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 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

John Holden, Editor
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 ban 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.

Closers 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 males. 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 events out, however, at lower levels. Just under 30 per cent hold senior lecturing posts while 45 per cent of lecturers below 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 Aníl Cooke is convinced that corrective intervention is still necessary.

“Positive action measures are needed in the short term,” she stresses. “The situation wasn’t improve without it. It’s difficult to get real improvements without intervention. Policies and procedures need to be strengthened, from an equality perspective, and a commitment to reach equality 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, a huge 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 quality strategies exist in a university,” says Cooke. “Having aggregated data is very important, and it keeps 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 some cause for optimism. Given the huge emphasis placed on research at NUI Galway, and the fairly even split between male and female across their teaching 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 accepting 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
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.

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.”

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 fulfil 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 antidiabetic drugs. Irish waters have a rich biodiversity, which always goes hand in hand with chemical diversity. “I profit from this chemical richness to uncover molecular entities that could cure cancer or infectious diseases. Every novel molecule we identify in our or in vitro biological activity we uncover drives me to take this research further. I am most fascinated by the deep seas organisms that survive in such extreme conditions and produce very unusual chemicals with untapped pharmacological potential.”

by DR. SARAH KNIGHT

www.ryaninstitute.ie/research/biodiversity-and-bioresources
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."

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 was 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 adventures, 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, as 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 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. 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 been invited to surround myself with intelligent, kind people. The HPRC seemed like a perfect fit."

The HRB ICE fellowship involves collaborators from NUI Galway’s Centre for Business, Dublin City University, and the National Cancer Registry of 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.
I n a very short space of time the campus 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 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) - Ahzad Pandic, Professor in Biomedical Engineering, Director of the Network of Excellence for Functional Biomaterials (NFB).**

**Why did you choose to pursue a Marie Curie ITN?**

“I have recruited two Marie Curie ITN Fellows (IEF) during my time at NUI Galway – Dr Sven Trekalhusen (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?**

“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 rectified by providing the researchers with both academic and industrial experience which should make them more employable. This picture, in fact, 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 enlisted in this specially designed training programme. The acquisition 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, safety and health, 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 fostering contributions from all network partners.”

**ERC Starter Grant - Dr Gavan 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 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 to match up your field-leading potential with a stand-out, blue-skies idea that can contribute to European competitiveness. It sounds airy, but that 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 Academy Partnership and Pathways (IAPP) - Dr Dimitrios Zagoutzis & Dr Graham Davey, Tendon Regeneration Project Coordinator, Network of Excellence for Functional Biomaterials (NFB).**

**Why did you choose to pursue a Marie Curie IAPP?**

“The intersected 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.”

**What is your experience of this programme?**

“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 CellPlant Ltd, Israel and a network partner (NW Texit 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 facilities and technologies will yield a biological fibre for use in surgery. University-based researchers, through secondment to the 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.”

**compilied by CLODAGH BARRY**

from the NUI Galway Research Office

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**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 (HR4SR), 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 external 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 research ambitions 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.

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. 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 August 2013, Doctor Dagmar Stengel, a lecturer in Botany and Plant Science (School of Natural Sciences) and Principal Investigator at the Ryan Institute, researching into algal productivity, was successful in four new EU funding awards, and awards from other sources including the SOROS-Open Society Foundations totaling €1.3m.

In addition to DREAM, the Centre has been successful in new research funding, convened and chaired a session at the 10th International Physiological Congress in Florida, Her sessions '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.

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.

It is globally recognized that current threats like ocean acidification [changes in pH] and coastal eutrophication [excess nutrients] will affect seasonal 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 programmes 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 stress 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

Stressed-out Seaweed

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.
In the early Middle Ages, Irish teachers arrived in translation, from the original Sanskrit or Prakrit, now in St Gall in Switzerland. In the sixth century, its place of origin, Nepal, was also remote, and its literature similarly remote, 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 1,000 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 Antiquity, 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
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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.foundationofshakespearknowledge.com

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.

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

Detail from an eighth-century glossed manuscript, now in Kyoto.
With the recent formation of a Security Research Group (SRG) at NUI Galway, the University 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 Iceland’s success in the last FP7 Security Societies (SEC) call: two of the three coordinators of successful proposals were not “security researchers” per se, but rather researchers with expertise that could be applied in the security sector. You don’t need to have a track record in security research – you just need to have relevant knowledge and skills. 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 Security Societies earlier this year. In July, Alexandre Custaud from Intelligence and Security researchers. Publisher: Peter Lang 2013.

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, ideological 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 exile have informed character development and the thematic content of her fiction. Boland’s analysis embraces a period of critical writing: Allende’s fiction 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 marking a major shift in 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 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 internationalised, 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 issues 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 differences, 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, Cultures, College of Arts, Social Sciences and Business, and 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).

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

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).
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.

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 233,000 constituents from approximately 155 countries, offering conferences, containing 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.

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 incline in computing and technology and become active role models and leaders in the field. Arjumand grew up in Pakistan which is well-known for 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.”

Arjumand Younus
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 well-being 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 lifetimes. 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 cost 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.
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 has led to her being invited to 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 2013. 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 Alina McCarthy and Josephine Ip, 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 (Warner).

With Dr McCarthy, she has co-edited an Issue of Advances in Developing Human Resources 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 and Irish Social Sciences Platform Project funded under the Programme for Research in Third Level Institutions (PRTLI) 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 (MEDISS).

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 innovation across policy 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 fail short. For example, ‘growth potentials’ SMEs have been found to be most likely to take up opportunities in the green economy, and those 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 societal 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, already have long standing expertise in matrix biology.

The COST network facilitates dialogue 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.cord.eu/domains_actions/nch/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 vivo 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 in Ireland (RCSI)
• Dr Tom Hurst, School of Medicine & Medical Science, University College of Dublin
• Prof Lukash Jishk, Director Alternative Glycoscience Research Cluster, NUI Galway
• Prof Tim O’Brien, Director of Regenerative Medicine Institute (REMED), NUI Galway
• Prof Abhay Pandit, Director of Network of Excellence for Functional Biomaterials (NFB), NUI Galway
• Dr Fabio Quondamatteo, Skin and ECM Network of Excellence, National University of Ireland, Galway
• Dr Dimitrios Zeugolis, Researcher at Royal College of Surgeons in Ireland (RCSI) 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 Quondamatteo

President of MBI

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