors compared to 59 male. So, percentage-wise, women make up 13 per cent of the total number of professors in NUI Galway. Twelve per cent of associate professors are women. The gender balance evens out, however, at lower levels. Just under 30 per cent hold senior lecturing posts while 45 per cent of lecturers above the bar are women. Female academics are in a stronger position than men as lecturers below the bar (57 per cent), while it is evenly split between men and women for fixed term lecturers and researchers.

The low level of female representation in high academic positions is not strictly an Irish phenomenon. Across the EU, the average is 20 per cent at professoriate level. (There are exceptions where numbers are higher in countries like – yes, you guessed it – Sweden and Finland).

Nothing New Here

While the aforementioned figures and statistics relating to gender in academia are all very recent, news of the imbalance will not come as a surprise to most. What's more interesting is examining the factors at play. Why are the numbers so low?

Firstly, there is a greater percentage of professoriate chairs in male dominated areas than in female: ie, more in science and engineering than in the arts and humanities.

Secondly, the promotional structure plays its part. For example, while in the EU Finland has one of the best gender balances, paradoxically the number of women in senior management and professoriate posts in Turkey is also very high, largely because of the different procedures used for moving from associate professor to professor.

It has also been said that women are the problem. "They have babies, they lack confidence and they don't network," says Prof Pat O'Connor. "But I don't agree that these are what's holding things up. What really drives change in any organisational culture is commitment at the top. Change is not an inevitable thing. The commitment of those at the top is absolutely critical.

"Some degree of managerialism helps with a focus on the actual criteria for entry into high ranking positions rather than having looser procedures," she adds. "Women are helped by tighter procedures."

Gender Equality Versus Quality

The argument against promoting women into high-ranking academic positions just to fix the gender balance is already well known. Someone with a better CV should not lose out on a position because they are male. That is also discrimination. However, NUI Galway Equality Manager Aoife Cooke is convinced that corrective intervention is still necessary. "Positive action measures are needed in the

short term," she stresses. "The situation won't improve without it. It's difficult to get real traction without intervention. Policies and procedures need to be strengthened, from an equality perspective, and a commitment to gender balance on all boards and committees responsible for making decisions and implementing policies and procedures is what is needed. Without that it will be very difficult to achieve real change."

A female-friendly university?

If a greater emphasis on attracting female academics to universities was to be adopted across the country, it begs the question: what would rank one university over another? In other words, what criteria might attract the brightest and best female academics from around the world to NUI Galway, or anywhere else for that matter? "Women would look to see what kind of equality strategies exist in a university," says Cooke. "Having aggregated data is very important, and keeps it in the mind's eye. If that data is available and an institution has a well defined gender equality strategy, that would send a message beyond simply making bold statements about equality and, ultimately attract the best women.

"We must not confuse the notion of gender balance with tokenism," stresses Cooke. "Every committee making decisions must have balance. In other words, our key committees should be representative of our actual communities."

Light at the End of the Tunnel

There is cause for some optimism. Given the huge emphasis placed on research at NUI Galway, and the fairly even split between male and female researchers working here, one can take comfort knowing that the expertise that drives university rankings, as well as the continued success of the university generally, is shared by all. "Women are accessing permanent lectureships in the university," says Cooke. "There are no barriers to their entry."

by JOHN HOLDEN

2-year-old Romy Devane from Moycullen at the Exploratorium - photo courtesy of the Connacht Tribune



Biodiverse Women

“Because of a serious under-representation of women at senior levels within the university, it is vital for junior women to interact with senior women in their professional lives.”

Dr Anne Marie Power



In June 2013, Doctor Anne Marie Power volunteered to lead the Biodiversity & Bioresources (B&B) research cluster, merging two similarly themed clusters from the Ryan Institute and the School of Natural Sciences.

Research in the cluster is very diverse, with members from nine disciplines and five different Schools. Interestingly, there is an equal gender representation between the approximately 32 researchers within the cluster. Experience levels range from post-doctoral researchers to professors - and all stages in between - giving members the opportunity to mentor participants at earlier career stages within the cluster.

“Because of a serious under-representation of women at senior levels within the university, it is vital for junior women to interact with senior women in their professional lives,” explains Dr Power. “It has been shown that the lack of role models makes it more difficult for women to believe they can achieve their ambitions. Too often, female researchers

effectively work in isolation and see limited career progression compared with their male counterparts. I have personally benefited from fantastic role models - both female and male - who have inspired me by their abilities, but also the manner in which they go about their business. The university Women’s Network and staff development workshops, organised by Aoife Cooke (Equality Officer, Human Resources), have crystallised some of the issues for me and, in turn, made me conscious of the need to raise awareness within the fabric of my own institution, culture and country.”

The following are examples of just some of the female members of the B&B cluster, offering their own personal perspective on life in academic research.

Inspiration

Dr Florence Abram is a newly-appointed lecturer in Microbiology who is working on mathematical models to predict the behaviour of communities of microorganisms. Having worked in industry for several years, she began to find the commercial setting restrictive and was inspired to seek freedom to pursue her own research ideas. “After completing a PhD from NUI Galway, three years as a postdoctoral researcher and a lot of hard work, I was fortunate to obtain my first junior academic position here at the university,” she says. “I have been inspired by several role models – both women and men. What they all have in common are human qualities, a sense of creativity with a touch of passion, humility, openness and a certain vision of the world.”

In the Field

Dr Micheline Sheehy Skeffington is a plant ecologist in the discipline of botany and plant science. One of her main interests is the Burren, its flora and conservation. Micheline teaches plant ecology and leads field courses. “You cannot learn plant ecology indoors,” she says. “My classroom is out in the Burren or in Connemara.” Perhaps her greatest inspiration and support is from the Botanical Society of Britain & Ireland, which runs field excursions yearly all round Ireland. Specifically, the late Maura Scannell, former Head of the Herbarium at the National Botanic Gardens was a super guide and role model. Micheline regularly gives talks and leads field trips for numerous community groups. She has recently been featured on a number of wildlife TV programmes.



Dr Micheline Sheehy Skeffington

Research

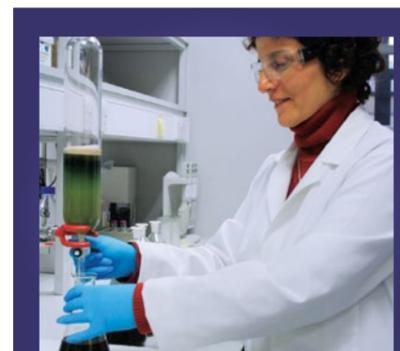
Dr Louise Firth joined the Zoology Team as a University Fellow in January 2012. Louise is a marine ecologist with a focus on marine environmental change including; (1) conservation, urban ecology and ecological engineering; (2) biodiversity and climate change; and (3) marine community ecology. The majority of her research is field-based and takes her to beautiful locations such as Connemara, the UK, France, Florida and Hong Kong. Recently she was in Arctic Norway conducting marine biodiversity surveys. “The natural world is my inspiration,” she says. “I am very fortunate to have had the opportunity to learn about the natural world through hands-on field research. My goal now is to inspire the next generation to do the same.”



Dr Louise Firth

Discovery

Deniz Tasdemir is a Professor of Marine Biodiscovery. “Since my childhood I have been fascinated by the idea of discovery,” she says. “Within the arena of natural pharmaceuticals, I realised I could combine my passions – nature, organic chemistry and biology - to fulfill my dreams of discovery by identifying new molecules for human diseases.” Almost half of the medicines we use today derive from natural products. Despite the short research history, marine organisms (such as sponges, ascidians and molluscs) have yielded many chemicals approved as anti-cancer or analgesic drugs. Irish waters have a rich biodiversity, which always goes hand in hand with chemical diversity. “I profit from this chemical richness to uncover molecules that could cure cancer or infectious diseases. Every novel molecule we identify or every new biological activity we uncover drives me to take this research further. I am most fascinated by the deep-sea organisms that survive in such extreme conditions and produce very unusual chemicals with untapped pharmacological potential.”



Professor Deniz Tasdemir

by DR SARAH KNIGHT
www.ryaninstitute.ie/research/biodiversity-and-bioresources

Gender Arc

Members of the Advanced Research Consortium on Gender, Culture and the Knowledge Society (Gender ARC) are enjoying a particularly prolific period for research.

Several cross-disciplinary research projects, with publications pending or completed, are underway within Gender ARC.

Starting with the Gender Discourse and Identities group, Doctor Rebecca Barr (Department of English) convened an international symposium at NUI Galway in August 2013 entitled: 'Ireland and Masculinities in the Longue Durée.' Embracing literature and history, the event included a roundtable on historiography, gender and masculinity with Professor Sonya Rose (University of Michigan), Jane McGaughey (Concordia University), and Fidelma Ashe (University of Ulster). Mary Clancy (Global Women's Studies/History) served as co-editor of *Saothar: Journal of the Irish Labour History Society* (2012). Dr Tina Karen Pusse (German), Gender Discourse and Identities group leader, recently organised the third in a series of symposia entitled 'From Ego to Eco' in October 2013, hosted by the School of Languages, Literatures and Cultures. Dr Anne Byrne's ongoing project 'Epistolary Narratives of the Self: Archives and Letters' examines the letters of Nancy Nolan to Leonard Woolf; publisher, political theorist, civil servant and husband to Virginia Woolf. New publications in this area include: *Religion, Gender and the Public Sphere*, edited by Dr Niamh Reilly and Dr Stacey Scriver (Political Science and Sociology/Global Women's Studies), published by Routledge, New York. A new essay by Dr Lillis Ó Laoire (Roinn na Gaeilge), 'Is é seo mo chorp/This is my body: Strategies of Communication in Celia de Fréine's *Fiacha Fola*', will appear in an edited volume by Lucy White and Luz Mar Gonzalez. The collection's poems engage the theme of the Hepatitis C scandal through one woman's experience.

Some highlights of activities of Gender ARC members in the domain of Gender and Public Policy include the United Nations Population Fund (UNFPA) in Vietnam commissioning Dr Nata Duvvury (Global Women's Studies and Whitaker Institute member) and Stacey Scriver to produce a policy discussion paper on Gender based Violence (GBV) to inform the government's five-year review of the Law on the Prevention and Control of Domestic Violence in 2014 (for more details see p21).

Dr Eilís Ward has co-authored (with Dr Gillian Wylie, TCD) a new article entitled 'Reflexivities of Discomfort: Researching the sex trade and sex trafficking in Ireland', to be published in the *European Journal of Women's Studies* (2014) and has submitted a book proposal on 'the politics of neo-abolitionism' (currently under review).

In the past year, Dr Ward has been an invited participant in media discussions, Department of Justice, Defence and Equality's consultations and conferences and the Joint Oireachtas Committee's review of legislation in this area. Dr Niamh Reilly (Global Women's Studies), with research partners at Georgetown University Institute for Women's Peace and Security, is engaged in a new joint pilot project entitled 'Women and Peace-building in the Great Lakes Region', which documents the gender dimensions and women's recent experiences of peace-building in the region. The pilot, which has links to the Mary Robinson Centre initiative, coincides with the former president's current role as UN Special Envoy.

Gender and Ruralities, led by Dr Aine Macken Walsh (Teagasc) and Dr Anne Byrne (Political Science and Sociology), is a new project funded by the Department of

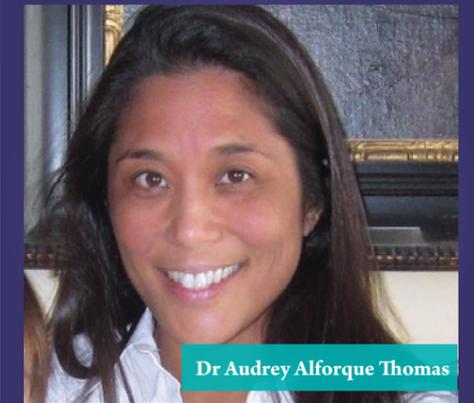
Agriculture, Food and the Marine (DAFM) to explore how joint farming models can improve the gender balance and demographic sustainability of Irish agriculture. In light of the ongoing Constitutional Convention, a timely forthcoming article by Dr Lucy-Ann Buckley (Law) in *Dublin University Law Journal* examines the potential use of constitutional provisions on gender equality, the family and private property as grounds for upholding financial orders on the breakdown of marriage and other relationships. Finally Gender ARC, in collaboration with Development Studies Association of Ireland and Irish Forum on Global Health, organised a two day International Development Conference on "Health and Gender Equity in a Period of Global Crisis" at NUI Galway in November 2013.

by **DR NIAMH REILLY**
(Gender ARC Co-convenor, NUI Galway)

For current information on Gender ARC activities, visit: www.genderarc.org

Profile: Dr Audrey Alforque Thomas

"Researching health in terms of urban and rural residence is a great use of all of my education and training. I can apply sociological theory and mixed methodology to this topic that is completely new and interesting."



Dr Audrey Alforque Thomas

In early 2013, Doctor Audrey Alforque Thomas moved to Galway from a beachside town in Southern California. She was invited to NUI Galway for an Interdisciplinary Capacity Enhancement (ICE) fellowship funded by the Health Research Board (HRB). The focus of the three-year fellowship is cancer survivorship in urban and rural areas. Dr Thomas brought her family with her when she moved across the globe. Her husband works remotely for a technology company based in Southern California. Her three children (ages 3, 5 and 7) are enjoying their new adventure, including learning Irish and playing hurling.

According to Dr Thomas, she is often asked why she chose NUI Galway. She explains that her initial inquiry about the fellowship led to an instant connection with Dr Michal Molcho, in the Health Promotion Research Centre (HPRC), who is mentor on the fellowship. "Michal and I are both sociologists and not from Ireland [Dr Molcho is Israeli]," explains Dr Thomas. That first conversation was so interesting. We talked about sociological theories of migration, health, and education in the context of the US, Ireland, and Israel."

During a visit to NUI Galway in December 2012, when interviewing for the fellowship, Dr Thomas met lecturers, postdoctoral fellows and graduate students in the HPRC, where the fellowship would be based. "Every person I spoke with was passionate about their work, intellectually engaging and really nice," she said. "I've always been told to surround myself with intelligent, kind people. The HPRC seemed like a perfect fit."

With a degree in Integrative Biology from the University of California, Berkeley, she earned her doctorate in Sociology at Harvard University where her research areas were education, race and ethnicity and immigration. Her doctoral studies prepared her to research any social phenomenon and she has a particular interest in social inequalities. "Researching health in terms of urban and rural residence is a great use of all of my education and training," she says. "I can apply sociological theory and mixed methodology to this topic that is completely new and interesting."

The HRB ICE fellowship involves collaborators from NUI Galway's Cairnes School of Business, Dublin City University, and the National Cancer Registry Ireland. Together they have prepared a paper on the quality of life of head and neck cancer survivors in Ireland, comparing urban and rural residents. Dr Thomas presented the findings at the Irish Cancer Society Survivorship Research Day in Dublin in September and will submit the paper to *Psycho-Oncology*. Dr Thomas also advises students and contributes to the HPRC project meetings as the research representative.

HORIZON 2020

- what you need to know

In a very short space of time the campus research community has got to grips with Horizon 2020. Individuals, research centres and newly formed thematic groups are getting themselves ready, visible and geared up to participate in Horizon 2020. In response to the outcome of focus group sessions in June 2013, the Research Office has a growing infrastructure in place which we expect will foster wider and deeper participation in the initiative as well as making the whole process easier. The first Horizon 2020 call is just around the corner - December 2013.

Below are the testimonies of a number of our campus colleagues who have been successful in what will be **Horizon 2020 Pillar 1 – Excellent Science** and what this has meant for their research strategy.

Marie Curie Initial Training Networks (ITN)

- *Abhay Pandit, Professor in Biomedical Engineering, Director of the Network of Excellence for Functional Biomaterials (NFB).*

Why did you choose to pursue a Marie Curie ITN?

The Marie Curie ITN programme promotes increased scientific dialogue between lead academics, industry and clinicians throughout the EU and associated countries. This dialogue advocates that end products of our research be industrialised and this helps create employment. Also, the multinational network transfers key scientific and experimental knowledge between

the institutions involved in enabling the consortium to widen the scope of its work. The type of research performed here at the NFB is multidisciplinary involving tissue engineering, materials science, cell biology and nanotechnology. The multinational network that is promoted by the Marie Curie ITN programme enhances our multidisciplinary approach."

What is your experience of this programme?

"The funding provides for the recruitment of PhD and postdoctoral researchers who will receive experience in both the private and public sectors. A recurring complaint from recent graduates of PhD programmes is that they cannot find a job in industry because companies are looking for industrial experience. This may be remedied by providing the researchers with both academic and industrial experience which should make them more employable. This, in turn, makes research careers more attractive to young people.

"A unique feature of the grant is that it funds four research summer schools for early researchers enrolled in this specially-designed training programme. The acquirement of transferable skills through both specific training and involvement in the programme will ensure fellows develop greater proficiency in a variety of topics including: research management, research ethics, health and safety, report and technical writing, team-based research, and entrepreneurship. The contents of the research summer schools highlight the local expertise of host partners, as well as featuring contributions from all network partners."

Marie Curie IEF - *Prof Daniel Carey, School of Humanities, Associate Director, Moore Institute.*

Why did you choose to pursue a Marie Curie IntraEuropean Fellows?

"I have recruited two Marie Curie Intra-European Fellows (IEF) during my time at NUI Galway – Dr Sven Trakulhun (2005-2007), now based at the University of Zurich, and Dr Ida Pugliese, who is currently working with me (2013-2015). The IEF scheme is an excellent way of attracting young European scholars to NUI Galway. The funding is exceptionally generous, so they have a genuine opportunity to participate fully in academic life here and abroad, to engage in training, and above all to pursue a major project leading to publication."

What is your experience of this programme?

"For me the benefits of participating in the scheme really come down to the pleasure of seeing people with talent get the break they need to have success in their academic careers. The prestige associated with Marie Curie and the connections they make give them every chance in the future. At the same time, it gives the project leader or mentor exposure to a world of scholarship going on in Europe that enriches perspective, offering access to methods and traditions in other languages that sometimes get overlooked."

ERC Starter Grant

- *Dr Gavin Collins, Lecturer in Microbiology*

Why did you choose to pursue an ERC?

"I chose to submit a proposal because, as an early-career researcher, I needed a 'big break'. I had been mobile, previously as a Marie Curie Fellow in Germany, and at the time was based at The University of Glasgow; I had collaborated with strong international colleagues and I had previously secured research funding in Ireland. However, I needed to land a major grant to really kick-start my research."

What is your experience of this programme?

"Preparing an application is not too onerous, though I recommend anyone thinking about it to start early. It is different to the average application, in which the focus is on the science and impact, and you might have several work packages each led by different co-investigators. Instead, an ERC project, in my experience, should almost equally focus on the "idea" and the "person". The ERC's mission is to "support top researchers from anywhere in the world" and to retain brain-power inside the EU. The task is to match your field-leading potential with a stand-out, blue-skies idea that can contribute to European competitiveness. It sounds airy, but that is precisely what's required. It demands that you sit down to formulate a clear plan incorporating ideas that match your expertise and career path perfectly and – ideally – uniquely. If you can identify a research programme that [arguably] only you could credibly lead, then you're probably on to something."

Marie Curie Industry Academia Partnership and Pathways (IAPP) - *Dr Dimitrios Zeugolis & Dr Oonagh Dwane, Tendon Regeneration Project Coordinator, Network of Excellence for Functional Biomaterials (NFB).*

Why did you choose to pursue a Marie Curie IAPP?

"The intersectoral interaction fostered by the IAPP instrument enables the realisation of practical projects with short-term commercialisation potential. Additionally, the multi and interdisciplinary training provided through the partnership enhances the competitiveness of participating researchers."

The Marie Curie IAPP scheme aims to foster co-operation between research organisations and commercial operators. The programme provides support for numerous activities including: exchange of know-how and experience through intersectoral secondment, research and networking activities and recruitment of experienced researchers.

"In our case, there are three university partners - Network of Excellence for Functional Biomaterials, NUI Galway; Hebrew University of Jerusalem, Israel; and the University of Bolton, UK. Alongside us are two industry partners - Vornia Ltd, Ireland and CollPlant Ltd, Israel and a network partner (NW Tex Net, UK) with distinct skillsets in the area of tendon repair, biotechnology, cell biology, biomaterials, tissue engineering and regenerative medicine and textile technologies. Using national and international exchanges we aim to train participant researchers in leading edge musculoskeletal repair and regeneration

technologies and to develop a functional therapy for tendon injury. Excellence in biomedical research combined with state-of-the-art textile technologies will yield a biological fibre for use in surgery. University-based researchers, through secondment to an industry partner, begin to appreciate the complexities involved in scaling up a technology from a laboratory, bench-top setting to a commercial setting through the complex path to commercialisation and regulatory requirements associated with medical devices. Industry-based researchers, by their exchanges with a university partner, enjoy access to leading edge facilities and techniques which enable full characterisation of their products and the identification of suitable materials for the next generation of functional biomaterials."

What is your experience of this programme?

"Undoubtedly, the Marie Curie IAPP scheme has been enormously beneficial to our consortium. We have authored numerous interdisciplinary conference and journal publications, organised several beneficial training courses and enhanced the international reputation of NUI Galway. In addition, we have equipped our researchers with highly transferable skills, significantly improving their career prospects and, in the process, transferred technologies to an industry setting."

compiled by CLODAGH BARRY
from the NUI Galway Research Office

HR Excellence in Research

In October 2013 NUI Galway was awarded the HR Excellence in Research Logo by the European Commission in recognition of our commitment in implementing the principles of the European Charter & Code for Researchers. The Charter and Code includes 40 principles and requirements which specify the roles, responsibilities and entitlements of researchers as well as of employers and/or funders of researchers.

The award has been obtained through our participation in the HR Strategy for Researchers (HRS4R), which included carrying out a gap analysis of the university's policies and practices against the principles of the Charter & Code and the development of an action plan to identify areas for improvements.

Following the gap analysis, a Strategy & Action Plan was completed identifying a number of key areas for change and further development.

The progress of the Action Plan will be monitored and an internal review will be carried out in 2015 followed by an external evaluation in four years.

The award of the HR Excellence in Research logo will support our researchers in their proposals to attract international funding and researchers to NUI Galway and will increase the international profile of the university.

by SINEAD BEACOM



The Centre for Disability Law and Policy - School of Law

The Centre for Disability Law and Policy (CDLP) focuses on advancing social justice and human rights for persons with disabilities through legislative and policy reform. With major research accolades and some of the most respected members in the field on the staff board, the Centre has earned its place as a policy leader in Europe and beyond.

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With only two other entities like it in Europe, and a director – Gerard Quinn – who is widely recognised as the authority on

international and comparative disability law, the Centre has made significant headway since a generous grant from Atlantic Philanthropies helped its establishment in 2008. Since then it has raised approximately €8 million from EU research grants, the Soros Open Society Foundations and other sources.

The Centre is now an internationally recognised centre of expertise and engages in collaborative work with stakeholders around the world.

New Accolades and New Projects

The Centre directs a €3.7 million network of EU Marie Curie PhDs, DREAM, across six different countries which was recently hailed by the European Commission as a success story on the DG Research & Innovation website.

In addition to DREAM, the Centre has been recently successful in four new EU funding awards, and awards from other sources including the SOROS-Open Society Foundations totaling €1.3m.



EU Commissioner Geoghegan-Quinn addressing a Centre conference by videolink in summer 2013

Fundamental Rights Agency Appoint Quinn

Gerard Quinn, Professor of the School of Law and Director of the Centre, has been appointed to the Scientific Committee of the EU Agency for Fundamental Rights (FRA) in Vienna. This is a highly prestigious appointment to an EU specialised agency which provides expert advice to the institutions of the EU and the Member States to ensure the protection of the fundamental rights of people living in the EU.

The Centre is part of the School of Law and a constituent member of Project Lifecourse. For more information go to: www.nuigalway.ie/cdlp



Dr Eilionóir Flynn and Professor Gerard Quinn of the CDLP with co-editor of the European Yearbook of Disability Law, Professor Lisa Waddington of the University of Maastricht, at the book's European launch in Cologne

Hot Off the Press

The Centre co-produces the European Yearbook on Disability Law, an international peer-reviewed journal designed to track and monitor European trends and hold European level institutions to account. Volume 3 was given its launch in the European Parliament in Brussels in April 2013 and Volume 4 launched in Cologne in October 2013.

Also this year, the Centre's work on personalising supports was published by Cambridge University Press (2013): Active Citizenship and Disability: Implementing the Personalisation of Support, by Dr Andrew Power, Janet Lord & Allison de Franco.

Summer School 2013

The Centre's world-renowned International Disability Law Summer School attracts participants from 40 countries and enters its sixth year in 2014.

Stressed-out Seaweed

When it comes to climate change the focus is often on the macro-scale; changing weather patterns and ocean circulation, sea level rise, drought and other disasters. However, at the Ryan Institute, researchers are looking at many aspects on the equally important micro-scale.

In August 2013, Doctor Dagmar Stengel, a lecturer in Botany and Plant Science (School of Natural Sciences) and Principal Investigator at the Ryan Institute specialising in marine algal research, convened and chaired a session at the 10th International Phycological Congress in Florida. Her session 'Global Change: Molecular and Cellular Aspects' focused on how marine algae, including seaweeds, may adapt or respond on a cellular level to our rapidly changing environment. The session included findings of an international eight day intensive workshop as part of the meeting of the International Group for Aquatic Productivity (GAP), coordinated by Dr Stengel, on the impacts of ocean acidification and eutrophication.

"It is globally recognised that current threats like ocean acidification [changes in pH] and coastal eutrophication [excess nutrients] will affect seaweed biodiversity and productivity", says Dr Stengel. "Such changes have important implications for coastal zone structure, habitats, supporting wildlife and the air-sea exchange of particles that may play significant roles in climate control. In addition, seaweeds are the source of an important industry for Ireland, as new nutritive and pharmaceutical properties are being discovered all the time."

The GAP workshop was hosted by the University of Malaga, Spain, with the local organising committee chaired by Professor F Lopez Figueroa, and attended by over a hundred international expert researchers. The programme involved simultaneous observations on key algal species which were experimentally exposed to environmental stressors (high carbon concentrations as predicted under climate change scenarios, nutrients and UV radiation) in outdoor mesocosms (see photograph), new method development and instrument comparisons.

Based on the research findings, several key articles will be published later this year. Preliminary results indicate that different seaweed species have different capabilities to cope with stress which may affect their competitiveness in the long term. However, the effects of combined stresses make responses difficult to predict, and, as genetic adaptations may occur over time, the next step is to extend the study to include more species over a longer period.

Dr Stengel's research interests include algal responses to their environment (e.g. climate change; water quality), sustainable utilisation of seaweed resources and targeted cultivation of macro- and microalgae for optimised production of algal biomass and metabolites with industrial potential. Her research has recently been supported by SFI, the EPA, Teagasc, Enterprise Ireland, IRCSET and the Department of Agriculture, Food and the Marine.

by DR DAGMAR STENGEL



Dr Dagmar Stengel and her team

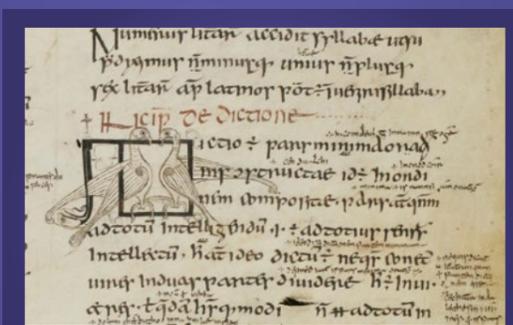
New Findings on Irish and Japanese Manuscripts

A six day workshop in Kyoto and Tokyo on Japanese and European manuscripts found similarities that surprised all participants.

In the early Middle Ages, Irish teachers were at the centre of a network of scholarship and education extending right across Europe. Researchers at NUI Galway and elsewhere are currently engaged in the study of their manuscript books, which still remain preserved in libraries in France, Germany, Switzerland, Italy and elsewhere on the Continent. It is already well known that medieval Irish culture had close European connections, from the eighth to the tenth centuries in particular. What was completely unexpected, however, was the July 2013 discovery of several new parallels between Irish and Japanese manuscripts of the same period.

NUI Galway classics lecturer, Doctor Pádraic Moran, helped to organise an international workshop in Japan, hosted by Professor John Whitman of Cornell University and the National Institute for Japanese Language and Literature in Tokyo with Prof Teiji Kosukegawa in Toyama. During the six-day workshop researchers from Ireland, England, France and Switzerland joined experts from around Japan and Korea for a series of seminars, lectures and visits to manuscript libraries in both Kyoto and Tokyo. The findings surprised all concerned.

At first glance, these cultures appear to be very different. However, taking a broader perspective, there are some striking parallels. Ireland and Japan are island nations at extreme ends of the Eurasian landmass. Before the middle of the first millennium AD both societies stood on the periphery of large and powerful continental empires: China saw the



Detail from the ninth-century glossed Irish manuscript of Priscian, now in St Gall in Switzerland

rise and fall of several dynasties throughout the period, and the Roman Empire extended almost as far as Ireland's shore. Both empires were also associated with great cultural prestige on the basis of their achievements in literature, art and technology.

Until the establishment of close contacts with their continental neighbours, Ireland and Japan were effectively pre-literate societies. The vehicle for the introduction of writing was in both cases not political, but religious. Christianity came to Ireland around the fifth century, and its language was not the Hebrew and Greek of the Old and New Testaments, but rather Latin, the language of Roman culture. Buddhism came to Japan not long afterwards in the mid-sixth century. Its place of origin, Nepal, was also remote, and its literature similarly arrived in translation, from the original Sanskrit

to Classical Chinese. The study of religious texts was soon supplemented with classical secular literature (in Latin and Chinese), and within two centuries the imported classical writing systems were being used to record the earliest written literature in native languages (Irish and Japanese).

The difficulties of learning to read complex ancient texts in a classical language different from one's own should not be underestimated. These early readers must have relied entirely on oral instruction in the absence of any pre-existing textbooks, grammars or dictionaries. In response to this challenge, Irish readers adopted a method of explanation known as glossing: the insertion of short notes between the lines or in the margins of their manuscripts. These glosses fulfilled a wide variety of functions that allowed readers to understand the texts more easily, from

explaining difficult words to clarifying points of grammar, re-arranging word order, summarising passages or providing some commentary on the text. One such manuscript, for example, a treatise on the Latin grammarian Priscian written in Ireland in 851 AD and now in the abbey library of St Gall in Switzerland, contains close to 9,400 glosses and an additional 3,000 symbols showing how to read the Latin text. The manuscript is especially precious because nearly one third of the glosses are written in Old Irish (the remainder in Latin), and as such it constitutes one of the earliest surviving records of the Irish language. Some of the glosses are more striking because they have almost nothing to do with the text but record the scribes' passing thoughts: 'a prayer on the soul of Fergus, I feel a great chill', 'ouch my hand!', 'time for lunch', 'not slowly have I written this page', 'new parchment, bad ink, oh I say no more!'

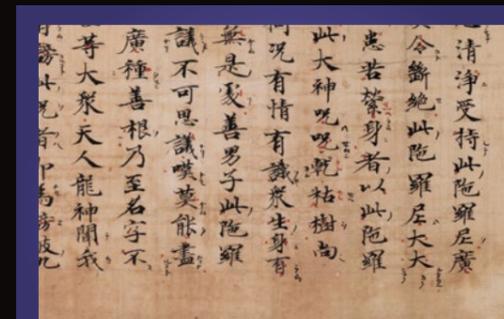
The discovery made in Japan was that Japanese scribes of the eighth century onwards, working to some degree in a similar historical context, independently evolved a system of glossing Chinese texts that mirrors the Irish method extremely closely. The visual appearance of manuscripts in both traditions may be quite distinct, but the functions of their glossing systems are almost identical, down to fine levels of detail.

This raised further questions, which we now intend to pursue in collaboration. The next step will be to explore carefully other glossing traditions, focusing firstly on Korea and Vietnam for the reception of Chinese manuscripts and Old English and Old High German glosses in the West. As a next step, Prof Whitman will come to Galway to present his research to the Centre for Antique, Medieval and Pre-modern Studies (CAMPS) on 29

November 2013, to be followed by a workshop to include specialists in Irish and Chinese manuscripts from the University of Cambridge.

by **DR PÁDRAIC MORAN**
padraic.moran@nuigalway.ie

Postscript:
 NUIG's Prof Dáibhí Ó Cróinín in History has recently published online a select catalogue of early Irish books on the Continent, at www.foundationsirishculture.ie



Detail from an eighth-century glossed manuscript, now in Kyoto

Security Research Group (SRG) at NUI Galway

With the recent formation of a Security Research Group (SRG), NUI Galway is well positioned to embrace future research, funding and collaboration opportunities in the areas of security and disaster resilience.

Here's an interesting fact about Ireland's success in the last FP7 Secure Societies (Security) call: two of the three coordinators of successful proposals were not 'security researchers' per se, but rather researchers with expertise that can be applied to the security sector. "You do not need to have a track record in security research – you just need to have relevant knowledge", was one of the take-home messages from a recent presentation at NUI Galway by Enterprise Ireland's Doctor Michael Murphy, National Contact Point (NCP) for the Horizon 2020 Secure Societies programme

NUI Galway began gearing up for Horizon 2020 Secure Societies earlier this year. In July, Alexandre Custaud from Intelligence and Science Applications (ISA) delivered a four day course on 'EU Funding for Security and Defence Projects'. The course was attended by researchers from information and communication technology, the social sciences and natural and physical sciences. Those attending gained valuable expertise over the four days, but also realised that there was already a critical mass of cross-disciplinary security-related expertise at NUI Galway.

With the support of the Research Office and Vice President of Research, NUI Galway has recently formed a Security Research Group (SRG). The intention is to build a security brand that will enhance our potential to embrace funding, collaboration and other research opportunities, both on a national and international stage. An immediate objective of the SRG is to better position individuals and groups within the university to compete for funding under the Horizon 2020 Secure Societies programme.

More generally, the SRG will facilitate communication and collaboration among researchers within the university. This is important as many opportunities in this area require an interdisciplinary approach. The SRG is also liaising with the Technology Transfer Office (TTO) to develop strategic links with industry. Apart from the obvious R&D opportunities that exist in this area, many of the Horizon 2020 Secure Societies topics listed in the latest draft explicitly seek the involvement of industry partners. Building relationships, partnerships and trust between industry and academia will be an important objective of the SRG.

As highlighted by Dr Murphy, participation in Secure Societies is not restricted to researchers with a proven track record in the security area. Some of those who have participated in recent SRG events, for instance, have expertise in aerosol dispersal and disease detection, which can inform our understanding of, and response to, security threats. Others are involved in IT security and data mining, which can help inform end-users tasked with combating cybercrime. In essence, if researchers have expertise that is transferable to security applications, then there are potential opportunities in the security area.

To participate in SRG events, and to be notified of opportunities in this area, please contact the SRG Chair, Dr Kiran Sarma (School of Psychology, kiran.sarma@nuigalway.ie) or Clodagh Barry (Research Office, clodagh.barry@nuigalway.ie).

by **DR KIRAN SARMA**
Chair, Security Research Group.

New Publications

Technologies: Recent Developments

Doctor Vijai Kumar Gupta and Dr Maria G Tuohy - *Technology Centre for Biorefining and Bioenergy researchers. Publisher: Springer 2013.*

Biofuels are considered to be the main potential replacement for fossil fuels in the near future. In this book international experts present recent advances in biofuel research and related technologies. Topics include biomethane and biobutanol production, microbial fuel cells, feedstock production, biomass pre-treatment, enzyme hydrolysis, genetic manipulation of microbial cells and their application in the biofuels industry, bioreactor systems, and economical processing technologies for biofuel residues.

The chapters provide concise information to help understand the technology-related implications of biofuels development. Moreover,

recent updates on biofuel feedstocks, biofuel types, associated co- and byproducts and their applications are highlighted.

The book addresses the needs of postgraduate researchers and scientists across diverse disciplines and industrial sectors in which biofuel technologies and related research and experimentation are pursued.

Dr Tuohy is Head of the Molecular Glycobiotechnology Group, NUI Galway. Dr Gupta is the editor-in-chief of the Fungal Biology book series and the Biofuel and Biorefining book series of Springer (with Dr Tuohy).

The Technology Centre for Biorefining and Bioenergy is co-hosted by NUI Galway,



University College Dublin and the University of Limerick. It has engaged Trinity College Dublin for its specialist expertise in materials separation and characterisation.

For further information see www.tccb.ie

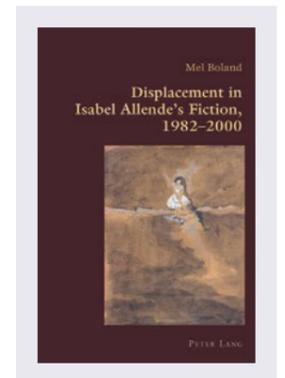
Displacement in Isabel Allende's Fiction, 1982–2000

Dr Mel Boland School of Languages. Publisher: Peter Lang 2013.

This book explores the concept of displacement in the fiction of the Chilean writer Isabel Allende between 1982 and 2000. Displacement, understood in NUI Galway lecturer Mel Boland's analysis to encompass social, geographical, linguistic and cultural phenomena, is argued to play a consistently central role in Allende's fictional output of this period. Dr Boland argues that Allende's work is suffused with experiences of displacement and that Allende's own experiences of exile have informed character development and the thematic content of her fiction. Boland's analysis embraces a period of prolific writing by Allende: he begins with Allende's first foray into the world of fiction, with the globally and critically acclaimed *La casa de los espíritus* (1982) (*The House of the Spirits*), a fictionalised panorama of twentieth-century Chilean society and the seismic changes it underwent in the 1970s. Boland's analysis includes seven works of fiction produced by Allende between 1982 and 2000 and concludes with the publication of the novel *Retrato en sepia* in 2000 (*Portrait in Sepia*), a text which is argued to serve as a bridge between her 1999 novel *Hija de la fortuna* (*Daughter of Fortune*) and *La casa de los espíritus*, closing a narrative circle in Allende's writing, and thus inviting a review of her fiction produced within that time span.

This study argues that the recurring motif of displacement in Allende's writings illustrates her concerted engagement with issues of cultural identity and a search for belonging. Allende's fiction is shown to move beyond the confines of Latin America into more international settings, and Boland suggests that her writing explores cross-cultural concerns of key relevance not only to Latin America but also to contemporary global society. Through a close reading of Allende's texts he identifies two apparently contradictory trends: as the settings of her fiction become more international, questions of individual identity also gain in importance. The juxtaposition of the treatment of global concerns with the growing importance of the individual leads Boland to suggest that the sense of displacement in Allende's later fiction not only becomes internalised, but in fact embraced by characters in her work.

Boland employs displacement as a means of engaging with critical debates on Allende's individual texts and also on her status as an original writer. Boland takes issue with critics such as Harold Bloom, who has questioned the value of her work, by highlighting the value of rereading not only Allende's most celebrated text, *La casa de los espíritus*, but also other texts which have garnered comparatively little critical



attention, such as her 1984 novel, *De amor y de sombra* (*Of Love and Shadows*). Boland's book concludes with reflections on the general trajectory of Allende's work and suggests in his analysis that the thematic content of her later fiction, with its focus on negotiating cultural difference, raises various issues about the feasibility of continuing to describe Allende and her fiction within strictly Latin American parameters.

Dr Mel Boland is a lecturer in Spanish and Linguistics in the School of Languages, Literatures and Cultures, College of Arts, Social Sciences and Celtic Studies, NUI Galway. He is the director of the MA in Translation Studies and also co-ordinates the MA in Spanish and the MA in Advanced Language Skills (Spanish).

Exploring Energy at the Baboró Festival

The Ryan Institute at NUI Galway, in collaboration with the Baboró International Arts Festival for Children, opened the unique **Exploratorium Creativity Centre** for the recent Baboró festival (October 2013).



12-year-old Cian Flaherty at The Exploratorium Photo by M Levitina

Entering the Exploratorium meant stepping into a futuristic world where - in the absence of petroleum - humans had become entrepreneurs, inventors and scavengers.

The Exploratorium. Photo courtesy of the Connaught Tribune



Working with local artist Róisín Coyle, artist/inventor Peter Casby and technicians from the School of Physics, the Ryan Institute's Doctor Sarah Knight turned two empty shops in the Eyre Square Shopping Centre into a fantastical space, with free activities including creating with energy-saving recycled materials, exploring electricity and energy production, computer scratch programming and a scientific instrumentation exhibit dating back to 1850.

Entering the Exploratorium meant stepping into a futuristic world where - in the absence of petroleum - humans had become entrepreneurs, inventors and scavengers. An art installation grew daily, built by children using mainly recycled materials, cardboard boxes, handheld generators and flotsam and jetsam to create an imaginary world beneath the deep blue sea. The Energy Exploratorium space next door was

dedicated to the scientific exploration of energy production. Here various activities in the lab focused on the science of electricity production and generating electricity from alternative sources including wind, human power and even vegetables. On loan from the Galway City Museum a fantastic ferrofluid exhibit created beautiful shapes from invisible magnetic fields. Several computer-based activities included the Scratch programmes created by students involved in the three year Ryan Institute/ Baboró **BEAST!** Project. Also in this space the School of Physics at NUI Galway had on display items loaned from their historically invaluable collection of scientific equipment dating back as far as 1850. It is an extremely significant collection, and showed off the inventiveness of early scientific pioneers.

Over 3000 people visited the space throughout the duration of the festival, leaving comments like:

"Your place is cool";

"Very good, excellent education";

*"Wow, what an amazing experience";
"So important, so necessary, love it";
... and "Fantastic idea... hope it leads to more displays of this sort."*

If you didn't get a chance to visit, just stay tuned for Baboró 2014 when the Exploratorium will return!

by DR SARAH KNIGHT

In Brief

Galway Academic receives Prestigious International Award



Professor Hurley with the President of the IEEE, Dr Peter Staecker at the Award Ceremony in Denver

Professor Ger Hurley, of Electrical Engineering at NUI Galway, was recently presented with the prestigious Middlebrook Outstanding Technical Achievement Award at a ceremony in Denver, Colorado. The award was established by the Institute of Electrical and Electronic Engineers (IEEE) in the USA to honour innovators in the field of power electronics. Power electronics is an enabling technology in modern electrical systems from smart phones to smart grids and essential to renewable energy systems and automotive electronics.

This award is dedicated to the memory of Dr R David Middlebrook, Emeritus Professor, California Institute of Technology, Pasadena, California. Middlebrook is regarded as one of the founders of the field of power electronics. He developed analysis and other tools crucial to modern power electronics design. The award is presented to an individual who has given outstanding contributions to the technical field of power electronics. Prof Hurley received the 2013 award to acknowledge his pioneering contributions to high frequency magnetic

design, modelling of magnetic components and analysis of planar magnetic devices for power electronic applications, work that formed the basis for charging platforms for smart phones.

School of Physics PhD Student Receives Award at Optics + Photonics symposium in San Diego.

Ronan Havelin, a PhD student from NUI Galway's Medical Physics research group in the School of Physics, recently received the SPIE-Newport Research Excellence Award. Ronan was awarded the prize for a paper he presented on "A SPECT imager with synthetic collimation" at the Optics + Photonics symposium in San Diego. The Optics + Photonics symposium is one of the two largest SPIE conferences. This year the conference attracted in excess of 4,500 attendees with 75 universities represented.

Dr Mark Foley, Principle Investigator for this research project at NUI Galway, said: "I would like to congratulate Ronan on winning this

prestigious international award that recognises his significant contribution as a young research physicist to the development of this novel molecular imaging technology. Ronan's paper on "A SPECT imager with synthetic collimation" is an important contribution to the research into SPECT imaging and is part of a large multidisciplinary collaboration funded by the United States National Institutes of Health, and by Science Foundation Ireland. Key investigators in this project are Prof H Barrett and his CGRI group at University of Arizona and researchers in the Discipline of Surgery and at REMEDI, NUI Galway."

SPIE is the international society for optics and photonics, a not-for-profit organisation founded in 1955 to advance light-based technologies. The Society serves more than 235,000 constituents from approximately 155 countries, offering conferences, continuing education, books, journals and a digital library in support of interdisciplinary information exchange, professional networking and patent precedent. SPIE provided over \$3.2m in support of education and outreach programs in 2012.



Arjumand Younus

First ever NUIG winner of the Google Anita Borg Memorial Scholarship – Arjumand Younus

This is the first time an NUI Galway scholar has won this prestigious award and it is a great honour for the College of Engineering and Informatics and the university. The scholarship aims to encourage and support women to excel in computing and technology and become active role models and leaders in the field. Arjumand grew up in Pakistan which is well-known for providing outsourcing services in information technology. Arjumand has had a passion for mathematics since her early O-level days.

This interest led her to computer science and her success on receiving a NUI Galway Hardiman scholarship led her to the university to undertake a PhD in computing. Her supervisor Dr. Colm O'Riordan expressed his sentiments: "I am delighted to have the opportunity to advise and work with a student of Arjumand's calibre. She is very deserving of this prestigious scholarship. I know Arjumand will continue to achieve further success in the field of computer science in years to come."

The Economic Cost of Domestic Violence

It is now acknowledged by the international development policy community that gender plays a crucial role in core developmental issues including poverty, social inequality and sustainable development.

Despite a growing body of theoretical and empirical studies on gender and development, there is little research on the impact of gender-based discrimination (including violence against women broadly and intimate partner violence) on economic growth and development.

From an economic point of view, the contribution of women's unpaid work and the costs of violence against women are equally unrecognised in any national income calculation. However, new research is now attempting to systematically delineate the economic implications of violence against women. The research also suggests close links between economic growth and overall wellbeing of women, families and their communities. A team of researchers at NUI Galway, led by Dr Nata Duvvury from the School of Political Science and Sociology and leader of the Gender and Public Policy Cluster at the Whitaker Institute, have made an important contribution to this new research area with two recent studies commissioned by UN Women and The World Bank.

Violence against women, recognised globally as a fundamental human rights violation, is prevalent in high, middle and low-income countries. A new WHO report estimates that one in three women across the globe has experienced physical and/or sexual assault at some point in their lifetime. This figure indicates the epidemic scale of such violence. The report demonstrates unequivocally the significant health impacts of physical and sexual violence perpetrated against women.

Violence against women also has significant economic costs in terms of expenditures on service provision, lost income for women and their families, decreased productivity and negative impacts on future human capital formation. Estimating the economic costs of violence is a complex undertaking given the lack of systematic data. While studies have explored the interrelationship between violence against women and women's labour force participation, earnings and productivity, few have specifically estimated the magnitude of the impact in monetary terms or assessed the implications for economic growth.

The Vietnam study estimated the economic costs of domestic violence against women in Vietnam to draw attention to the enormous costs of inaction. The study used mixed methods for data collection and a total of 1053 women were surveyed – 541 in the rural area and 512 in the urban area – to obtain relevant information on experiences of domestic violence and its associated costs at the household level. The research considered three elements of the economic costs of domestic violence:

- 1) the actual out-of-pocket expenditures that women incur to access medical treatment, police support, legal support, counseling support and judicial support;
- 2) expenditures involved in replacing property and seeking shelter
- 3) an additional out-of-pocket expenditure when children miss school due to domestic violence experienced by their mothers.

The study also explored the income foregone due to missed work, including both paid work and household work, which often exceeds expenditures incurred. The survey collected detailed information per incident on specific expenditures women had to incur, the number of days of paid and household work missed and the number of school days missed by children.

The conclusions of this study confirm the results from previous violence research in Vietnam, i.e. that violence experienced among girls and women is high and all pervasive, cutting across every socio-economic group, education level and region. A crude estimate for the economy as a whole suggests that both out of pocket expenditures and lost earnings represent nearly 1.41 per cent of Vietnam's 2010 GDP. More importantly, regression results for estimating productivity loss due to violence indicate that women experiencing violence earn 35 per cent less than those not abused - another significant drain on the national economy. This represents an overall productivity loss of 1.78 per cent of GDP. The total costs of violence in Vietnam in fact equate to double what the country spends on primary education, which stood at 1.56 per cent of GDP in 2012.

The results of the Vietnam study indicate the significant impact violence against women can have on a country's economy. In a new World Bank paper, NUI Galway researchers have extended the Vietnam work to review state-of-the-art costing of violence studies. The paper will contribute a conceptual framework for the links between violence against women and economic growth and

development. The framework delineates capabilities, trauma and intra-household gender relations as mediators translating the micro-impacts of violence on the individual woman to broader macro-consequences on human capital formation, productivity and household/welfare consequences. The paper also lays out an empirical strategy for estimation and builds a strong business case for large scale, multi-sectoral and coordinated responses to reduce violence against women.

Both research studies provide strong evidence bases to establish the clear links between violence against women and the economy. New directions for research include understanding the causal links between violence and economic cycles as well understanding the links between economic development, expansion of human rights and the persistence of violence against women.

by DR NATA DUVVURY

RESEARCH REPORTS:

Duvvury, Nata, Nguyen, M. and Carney, Patricia. 2012. *Estimating the Economic Costs of Violence Against Women*. Hanoi: *UN Women (Vietnam)*.

Duvvury, Nata., Callan, Aoife., Carney, Patricia. and Raghavendra, Srinivas. 2013. *Intimate Partner Violence: Economic Costs and Implications for Growth and Development*. (Women's Voice, Agency & Participation Research Studies Series 2013, No. 3). Washington: *The World Bank*



Research Across Generations

Professor Maura Sheehan and her PhD candidate Orlagh Reynolds are profiled to demonstrate the scale of expertise on offer from women in research at NUI Galway

Maura Sheehan is Professor of International Management and a member of the Whitaker Institute at NUI Galway. She joined the university in February 2013. Previously she taught at the University of Brighton, the University of Dallas, Cambridge University and Queen's University Belfast. She completed her PhD in Economics at the University of Notre Dame in the US.

From 2009-2012 Prof Sheehan was an EU Marie Skłodowska Curie Fellow. Her project was entitled 'Foreign Direct Investment (FDI), Human Resource Management (HRM) and Organisational Performance: A Comparative analysis of the Czech Republic, Hungary and Poland'. This research has generated numerous publications and its findings have been presented at international conferences. For example, President Komorowski of Poland recently invited her to his residence for a private meeting to talk about her research on Polish migration and FDI at a private meeting he hosted at his residence in 2012. Prof Sheehan is continuing to prepare papers for international journals utilising the data collected during this Fellowship.

In June 2013 Prof Sheehan chaired the University Forum of Human Resource Development (UFHRD) annual conference in Brighton. Academic staff from NUI Galway assisted by reviewing conference abstracts. Two colleagues in particular, Dr Alma McCarthy and Josephine Igoe, presented papers at the conference and chaired sessions. Linked to this conference are four special issues of journals

that Prof Sheehan is co-editing (all forthcoming in 2014): European Journal of Training and Development; European Journal of Training and Development; Human Resource Management (Warsaw).

With Dr McCarthy, she has co-edited an Issue of Advances in Developing Human Resource Development (also to be published in 2014).

She has recently been part of a successful EU FP7 large-scale project on Strategic Transitions for Youth Labour in Europe, which will commence in March 2014 for over three years. Prof Sheehan is heading the Work Package, 'Business Start-Ups and Youth Self-Employment'. She will be coordinating colleagues from Austria, Estonia, Germany, Ireland, Poland, Spain and the UK. The work package will focus on opportunities for youth entrepreneurship and employment opportunities in the Creative and Cultural Industries (CCI) and Information and Communication Industries (ICT).

Maura is currently supervising Orlagh Reynolds' PhD on Small and Medium Sized enterprises (SMEs), green industries and youth employment opportunities. Orlagh commenced her PhD in October 2013 and has worked as a research assistant at the Whitaker Institute on the Irish Social Sciences Platform Project funded under the Programme for Research in Third-Level Institutions (PRTL) Cycle 4 and co-funded under the European Regional Development Fund with a particular focus on NUI Galway's Measurement Instrument Database for the Social Sciences (MIDSS).

Prof Sheehan has benefited from some outstanding female mentors during her academic career, including Dr Mary McAleese while at Queen's University Belfast (before she left to campaign for the Irish presidency) and Prof Jackie O'Reilly at the University of Brighton. She is extremely dedicated and committed to sharing her experiences and knowledge and mentoring all colleagues.

Orlagh Reynolds, PhD Student

"I have just begun a PhD fellowship in the Dept of Management at the College of Business, Public Policy and Law. Supervised by Prof Maura Sheehan, whose expertise encompasses organisational performance, HRM and labour markets, a primary aim of the fellowship is to contribute to global debates on strategic policy decisions related to green industries, sustainable economic development and job creation for marginalised groups, such as young people.

"The research I will be carrying out is specifically focused on the innovation characteristics of material recycling firms such as green firms, and the potential that they have to support skills training and development for youth as a marginalised population, at European and national level. Investment in SMEs working in the area of environmentally innovative technologies is producing above average returns, creating valuable jobs and also alleviating environmental impacts which increase over time. The 2013 European Commission report on the performance of young SMEs funded over the past two years under the eco-innovation component of the EU's Competitiveness and

Innovation Programme (CIP) shows a 20-fold return. Each project supported has generated an additional eight permanent full-time jobs, and the monetary value of these environmental savings is estimated to be more than €800 million over five years. It is clear this could be a critical area of attention for supporting innovative 'green jobs' development strategies and generating economic growth.

"Evidence from recent policy reports highlight the potential for green SMEs to adopt innovative and entrepreneurial skills training and development in ways that other SMEs fall short. For example, 'growth potential' SMEs have been found to be most likely to take up opportunities in the green economy, and these highly innovative green firms also have a stronger focus on skills development and training which is positively related to the innovativeness of firms. Also, response to the green economy is at an emerging stage, meaning there is an opportunity to implement lessons from previous best practices into a skill development area that could have enormous impact on future strategies. This research proposes that, based on existing evidence, a stronger union between socially innovative initiatives and eco-innovative initiatives (SE initiatives) implemented at firm level could be the direction of future entrepreneurialism and innovation in 'green skills' training across skills levels."

Prof Maura Sheehan

New European Research Project on Minority Languages



Doctor John Walsh, lecturer in Irish and Vice-Dean for Research, College of Arts, Social Sciences and Celtic Studies, is involved in a new European research project which will document ways in which minority languages - such as Irish - are acquired by non-traditional means. The research examines the potentially important role that 'new speakers' can play in the future of these languages.

A 'new speaker' of Irish, or any other language, is someone who has learned the language outside of the home, usually through the education system, and who is committed to using it regularly.

The New Speakers in a Multilingual Europe project is funded to the value of approximately €500,000 under a European Cooperation in Science and Technology (COST) Action and runs for four years from October 2013. It is led by Heriot-Watt University in Scotland but NUI Galway is a leading partner.

The COST network facilitates dialogue and collaboration amongst researchers from three different multilingual strands: regional minorities, immigrants and transnational workers. In the minority languages strand, the network will facilitate enhanced cooperation between researchers on Irish and other

European minority languages such as Scottish Gaelic, Basque, Catalan and Galician. Dr Walsh will chair the minority languages strand which will involve meetings and workshops in Galway and in other locations. PhD students affiliated to the project will be able to take part in short-term scientific missions abroad and benefit from additional training opportunities.

Through the network, the Action will foreground common threads across the different strands, compare new speaker profiles across multilingual contexts and develop a holistic understanding of this new sociolinguistic paradigm that can help to rethink how languages are managed at all levels including education, healthcare, workplace, family, community, the media, cyberspace and public institutions.

Language is a key component in accessing education, employment, social services and for community participation. The processes whereby people learn new languages and become legitimate speakers of these languages are complex. Through this action the aim is to better understand the potential social tensions that emerge from unequal access to participation of new speakers in Europe's multilingual projects. These inequalities pose a potential challenge to European integration, social cohesion and economic collaboration, as

well as to the full participation of territorial and immigrant minorities. A shared understanding of these complexities across the different multilingual scenarios will sharpen an understanding of how to tackle the challenges that new speakers of different linguistic varieties face in the context of a multilingual Europe.

Although over 40 per cent of Irish people claim the ability to speak Irish (due mainly to its status as a core school subject), the language is used regularly by only about five per cent of the population. Irish is still spoken by native speakers as a community language in the Gaeltacht but its use there continues to decline. On the other hand, almost three-quarters of the daily speakers of Irish (almost 60,000 people) are based elsewhere in Ireland. Given that most frequent Irish speakers are not based in the Gaeltacht and therefore unlikely to be traditional native speakers, such 'new speakers' play an important role in the future of the language.

by DR JOHN WALSH

Further information: http://www.cost.eu/domains_actions/isch/Actions/IS1306

Matrix Biology

The Irish Society for Matrix Biology, or Matrix Biology Ireland (MBI), has just been created by Doctor Fabio Quondamatteo and Dr Dimitrios Zeugolis. The two researchers, based at NUI Galway, already have long standing expertise in matrix biology.

The scope of MBI is both to promote and consolidate scientific interest and expertise around extracellular matrix research in all its forms within Ireland. In addition, our aim is to link this with the international matrix biology community. Our brief also encompasses all related aspects as well as practical and translational applications of the biology of the extracellular matrix (e.g. developmental biology, extracellular matrix synthesis and degradation, glycobiology, pathophysiology, degenerative conditions, immunity, biomaterials, tissue engineering and regenerative medicine, injury, repair, therapy, delivery of therapeutics and in vitro and in vivo models). To this end, the first MBI Council has already been established with distinguished scientists whose expertise covers a wide range of aspects related to the biological significance of the extracellular matrix.

Council Members:

- Professor Peter Dockery, Director of Advanced Microscopy Research Facility, Head of Anatomy, NUI Galway
- Dr Garry Duffy, Department of Anatomy, Royal College of Surgeons Ireland (RCSI)
- Dr Tom Flanagan, School of Medicine & Medical Science, University College of Dublin
- Prof Lokesh Joshi, Director Alimentary Glycoscience Research Cluster, NUI Galway
- Prof Tim O'Brien, Director of Regenerative Medicine Institute (REMEDI), NUI Galway
- Prof Abhay Pandit, Director of Network of Excellence for Functional Biomaterials (NFB), NUI Galway
- Dr Fabio Quondamatteo, Skin and ECM Research Group, Anatomy NUI Galway
- Dr Dimitrios Zeugolis, Principal Investigator at Network of Excellence for Functional Biomaterials (NFB), NUI Galway

We would be delighted to welcome new members. Anyone who is interested in the Biology of the Extracellular Matrix is welcome to join the group. Membership is also open to undergraduate and postgraduate students.

by DR FABIO QUONDAMATEO
President of MBI

For further information or to join MBI, please visit our website (<http://matrixbiologyireland.wordpress.com>) or contact Dr Zeugolis: dimitrios.zeugolis@nuigalway.ie