

# MAYNOOTH UNIVERSITY

## RESEARCH AND INNOVATION REPORT 2022



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# Introduction

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The 2022 Research and Innovation Report at Maynooth University celebrates the significant outputs of research and innovation from the research community in 2021. It highlights the University's research achievements across all its Departments, Research Institutes and Research Centres. It showcases the cross disciplinary and engaged nature of collaboration that exists at Maynooth.

Despite another very challenging year due to the on-going pandemic the achievements in scholarship and research must be congratulated. Staff and students continued to contribute to research programmes and initiatives in addition to taking up the challenges of addressing specific projects related to COVID-19 under difficult and restricted conditions.

The commitment of staff across the institution throughout the year ensuring the continued delivery of our teaching and research programmes, and exemplary supports to students reflects the collegial ethos of Maynooth University which is truly exceptional.

Professor Evea Leinonen  
President

Professor Brian Donnellan  
Vice-President for  
Research and Innovation



# Vision

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Maynooth University will further advance its international standing as a leading research university, with a vibrant postgraduate community, a distinctive undergraduate provision, a comprehensive and ethical approach to internationalisation, and extensive engagement with external partners; we will be recognised for our commitment to the public and civic mission of the University, as a national leader in equality and diversity, an excellent place to learn and work, an inclusive community where students and staff can flourish, and as making a distinctive contribution to the national system of higher education and the public good.

# Purpose

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Maynooth University is a public research university dedicated to people, ideas and culture, a scholarly community working together to inquire and discover, to teach and learn, to create, conserve, disseminate and apply knowledge, and engage with the challenges that face modern society; through all these things in combination, we are central to innovation, economic growth, social development and cultural vibrancy, and are essential to a free, open, equal, democratic and sustainable society.



# Note from the Editor

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It is with great pleasure that I present to you the 2022 Maynooth University Annual Research Report which highlights the major research outputs for the academic year 2020/2021.

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Over the last 5 years Maynooth has seen a large growth in research activity with significant awards from national and EU sources, the largest of which is SHAPES (Professor Mac McLachlan and Dr Michael Cooke, ALL), a Horizon 2020 4-year programme valued at €21M as well as 4 prestigious European Research Council awards (Dr Lorna Lopez, Professor Delia Ferri, Professor Aisling McMahon and Professor Rob Kitchin).

Significant success from SFI included, 2 SFI Centres for Research Training (Professor Ken Duffy and Professor Deirdre Desmond), 2 SFI Strategic Research Partnerships, UFLYTE and Terrain AI (Dr Rowan Fealy and Professor Tim McCarthy) and a SFI spoke, Empower (Professor Markus Helfert) to name but a few.

We have seen a 39% and 36% increase in publication numbers as recorded respectively in Scopus and Web of Science and the value and number of research awards has grown by almost 50%. PhD intake over the last 5 years is up by 31% and postdoctoral numbers by 27%.

These successes are supported by the tireless work carried out by my team in the Research Development Office whose efforts were rewarded as the team won the President's award for Service Excellent in 2021. In addition, Ms Valerie Bartley from the team was awarded The President's award for Service Excellence in 2022. The office is unique in Ireland in that we operate a 'one stop shop' model (integrating RDO and RDO Finance) offering services for the full end-to-end research project life cycle with the latest integration of the postgraduate funding team. The team gives added value to proposal development through building national and international consortia, training, writing grant proposals, budget preparation, grant negotiation, research ethics and post award supports both financial and non-financial.

I would like to take this opportunity to thank all of them for their innovative thinking, commitment and continuous support to Maynooth University researchers, the VPRI and myself.

**Carol Barrett**  
Director of Research Development



# Research Highlights

## University rankings

**106** IN THE WORLD

Times Higher Education  
Young University Rankings 2022

**301–400**

Times Higher Education  
overall Impact Rankings 2022

**501–600**

Times Higher Education World  
University Rankings 2022

**101–200**

Times Higher Education SDGS 4  
Quality Education

**69**

Times Higher Education SDGS 5  
Gender Equality Ranking

**101–200**

Times Higher SDGS 10  
Reduced Inequalities Ranking

## Research grants

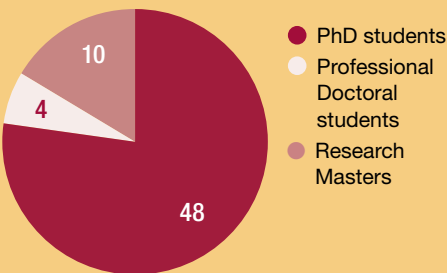
**244** RESEARCH GRANTS

**€41,183,805**

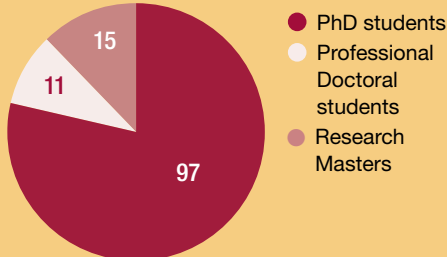
Total value of research grants  
awarded

## Talent Development

**62** RESEARCH GRADUATES



**123** NEW POSTGRADUATE RESEARCH STUDENTS



**96** POSTDOCTORAL RESEARCHERS

## Publications and impact

Publication	2020	2021
Total (SCOPUS)	708	874
Books	64	94
Book Chapters	200	208

**1.63** Field weighted citation impact (2016–2021)

**54%** Publications with international collaborators

**3%** Publications with industry partners

**29%** Publications in the top 10% of cited publications worldwide (field weighted)

### WEB OF SCIENCE – HIGHLY CITED

**3** hot papers (2017–2021)

## Innovation and impact

**35** NEW COLLABORATIONS WITH INDUSTRY

**6** LICENSE AGREEMENTS

**6** PATENTS FILED

**13** INVENTION DISCLOSURES

**1** SPINOUT COMPANY



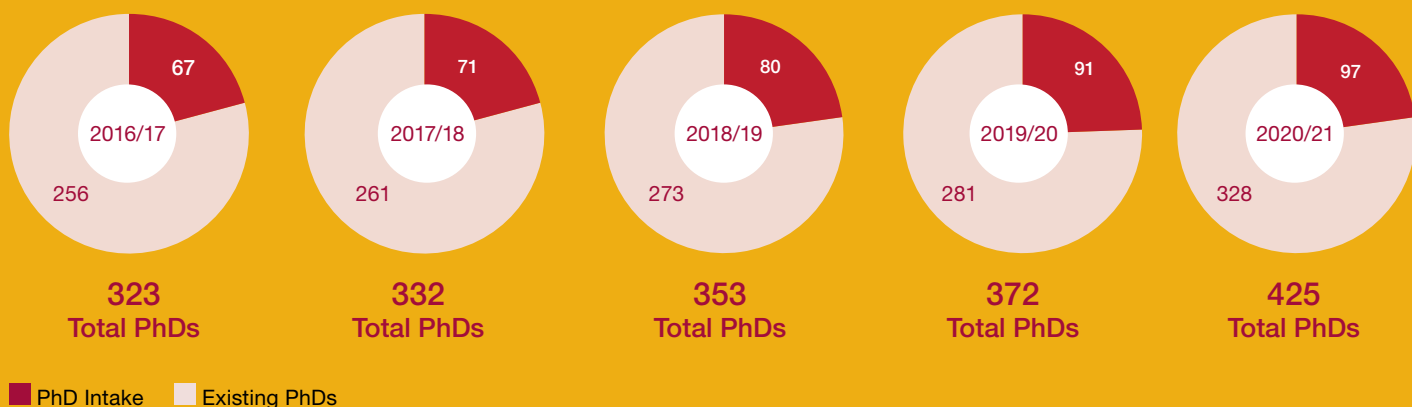
# Five years of growth



## PhD

**+31%** increase in PhD intake

**+27%** increase in postdoctoral numbers



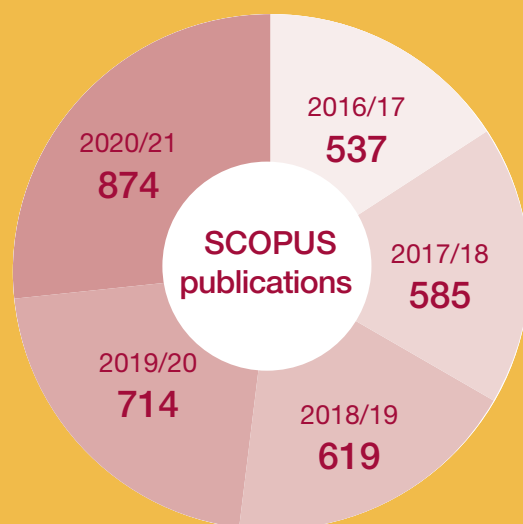
### New Postdoctorates



## Publications

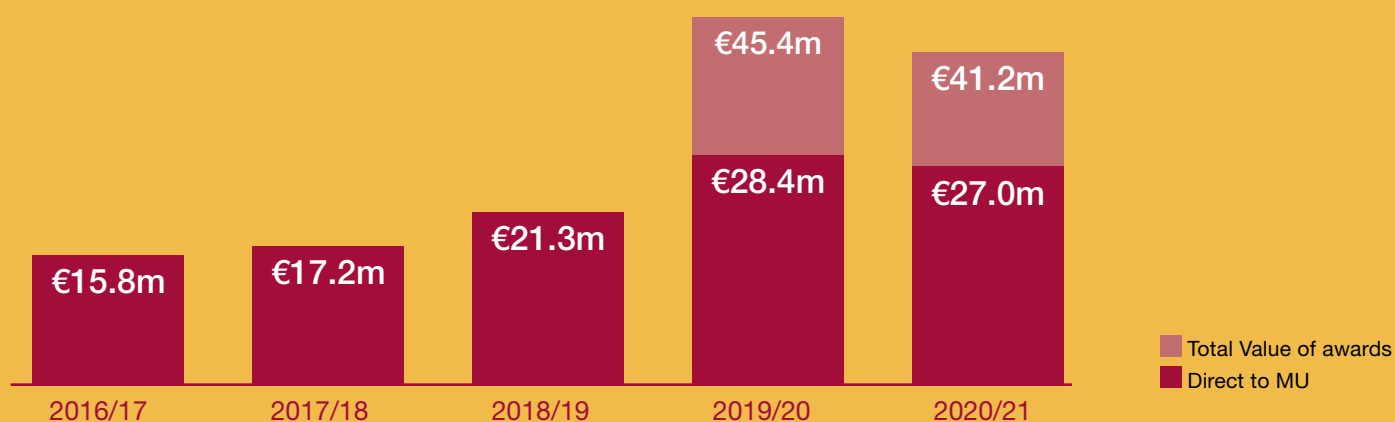
**+39%** SCOPUS publication numbers

**+36%** Web of Science publication numbers

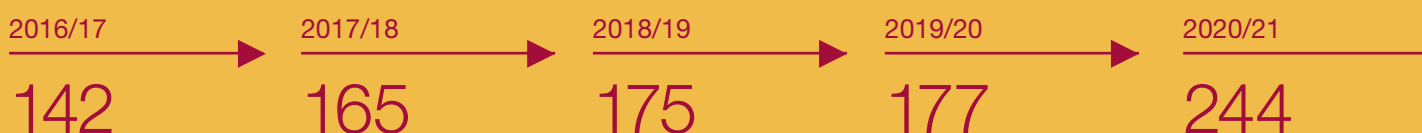


## € Awards

+50% value and number of research awards

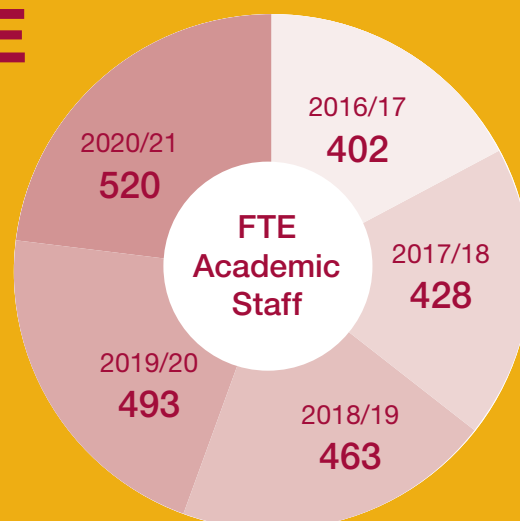


### Number of awards



## Academic Staff FTE

+29% in number of academic staff





# Research and Innovation at Maynooth University 2022

This report catalogues research, scholarship and innovation activities at Maynooth University (MU) for the academic year 2020/2021, documenting the diverse research and expertise of the academic community at Maynooth across its 28 academic Departments, Research Institutes and designated Research Centres.



The restrictions caused by the pandemic persisted in the academic year 20/21, however the three faculties and Research Institutes of the University continued to deliver significant levels of research outputs. The total value of new research grants awarded to the University in the year October 2020–September 2021 amounted to €41.1M. This comprised a budget of €27M for work at MU in addition to €14M in funds transferred to international and national collaborating partners.

Among the 244 research grants awarded during the reporting period were many significant multi-partner projects funded both nationally and via the European Commission. Professor Markus Helfert was awarded SFI funding for *Empower* a programme of almost €10M bringing together researchers from the SFI Research Centres Lero, ADAPT, FutureNeuro and Insight to develop new systems and methods to enable and support data governance in the real-world application of data-driven solutions. *Empower* aims to create appropriate data governance models enabled by appropriate techniques and platforms that are crucial to allow users harness the data from the global data ecosystem. This collaborative research programme, engaging with both industry and state agencies, represents a unique opportunity to advance solutions to the technical, standardisation, ethical, legal and economic challenges in governing data ecosystems.



Professor Markus Helfert, Innovation Value Institute, School of Business

This has been a very successful year in terms of awards from the European Research Council (ERC). Professor Rob Kitchin, Department of Geography and MUSSI was awarded a €2.4 million ERC Advanced Grant for his ground-breaking project, *Producing stories about and with property and planning data* (DataStories) that will document in detail property data for Dublin and examine how these data are used as an evidence base for public policy, planning, and commercial decision-making. This prestigious award will enable Professor Kitchin and his team to examine closely how property data are collected by different agencies such as government departments, homeless organizations, real-estate companies, and local authorities. This is Professor Kitchin's second ERC Advanced award, making him one of only five Irish HEI-hosted Advanced awardees to obtain a second Advanced award.



Professor Aisling McMahon, School of Law and Criminology

Professor Aisling McMahon, School of Law and Criminology, has been awarded an ERC Starting grant worth €1.5 million to undertake a five-year research project, *Patents, Bioethics and the Human Body: Reconceptualising Bioethics in Patent Decision-Making and the Governance Function of Patents* (PatentsInHumans). Professor McMahon will lead a team of four researchers to investigate the bioethical implications of patents over technologies which relate to the human body, such as: medicines, human genes, elements of diagnostic tests, prosthetic limbs, and human enhancement technologies for instance, potential future uses of brain implant technologies. PatentsInHumans focuses on understanding these bioethical implications and reconceptualising how they are incorporated within European patent decision-making.

Other successes in European funding included, Professor Peter Thorne of ICARUS Climate Research Centre was funded by The European Centre for Medium Range Forecasts (ECMWF) for the Copernicus Procurement tender "Access to a comprehensive archive of historical surface observations with support for data rescue." The tender is led by MU and brings together participants from Ireland, UK, Switzerland, Portugal, South Africa and Argentina. The total tender budget is worth €2.5 million with €753,048 in funding to Maynooth. The Copernicus Climate Change Service (C3S) is administered by ECMWF on behalf of the European Union and combines observations of the climate system with the latest science to develop authoritative, quality-assured information about the past, current and future states of the climate in Europe and worldwide. The tender concerns all aspects of data rescue, securing new data from third parties, harmonisation and quality control of the secured holdings, and provision to end-users. It will better integrate the service with World Meteorological Organization (WMO) activities, taking advantage of evolving WMO governance on data, metadata, and data policies and will integrate aspects of the service with WMO and Global Climate Observing System (GCOS) activities.



# Research and Innovation at Maynooth University

Dr Tadhg MacIntyre is leading a Coordination and Support Action (CSA) bringing together 39 participants with a total budget of €10,485,804. The project “GO GREEN: Resilient Optimal Urban natural, Technological and Environmental Solutions” was submitted under the Societal Challenge 5 topic “Visionary and integrated solutions to improve well-being and health in cities”. The objective of GOGREEN ROUTES is to position European cities as world ambassadors of urban sustainability. The GOGREEN ROUTES transdisciplinary consortium will pioneer a unique approach augmenting nature-based solutions (NBS), urban design with the goal of fostering a positive human-nature relationship, flourishing nature connectedness and promoting citizen engagement through digital, educational and behavioural innovation. GOGREEN ROUTES focuses on nature-based enterprise (GROW), sustainable physical activity (MOVE), digital, cultural (FEEL) and knowledge innovation (KNOW). It will foster mental health and well-being by optimising human-nature interactions for all citizens.

From the Faculty of Social Science, Dr Máire Ní an Bhaird (Froebel Department of Primary and Early Childhood Education) is participating in *Innovative Education for the BioEconomy* (BioBee). The overall aim of BioBee is to develop and deploy an education programme that will enhance understanding and engagement across society regarding ‘circularity’ and the bioeconomy, using five bioeconomy themes - interconnectedness, outdoor learning, forestry, life below water, and the food loop. A sustainable network of 15 interconnected European educators and stakeholders committed to promoting the bioeconomy concept through all channels will co-create and co-deliver the education programme. BioBee will provide the means for better coordination between bioscience and education in schools by developing the Circular Economy Science-Society message. It will have a particular focus on circular lifestyle, circular behaviours, and a governance framework on society-wide engagement in bioeconomy policy. BioBee shall take steps to address social issues such as gender bias, disadvantaged youth groups, migrants and members of society with additional need.

MU researchers also had notable success in Science Foundation Ireland’s Frontiers for the Future Programme (FFP) in 2021. The FFP programme provides opportunities for independent researchers to carry out highly innovative research with the potential to deliver impact. This year MU was awarded 7 of the 58 projects funded by SFI (12% of national awards), with a combined budget of €3.7M. In addition, Dr Fiona Walsh (Biology/Kathleen Lonsdale Institute for Human Health) and Dr Karen English (Biology/Kathleen Lonsdale Institute for Human Health) were awarded funding for two larger FFP investigator projects (60 months) under the ‘awards’ section of the programme valued at a combined €2.5M.



Dr Fiona Walsh, Department of Biology, Kathleen Lonsdale Institute for Human Health Research

Dr Walsh’s award ‘*Targeting antimicrobial resistance (AMR) plasmids to resurrect antimicrobial therapies*’ will identify how the mobile pieces of DNA (plasmids) that cause AMR work with the bacteria to prevent the antimicrobials from killing the bacteria. This information can be used to stop the plasmids from creating the AMR. This could then lead to the development of new types of drugs aimed at stopping resistance, that could be combined with antimicrobials that then kill the bacteria.



Dr Karen English, Kathleen Lonsdale Institute for Human Health Research

Dr English will work with colleagues in National University of Ireland Galway (NUIG) on Acute respiratory distress syndrome (ARDS), a condition that affects the lungs causing severe injury and inability to take up oxygen. The award titled ‘Removing the brake; Role of PPAR on mesenchymal stromal cell (MSC) therapeutic efficacy in ARDS’ aims to build on existing work that shows that blocking the PPAR-delta gene enhances MSC ability to calm the immune system. The role of PPAR-delta in MSC therapeutic efficacy will be investigated in ARDS.

MU researchers continue to play key roles in relevant SFI Research Centres with 26 academic staff actively involved in nine of the Centres: Lero, Connect, Adapt, iCrag, Insight, MaREI, I-Form, SSPC and CONFIRM and Future Milk. MU Researchers are also leading a Strategic Partnership in collaboration with Microsoft, Terrain AI and Empower a cross spoke involving the Research Centres, Lero, ADAPT, FutureNeuro and Insight.

In response to the delays in research caused by COVID-19, the Department of Further, Higher Education, Research, Innovation and Science (D/FHERIS) allocated €47.7M funding to the HEI sector which was funded via the Higher Education Authority (HEA). The funding supported research students and research staff through the provision of costed research extensions to compensate for research interruptions due to the COVID-19 pandemic. MU awarded 243 extensions supporting 198 postgraduate students and 45 research staff across individual and projects.

In 2021 MU researchers continue to publish at a very high level, with 874 publications recorded in Scopus. The Scopus database captures the majority of publications, but it should be noted that it is still incomplete in its record of monographs and book chapters, and those publication forms are of particular significance in the Arts, Humanities and Social Sciences. Even though it is incomplete, the Scopus record is the one by which Universities are now most frequently benchmarked. There were 94 books and 208 book chapters published in 2021 captured by the MU Research Information System.

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Over the period 2016–2021 the University recorded 3939 publications in Scopus. These have a field weighted citation index of 1.63, which means that those publications have been cited at 1.6 times the world average when compared to the same disciplines globally. Researchers at MU have a strong international focus with 54.3% of all MU publications co-authored in collaboration with international institutions, with a high field weighted citation index for these of 2.11. In addition, collaboration with enterprise is significant with 3.3% of Maynooth University publications co-authored with industry researchers. Some examples of Enterprise Partners as co-authors are IBM, Alcatel Lucent, Eli Lilly, Alltech, Abbott Laboratories, Nokia and Siemens.

Web of Science recognises publications that develop a significant number of citations very soon after publication and class these as ‘hot papers’. In 2020/21 three publications with MU authors were classed as ‘hot papers’.



Dr Philip Hyland, Department of Psychology and the ALL Institute

Dr Philip Hyland in the Department of Psychology published an article *Anxiety, depression, traumatic stress and COVID-19-related anxiety in the UK general population during the COVID-19 pandemic* in BJPsych Open in November 2020. With collaborators across the UK determined that some higher levels of anxiety, depression and trauma were observed when compared to previous population studies. It was found that symptoms were predicted by young age, with the presence of children at home and estimates of personal risk, including low and loss of income and pre-existing health conditions. COVID-19 specific anxiety was greater in older participants.

Dr Rowan Fealy and Enrique Sanchez of the Department of Geography and the ICARUS published a paper *Regional climate downscaling over Europe: perspectives from the EURO-CORDEX community* with 39 institutions. The initiative (Coordinated Regional Downscaling Experiment, EURO-CORDEX) seeks to develop regional climate and earth systems across Europe. The paper was published as part of the World Climate Research Programme (WCRP). The publication shared the goals of providing a model evaluation and climate projection framework and improving communication with both the General Circulation Model (GCM) and climate user communities. Two pilot studies were initiated, the first examines local regional phenomena at convection permitting scales over the Mediterranean and central Europe and the second investigates the impacts of land cover changes on European climate across spatial and temporal scales.

Dr Michael Daly of the Department of Psychology published *Psychological distress and adaptation to the COVID-19 crisis in the United States* which examined the long-standing mental health effects across society particularly amongst those with pre-existing mental health conditions. The article examined how psychological distress changed following the COVID-19 crisis in the United States. The study tested whether certain population subgroups were vulnerable to persistent distress during the crisis. Longitudinal nationally representative data from eight waves of the Understanding America Study (UAS) was analysed and showed an increase in distress in the US which decreased in the weeks that followed and suggests that population level resilience in mental health may be occurring in response to the pandemic.

In 2021 MU signed up to the San Francisco Declaration on Research Assessment (DORA) committing the institution to move away from journal impact factors as a measure of the quality of research publications and to assess researchers based on the content of a paper rather than publication metrics or the identity of a journal. The aim is to utilize a broader set of measures including qualitative indicators of research impact and effects on policy and/or practice. MU is a strong advocate for open access of research outputs with 66.3% of the University's publications categorised in Scopus as open access between the period of 2016 to 2021. The MU Open Access Policy requires that all research publications from MU, (subject to the copyright and archiving policies of the publisher) are made available at the earliest possible date through the Maynooth University Research Archive Library (MURAL) which is our institutional open access repository. During the reporting period 1,401 items were submitted to MURAL, with 644,163 downloads. The total number of publications in MURAL is now 14,377.

In the period 20/21 MU was mentioned in over 5000 media sources including over >2000 mentions in social media, >750 mentions in news stories and 84 policy documents as categorised by Altmetric sources (Altmetric Explorer). Two articles by MU research scored in the top 5% (99<sup>th</sup> percentile) of all research outputs scored by Altmetric: Altmetric scores are determined by two factors, the quantity of online posts mentioning an output and the quality of the post's source, across social media, news media, and policy documents.

Dr Niamh Cahill from the Department of Maths and Statistics published *Estimating global mean sea-level rise and its uncertainties by 2100 and 2300 from an expert survey* published in npj Climate and Atmospheric Science. The research presents the results of a repeated survey to elicit projections from the scientific community regarding sea level rise as sea level rise projections are key to making informed mitigation and adaptation decisions. Projections by experts for 2100 were similar to those in the original survey but the projections for 2300 is higher. The data gives a 42% likelihood that under the high-emissions scenario sea level rise will exceed the likely range outlined by the Intergovernmental Panel on Climate Change.



# Research and Innovation at Maynooth University

Dr Levke Caesar from the Department of Geography and ICARUS published *Observed Fingerprint of a weakening Atlantic ocean overturning Circulation* in Nature. The research provides evidence of a weakening of the Atlantic meridional overturning circulation, which is a system of ocean currents in the North Atlantic. This weakening is determined by a set of calibrated model simulations revealed by a characteristic spatial and seasonal sea surface temperature 'fingerprint' which consists of a pattern of cooling in the subpolar Atlantic Ocean and warming in the Gulf Stream.

MU researchers also continue to play key roles in the participation in national and international policy advisory bodies; preparation of strategies to support local authorities, local communities, and private enterprises as well as engaged research with local and international community groups and media related activities.

Dr Katriona O'Sullivan's 'STEM Passport for Inclusion' project, funded by Science Foundation Ireland (approx. 300k) featured in the recent RTÉ/IUA 'Changemakers' six-part documentary series as well as a Newstalk interview. The project addresses the issues of young women from socially-economically disadvantaged backgrounds (SED) not accessing STEM careers. Through partnership with the RDI Hub, Accenture, Microsoft, Teen Turn and Munster Technological University STEM Passport aims to extend the vision of SFI Discover by building a three-tiered programme of STEM supports for SED girls.



Dr Katriona O'Sullivan, Digital Skills Lecturer, Assisting Living and Learning Institute with students from Mercy Secondary School, Inchicore

Dr Emma Smith from the Assisting Living and Learning Institute (ALL Institute) was awarded a highly prestigious and competitive Marie Skłodowska Curie Actions (MSCA) Individual Fellowship for her project entitled 'ARISE: Assistive technologies in Resilient and Inclusive Systems and Enabling Environments'. The Assistive technologies in Resilient and Inclusive Systems and Enabling Environments (ARISE) project will develop and pilot a framework for resilient and inclusive systems to enable persons with disabilities to participate in their communities using AT. ARISE uses a participatory research approach which engages persons with disabilities, academic researchers, and policy makers to understand the critical components of a policy framework. The ARISE Framework will be published in coordination with the European Disability Forum and used by national and regional governments to craft policies which are resilient to

global forces, including crises like COVID-19. This research stems from current evaluation of assistive technology services in light of the global crisis, and an understanding of the need to engage all stakeholders, especially AT users, in policy development.



Dr Derek Barter and Jennifer Lloyd-Hughes of the Department of Adult and Community Education were awarded €148,000 for the Maynooth University coordinated project "Foundations for Futures Europe."

Dr Derek Barter and Ms Jennifer Lloyd-Hughes of the Department of Adult and Community Education were awarded €148,000 for their Maynooth University coordinated project "Foundations for Futures Europe" under the Europe for Citizens programme. The project brings together 6 participating organisations from across Europe – Maynooth University, European Anti Poverty Network Ireland, Föreningen Urkraft (Sweden), Pecs University (Hungary), University of Novi Sad (Serbia) and the Hellenic Anti Poverty Network (Greece). The project creates a network of Higher Education and Civil Society (NGO) partners to engage citizens in debates and discussion groups around the future direction of the European project. These groups will explore the common socio-political and economic views and experiences of European citizens, across a range of age groups and within the context of social and digital inclusion, using adult education, community development and experiential learning theory and practice. It will utilize academic and advocacy staff in various settings, both institutional and community, providing a structured educational encounter which will act as a base for exploring the shared European experience in terms of history, culture, values and ideals.

The 2022 Times Higher Education Young University Ranking ranked MU at 106<sup>th</sup> in the world among universities under 50 years old. Furthermore, under the THE Impact rankings the University ranked 69 for the United Nations Sustainable Development Goal (SDGs) 5 in gender equality which is in the top 7% of universities globally (69 out of 938 institutions). Maynooth University's research on social inequalities, policies on discrimination and commitment to recruiting staff and students from under-represented groups was reflected in MU being ranked in the top 101–200 for SDG 10, Reducing Inequalities. In addition, MU ranked in the top 101–200 for SDG 4, quality education. The impact rankings seek to assess universities according to their contribution to achieving the UN's Sustainable Development Goals.

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# Awards and Prizes



# Awards and Prizes in 2020/2021

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## The AI Awards to Achieve Social Good

**Dr Rowan Fealy & Professor Tim McCarthy**

Anne Sheehan, General Manager of Microsoft Ireland and Professor Tim McCarthy, Department of Computer Science



Terrain-AI, led by Dr Rowan Fealy and Professor Tim McCarthy, was awarded the AI Award for Best Application of AI to Achieve Social Good at the AI Awards ceremony. The AI Awards, which are held annually, seek to recognise how AI can be ethically used to help solve some of the biggest business, academic, environmental, and health challenges facing our society today.

Terrain-AI jointly funded (€5m) by Microsoft Ireland and Science Foundation Ireland (SFI) is a collaboration with Teagasc, Trinity College Dublin (TCD), University College Dublin (UCD), Dublin City University (DCU), and University of Limerick (UL). The project aims to improve our understanding of the interactions between the land and human activities that lead to carbon emissions, and to share with other countries the insights and models developed to help reduce global carbon outputs. Leveraging the latest multimodal sensing technologies, Internet of Things (IOT) devices and the Microsoft Azure Cloud, the project will build artificial intelligence (AI) models using new and existing data from multiple sectors and land types. Data is captured from satellites, aerial and drone surveys, as well as in-field instruments from more than 20 benchmark sites across Ireland.

## Professor Philip Nolan admitted to the Royal Irish Academy (RIA)

**Professor Philip Nolan**

Professor Philip Nolan



Professor Philip Nolan has been admitted to the Royal Irish Academy. He was among 27 new Members admitted by the RIA. The new Members were elected for their exceptional contribution to the sciences, humanities and social sciences as well as to public service.

In his citation, Professor Nolan is noted as “a distinguished researcher, teacher and administrator, who has received several prestigious research awards as well as the President’s Teaching Award at University College Dublin. He has provided outstanding leadership to Maynooth University since his appointment as president in 2011. Most recently, he has chaired the National Public Health Emergency Team (NPHET) Irish Epidemiological Modelling Advisory Group (IEMAG), with responsibility for advising government on the response to the COVID-19 virus, and has earned national admiration for his dedication and sound counsel.”



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## Marie Skłodowska Curie Actions Individual Fellowship

### Dr Emma Smith

Dr Emma Smith (ALL Institute)



Dr Emma Smith (ALL Institute) was awarded a highly prestigious and competitive Marie Skłodowska Curie Actions (MSCA) Individual Fellowship for her project entitled *ARISE: Assistive technologies in Resilient and Inclusive Systems and Enabling Environments*. The award value is €185,000 and will run for two-years.

As an MSCA Fellow, Dr Emma Smith will receive training from Professor Malcolm Mac Lachlan, co-Director of the ALL Institute, and Research and innovation lead for the WHO Global Cooperation on Assistive Technology initiative. A secondment to the European Disability Forum will provide Dr Smith with training in stakeholder engagement, policy advocacy, and inclusion of persons with disabilities. The Assistive technologies in Resilient and Inclusive Systems and Enabling Environments (ARISE) project will develop and pilot a framework for resilient and inclusive systems to enable persons with disabilities to participate in their communities using AT. ARISE uses a participatory research approach which engages persons with disabilities, academic researchers, and policy makers to understand the critical components of a policy framework.

The ARISE Framework will be published in coordination with the European Disability Forum and used by national and regional governments to craft policies which are resilient to global forces, including crises like COVID-19. This research stems from current evaluation of assistive technology services in light of the global crisis, and an understanding of the need to engage all stakeholders, especially AT users, in policy development.

## The Irish Research Council Research Ally Prizes 2021

The Irish Research Council Research Ally Prizes 2021



**IRISH RESEARCH COUNCIL**  
An Chomhairle um Thaighde in Éirinn

The Irish Research Council launched their inaugural Research Ally Prizes in 2021 as part of the Research of the Year Awards. The Research Ally Prizes are a new national award category celebrating outstanding individuals who support research through supervision, research development and support and mentorship. Maynooth University is delighted that two Research officers, Ms Louise Bolger and Ms Marie Carr were among the awardees for their support roles in the Research Development Office.

Congratulations also to Dr Adrian Kavanagh, Dr Camilla Fitzsimons, Dr Catherine Gander, Dr Chandana Mathur, Dr Eithne Dempsey, Dr Eoin Flaherty, Dr Laurence Cox and Dr Moynagh Sullivan who were awardees under the mentor and supervision category.



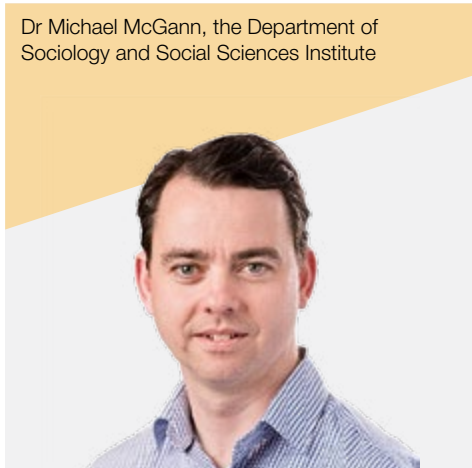
# Awards and Prizes in 2020/2021

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## The 2021 Ken Young Prize in Policy and Politics

**Dr Michael McGann**

Dr Michael McGann, the Department of Sociology and Social Sciences Institute



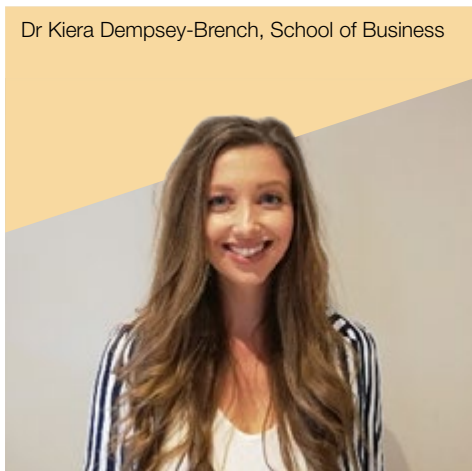
Dr Michael McGann, a Marie Skłodowska-Curie Research Fellow in the Department of Sociology and Social Sciences Institute was co-awarded The 2021 Ken Young Prize which is awarded to the best article judged to represent excellence in the field published in Policy & Politics.

The prize was awarded to: 'When design meets power: Design thinking, public sector innovation and the politics of policymaking' by Jenny M. Lewis, Michael McGann and Emma Blomkamp from the special issue: *Improving public policy and administration: exploring the potential of design*. The article examines the potential use of 'design thinking' for the development of new policy solutions. It looks at what is new about 'design thinking' and compares it to other approaches to policy making. In addition, it examines the impact of 'design thinking' on policymakers in practice.

## Academy of Management's Management, Education and Development Division best paper award

**Dr Kiera Dempsey-Brench**

Dr Kiera Dempsey-Brench, School of Business



Dr Kiera Dempsey-Brench, School of Business, and co-authors, Professor Amanda Shantz, Melissa Sayer, Shirley Kavanagh (Trinity Business School), and Assistant Professor Janice Byrne (Ivey Business School) were awarded the Academy of Management's Management, Education and Development Division best paper award, which is the highest award given in this division.

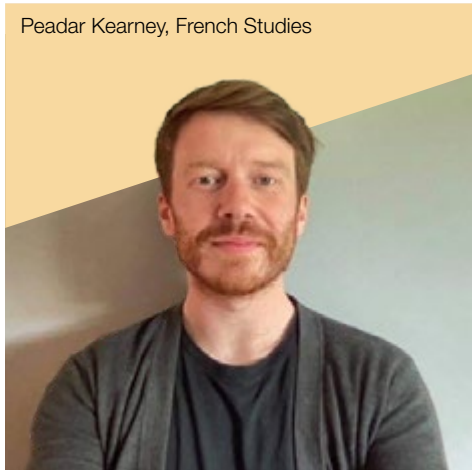
The paper entitled: '*In the eye of the storm: Turbulent times and the MBA*' demonstrates through two studies how current MBA curricula falls short at equipping students on how to anticipate and manage global challenges. However, the study evidences that there are existing programme features that can be leveraged and mobilised to address this gap.

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## French Screen Studies, UK-Ireland Research Award

**Peadar Kearney**

Peadar Kearney, French Studies



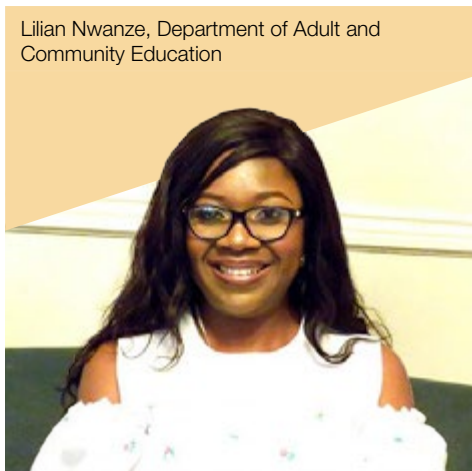
Peadar Kearney, a postgraduate research student in French studies has been awarded a competitive research bursary from French Screen Studies, UK-Ireland.

Peadar is in the final year of his doctoral studies and is working on a thesis that examines the concept of post-identity in the films of François Ozon, Xavier Dolan and Céline Sciamma, under the supervision of Dr Julie Rodgers. The award recognises the valuable and innovative nature of Peadar's research and will allow him to carry out important archival work.

## USI-IRC Why Research Matters 2021 video competition

**Lilian Nwanze**

Lilian Nwanze, Department of Adult and Community Education



Lilian Nwanze of the Department of Adult and Community Education won the USI-IRC Why Research Matters 2021 video competition.

Ms Nwanze was judged the overall winner by Jim Carroll, editor of RTÉ Brainstorm. The video, *'The Invisible Burden: The Impact of Racism on Black Students in Irish Further Education'*, explains her doctoral project at the Department of Adult and Community Education. The video weaves together her formative early experiences of teaching practice with the personal stories of her students to argue for a more cultural inclusive and racially appropriate curriculum and pedagogy in Irish Further Education.

## Bronze Athena SWAN for Gender Equality

**Departments of Chemistry and Psychology**



Two Departments at Maynooth University, Chemistry and Psychology, have achieved Athena SWAN Bronze Department Awards. Awarded by Advance HE, the cornerstone of the application to achieve Athena SWAN accreditation is a 4-year action plan that addresses challenges particular to the Department and discipline. Maynooth University's Athena SWAN applications in Chemistry and Psychology were prepared by self-assessment teams (SATs) that are representative of each Department. The Departments were assisted in this work by the Office of the Vice-President for Equality and Diversity, the Institutional Research Office and Human Resources.

# Awards and Prizes in 2020/2021

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## Maynooth University Research Achievement Award 2022

### Dr Gavan Titley

Dr Gavan Titley, Department of Media Studies



The overall winner selected for the Maynooth University 2021 Research Achievement Award was Dr Gavan Titley of the Department of Media Studies who also won the Faculty of Arts, Humanities, Celtic Studies and Philosophy Research Achievement Award.

Dr Titley's research focusses on understanding pressing issues where rapid changes in the media system interact with important social and political dynamics. His primary focus has been on the changing formation and expression of racism in contemporary European societies. His emphasis has been on the transnational construction of public discourse, where the speed and density of communications has a complex impact on the politics of multiculturalism, freedom of speech, public understandings of racism, and how migration is discussed. This research has become widely noted – and highly cited – not only for its specific thematic insights, but for the innovative ways in which it integrates media and communications analysis with social and political theory.

Dr Titley has an outstanding publication record attracting significant international attention. His publications are with notable publishers and journals. *Racism and Media* (2019) is published with Sage, which maintains one of Media and Communication Studies' most internationally recognised subject lists. *'Is Free Speech Racist?'* (2020) is published in Polity's influential *Debating Race* series. His journal publications evidence the recognised interdisciplinary scope of his research; he has published in Media & Communications, Sociology, Cultural Studies and Race and Migration Studies journals. These articles are published in top international journals, including in the highly prestigious *Journal of Communication*, ranked No. 2 in the discipline. Furthermore, Dr Titley's two monographs have been widely reviewed and debated in the discipline. Further, *'Is Free Speech Racist?'* has made a striking public impact beyond academic debates. It has been widely reviewed internationally, named a Book of the Year 2020 by BBC.

## Maynooth University Research Achievement Award 2021

### Professor Andrew Parnell

Professor Andrew Parnell, Department of Mathematics and Statistics and the Hamilton Institute



The overall winner selected for the Maynooth University 2021 Research Achievement Award was Professor Andrew Parnell of the Department of Mathematics and Statistics, and the Hamilton Institute who also won the 2021 Faculty of Science and Engineering Research Achievement Award. Professor Parnell's research ethos is to advance methodological techniques, publishing papers in core statistics and machine learning journals, while translating them to practice, using them to extract fundamental insight from complex datasets in important problems.

Since 2018, Professor Parnell's group has published over 40 peer reviewed journal articles and with grants valued at more than €65 million. He is a Principal Investigator in the I-Form Centre for Advanced Manufacturing, and a Funded Investigator in the SFI Insight Centre for Data Analytics and the MAREI Centre for Energy, Climate and Marine Research. His research spans areas related to sea-level rise predictions, inferences for Dublin Bay that have been used by the Environmental Protection Agency in their recent reports on climate impacts for Ireland to advanced statistical examination of data on the changing nature of temperature extremes across Ireland and the development of statistical software that enable ecologists and archaeologists to reconstruct the diets of organisms from stable isotope measurements of their tissues.

His software packages have been downloaded over 120,000 times and cited more than 2000 times. In addition, he has led an SFI emergency COVID-19 project with all the members of the Hamilton Institute, and the Departments of EE, CS, Mathematics and Statistics, and Biology that reported directly to the Irish Epidemiological Modelling Advisory Group and the National Public Health Emergency Team. Methods developed by the team generate the only real-time estimates of excess mortality available for Ireland.

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## Faculty of Social Science Research Achievement Award 2022

### Professor Chris Brunsdon

Professor Chris Brunsdon, Maynooth Social Sciences Institutes



Professor Chris Brunsdon of the Maynooth University Social Sciences Institute was awarded the 2022 Faculty of Social Science Research Achievement Award.

Professor Brunsdon joined Maynooth University in 2014 as Director of the National Centre for Geocomputation. He has made a number of fundamental contributions to the areas of Geocomputation and geographic data visualisation, the most notably the originator and key developer of the Geographically Weighted Regression (GWR) methodology a versatile technique for analysing spatial data that has found application across numerous fields (e.g. climate studies, housing economics, spatial epidemiology, political science, ecological studies, social exclusion, remote sensing). Not only has GWR contributed significantly to quantitative geography, but it has raised the profile of geographical scholarship and methods across disciplines. Its impact is evidenced by over 11,000 citations to GWR-related publications. His contributions to policy are notable where he has been an active member of the National Public Health Emergency Team (NPHET) COVID-19 modelling team over the past two years and prior to that detailing appropriate spatial and visual tools for analysing patterns in the Brexit vote in the UK.

In the past, he has undertaken several research projects for the British Home Office, the Joseph Rowntree Memorial Trust, and has received several awards from the Economic and Social Research Council (UK). In the past five years he has completed work as Co-PI on a SFI investigator award, Building City Dashboards (€2.3m), and as a co-investigator for an IRC grant (Laying the Groundwork for a Pan-European Participatory Engagement Platform) and HRB grant (Children's unscheduled primary and emergency care in Ireland).

## Faculty of Social Science Research Achievement Award 2021

### Professor Sinéad McGilloway

Professor Sinéad McGilloway, Centre for Mental Health and Community Research



Professor McGilloway of the Maynooth University Social Sciences Institutes was awarded the 2021 Faculty of Social Science Research Achievement Award. Professor McGilloway has made highly significant contributions to: conceptual thought and empirical research through her publications; pioneering leadership and innovation in community-engagement and engaged research in and beyond her discipline (e.g. through her links with numerous community-based organisations and her role since 2016 with Campus Engage in promoting engaged research in Ireland and Europe); and capacity-building and research mentorship through, for example, establishing and sustaining a centre in community mental health (the only one of its kind in Ireland – re-branded in 2017).

Professor McGilloway's HRB-funded ENRICH programme and the HSE-funded PRIMERA programmes are excellent examples (amongst others) of her innovation and impact in this field. These projects address major national and international knowledge gaps and reflect Professor McGilloway's ability to employ multiple rigorous and innovative methodologies and highly engaged interdisciplinary approaches, all of which demonstrate her extraordinary agility and sustained, high level of commitment to improving mental health and wellbeing for families and communities.



# Awards and Prizes in 2020/2021

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## Faculty of Science and Engineering Research Achievement Award 2022

**Dr Joanne Masterson**

Dr Joanne Masterson, Department of Biology



Dr Joanne Masterson of the Department of Biology was awarded the 2022 Faculty of Science and Engineering Research Achievement Award.

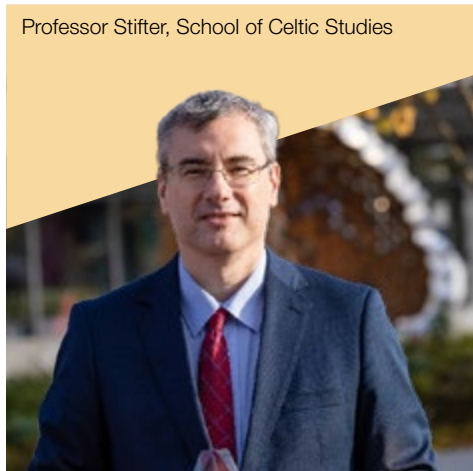
Dr Joanne Masterson is an expert in a family of allergic diseases – the Eosinophilic Gastrointestinal Diseases (EGID), researching the fundamental processes that lead to these conditions and she leads the Allergy, Inflammation and Remodelling Research (AIRR) laboratory in the Department of Biology. She has built an international research profile, first in the United States (2008–2017) and more recently from Maynooth. In 2018, Dr Masterson moved her team from a University of Colorado Centre of Excellence to Maynooth University and had obtained independent research funding in the US (€1.8million). A year later she had secured Maynooth University's first President of Ireland *Future Research Leaders Award* from SFI, one of only 10 to be awarded, to establish the leading national group on allergic gastrointestinal diseases and food allergy. She received an award of €1,572,600 for her research on the rapidly emerging allergic disease, Eosinophilic Oesophagitis, which is a chronic clinicopathologic allergic gastrointestinal disorder, and an increasing clinical problem.

Rapid research success has been made possible through establishing new collaborations with clinical colleagues at Our Lady's Children's Hospital Crumlin (Professors Bourke & Hussey) and with St. James' Hospital Dublin (Drs Donohoe, McKiernan & Conlon). She has spear-headed efforts to establish Ireland's first disease-specific multidisciplinary clinic at St. James' Hospital Dublin (served by Gastroenterology, Surgery and Immunology Clinical Departments). Dr Masterson's research brings together industry, clinical and patient stakeholders to tackle the issue of food allergy.

## Faculty of Arts, Celtic Studies and Philosophy Research Achievement Award 2021

**Professor David Stifter**

Professor Stifter, School of Celtic Studies



Professor Stifter of the School of Celtic Studies was awarded the 2021 Faculty of Arts, Humanities, Celtic Studies and Philosophy Research Achievement Award. Professor Stifter plays an Internationally prominent role in Old Irish and the Continental Celtic languages making lasting impact in these fields.

His handbook *Sengoidelc: Old Irish for Beginners* has become the standard textbook for teaching the Old Irish language, he was the first person to receive an ERC grant in Celtic Studies for the ChronHib project, and he has produced ground-breaking resources for the study of the Cisalpine Celtic languages. In Maynooth University alone, he has mentored over a dozen early career researchers. In total, the amount of project funding that he has acquired exceeds €2.5 million, a figure rarely matched in humanities subjects. His international recognition can be gauged from the fact that he is a collaborator in a number of international research projects with partners in the UK, France, Spain, Italy and Austria. Professor Stifter is a leading figure in the practical application of Digital Humanities in Medieval Irish and Celtic Studies.

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## Maynooth University Early Career Research Achievement Award 2022

### Dr Lorna Lopez

Dr Lorna Lopez, Department of Biology and the Kathleen Lonsdale Institute for Human Health



The overall winner of the 2021 Early Career Research Achievement Award was awarded to Dr Lorna Lopez of the Department of Biology and the Kathleen Lonsdale Institute for Human Health, who also won The 2022 Early Career Faculty of Science and Engineering Research Achievement Award. In 2020, Dr Lopez was awarded a prestigious ERC Starting Grant (€1.5 million) for her research *FamilySleeps: Disrupted Circadian Rhythms in Families - an Endophenotype of Autism Spectrum Disorder?*

This award clearly demonstrates a significant contribution to psychiatric genetics. She was also previously awarded a prestigious fellowship from Science Foundation Ireland, AXA Research Fund and The Wellcome Trust (worth over €2 million). Dr Lopez's research has embedded public patient involvement (PPI) in all aspects of her research life cycle with demonstrated activity (e.g. Quality and Impact Working Group Member for the National PPI Network, 2021-current; invited participant NeuroInsight and IPPOSI 'Dragons Den' March 2022) and research team training (e.g. Shared Learning Group: PPI with Children and Young People DCU).

## Maynooth University Early Career Research Achievement Award 2021

### Dr Katriona O'Sullivan

Dr Katriona O'Sullivan, Centre for Mental Health and Community Research



The overall winner of the 2021 Early Career Research Achievement Award was awarded to Dr Katriona O'Sullivan of the Department of Psychology and the Assisted and Living and Learning Institute (ALL), who also won the 2021 Early Career Faculty of Science and Engineering Research Achievement Award. The significance and quality of achievements reflect an exceptional performance, both in terms of the discipline's norms and her career stage.

Dr O'Sullivan's research addresses important societal challenges regarding disadvantage and education. She approaches her research questions in innovative ways, crossing disciplines and mixing methods and her publications reflect both quantitative and qualitative expertise. She has published 23 journal articles and 3 books chapters in high quality outlets and has recently had a lead-authored paper 'A Just Digital framework to ensure equitable achievement of the Sustainable Development Goals' accepted in *Nature Communications*. Dr O'Sullivan has attracted funding of €1.3 million to Maynooth, leading many innovative projects such as the *STEM Passport* scheme, the recently awarded *Rethink Ireland-Digital Wealth project*, and the Microsoft Ireland funded *DreamSpace* STEM hub.

# Awards and Prizes in 2020/2021

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## Faculty of Social Science Early Career Research Achievement Award 2022

### Dr Aisling McMahon

Dr Aisling McMahon, School of Law and Criminology



Dr Aisling McMahon of the School of Law and Criminology was awarded the 2022 Early Career Faculty of Social Science Research Achievement Award. Dr McMahon was awarded a prestigious ERC Starting Grant (€1.5 million) for her project PatentsInHumans which aims to fundamentally reconceptualise the role of bioethics in the patenting and licensing of technologies related to the human body, and has significant potential to shape the disciplines of patent law and bioethics, with significant scholarly and policy impacts.

Dr McMahon has also published extensively in the field of intellectual property and medical law with over 50 published outputs in leading international outlets, including 19 peer reviewed journal articles in international journals of the highest level, 8 peer reviewed book chapters, and 2 working papers. She is a co-founder and co-convenor of the UK & Ireland Patent Scholars Network which was founded in 2019 (with Hawkins and Walsh). This network provides an international forum for patent lawyers and academics in the UK and Ireland to develop research and collaborative links. Dr McMahon has provided expert advice on the role and operation of intellectual property rights in the health context to a range of government, policy and civil society actors/groups.

## Faculty of Social Science Early Career Research Achievement Award 2021

### Dr Patrick Bresnihan

Dr Patrick Bresnihan,  
Department of Geography



Dr Patrick Bresnihan of the Department of Geography was awarded the 2021 Early Career Faculty of Social Science Research Achievement Award. Dr Bresnihan is an early career researcher with a strong research portfolio, outstanding publication profile, strong grant capture, exceptional civic engagement, with a growing pool of research students. His work spans political ecology, science and technology studies, and environmental humanities -fields that challenge traditional distinctions between the 'natural', 'cultural', 'political' and 'technological'. His research is deeply collaborative in nature, including working with environmental scientists, activists and artists – for example he has developed high potential connections with the Provisional University ([provisionaluniversity.wordpress.com](http://provisionaluniversity.wordpress.com)) and the Authority Research Network.

Crucially, his current research (focussing upon water, energy and infrastructure in Ireland including: rural climate justice, extraction and the politics of energy/data infrastructures; the cessation of peat extraction in the midlands, just transition, and ecological restoration of bogs; water contamination and industrial agriculture; urban/rural geographies of water infrastructure) sits within our national priorities and societal problems and the current research funding landscape.

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## Faculty of Arts, Humanities, Celtic Studies and Philosophy Early Career Research Achievement Award 2022

**Dr Karl O'Hanlon**

Dr Karl O'Hanlon, Department of English



Dr Karl O'Hanlon of the Department of English was awarded the 2022 Early Career Faculty of Arts, Humanities, Celtic Studies and Philosophy Research Achievement Award. As an early career researcher Dr O'Hanlon has been awarded a prestigious a Higher Education Authority North-South Programme award valued at €186,000. This was one of only two of these awarded nationally in the Arts and Humanities. Dr O'Hanlon will collaborate with Dr Gail McConnell of Queen's University, Belfast for the project '*Our roots travel widely: Beyond Regionalism and Nationalism in Irish Poetry*' as part of the Shared Island Initiative.

In 2021, Dr O'Hanlon published an article on Irish modernist poetry in *Modernism/modernity*, a leading, internationally-renowned peer-reviewed journal in the field. Following this article, he has been approached by commissioning editors at both Routledge and Liverpool University to develop the research into a book. He has also been invited to submit a manuscript by Oxford University Press of his monograph-in-progress, *Official Voices: Poets and the Irish State*. His research extends beyond academia and across communities. He has written for public-facing fora such as *Tribune* and *The Irish Times*, and both articles were widely shared and discussed on social media platforms.

## Faculty of Arts, Humanities, Celtic Studies and Philosophy Early Career Research Achievement Award 2021

**Dr Jeneen Naji**

Dr Jeneen Naji, Department of Media Studies



Dr Jeneen Naji of the Department of Media Studies was awarded the 2021 Early Career Faculty of Arts, Humanities, Celtic Studies and Philosophy Research Achievement Award. Dr Naji's research is internationally recognised for advancing the field of electronic literature and digital poetry. Spanning classical and contemporary literary and media texts, from Kahlil Gibran's *The Rubaiyat* and Shakespeare sonnets to drones and 'othering' in video games, Dr Naji's research and creative projects examine diversity in the field of digital aesthetics in relation to gender and cultural difference. Innovative in her integration of humanistic thinking and technological approaches, Dr Naji produces traditional scholarly outputs, including monographs, textbooks, and articles, which have been published by leading presses and journals, as well as innovative practice-based exhibitions in both built and digital environments in association with art and educational organisations in Norway, Portugal, the US and Slovakia.

Grounded in both literary and visual analysis, Dr Naji's scholarship moves fluidly into the newest developments in the digital culture of algorithms, AI, VR, poetry apps, drones, and human-computer interaction. Her exhibition work explores the evolution of aesthetic form and human creativity as they encounter digital tools and platforms.



# Awards and Prizes

## in 2020/2021

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### John Scanlan Innovation Award 2020 and 2021

Each year MaynoothWorks recognises and celebrates members of staff who demonstrate a passion for putting their research to work through engagement with industry. Excellence in all aspects of commercialisation of research at Maynooth University are taken into consideration when choosing the winner of the John Scanlan Industry Engagement Award. The award is given based on the outputs in the previous year.

### John Scanlan Innovation Award 2021

**Professor Tim McCarthy and Dr Rowan Fealy**

Professor Tim McCarthy, Department of Computer Science and Dr Rowan Fealy, Department of Geography and ICARUS Climate Research Centre



Professor Tim McCarthy of the Department of Computer Science and National Centre for Geocomputation and Dr Rowan Fealy of the Department of Geography and ICARUS Climate Research Centre were awarded the John Scanlan Industry Engagement Award in 2022 for their project SFI Strategic Partnership *Terrain AI*. The project is a €5M project co-funded by SFI and Microsoft. MU is the lead institution and brings together an interdisciplinary team of co-investigators from Teagasc, DCU, TCD, UCD and UL for a 24-month project with the objective to develop a digital data platform capable of integrating, analysing and visualising large volumes of Earth observation data, including from satellites, drones and on-site measurements. In addition to Microsoft, *Terrain-AI* will work with indigenous Irish based companies including state-owned Coillte (Forestry) and Bord na Móna (Peatland), as well as sensor and data technology SMEs; Icon Group, Anuland, Netfeasa and TreeMetrics.

### John Scanlan Innovation Award 2020

**Dr Justin Gleeson**

Dr Justin Gleeson, ALL-Island Research Observatory (AIRO)



Dr Justin Gleeson of the ALL-Island Research Observatory (AIRO) was awarded the John Scanlan Industry Engagement Award in 2021. Under Dr Gleeson's leadership, AIRO has pioneered the development of innovative mapping and visualisation tools for enhancing evidence-led civic planning and policy formation at the regional and national level. During 2021 Dr Gleeson and AIRO have played a key role in the management and analysing of COVID-19 data on behalf of the Department of Health, Irish Epidemiological Modelling Advisory Group (IEMAG) and the NPHET examining the spread of COVID-19. As part of their work under NPHET, AIRO developed the National COVID-19 Datahub with its partners Ordnance Survey Ireland and the Central Statistics Office (CSO).

Dr Gleeson has worked on major key national projects including the National Planning Framework and the Regional Spatial and Economic Strategies. AIRO developed a national Census mapping toolset aimed at improving evidence-based planning is now widely used by government and other private and public organisations. This work was completed in collaboration with the CSO.

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# Faculty Highlights

2020/21 saw a further increase in achievements in research, scholarship, innovation and engagement across all three faculties. A selection of those achievements is presented here.



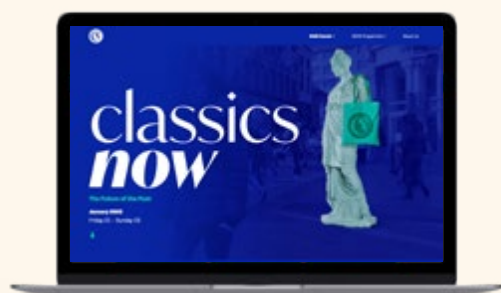


# Faculty Highlights

## Faculty of Arts, Celtic Studies and Philosophy

### Ancient Classics

In academic year 2020–2021 the Department of Ancient Classics comprised five full-time staff and three PhD students. Much of the Department's time and energy were given over to teaching, the Quality Review, and future planning, but it nevertheless made contributions to research and scholarship by publishing two book reviews, one peer-reviewed article and two book chapters. The book reviews (in the *Bryn Mawr Classical Review*) both dealt with the reception of Classics in Irish literature (most specifically Seamus Heaney) and Irish politics of 1916–2016. The article (in *Communio*) treats sin in Archaic and Classical Greek thought, while the book chapters deal with gender in late antique epic (Brill) and with the historiography of a Roman emperor (Cambridge University Press). In addition, over the year the Department hosted seven research seminars with invited speakers (most external to Maynooth University) on a wide variety of topics.



ClassicsNow, an online cultural festival about Classics in Ireland

### Engaged Research

The Department contributed time, expertise, funding and general support for ClassicsNow, an online cultural festival about Classics in Ireland which took place 13–15 November, 2020.

See the following webpages for more information:

- [www.maynoothuniversity.ie/ancient-classics/news/classics-now-new-online-cultural-festival-about-classics-ireland-and-beyond-13-15th-november-2020](http://www.maynoothuniversity.ie/ancient-classics/news/classics-now-new-online-cultural-festival-about-classics-ireland-and-beyond-13-15th-november-2020)
- [www.classicsnow.ie/programme](http://www.classicsnow.ie/programme)

### Scoil an Léinn Cheiltigh/ School of Celtic Studies

The School of Celtic Studies encompasses the Department of Early Irish, Roinn na Nua-Ghaeilge (Department of Modern Irish), Láirionad na Gaeilge (Centre for Irish Language Research, Teaching and Testing), and the Irish Cultural Heritages subject area.

### Department of Early Irish

In 2020/21, the Department of Early Irish continued to produce world-leading research in the language, literature, history and culture of pre-modern Ireland. The Department hosted 3 academic staff, 4 postdoctoral research and 8 postgraduate research students in 20/21. Three new research grants were awarded and the Department produced 14 publications. The ERC-funded ChronHib project (PI Professor David Stifter), the IRC-funded MIMNEC project (PI Dr Deborah Hayden), and the AHRC-IRC-funded networking grant Developing a Digital Framework for the Medieval Gaelic World (Irish PI Professor David Stifter, Co-PI Dr Deborah Hayden) came to an end. The collaborative project Harnessing Digital Technologies to Transform Understanding of Ogham Writing, from the 4<sup>th</sup> Century to the 21<sup>st</sup> (OG(H)AM) received a grant from the AHRC-IRC jointly-funded UK-Ireland Digital Humanities Networking scheme; the project began in August 2021. Four smaller projects and grants began during the year. Dr Elizabeth Boyle was on sabbatical during the academic year.



OG(H)AM) - Harnessing Digital Technologies to Transform Understanding of Ogham Writing

### Research grants and awards

The ERC Consolidator Grant-funded ChronHib project under PI Professor David Stifter, which had been granted two no-cost extensions by the ERC, was concluded on 30 April 2021. The staff of ChronHib received support through the HEA COVID-19 Costed Extension Fund (€57,000). The IRC Laureate Award-funded MIMNEC project under PI Dr Deborah Hayden concluded on 30 September 2021. Professor Stifter was the Irish PI and Dr Hayden was one of the Irish Co-PIs of the collaborative project A Digital Framework for the Medieval Gaelic World, jointly funded by the AHRC-IRC UK-Ireland Digital Humanities Networking scheme. It ended in September 2021.

Professor Stifter as Irish PI and Dr Hayden as Co-PI received funding through a UK-Ireland Collaboration in the Digital Humanities Research Grants Call for the collaborative project *Harnessing digital technologies to transform understanding of ogham writing*, from the 4<sup>th</sup> century to the 21<sup>st</sup> (OG(H)AM), together with researchers from the University of Glasgow (2021–2024).

Professor Stifter received a Royal Irish Academy Nowlan Digitisation Grant for *A Digital Corpus of Medieval Irish Latin Inscriptions* (EMILI; May 2021–April 2022).

In October 2020, Dr Nora White completed research funded earlier by a Kilkenny County Council grant. In Spring 2021, as part of a Co. Waterford consortium, she received further funding through the Adopt a Monument Ireland grant from the Heritage Council of Ireland to continue work on the Knockboy Church and Ogham Stones project.



Dr Nora White, Arts and Humanities Institute, Early Irish

Dr Siobhán Barrett started her Government of Ireland Postdoctoral Fellowship project *A Triad of Medical Glossaries* in October 2020, mentored by Dr Hayden. In October 2020, Emer Kavanagh received a Government of Ireland Postgraduate Scholarship for her thesis *Signs and Wonders: Magic and the Supernatural in Medieval Ireland*. Another PhD student received Hume Fees Waivers in the 2020 competition. Both students are undertaking research under the supervision of Dr Hayden.

Professor Stifter won the award of the MU Faculty of Arts, Humanities, Celtic Studies and Philosophy Research Achievement Award 2021 (awarded October 2021). In November 2020, Dr White was awarded a National Heritage Week Award (County Waterford) for her online Heritage Week event about the Knockboy Church and Ogham Stones Project. The PhD student Victoria Krivoshchekova was awarded the Vivien Law Prize for 2020 by the Henry Sweet Society for the History of Linguistic Ideas.

## Publications

Members of Early Irish continued to publish world-class research in a diverse range of publications, including books, edited volumes, and international peer-reviewed journals.

Dr Boyle's book *'History and Salvation in Medieval Ireland'* was published by Routledge (2021). Professor Stifter's booklet *'Cisalpine Celtic. Language | Writing | Epigraphy'* (Prensas de la Universidad de Zaragoza 2020) received an Italian translation in 2021. Under the chief editorship of Dr Hayden, 3 issues of the journal *Language & History* (Taylor & Francis) were

published during this period. Professor Stifter launched the database *Corpus PalaeoHibernicum* (CorPH) at an event hosted by the Dublin Institute for Advanced Studies, at which also Dr Boyle's book was launched. Publications in leading peer-reviewed journals in the field include two articles by Dr Hayden and one by Dr Boyle, namely *Celtica*, *Irish Historical Studies*, *North-American Journal of Celtic Studies*. Dr Barrett and Dr White published each one article in other journals. Dr Hayden and Dr Wycherley contributed each one chapter to a book. Dr Hayden published six, and Dr Boyle two book reviews.



Dr Elizabeth Boyle, Arts and Humanities Institute, Early Irish

## Conferences and Invited Lectures

As part of the Digital Gaelic project, Dr Hayden and Professor Stifter organised the online workshop 'Representing Texts: from Material to Digital' (Maynooth University, 21–22 January 2021). At this event, Dr Hayden also organised a roundtable on *Use and Experiences of Digital Resources in Teaching*. Dr Hayden, Dr Barrett and Dr Bauer, together with Dr Sarah Baccianti (QUB), organised the online conference *Medicine in the Medieval North Atlantic World* (Maynooth University, 13–15 May 2021).

The Early Irish and Celtic Studies Research Seminar was conducted entirely virtually due to the impact of COVID-19, reaching a large international audience for all six talks. This included the Paul Walsh Memorial Lecture (hosted by Dr Boyle) and the launch of vol. 5 (2019) of the Paul Walsh Memorial Lecture series.

In the academic year 2020/21, the staff delivered numerous talks at national, international, and overseas events, many of which in online format due to COVID-19 restrictions. Professor Stifter gave seven invited lectures and presentations alone in institutions such as the Russian Academy of Sciences St Petersburg, Harvard University, University Leiden, University of Glasgow and University of Cambridge, and one other academic paper. Together with staff from the ChronHib project, he launched the online database *Corpus PalaeoHibernicum* in May 2021, and gave an invited presentation and a non-invited talk at the University of La Rioja.

Dr Boyle was on sabbatical leave for the duration of the year. She was Academic Visitor at the Centre for the Study of the Viking Age (CSVA), University of Nottingham. As part of this, Dr Boyle hosted a webinar for PhD students and gave a seminar to the School of English. She gave 4 invited lectures, e.g. at the Universities of Cambridge, York and Aberystwyth. Dr Hayden gave four academic papers and presentations, e.g. at the University of Marburg, the University of Oxford, and the University of Connecticut. Dr Bauer gave one talk.



# Faculty Highlights

## Faculty of Arts, Celtic Studies and Philosophy

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### Impact and Externally-engaged research

The ChronHib project was invited to contribute a video about its research for virtual display at the European Humanities Research and Development Exhibition, at the occasion of the European Humanities Conference. Dr Boyle was a consultant for a Lyric FM documentary series on the history of Ireland's landscapes. She wrote a case for acquisition memo for the Maynooth University Library, which led to the acquisition of a copy of the editio princeps of Orosius's *History Against the Pagans*, printed in Augsburg in 1471, and she co-wrote a blog post for the 'Library Treasures' blog about the book. For Maynooth University's Research Week 2020, Dr Boyle hosted a reading and conversation with the writer Doireann Ní Ghríofa. Dr Niamh Wycherley was interviewed for an RTÉ TV documentary about St Columba, and a blog entry of hers was published on RTÉ Brainstorm. The student Gráinne Healion was commended for her work in a SPUR project directed by Dr Niamh Wycherley.

### Other Research Contributions

Members of the Department of Early Irish continue to provide academic service in MU and within the discipline of Celtic Studies. This includes serving on editorial boards and the committees of learned societies, engaging extensively in peer reviewing and in organising training events and masterclasses for postgraduate students and postdocs. Dr Hayden is member of the Academic Council Research Subcommittee; together with Professor Stifter, she is also member of the FACSP Research Committee. Professor Stifter is member of the Board of Management of the MU Arts and Humanities Institute, he is Chair of the Publications Committee of the Dublin Institute for Advanced Studies' School of Celtic Studies, and he is on the Executive Board of the Societas Celtologica Europaea. He is collaborator in two international research projects, one at the University of Bordeaux, the other one at the Austrian Academy of Sciences. Dr Hayden serves as the Ireland International Representative for the Celtic Studies Association of North America and on the Executive Committee of the Henry Sweet Society for the History of Linguistic Ideas.

### Roinn na Nua-Ghaeilge/ Department of Modern Irish

2021 has been a very productive year for the staff of Nua-Ghaeilge, despite significant challenges associated with the ongoing COVID-19 pandemic. The Department hosted eight staff and seven postgraduate research students in 20/21. Research outputs included one monograph, two edited collections, one edited journal, three peer-reviewed journal articles, one other journal article, one article published in conference proceedings, four book chapters, four radio presentations, and seven conference papers. Two major conferences were also hosted by the Department: the celebrated Léachtaí Cholm Cille, funded by Foras na Gaeilge, and the first ever Irish-language Artistic Research symposium, entitled *Taighde Dána*, which was funded by the National Forum for Teaching and Learning in Higher Education. Public engagement through significant radio appearances is also notable.

The high-quality research outputs of Roinn na Nua-Ghaeilge are highly original and cover diverse subject matters, such as sexuality and gender in

the work of Biddy Jenkinson, Irish-language poetry and creative practice, the literature of the Blasket Islands, Gaelic manuscripts of the North, manuscripts and aesthetics, Eastern European politics in the work of Nic Mhaicín and Ó Cadhain, the history of the Irish language in St. Patrick's Pontifical University, song and the history of political thought, gender and the oral tradition, gender and creative practice in Irish Traditional Music, ritual and metaphor in the Irish-language lullaby, the songs of Máire Bhuí, Performance Studies, and Artistic Research. The range of published outputs by staff in high-impact journals and collections within the field, including chapters with international publishers such as Cambridge University Press and Oxford University Press, speaks to the vibrancy and productivity of research culture within the Department of Nua-Ghaeilge. The Department's outstanding contribution to the long-term development of the discipline of Irish-language and literature studies is also evident in important editorial work in the case of *Irisleabhar Mhá Nuad* (Ní Mhaonaigh 2021) and *Léachtaí Cholm Cille* (de Brún and Keegan 2021).

Significant progress has been made in a number of innovative research projects also. The *Scríobhathie an Tuaiscirt 1650-1900* digital humanities project, based on the PhD thesis of Dr Fintan Keegan, continued to make steady progress as a hub of information on scribes and manuscripts of the North in the period 1650-1900. Under the supervision of Dr Aidan Mooney of the Department of Computer Science, two Computer Science undergraduate students were commissioned to build a website from the database with a range of search functions. The first phase of the website was completed and ready to use in August 2021. In addition, Dr Tracey Ní Mhaonaigh led a COGG-funded project in the design and development of suitable Irish-language resources by PACT (Programming, Algorithms, Computational Thinking) as part of the *Bebras* project in computational thinking. As part of the *Bebras* project, which includes participation from over 40 countries worldwide, PACT provide a package of tasks for schools nationwide. These new Irish-language resources are now available on the PACT website, and this stage of the project concluded in 2020/21.

Doctoral research continues to develop well within the Department also. Two funded interdisciplinary IRC scholars are currently supervised by staff in the Department of Nua-Ghaeilge, which has further contributed to its strong profile in post-graduate research. The recruitment of the first doctoral candidate on the newly-launched doctoral programme in Irish-language Artistic Research, a scholar and traditional artist who is in receipt of a full John and Pat Hume Doctoral Award, marks an important juncture in the development of Irish-language studies both nationally and internationally.

### Staff Research Outputs 2021

#### Monographs

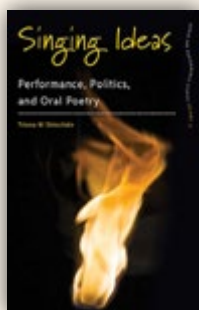
- Ní Shíocháin, T. 2021. *Singing Ideas: Performance, Politics and Oral Poetry* (paperback, second edition). Oxford and New York: Berghahn.

#### Edited Books

- De Brún, F. and Keegan, F. (eds.) 2021. *Léachtaí Cholm Cille 51: Scríobhathie an Tuaiscirt 1650-1900*. Maigh Nuad: An Sagart.Ní Mhaonaigh, T. (ed.) Ó Chófra Chuallacht Cholm Cille. Maynooth: An Sagart.

#### Edited Journals

- Ní Mhaonaigh, T. (ed.) *Irisleabhar Mhá Nuad 2021*. Maynooth: An Sagart.



*Singing Ideas: Performance, Politics and Oral Poetry*

### Book Chapters

- de Brún, F. 2021. *Leath Ealaíne Urra: Tuiscintí ar Ealaín agus Aeistéitic i Lámhscríbhinní Déanacha an Tuaiscirt*. In Fionntán de Brún and Fintan Keegan (eds.) *Léachtaí Cholm Cille 51: Scríobhaithe an Tuaiscirt 1650-1900*. Maynooth: An Sagart.
- Ní Mhaonaigh, T. 2021. *Colm Cille agus Mic Léinn Choláiste Phádraig, Maigh Nuad*. In Tracey Ní Mhaonaigh (ed.) *Ó Chófra Chuallacht Cholm Cille*. Maynooth: An Sagart.
- Ní Shíocháin, T. 2021. *The Oral Tradition*. In Ailbhe Darcy and David Wheatley (eds.), *A History of Irish Women's Poetry*. Cambridge: Cambridge University Press.
- Ní Shíocháin, T. 2021. *Fearless Song: Máire Bhui Ní Laeire (1774-c.1848)*. In Moyra Haslett, Lillis Ó Laoire, and Conor Caldwell (eds.) *The Oxford Handbook of Irish Song* (online pre-print). Oxford: Oxford University Press.

### Peer-reviewed Journals Articles

- Ní Shíocháin, T. 2021. *A bhean úd thíos ar bhruach an tsrutháin: an Teanga Fhíortha agus Próiseas an Deasghnátha i Seoithín Traidisiúnta ó Ghaeltacht Mhúscraí*. *ComharTaighde* 6.
- Ní Shíocháin, T. 2021. *Mother Music: Socially Embedded Creative Practice and the Marketisation of Irish Traditional Music*. *Ethnomusicology Ireland* 7: 110-122.
- Ní Shíocháin, T. 2021. *The Oral Tradition*. *Poetry Ireland Review* 134: 33-44.

### Other Journal Articles

- de Brún, F. 2021. *Maighréad Nic Mhaicín, an Cadhnach agus comaoín an Domhain Thoir*. *Irisleabhar Mhá Nuad* 2021.

### Articles in Published Conference Proceedings

- Ní Mhaonaigh, T. 2021. *The Lost Memoir of a Blasket Islander*. 39<sup>th</sup> Harvard Celtic Colloquium.

### Conference Contributions

- Nic Íomhair, C. 2021. *Créatúir agus cíocha: dhá mhóití i saothar collaí Bhiddy Jenkinson*. Dána: Sraith Seiminear ar Léann na Collaíochta agus na Gnéasúlachta sa Ghaeilge
- Nic Íomhair, C. 2021. *Ó Í go Isis: Tairngreacht le Prionsias Mac a' Bhaird*. *Léachtaí Cholm Cille 2021 Ollscoil Mhá Nuad*.

- Ní Shíocháin, T. 2021. *Experiential Orality and Theorisation in Song*. Perspectives: Artistic Research and Practice (IMBAS).
- Ní Shíocháin, T. 2021. *Teoiricí an Taibhléirthe*. *Taighde Dána: Taibhealaíona agus Traidisiúin Bhéil na Gaeilge*.
- Ní Shíocháin, T. 2021. *Ionchollú na Cruthaitheachta: an Damhsa agus an Ceol*. *Taighde Dána: Taibhealaíona agus Traidisiúin Bhéil na Gaeilge*.
- Ní Shíocháin, T. 2021. *An Taighde Ealaíonta sa Ghaeilge*. *Taighde Dána: Taibhealaíona agus Traidisiúin Bhéil na Gaeilge*.
- Ní Shíocháin, T. 2021. *An Smaointeoireacht Fhrithchoilíneach i Saothar Ceoil an Riadaigh*.
- Siompóisiam: Oidhreacht Sheáin Uí Riada.

### Radio Presentations

- Nic Íomhair, C and Ní Chonaing, A. 2021. *Cóisir Filíochta*. RTÉ Raidió na Gaeltachta.
- Ní Shíocháin, T. 2021. *Iris Aniar* interview. RTÉ Raidió na Gaeltachta.
- Ní Shíocháin, T. 2021. *An Saol ó Dheas* interview (March). RTÉ Raidió na Gaeltachta.
- Ní Shíocháin, T. 2021. *An Saol ó Dheas* interview (January). RTÉ Raidió na Gaeltachta.

## Lárionad na Gaeilge/The Centre for Irish Language

The year 2021 marked the 50<sup>th</sup> anniversary of the foundation of the Maynooth University Language Centre, the first of its kind in a higher education institution in Ireland. While the centre was rebranded in 2016 as the Centre for Irish Language Research, Teaching and Testing, it continues in the tradition of its predecessor, by supporting the teaching, learning and assessment of Irish among all staff and students of Maynooth University and the wider community, and by promoting excellence, innovation and evidence-based practice in the teaching, learning and assessment of Irish, on an institutional, local, national and international level. The Centre offers both credit-bearing and extramural language classes for staff, students and the public, as well as a number of innovative online professional training programmes in Irish translation and Irish-language teaching.



A major focus of the work of the Centre for Irish Language is the development of proficiency tests in Irish for adult learners (Teastas Eorpach na Gaeilge/TEG)

# Faculty Highlights

## Faculty of Arts, Celtic Studies and Philosophy

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The Centre for Irish language is recognised both nationally and internationally as the leading organisation for Irish language testing and assessment. A major focus of the work of the Centre is the development of proficiency tests in Irish for adult learners (Teastas Eorpach na Gaeilge/TEG), which are administered in Ireland, Europe, North America and Australia. The Centre is the Irish member of the Association of Language Testers in Europe (ALTE) and has twice been awarded the prestigious ALTE Q-mark for excellence in language testing. It is also a three-time winner of the European Language Label for excellence and innovation in language teaching.

Research in the Centre for Irish Language focuses primarily on aspects of applied linguistics related to the learning, teaching, assessment and use of Irish, in order to inform evidence-based practice in language education and policy, both within our own institution and on a national level. The Centre often acts as advisor to state bodies on issues related to language proficiency and language testing and has been commissioned on several occasions to produce test-related research on aspects of Irish-language learning. As such, our research builds on our strengths in language teaching and testing and is very much integrated with our practice in those areas. Staff members are also interested in the rich cultural heritage associated with the Irish language, particularly the Irish song tradition and aspects of Irish folklore.

### Presentations and invited lectures

Members of the Centre for Irish Language delivered four invited talks during the 2020-21 academic year. Both Ailín Ní Chonchúir and Aoife Ní Ghloinn were invited to deliver seminars on aspects on online teaching and testing, as part of the DCU EASTDOL Series: 'Empowering Staff to Develop Online Learning'. Ailín Ní Chonchúir was also invited to deliver a lecture entitled '*Cothú na hidirghníomhaíochta i ranganna ar líne (Fostering engagement in online classes)*' at a National Forum seminar, *Múineadh na Gaeilge ar an Tríú Leibhéal (Teaching Irish at Third Level)*, hosted by Waterford Institute of Technology. Aoife Ní Ghloinn was also invited to speak about the implementation of the CEFR in the context of Irish at another National Forum seminar in June 2021.

### Research on curriculum development and assessment in post-primary education

Throughout the 2020-21 academic year, members of the Centre worked on a validation study of the Leaving Certificate Irish oral exam, funded by An Chomhairle um Oideachas Gaeltachta agus Gaelscolaíochta (COGG). This work was carried out in the context of a review of the current Leaving Certificate Irish language syllabus and the publication of draft specifications for a revised syllabus. The aim of the project was to publish a bilingual report providing an analysis of the current Leaving Certificate Irish oral exam, with recommendations that might inform the development of assessment procedures for the revised course. The final report, authored by Aoife Ní Ghloinn, Elisaveta Everard, Anne Gallagher & Siuán Ní Mhaonaigh, is due to be published in spring 2022.

Siuán Ní Mhaonaigh and Aoife Ní Ghloinn were also invited to be part of a Conradh na Gaeilge expert working group, which was formed to examine the draft curriculum specifications for the new Leaving Certificate Irish course. They contributed a section on the use of the Common European Framework of Reference for Languages to a discussion paper by Hyland & Uí Uiginn, published in autumn 2021, in order to inform a public consultation on the proposed curriculum revisions.

### Research collaborations

In April 2021, the Teastas Eorpach na Gaeilge (TEG) language testing team were invited to collaborate with An Chomhairle um Oideachas Gaeltachta agus Gaelscolaíochta (COGG), the National Educational Psychological Service (NEPS) and the Educational Research Centre (ERC), to develop a national standardised diagnostic and screening literacy test for post-primary students in Irish-medium schools. TEG Deputy Director, Aodh Ó Gallchóir and Dr Emily Barnes are involved in writing items for the literacy test and Aoife Ní Ghloinn was invited to chair the expert advisory group established by COGG to support the project.

In September 2021, the TEG team, led by Siuán Ní Mhaonaigh, was also invited to collaborate with the Educational Research Centre (ERC) on a second research project, the aim of which is to assess the language proficiency of third-year students in seven Gaeltacht schools, as part of the evaluation of the implementation of the *Policy for Gaeltacht Education*, 2017–22.

### Consultation for the development and implementation of Irish language policy and legislation

During 2020-21, the Centre continued its partnership with the Department of Education and Skills, providing TEG Irish-language proficiency tests for all prospective candidates applying for the Postgraduate Masters in Education (Primary Teaching). TEG exams were also provided as part of promotion and recruitment schemes for a number of state bodies and organisations.

2021 was an important year for the development of Irish language policy, as amendments to the Official Languages Act 2003 were drafted and debated by the committees and houses of the Oireachtas, before the legislation was finally passed in December 2021. Members of the Lárionad provided expert advice to government officials to inform the development of the legislation, and Aoife Ní Ghloinn, Siuán Ní Mhaonaigh and Aodh Ó Gallchóir were invited to address the Joint Parliamentary Committee for the Irish Language, Gaeltacht and Irish-speaking Community as part of the consultation process.

### Other committees and advisory roles

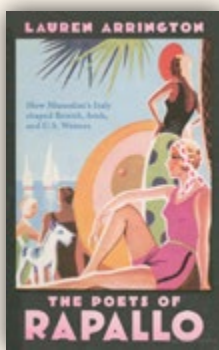
Members of the Lárionad have also continued to serve on a number of other advisory boards and committees. Siuán Ní Mhaonaigh completed her tenure as chairperson of the Foras na Gaeilge Language Development Forum. Ailín Ní Chonchúir was nominated as Irish representative on the network team for the European Centre for Modern Languages (ECML) project: Mediation in Teaching, Learning and Assessment (METLA). Aoife Ní Ghloinn continued in her role as elected Republic of Ireland Representative on the Executive Committee for the Association of Language Communities in the UK and Ireland (AULC). She was also invited to join the advisory committee for a new large-scale project led by DCU to develop a 155-million word national corpus of contemporary Irish.

Lárionad na Gaeilge is closely engaged with a number of state bodies and much of our work develops in response to the needs of national educational and Irish-language policy.



## English

In 2020-21, the Department of English had a total of 16 contract staff, with three postdoctoral researchers and nine PhD students. There were 76 publications in a variety of fields and media across the Department. Dr Gander was awarded an IRC Postgraduate Scholarship (Andrew Clarke) and Dr Sakr was awarded a two-year Government of Ireland Postdoctoral Fellowship (Dr Edmund Chapman). Professor Palmer's IRC Laureate MACMORRIS project continued, with additional research grants awarded to Dr Sullivan (IRC New Foundations €11,774), Dr Gander (IRC New Foundations €11,278).



Professor Lauren Arrington's monograph *The Poets of Rapallo*

Four books were published in 2021: Professor Arrington's monograph *'The Poets of Rapallo'* (Oxford University Press), Dr Cogan's monograph *'Blake and the Failure of Prophecy'* (Palgrave), Dr Kennedy's co-authored book *'Repealed: Ireland's Unfinished Fight for Reproductive Rights'* (Pluto), and Dr Condon's co-edited volume *E'xperiencing Music and Visual Cultures'* (Routledge). Nine peer-reviewed journal articles were published in topics including sixteenth-century mathematics, eighteenth-century poetry, Modernism, philosophy, film, and contemporary adaptations of Shakespeare.

The Department's excellence in creative writing continues to be evidenced in the prestigious venues publishing poetry by Dr O'Hanlon and Dr Gander.

The Department's strengths in research outreach is evidenced in Professor Nolan's interview on *TLS* podcast, the volume of public webinars to which members from across the Department contributed, and colleagues' contributions to public arts initiatives including the Dublin International Literary Prize (Dr Sakr) and Poetry Town (Dr Gander).

Colleagues' success in two IRC New Foundations projects (Dr Gander; Dr Sullivan) and the award of funding for an IRC PhD studentship (Dr Gander) and a GOI postdoc (Dr Sakr) indicate the high esteem in which the Department is held nationally

## Engaged Research

- The Department hosts two Writers in Residence annually, in a partnership between University Executive and Kildare County Council Arts service. In 2020-21 the Writers in Residence were Nathan O'Donnell and Susan Tomaseli, who organised outreach activities that were held online due to public health guidance.

- In 2020-21, Dr Sakr was appointed on the judging panel for the Dublin International Literary Prize, in recognition of her expertise in contemporary fiction.
- Dr Sullivan's and Dr Gander's IRC projects included community partnership projects
- The Department established a partnership with the Arts Council for an annual writer-in-residence (the last University in Ireland to do so), and the programme will launch in 2021-2022.
- Professor Arrington was co-Director of the W.B. Yeats International Summer School in summer 2021, concluding her tenure as a Director.

## History

During the academic year 2020-21, the History Department counted 16.5 FTEs, with one Associate Professor (Dr JoAnne Mancini) on research leave being replaced by occasional staff and one Assistant Professor (Dr Denise Dunne) on career break being replaced by Dr Beatrice Scutaru. In total, the Department counted 28 PhD students, three MLitts, 31 taught MA students and 543 undergraduates, as well as 229 students in the Military College at the Curragh and 18 MA students enrolled with the Centre for Military History and Strategic Studies. Further, through departmental involvement with Adult Ed, 56 students availed of History modules on the modular evening programme in 2020-21, and four completed minor theses under supervisors from Department of History. The Department produced 13 new publications and were awarded five new research grants.

Overall, History Department members achieved several prestigious grants and its members continued to engage in active research and produce high quality research outputs over the course of the calendar year despite the obstacles confronted during the most restrictive year of the COVID-19 pandemic. This is an enduring testament to the vitality of the Department, its staff and students as a world-class research unit.

In terms of scholarships during the period October 2020 to September 2021, four PhD students were in receipt of prestigious awards from the Irish Research Council, to include: Veronica Barry for her examination of Nazi propaganda directed at women of neutral countries from 1933-1945; Megan McAuley for her work on the lives and deaths of Donegal's children from 1850 to 1950; Thomas McGrath for his examination of the Irish in South Africa from the Irish Revolution to the declaration of the South African Republic; and Eamon Milliken for his work on German/Austrian Officer Veterans of the Great War in Military Service, 1918-45. Additionally, the Department welcomed a recipient of the top John & Pat Hume scholarships, Thomas Appleby, who began work that year on the early German psychiatric profession and its links to the Pietist movement and was also awarded a language grant from the German History Society.

During the same period, Department staff also accumulated several grants worthy of mention. Meath County Council continued its generous support of Michael Potterton's Moynagh Lough Archaeological Excavation with a consultancy grant, while the OPW continued its annual support for the Centre for the Study of Historic Irish Houses and Estates directed by Terence Dooley, who, incidentally, also received the 2020 Faculty of

# Faculty Highlights

## Faculty of Arts, Celtic Studies and Philosophy

Arts, Humanities, Celtic Studies and Philosophy Research Achievement Award for his instrumental role in creating a new field in Irish history - that of the systematic study of the country's "Big Houses" and their associated estates. As founder and director of the CSHIHE, he has presided over eighteen annual conferences in Maynooth, bringing national and international scholars of the highest reputation to the University and co-editing six volumes arising from this research.



Dr JoAnne Mancini, Department of History

Finally, Dr JoAnne Mancini received a major international award from the Terra Foundation for American Art to conduct teaching and research at the Freie Universität in Berlin. As a national distinction, Dr Mancini was also awarded the 2020 Peggy O'Brien Book Prize, given by the Irish Association for American Studies for the best book in American Studies, 2017–2019 for *'Art and War in the Pacific World: Making, Breaking and Taking from Anson's Voyage to the Philippine-American War'* (University of California Press, 2018). At this stage, the Department can hardly conceal its pride in response to Dr Mancini's recent election to membership of the Royal Irish Academy.

In terms of publications, we should note some departmental highlights for the year. Especial note should be made of a new journal launched from within the Department in January 2020, the *Journal of Military History and Defence Studies*, a new online, open-access journal produced in collaboration with Maynooth Academic Publishing. Since its launch, and despite pandemic related disruption, the journal has published three editions, including 18 articles by current and former students and History Department staff. The journal provides an outlet for new research in the fields of military history and defence studies, with a particular focus on the work of early career researchers. The impact of the journal is reflected in the fact that, since January 2020, its articles have been viewed/downloaded a total of 3,445 times.

This year, the prestigious Stanford University Press published Dr Hussam R. Ahmed's first book *'The Last Nahdawi: Taha Hussein and Institution Building in Egypt'*. The book offers the first biography of Taha Hussein (1889–1973), one of Egypt's most iconic figures, revealing how the emerging modern state came to hold such a strong grip over culture and education through a compelling examination of the life of the country's most renowned intellectual.



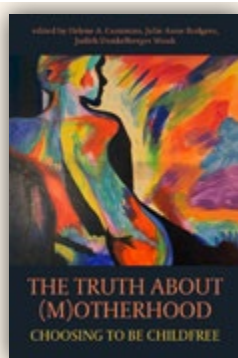
Dr Hussam R. Ahmed, Department of History – *The Last Nahdawi: Taha Hussein and Institution Building in Egypt*

The *Assembleia da República* (Portugal's parliament) has published a biography of Adelino Amaro da Costa written by former Head of Department, Professor Filipe Ribeiro de Meneses. His book charts Amaro da Costa's life and political trajectory, dedicating special attention to his virtuoso parliamentary performances and his defence of a tolerant, democratic, and European Portugal. Professor de Meneses also contributed to a new reference work sponsored by the Portuguese Government on Portuguese Prime Ministers from 1820 to the present (*'Os Primeiros-Ministros de Portugal, 1820–2020'*). His entry, on dictator António de Oliveira Salazar, who governed Portugal from 1932 to 1968, is nearly ninety pages long and confirms his reputation as one of the leading experts on Salazar and his regime, the New State (*Estado Novo*). Dr David Murphy's prescient history of *The Finnish-Soviet Winter War, 1939-40: 'Stalin's Hollow Victory'* recounts a previous Russian invasion of a neighbouring country, in this case Finland, nearly a century ago. Dr Michael Potterton edited the Irish Historic Towns Atlas on Rathmines by Séamus Ó Maitiú, while the *Journal of the County Kildare Archaeological Society*, volume xxiii (2020-21), edited by Professor M.A. Lyons, has just appeared.

Of final and great note are the five latest volumes to appear in The Maynooth Studies in Local History series: *The Dublin Cattle Market's decline, 1955-73* (Declan O'Brien); *Denis Brennan Bullen (1802-66) Inspector of Anatomy for the Province of Munster: the controversial career of a Cork surgeon* (Michael Hanna); *Peadar Cowan (1903-62): Westmeath GAA administrator and political maverick* (Tom Hunt); *Rural tensions in nineteenth-century Knock, County Mayo* (Frank Mayes) and *The impact of the Great Famine on Sir William Palmer's estates in Mayo, 1840-69* (David Byrne). Edited by Professor Raymond Gillespie, they simultaneously coincide with a festschrift to commemorate the retirement of our esteemed colleague, *'The historian as detective: uncovering Irish pasts'. Essays in honour of Raymond Gillespie* (Four Courts Press: Dublin, 2021). Edited by Professors Terence Dooley, Mary Ann Lyons and Salvador Ryan, the volume features short essays by over eighty scholars of history, early Irish, nua-Ghaeilge, archaeology, osteoarchaeology, forensic anthropology, geography and classical studies which uncover the fascinating truth behind an array of curious tales about intriguing characters, events and vestiges of by-gone days.

## School of Modern Languages, Literatures and Cultures

During the academic year 2020-21, research-active staff in the School of Modern Languages, Literatures and Cultures (SMLLC) comprised 17 academic staff members and five doctoral students. During the period under review, these researchers produced two edited books, 14 book chapters, 15 peer-reviewed journal articles, and three other publications (book reviews and media articles). Researchers in the SMLLC also gave five conference presentations during this period. Staff in the SMLLC were successful in securing one internal research grant in the amount of €5,000 and one external fellowship (a Junior Fellowship from the Maria Sibylla Merian Centre Conviviality-Inequality in Latin America (Mecila) awarded to Dr David García León).



Dr Julie Rodgers – *The Truth about (M)Otherhood: Choosing to be Childfree* (Demeter Press, 2021)

The School of Modern Languages, Literatures and Cultures had a very productive year when it comes to the publication of books with prestigious international publishers. Five staff members published books during 2021, representing the particular research strengths of the SMLLC. Two of these books – Professor Valerie Heffernan's '*Imagining Motherhood in the Twenty-First Century*' (Routledge, 2021) and Dr Julie Rodgers' *The Truth about (M)Otherhood: Choosing to be Childfree* (Demeter Press, 2021) reflect the School's international expertise in cultural representations of motherhood; it is noteworthy that both researchers are part of the Maynooth University Motherhood Project, which has been awarded funding through the European Commission's Horizon Europe programme. Two other books – Professor Arnd Witte's '*Rethinking Intercultural Competence. Theoretical Challenges and Practical Issues*' (Peter Lang, 2021) and Dr Clive Earls' '*The Right Blend – Mischung, Überblendung und Identität in interkulturellen Kontexten*' (Hartung-Gorre, 2021) – speak to the School's international reputation as a centre for excellence in Applied Linguistics and Intercultural Studies. Professor Emeritus Florian Krobb published two monographs in 2021, both of which focus on the German discourse of Africa during the 19<sup>th</sup> and 20<sup>th</sup> centuries: '*Aufbruch nach Afrika. Studien zur deutschen Anverwandlung eines kolonialen Raumes* LIT, 2021') and '*Afrikas Zukunft. Jugend- und Abenteuerliteratur in Deutschlands, afrikanischem Jahrhundert (1840-1940)*' (Königshausen & Neumann, 2021).

Several SMLLC staff members saw their work appear in high-ranking international journals during 2021: Professor Valerie Heffernan published an article in the prestigious international journal *Signs. Journal of Women in Culture and Society*; this publication is one principal outcomes of her Irish Research Council-funded project on *The Cultural Transmission of Motherhood in Europe* (2014-16). Dr Ana de Prada Pérez saw an article appear in the Q1-ranked journal *Linguistic Approaches to Bilingualism*, while Dr Julie Rodgers successfully placed an article with the Q1-ranked journal *Modern and Contemporary France*. Other noteworthy journal publications are: Dr David García León's article on the representation of disabled masculinities in recent Colombian cinema in the high-ranking *Bulletin of Hispanic Studies*; Dr Cordula Böcking's article on constructions of gender and nation in a 2017 re-working of a Schiller drama, which was published in the respected journal *German Life and Letters*; Dr Catherine Leen's article on a virtual-reality installation by Alejandro González Iñárritu, which appeared in the influential journal *Studies in Spanish and Latin American Cinemas*; and Dr Linda Shortt's article on recent migration narratives in German, which appeared in the prominent *Modern Language Review*.

Researchers in the School also published chapters in important books with respected publishing houses in 2021. Three staff members were invited to contribute to important Routledge handbooks and companions: Dr Zhouxiang Lu contributed a piece on competitive gaming to *The Routledge Handbook of Sport History* and a separate piece on Shaolin to the *Routledge Handbook of Chinese Studies*; Dr Yinya Liu published a section on Bruce Lee in *The Routledge Handbook of Sport in Asia*; and Dr Cordula Böcking contributed a chapter on German film director Christian Petzold to the *Routledge Companion to European Cinema*. Dr Julie Rodgers published no fewer than four book chapters on topics related to the representation of motherhood and non-motherhood in French-language literature and culture in 2021: choosing to be childfree; the taboo of single motherhood in Morocco; one on pervasive pregnancy denial; and one on voluntary non-motherhood. In a similar vein, Professor Valerie Heffernan published a chapter on international response to the idea of maternal regret as part of a volume entitled *Women's Lived Experiences of the Gender Gap*. Other significant chapters published include: Professor Arnd Witte's discussion of the theoretical challenges and practical issues of intercultural competence; a chapter by Dr David García León that looks at queering language studies in Columbia; a chapter by Dr Linda Shortt about the representation of the European Refugee Crisis in a novel by German writer Timur Vermes; and a chapter by Dr Zhouxiang Lu about China's sports heroes.

During the 2020-21 academic year, Dr Ana de Prada Pérez successfully applied for a €5,000 seed funding grant for a project entitled *The effect of interactions with native speakers in the acquisition of Spanish as a foreign language*. Dr David García León was also awarded a prestigious Junior Fellowship from the Maria Sibylla Merian Centre Conviviality-Inequality in Latin America (Mecila), which he unfortunately had to decline.



# Faculty Highlights

## Faculty of Arts, Celtic Studies and Philosophy

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### Engaged Research

One researcher in the School also participated in an important engaged research project in 2021. Dr Clive Earls was invited as lead consultant on a strategic report commissioned by the Higher Education Ministry of Georgia to develop a strategy for the development of English-medium instruction in higher education. This project included producing a strategy document to define a vision for the development of English-medium Education at higher-education institutions in Georgia as well as some recommendations for relevant reforms of the higher-education system to support the development of effective English-medium Education practices. Dr Earls was also tasked with developing an Action Plan of appropriate interventions for Year 1 that would support successful implementation of the English-medium Education Strategy.

### Media Studies

In 20/21 the Department produced three monographs and two edited books, 11 refereed journal articles and three book chapters. The Department was awarded two new research grants and received €315,454 in research grant funding. There were nine members of staff with one new postdoctoral research fellow in the Department of Media Studies during this time.

A significant proportion of Media Studies publications are featured in highly cited journals. These include articles by Dr Naji's in the *Journal of Urban Technology*, Professor Pramaggiore's article in the *Feminist Media Studies* and *Critical Studies in Media Communication* and Dr Titley's article in *Television and New Media*.



Dr Sarah Arnold, Media Studies, Motherhood Project, Arts and Humanities Institute

This year include Dr Arnold's award of €128,000 through the AHRC/IRC Digital Humanities Research Grant scheme for the project '*The Invisible Women - Developing a Feminist Approach to Film Archive Metadata and Cataloguing*'. In September 2021 she was awarded a further €11,600 through the IRC New Foundations scheme for the project *Locating & Narrating Women's Amateur Filmmaking in the IFI Irish Film Archive*. Similarly, Dr Naji was awarded €212,572 through the AHRC/IRC Digital Humanities Research Grant scheme for the project '*Full Stack Feminism in Digital Humanities*' in August 2021. Other grants awarded include Dr Rains award of €1,300 from the NUI Publication Grant.

A number of journal publications are noteworthy for their high impact. These include three articles by Professor Maria Pramaggiore, with exceptionally high viewing rates:

- "Brand Royal: Meghan Markle, feuding families and 'Disruptive Duchessing' in Brexit era Britain." *Feminist Media Studies*. Co-authored with Páraic Kerrigan May 2021. Impact: 3,174 views.
- "Homoheroic or Homophobic? Leo Varadkar, LGBTQ Politics and Contemporary News Narratives." *Critical Studies in Media Communication*. Co-authored with Páraic Kerrigan January 2021. Impact: 2,276 views.
- "Queering the Pulpit: Catholic Clergy and Media Celebrity in the Republic of Ireland." *Celebrity Studies*. Co-authored with Páraic Kerrigan. March 2021. Impact: 301 views.

In addition, many Media Studies book chapters and books are published by very prestigious presses. For example, Professor Pramaggiore's publication '*Queer From the Horse's Mouth: Francis and Mr. Ed as Midcentury Man Whisperers*'. In *Media Ventriloquisms*, ed. Jaimie Baron, Jennifer Fleegeer and Shannon Wong Lerner. Oxford UP. 2021. 59-77. Oxford UP is one of the top presses globally in Humanities publishing, ranked second in 2020 after Cambridge University Press. Similarly, Dr Arnold's monograph '*Gender and Early Television*' was published with Bloomsbury in 2021. Dr Condon published the co-edited volume '*Experiencing Music and Visual Cultures: Threshold, Intermediality, Synchresis*' with Routledge.

The Department continues to carry out engaged research including: Dr Jarrett, along with colleagues at Cambridge University, University of Sussex and Technological University Dublin and partner the Irish Museum of Modern Art, with Dr Naji continued work on the IRC/AHRC Intersections: Feminism, Technology and Digital Humanities (IFTe) networking project. Over a series of online events and a collaborative blog *The Chain*, this project engaged with community groups, archives, activists and academics to identify the contours of an intersectional approach to Digital Humanities. Dr O'Brien audited diversity and equality policies for stakeholder organisations, Broadcasting Authority of Ireland, RTÉ, TG4, Virgin Media, Director's Guild & Screen Ireland. She interviewed all stakeholders to review their policies, concerns and needs. They gave feedback on data through the BAI Sustainable Broadcasting Network. She continues to engage with RTÉ and Virgin Media TV to develop more diversity tools for the workforce. A report from this project is available at [www.bai.ie](http://www.bai.ie).

## Music

In the academic year 2020/2021 the Department of Music comprised of 12 academic staff members and one university tutor, one postdoctoral researcher and 13 PhD students. For this academic year, the Department produced 20 new publications and received two new research grants valued at €270,000.

At the core of the Department's mission is a commitment to foster diversity, complexity, and change in alignment with both undergraduate and postgraduate curriculum, across a multitude of musics, including (but not limited to) western art music, contemporary music, popular music, Irish traditional music, and sacred choral music. The Department thus continues with its commitment to produce a broad range of research outputs of the highest international standards, which is particularly impressive considering the level of disruptions caused by COVID-19.

## Books

During the calendar years 2020/2021, Dr Estelle Murphy, has published the critical edition of the works of John Eccles: 'Incidental Music Part 2, Plays H-P'. The volume presents music composed by John Eccles for a variety of plays performed in London in the late seventeenth and early eighteenth centuries. This book has been nominated for the American Musicological Society Claude V. Palisca Award. The award honours each year a scholarly edition or translation in the field of musicology published during the previous year. Dr Cascelli co-edited with Dr Denis Condon (MU English/Media Studies) the volume '*Experiencing Music and Visual Culture: Threshold, Intermediality, and Synchresis*' (Routledge), which offers new insight into the relation between music and visual cultures. Professor Lorraine Byrne-Bodley completed her book '*Schubert. A Musical Wayfarer*'. This is a new biography of Schubert commissioned by Yale University Press, currently in press, it is due to be out in Spring 2023. Professor Lazzarini published his volume '*Spectral Music Design: A Computational Approach*' (Oxford Scholarship Online), which offers a complete guide to a computation approach to spectral music-making.



Professor Lorraine Byrne-Bodley, Department of Music

## Book Chapters

Dr Estelle Murphy contributed with her chapter, '*Ceremonial Song in Eighteenth-Century Dublin: Cousser's and Dubourg's Odes and Serenatas*', to *The Oxford Handbook of Irish Song, 1100-1850*. In her article, Dr Murphy provides some fascinating readings of the cultural and political climate in eighteenth-century Dublin, through the compositions of the two composers mentioned in the title. Professor Lazzarini wrote, together with Damián Keller, the editorial to a special issue of *Computer Music Journal*, dedicated to artistic and scientific intersections at the core of two sound-making technologies: ubimus and auditory display.

Dr Cascelli contributed with his chapter on *Armonia, Seeing and Hearing in Paolo Veronese's The Wedding at Cana* to the book he also co-edited (*Experiencing Music and Visual Culture*). The chapter explores the significance of the representation of a group of musicians in Veronese's painting in the rich cultural context of Sixteenth-Century Venice.

## Peer Reviewed Articles

Dr Alison Hood, in her article '*Experiential Learning in the Large Classroom Using Performative Pedagogy*', together with Dr Donovan, explores ways to implement experiential learning in a large class setting, using acting, music, dance and role-play. Giving new voices to the emerging field in the interdisciplinary Scholarship of Teaching & Learning, the article is part of a special issues of the *Journal of Management Education*, of which Dr Hood was also a member of the editorial team.

Dr Laura Watson published her article '*Born to Run: The Transmedia Evolution of the Bruce Springsteen Memoir from Book to Stage and Screen*' in *Popular Music and Society*. Dr Watson explores the cultural and commercial turn of rock memoir through Springsteen's book '*Born to Run*' (2016). She highlights how the book led to a transmedia project which expanded to the Broadway stage and Netflix.

In her article '*The Musical Conductors' Association: Collective Podium Power in Wartime Britain*', published in *Music and Letters*, Professor Palmer explores the marketplace experience of British conductors during and after the First World War.

## Compositions and CDs

As a Department for which creative outputs constitute an important component of its Research Profile, colleagues contribute in a substantial way in a category – composition and performance – and could be better recognised and acknowledged on RIS.

Dr Ryan Molloy had three major compositions performed in 2020/2021.

- '*Siógóir*,' for flute and harp, for performed by Cochlea Duo ( Kunstraum, Hochdorf, CH, 25/04/2022); this composition was a central work in the Cochlea Duo's Swiss tour last April-June and was performed six times.
- '*Casúir's cnaip*', performed by Seán Óg Graham (acc.) & Ryan Molloy (pf.), (Harty Room, QUB, Belfast, N. Ireland, 15/10/2021).
- '*Sraith na Búille*' (The Boyle Suite), performed by Steph Geremia (fl.), Mossie Martin (fd.), Alan Kelly (acc.) & Dr Ryan Molloy (pf.), Boyle Arts Festival, Boyle, Co. Roscommon, IE, 04-08-2021.

# Faculty Highlights

## Faculty of Arts, Celtic Studies and Philosophy

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Dr Molloy has also released a new recording of *Buaine na Gaoithe* which was supported by an NUI Publications Grant and the first one to do so for a recording.



Dr Ryan Molloy, Department of Music

Dr Gordon Delap has recently been working on compositions that make use of software for spatialisation developed at the University of Bordeaux. The following compositions were performed in 2021:

- 'Too Much Fun' at the Festival Futura, Crest, France, August 21, 2021.
- 'Blowout', at SCRIME, Bordeaux, France, 26 April 2021.
- 'Sympathetic Magic' at the Acoustic Frontiers Broadcast, 1 February 2021.

### International Conferences

Colleagues are also actively engaged in presenting papers at International Conference and as invited speakers.

Professor Lorraine Byrne-Bodle, delivered the lecture '*Schubert and The Makings of Biography*,' Schubert Research Centre, Austrian Academy of Sciences Vienna (24-25 September 2021); she also gave three presidential addresses as part of her role as President of the Society for Musicology in Ireland and the citation for the IRC-SMI Harrison Medal awarded to Professor Michael Beckermann NYU, 29 May 2021.

Dr Laura Watson delivered the talk *Women Composers and the Undergraduate Curriculum*, at the Women in Global Music Network Launch; she also gave a webinar with the title *Impact of Sounding the Feminists on Teaching and Learning Strategies*, as part of the NUI Galway webinar series 'Re-imagining the Creative Arts Curriculum and the Creative Arts Canon' (26 March 2021); she participated to the Annual Conference of the Royal Musical Association with a paper titled 'Gender Politics, the Piano, and the Radio in Twentieth-Century Ireland'; and presented a paper on *Increasing the Presence of Women Composers in the Concert Hall: Reflections on Sounding the Feminists Strategies* at the Annual Conference of the Society for Musicology in Ireland.

Professor Palmer participated at the Oxford Conducting Institute International Conducting Studies Conference, with a paper titled '*The old custom of chance will no longer do; let us have intelligently taught conductors: Contextualizing Conductor Training in Britain (1890s–1920s)*'

During her Conference Sixth and final year of service as President of the Society for Musicology in Ireland, Professor Byrne-Bodley organised three online conferences: Annual Plenary SMI Conference in association with University College Dublin (29–31 October 2020), Annual Postgraduate SMI-ICTM Ireland Conference in honour of David Connolly, 22 January 2021 and Annual Plenary Online SMI Conference in association with Trinity College Dublin, 27-30 May 2021.

Dr Antonio Cascelli, in his role as Associate Editor of *Chigiana, Journal of Musicological Studies*, chaired the organising committee of the Conference Re-envisaging Music: listening in the Visual Age 9 in association with the Accademia Chigiana in Siena, Italy, 10-12 December 2020). Dr Cascelli is currently co-editing together with Professor Morris the 2021 issue of the journal which includes a collection of peer reviewed papers presented at the conference.

### Awards

Dr Joe Davies, who was an IRC postdoctoral scholar during the academic year 2020/2021, has won a prestigious Marie Skłodowska-Curie Global Fellowship. Currently spending two years at the University of California, Irvine, Dr Davies will return to Maynooth for his final fellowship year.



Dr Joe Davies, Department of Music

### External Engagements

- Professor Byrne-Bodley, President of the Society for Musicology Ireland.
- Professor Morris, Editor of *Opera Quarterly*.
- Dr Cascelli, editor of *Chigiana, Journal of Musicological Studies*.
- Dr Cascelli, Chair of the Conference Committee for *Re-Envisaging Music. Listening in the Visual Age* at the Accademia Chigiana, Siena, December 2020 (the conference took place online and the papers, after peer review process will be published in the 2021 issue of the *Chigiana. Journal of Musicological Studies*, which Dr Cascelli will co-edit together with Professor Morris.
- Dr Watson: Education Officer in Working Group for the project *Sounding the Feminists*.



## Philosophy

In the academic year 20/21 the Department comprise of six academic staff with two new postgraduate research students commencing their studies. New publications included 10 book chapters, two refereed journal articles and eight refereed conference proceedings and three other publications.

In 2021, Dr Amos Edelheit, an expert on the philosophy of the Renaissance, published a chapter in an edited volume on *Plato and His Legacy*; the chapter is entitled, 'The Case of Plato's Charmides in the Fifteenth Century: Ficino, Poliziano and a Lesson from Bruni. Preliminary Notes'. Dr Edelheit was also very active in contributing to conferences.

Dr Susan Gottlöber's research in 2021 focused on exploring aspects of intellectual history surrounding early 20<sup>th</sup> century phenomenology and the relevance of Max Scheler's philosophical anthropology for 21<sup>st</sup> century developments (such as technological advances, particularly the Cyborg). She presented her research at the conferences *The Future as Present Concern* and *Crossing the Borders of Humanity: Cyborgs in Ethics, Law, and Art*. In her contributions, she showed both the relevance of early 20<sup>th</sup> century ideas and the limits of their application to contemporary developments.

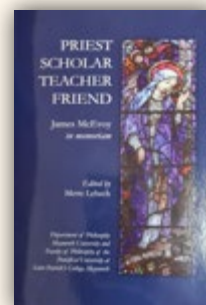


Dr Susan Gottlöber, Department of Philosophy

Dr Gottlöber's publications on Scheler discuss his concept of the real as resistance within the context of his relationship with Husserl and Dilthey, and Scheler's perspective on Darwin and evolutionary theory in the context of the scientific debates of his time. They demonstrate how Scheler is able to engage philosophically with scientific insights in a constructive manner—an engagement without which his philosophical anthropology would not be possible. Her publication on Edith Stein discusses the relevance of Stein's neo-Thomist contacts and sources for her own Aquinas interpretation, correcting common misconceptions in scholarship regarding her relationship with and work on Aquinas.

Dr Mette Lebech, who specialises in the thought of Edith Stein, published two peer-reviewed chapters: *The Presence of Kant in Stein* and *Stein's Contribution to the Phenomenological Foundation of the Science of the Humanities*. She also organised an international conference on *Husserl's and Stein's Intertwined Itineraries 1916-25, with Focus on Ideas II*, at the Centre for the History of Women Philosophers and Scientists, University of Paderborn, and at Maynooth University. She

gave the paper *Towards an integration of the phenomenological efforts to found the social sciences: A Steinian discussion of Schutz's 'Husserl's Ideas, Volume II'*. Dr Lebech co-organised a workshop on early women phenomenologists, at the conference of the International Association of Women Philosophers on the topic *Defining the Future—Rethinking the Past*, Centre for the History of Women Philosophers and Scientists, University of Paderborn. She contributed two papers to this workshop: *Edith Stein on the I, Depth, Causality, and Reality* and *Presentation of Texts by Stein from Philosophy of Psychology and the Humanities to illuminate Conrad-Martius', Influence on Stein*.



Dr Mette Lebech - *Priest, Scholar, Teacher, Friend: James McEvoy in memoriam* – in memory of Rev. Professor James McEvoy, late Chair of Philosophy

In May, the Department of Philosophy launched Dr Lebech's book in memory of Rev. Professor James McEvoy, late Chair of Philosophy at Maynooth: *Priest, Scholar, Teacher, Friend: James McEvoy in memoriam*. At the launch, Dr Lebech spoke on 'Love and Friendship, a School of Wisdom'.

Dr Lebech contributed papers to two other conferences.

In 2021, Professor Rosemann's lecture *What is Philosophy?* (originally delivered at Maynooth University, then published in the international journal *Philotheos* and later translated into Bulgarian) was included in an essay collection from the Catholic University of America on *Mystery and Intelligibility*.

The Mexican journal *Estudios*, published by the Instituto Tecnológico Autónomo de México, carried a long essay co-authored by Professor Rosemann and his former doctoral student, Rev. Dr Matthew Boulter: *Filosofía y teología del progreso: sobre algunas interpretaciones de Joaquín de Fiore*. The essay explores the thesis that the twelfth-century monk Joachim of Fiore prepared the ground for the development of the modern understanding of historical progress.

In the American journal *Moral Theology*, Rosemann wrote on *The Risk of Tradition: With de Certeau toward a Postmodern Catholic Theory*, a follow-up on and further development of his 2018 book on tradition. Closer to home, *Studies: An Irish Quarterly Review* published Professor Rosemann's essay, *How Did We Get Here? Reflections towards a Philosophy of the Present*. The essay attempts to sketch the philosophical and theological assumptions that undergird life in Ireland in the first quarter of the twenty-first century. Professor Rosemann gave lectures and interviews both at home and abroad.

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# Faculty Highlights

## Faculty of Science and Engineering





# Faculty Highlights

## Faculty of Science and Engineering

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### Biology

In the 2020/21 academic year, the Biology Department had 27 academic staff, 14 technical and four administrative staff. Research active staff included 37 PhD students, as well as five post-doctoral researchers. The Biology Department has maintained an excellent output with 75 publications in total, including 65 peer-reviewed publications in international journals, many of which had an impact factor above 3. Future research in the Department will be supported through 39 competitive grants secured in the 2020/21 academic year, bringing a total of €6,163,261 to Maynooth University.

### Publications highlights (calendar year 2021)

Research groups in the Department of Biology have published a total of 75 publications (research articles and reviews), all of which were in peer-reviewed journals. Most of these publications were in journals of high international standing (e.g. *Nature Immunology*, *PLoS Genetics*, *Molecular Microbiology*, *MBio*, *Journal of Ecology*, *Plant Methods*, *Journal of Experimental Botany*, *Current Opinion in Microbiology*, *Scientific Reports*, *Journal of Immunology*, etc). In addition, several publications have also been published leading journals such as *Nature Immunology*, *Cellular and Molecular Immunology*. Notably, 10 of the peer-reviewed publications emanated from collaborations between different groups within the Biology Department, and four were the result of collaborations with other Departments at Maynooth University. These collaborations highlight the multidisciplinary nature of the Department's research.

### Funding highlights

- Three prestigious grants (funding > €1,000,000 total costs):
  - Dr Karen English; SFI FFP award; *Removing the brake; Role of PPAR on mesenchymal stromal cell therapeutic efficacy in ARDS*; €1,297,245.
  - Dr Fiona Walsh; SFI FFP award; *Targeting antimicrobial resistance plasmids to resurrect antimicrobial therapies*; €1,195,040.
  - Dr Lorna Lopez; European Research Council Starting Grant, *FamilySleeps; Disrupted Circadian Rhythms in Families – an Endophenotype of Autism Spectrum Disorder*; €1,499,323.
- Nine major grants (funding > €100,000 total costs), including the following examples:
  - Dr Emmanuelle Graciet; SFI FFP project; €617,895.
  - Dr Mark Robinson; SFI COVID-19 rapid response; €281,141.
  - Dr Rebecca Owens; DAFM; €176,280.
- Seven postgraduate scholarships (four IRC PhD scholarships, one Teagasc Walsh fellowships, two externally funded).

### Prizes

- SFI Early Career Researcher of the Year (November 2020) – Dr Lorna Lopez.
- 2<sup>nd</sup> prize 'Thesis in Three' Maynooth University (21 October 2020) – Fiana Ni Ghraígh.

### Summary of external engaged research highlights

Several researchers have been involved in consultancy projects including public institutions such as Teagasc (involving several Teagasc centres (e.g. Oak Park, Grange and Moore Park)) and several Ireland-based companies. In addition, in the context of the COVID-19 pandemic, members of the Department have secured COVID-19-response funds, such as an SFI COVID-19 rapid response grant.

Members of the Department also engage with the general public and local organisations. These activities have strongly promoted the role of the Biology Department in the research areas related to sustainability. For example:

- Maynooth Green Week, organised by Dr James Carolan - A series of online seminars and workshops organised in coordination with An Taisce's National Green Week.
- Maynooth Campus Biodiversity Day by Dr James Carolan - Organised in collaboration with Kildare County Council and part of National Biodiversity Week.

### Significant conferences hosted

- Big Data in Biomedical Research – UK Biobank (21 May 2021). 124 researchers registered, 92 attendees on the day from 10 higher education institutions and biomedical sector.
- Autism Research Thesis in Three (2 April 2021). 69 registrations, 60 attended, 13 early career researchers presented from six Higher Education Institutions across Ireland.

### Collaborations

Members of the Biology Department engage in a large number of collaborations with other national research institutions, such as TCD, UCD, UCC, NUIG, Teagasc, St James's Hospital, St Vincent's University Hospital, Cavan/Monaghan Hospital, as well as local authorities such as the Kildare County Council. Research groups in Biology also engage with many European research institutions:

- In Germany (Jülich Research Centre, University of Mainz, TU Dresden).
- In Austria (University of Natural Resources and Life Sciences, Vienna; TU Vienna).
- In France (Environment and Plant Protection (INRA); Environment and Plant Protection (INRA)).
- In the UK: Rothamsted; University of Dundee; Imperial College London; Cardiff University; University of Edinburgh.
- In Norway: University of Stavanger.

Research is also conducted in collaboration with international institutions such as the University of Colorado and the National Autonomous University of Mexico.

### Commercialisation achievements

Funding from the Enterprise Ireland/KTI Technology Transfer Strengthening Initiative 3 (TTSI3) Pipeline Fund to develop an artificial animal microbiome (F. Walsh).



# Faculty Highlights

## Faculty of Science and Engineering

### Contributions towards public policy

- Input on genomics, secondary/incidental findings for the HSE National Consent for Research Policy (L. Lopez).
- Gap analysis of research needs to understand the environmental dimension of antimicrobial resistance in preparation for iNAP2 (F. Walsh).

### Community partnership projects

Research groups in the Biology Department are involved in community partnerships with:

- Kildare County Council.
- National Federation for Group Water Schemes citizen science project (sampling drinking water of households across Ireland and testing the samples for pathogens and AMR).

### Consultancy reports

The Department of Biology engages in consultancy activities for industry (confidential agreements in place) and provides services - for example for the use of the mass spectrometry facility, which is highly sought after by both academic institutions and industry.

### Enterprise partnerships

Some of the on-going research activities are funded and/or co-funded by industry partners (confidentiality agreements in place).

### Public/Patient involvement

A PPI event was hosted on 2 April 2021 for World Autism Awareness Day 'Autism Research Thesis in Three' - 69 registrations, 60 attended, 13 early career researchers presented from six Higher Education Institutions across Ireland.

## Chemistry

Research outputs from the Department of Chemistry (13.5 academic staff) has been very strong over the reporting period. The Department recorded 33 publications in international peer-reviewed journals (research articles and reviews) in 2021. These publications show the Department's very active collaborations with co-authors on the papers from Irish Universities and research institutes, such as TCD, UCD, NIBRT and TUD and from international universities, such as national Taipei University of Technology, Yeungnam University, Zhejiang Sci-Tech University, Hangzhou, University of Rio de Janeiro, University of Grenoble-Alpes, Amsterdam UMC and CNRS, Centre National de la Recherche Scientifique. It is highly notable that Dr Elisa Fadda is a co-author on a 2021 paper in *Cell* which has already received 209 citations, while the other papers published by the Department in that year have already received 160 citations (source Scopus, March 2022). The diversity of the research carried out in the Department is reflected in the fact that the publications cover many subject areas from Chemistry (22%), Materials Science (13%), Biochemistry (14%), Immunology and Microbiology (6%) and Medicine (6%). Successful research in the Department is externally supported and 18% of the publications acknowledged SFI, and 21% acknowledged the IRC.

### Publications highlights

- Dr Elisa Fadda was a co-author on the paper *SARS-CoV-2 simulations go exascale to predict dramatic spike opening and cryptic pockets across the proteome*, *Nature Chemistry* (2021), 13(7), 651-659.
- Bronach Healy, Tian Yu, Daniele da Silva Alves, Cynthia Okeke and Professor Carmel B. Breslin, published an invited and front cover article on *Cyclodextrins as molecular recognition systems: applications in the fabrication of electrochemical sensors*, *Materials* (2021), 14(7), 1668.



Materials (2021) front cover article on *Cyclodextrins as molecular recognition systems: applications in the fabrication of electrochemical sensors*

- Dr Tobias Krämer, 2021 publications included four papers published in high impact journals. Two in the *Journal of the American Chemical Society* and two in *Angewandte Chemie - International Edition*. His paper L. Falconer, K. M. Byrne, G. S. Nichol, T. Krämer, M. J. Cowley, paper *Reversible Dissociation of a Dialumene*, *Angew. Chem. Int. Ed.* (2021), 60, 24702 was designated as a VIP article.
- Dr Trinidad Velasco-Torrijos was a co-author on the Editorial 'Glyco-Tools to Crack Unsolved Biomedical Needs' published in *Front. Chem.*, (November 2021) and her review article *Targeting adhesion in fungal pathogen Candida albicans*, *Future Med. Chem.* (2021), 13, 313-334, was the most read article of the year.
- Dr Robert Elmes published a review article, *Naphthalimide-1,8 based fluorescent sensors for enzymes* with two of his PhD students Conor Geraghty and Conor Wynne in the high impact journal *Coordination Chemistry Reviews* (2021), 437, 213713.
- Professors Denise Rooney and Carmel Breslin published an invited paper on *Preparation and Antimicrobial Properties of Alginate and Serum Albumin/Glutaraldehyde Hydrogels Impregnated with Silver(I) Ions in chemistry*, *Chemistry*, (2021), 3(2), 672-686.
- Drs Diego Montagner and Trinidad Velasco-Torrijos published and invited paper on *Click Pt(IV)-Carbohydrates Pro-Drugs for Treatment of Osteosarcoma*, *Frontiers In Chemistry* (2021), 9, 795997.
- Dr Eithne Dempsey published an invited paper *An electrochemical evaluation of novel ferrocene derivatives for glutamate and liver biomarker biosensing*, *Biosensors*, 2021, 11(8), 254 (Special issue on Micro/Nanomaterials for Diagnostic Biosensor Systems).

## Funding Highlights

Professor Carmel Breslin and Dr Eithne Dempsey are Co-PI's on a SFI Frontiers for the Future Project (2021), (€616,915). The project is on *The fabrication of conducting 2D layered graphene-like materials and their applications as sensors and electrocatalysts for electro-Fenton*.

Dr Elisa Fadda secured an SFI Frontiers of the Future 2021 award (€565,940) with a project entitled *GlycoShape: A database/toolbox for structural glycomics and glycoanalytics through machine learning*.

Professor John Stephens has been awarded funding €251,668 in 2021 by Enterprise Ireland.

## Postgraduate Students

Seven postgraduate students commenced their studies in autumn 2020 including four IRC Postgraduate Scholars. In addition, the Department had a number of international postgraduate student visitors. Andrea Bacciu and Paulo Arrigo, from the University of Sassari, Sardinia visited Dr Dempsey's lab (funded under ERASMUS+). Tugce Sengul, Izmir Institute of Technology, Turkey visited Dr O'Flaherty's lab (funded under EU Cost Action Innogly). Hilal Kirpik from Kahramanmaraş Sutcu Imam University, Turkey is currently visiting Dr Elmes's lab (financially supported by The Scientific and Technological Research Council of Turkey (TUBITAK)). Teodoro Garcia Millan, from the University of Bristol, visited Dr Velasco-Torrijos' lab on a short-term Scientific Visit (funded by EU-COST GlycoNanoProbes).

## External Engaged Research

The Department has well-established and increasing engagement with Industry partners. Engaged research projects that have been initiated/continued in 2020–2021 are as follows.

- Professor John Stephens (collaborator, Dr Andrew Hogan, MU Biology) - EI innovation Enterprise partnership with Dairygold on novel food ingredients continued in 2021.
- Professor John Stephens is a supervisor on an IRC Government of Ireland Postgraduate Scholarship co-funded with Pfizer.
- Professor Carmel Breslin is carrying out consultancy work for CroiValve.
- Dr Roisin O'Flaherty has Enterprise partnerships with NIBRT and Agilent and has a collaboration with the charity Cystinosis Ireland.
- Dr Robert Elmes has an ongoing collaboration with Janssen/SFI SSPC.
- Dr Eithne Dempsey's H2020 project is with the food company Glanbia.
- Professor John Lowry has collaborations with the following industry partners - Boehringer Ingelheim Pharma GmbH & Co. KG (Germany); Basi Research Products, WL Gore and Ulysses Neuroscience Ltd. (Ireland).
- Dr Max Bianchi from Ulysses Neuroscience joined the Department in 2021 as an adjunct associate professor.

Researchers from the Department delivered a number of important talks, were involved in external scientific bodies and outreach activities in 2020/2021. Some examples include:

- Professor Frances Heaney Speaker, July 2021, Online Conference. EUROVARIETY 2021. 9TH European Variety in University Chemistry Education Conference. Ljubljana, Slovenia. Title of talk: 'A Whole Team Approach to Embedding a Culture of Feedback between Student & Staff Partners in First Year Chemistry'.
- Dr Roisin O'Flaherty chaired and was on the Scientific Panel of the 15<sup>th</sup> Jenner Glycobiology Symposium (hybrid meeting), November 2021, KV Leuven (Belgium).
- Dr Trinidad Velasco-Torrijos was an invited speaker at the Royal Society of Chemistry Organic Section Regional Meeting (2021). Title of talk 'Combating infection with sweet tools'.
- Dr Rob Elmes gave an invited talk at The Scripps Research Institute in La Jolla, California in December 2021 entitled 'Squaramides - From Receptors'.

## Awards

The Department was awarded a Departmental Athena SWAN Ireland Bronze Award in October 2021.



Department of Chemistry Self-Assessment Team led by Dr Eithne Dempsey for Athena SWAN Bronze award

Dr Eithne Dempsey was awarded an IRC Research Ally Prize 2021. The Research Ally Prizes celebrate the role of supervisors, and other university staff in supporting and sustaining the Irish research community.

# Faculty Highlights

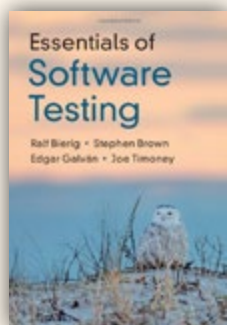
## Faculty of Science and Engineering

### Computer Science

In the period from October 2020-December 2021 the Department of Computer Science has eight Professors, six Senior Lecturers, and 18 full-time Lecturers including MIEC affiliations. Additionally, one Professor associated with the Department works in the Hamilton Institute and one Professor works with NCG. There were also two postdoctoral researchers, 22 full-time PhD students and seven MSc by research students. A cohort of the MSc by research students will be transferring to the PhD register. The total number of publications was 67. This can be divided into one book, one book chapter, 30 peer-reviewed conference publications, 33 peer-reviewed journal publication, one conference contribution, and one blog.

#### Highlighted publications

- A new textbook on Software testing, 'Essentials of Software Testing', written by four members of the Department: Dr Ralf Bierig, Dr Stephen Brown, Dr Edgar Galvan, and Dr Joe Timoney.



Essentials of Software Testing authored by Dr Ralf Bierig, Dr Stephen Brown, Dr Edgar Galvan, and Dr Joe Timoney.

- An ICASSP (This is an A rated conference) paper by Matej Ulicny, Vladimir A., Krylov, and Rozenn Dahyot titled 'Tensor Reordering for CNN Compression'.
- A journal paper in Springer Nature: Humanities and Social Sciences Communications by Chakraborty, S., Sourav, D., and Timoney, J, titled 'The Cyborg Philharmonic: Synchronizing Interactive Musical Performances Between Humans and Machines'.
- An IEEE Internet of Things journal paper by Finnegan J., Niotaki K. Brown S., titled 'Exploring the boundaries of ambient RF energy harvesting with lorawan'.
- An IEEE Transactions on Artificial Intelligence by Edgar Galvan and Peter Mooney titled 'Neuroevolution in Deep Neural Networks: Current Trends and Future Challenges'.
- An International Journal of Intelligent Computing and Cybernetics paper by R Miller, P Maguire titled 'GeoTree: A Data Structure for Constant Time Geospatial Search Enabling a Real-Time Property Index'.

- An International Journal on Software Tools for Technology Transfer paper by Dross C. Furia C.A. Huisman M. Monahan R. Müller P. titled 'VerifyThis 2019: a program verification competition'.
- An Irish Journal of Technology Enhanced Learning paper by Dr Aidan Mooney, Mark Noone and Keith Nolan titled 'Hybrid Java: The creation of a Hybrid Programming Environment'.
- An IEEE Transactions on Network and Service Management paper, 'Data-driven Energy Conservation in Cellular Networks: A Systems Approach' by Premsankar G.; Piao G.; Nicholson P.K.; Di Francesco M.; Lugones D. 'Data-driven Energy Conservation in Cellular Networks: A Systems Approach'. *IEEE Transactions on Network and Service Management*.

Two members of Maynooth University (Professor Barak A. Pearlmutter, Professor Thomas J. Naughton) have been listed in the Top 20 Computer Science Scientists in Ireland 2021 according to Microsoft Academic Graph h-index. This 8<sup>th</sup> edition of the top scientist rankings for Computer Science was published at Research.com.

In a press release on 28 July 2021, Optica (formerly OSA) announced that a journal article from a PhD student in the Department, Tomi Pitkääho (funded by SFI), entitled 'Focus prediction in digital holographic microscopy using deep convolutional neural networks' (T. Pitkääho, A. Manninen, T.J. Naughton, Appl. Opt. 58 A202) was listed as no. 3 in the 15 top-cited articles published in the past two years in its flagship journal Applied Optics [source for top cited articles is Clarivate Analytics' Web of Science(TM)]. The Applied Optics journal's long-standing reputation for excellence is evidenced by its cited half-life of 12.7 years, putting it among the top #10 in the Optics category [Journal Citation Reports(TM) from Clarivate, 2021] This was the second year that the article made it into the top 15 cited recent articles.

Professor Thomas Naughton's research group will give an invited talk at the annual Digital Holography and Three-Dimensional Imaging 2022 conference. This is the most prestigious international academic conference in the area. The community has invited Professor Naughton to speak about his SFI-funded collaboration with University of Oulu, Finland, on cancer identification in three-dimensional microbiological samples using digital holography.

#### External Grant Awards and Key Achievements (2021)

NCG's major project in 2021 was the €5,000 Terrain-AI with Dr Rowan Fealy and Professor Tim McCarthy (T-AI) 24 x month SFI Strategic Partnership project, co-funded by Microsoft, involving over 50 researchers drawn from Teagasc, TCD, UCD, DCU & UL, which kicked-off January 2021. Terrain-AI is advancing the standards of measurement, monitoring, verification and reporting of carbon stocks and emissions across complex environments. The innovative AI solutions and technologies being developed, integrated with computational models, aim to provide more accurate estimates of carbon fluxes across scales, and a deeper understanding of the effects of human activities, to enable decision makers to develop more effective climate mitigation strategies. T-AI won an AI Award for 'Best Application of AI to achieve Social Good' Sponsored by IDA Ireland, 24 November 2021.





### New Awards (2021)

- SFI LERO Phase-2 Core 'Framework for Human Robot Cognition Interaction', due to commence Q2 2022.
- SFI (Defence Challenge) 12 X month (3/9 split) project, CoPilot-AI (Tactical Decision support for managing Wildfires) was awarded December 2021 – with Professor John McDonald, Dr Charles Markham & Professor Rozenn Dahyot.

Professor John McDonald had a number of engagements and responsibilities:

- SFI LERO Phase-2 Core 'Framework for Human Robot Cognition Interaction', due to commence Q2 2022 (Co-PI with Professor Tim McCarthy).
- Associate Editor 2021 IEEE/RSJ International Conference on Intelligent Robots and Systems(IROS).
- Student Chair European Signal Processing Conference 2021 (EUSIPCO).
- Programme Committee Irish Machine Vision and Image Processing Conference 2021 (IMVIP).
- Professor John McDonald and Saravanabalagi Ramachandran co-organised the CVPR OmniCVWorkshop and WoodScape Semantic Segmentation Challenge 2021.
- Professor John McDonald and Saravanabalagi Ramachandran co-organised the CVPR OmniCVWorkshop and WoodScape Semantic Segmentation Challenge 2021. The workshop brought together some of the world's leading researchers to present their latest research in the development of computer vision techniques for omnidirectional cameras. The WoodScapeSemantic Segmentation Challenge which was run as part of the workshop involved 70+ global teams competing to advance the state of the art in semantic segmentation on fisheye images, based on the recently released Valeo WoodScape dataset. The event was co-organised with researchers from Valeo Vision Systems, Yembo.ai, Spleenlab.ai, Ilmenau University of Technology, Wormpex AI Research, Facebook, and University of North Carolina at Chapel Hill. More details on the workshop and the challenge are available at the OmniCV2021

Dr Rosemary Monahan is leading a number of projects:

- **MAIVV** (Awarded July 2021, December 2021–November 2025): Modular AI Verification and Visualisation (Science Foundation Ireland/Frontiers for the Future, €620,826, 2021–2025). MAIVV provides scalable techniques for software development that guarantee software dependability when deep learning techniques are employed by developers. As society increases reliance on AI-based automated devices, the need for scalable techniques guaranteeing software dependability becomes urgent, both in terms of human life and the economic cost of software failure. This project combines approaches from software engineering and artificial intelligence to produce software development techniques that provide such guarantees. This research provides a solid foundation for trustworthy and transparent A.I. by (1) building a solid theoretical bridge between logic-based verification and deep learning systems, (2) providing a practical demonstration of the benefits of this integration and (3) exploiting techniques from program comprehension to understand deep learning code. This project is led by Dr Monahan (PI) and Professor Pearlmutter (Co-Applicant) [www.cs.nuim.ie/research/pop/maivv](http://www.cs.nuim.ie/research/pop/maivv).  
htmlVALU3S: Verification and Validation of Automated Systems' Safety and Security (H2020ESCEL JU Research and Innovation Action, MU component €447202, 2020–2023), which designs and implements process workflows and tools for improving the time and cost needed in verification and validation of automated systems.
- **VALU3S** (May 2020–April 2023, total EU funding €7,749,845) brings together a consortium with partners from 10 different countries, amounting to a mix of 25 industrial partners, six leading research institutes, and 10 universities to reach the project goal. The MU component, led by Dr Monahan in the Principles of Programming Group, is funded by Enterprise Ireland (65%) and H2020 ESCEL JU (35%), to support collaborating between MU and United Technology Research Center (UTRC) to improve workflows and tools for verification and validation of an aircraft engine controller. A constructive framework for software specification and refinement in Event-B (IRC, €105,333. 2019–2023), which funds a PhD in the Principles of Programming Group (Supervisor Dr Monahan) to build on our mathematical foundation for model-driven software engineering, and provides a well-developed formal infrastructure to ensure the usability and the integrity of the approach.
- **InSPECT** (January 2019–June 2022 with a 18 month no cost extension): Introducing the Science of Problem-solving through Education in Computational.



Dr Rosemary Monahan, Department of Computer Science, Hamilton Institute

# Faculty Highlights

## Faculty of Science and Engineering

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- **Thinking** (SFI Discover, €272,895, 2018–2020, NCE 2022), which provides funding to research and develop computational thinking teaching resources and activities, resulting in increased student, teacher, and parent interest and a corresponding enhanced involvement in STEM. This project is implemented by the PACT Team in the Department of Computer Science, MU. <https://pact.cs.nuim.ie/pages/inspect.html>
- **CoCoA** (Awarded in December 2020, January 2021–December 2022): Co-create Collaborate Activate - Advancing Computational Thinking Education (SFI Discover, €149,375, 2021–2022) provides for CPD teacher training workshops in Computational Thinking, resources for students/teachers, school visits, the Bebras National Competition, and development of our community of practice. The focus is on improving teamwork and collaboration in the classroom through active learning and computational thinking. This project is also implemented by the PACT Team in the Department of Computer Science, MU.

### Summary of all on-going engaged research

Other on-going research projects at NCG include SFI/Industry funded U-Flyte (Drones), EPA funded SoMoSat (Soil Moisture modelling), H2020 funded MaCoBioS (Coastal Ecosystems), SFI/MI/GSI funded PREDICT (Coastal Zone Environments), SFI LERO HDMaps (Autonomous Vehicles), SFI Research Infrastructure, National Autonomous Technologies Data Platform (NATDaP with John McDonald) which now includes an on-campus storage and test facility for various aerial and terrestrial robots, H2020/FPCUP EoDataHub (National Copernicus Academy & Relay) and finally 3 X ESA funded Pathfinder projects (Earth Observation) due to commence March 2022.

### Advisory Boards/Expert Groups

- June 2021: Professor Tim McCarthy invited to co-lead WP (co-author of Chapter on Governance/Innovation) dealing with 'Accelerating the Potential of Drones for Local Government' - a Department of Public Expenditure and Reform & Dublin City Council sponsored initiative.
- July 2021: Professor Tim McCarthy invited as member on IAA UAS Advisory Council 2021.
- August 2021: Professor Tim McCarthy Appointed Chair of Society of Chartered Surveyors Ireland 'UAV Working Group'.
- Professor Thomas Naughton is a member of the international standardisation ISO/IEC JTC 1/SC 29/WG 1 (ITU-T SG16) JPEG Joint Photographic Experts Group to develop the first ISO/IEC industry-supported compression standard for digital holograms. During 2021, he led an Exploration Study whose research findings were presented at the 91<sup>st</sup>, 92<sup>nd</sup>, and 93<sup>rd</sup> JPEG international standardisation meetings.
- Dr Liadh Kelly is Co-chair of the international CLEF eHealth lab series.

- Dr Peter Mooney had a number of engagements and responsibilities and is leading a number of projects:
  - Expert reviewing for the German Ministry of Research (Deutsche Forschungsgemeinschaft (DFG)) and the Swiss National Science foundation in the topic area of Volunteered Geographic Information (VGI)- expert reviewer for EU Marie Skłodowska-Curie Actions.
  - National steering group committee member and organising of the 29<sup>th</sup> Annual GISRUUK (GIS Research UK) conference which was held virtually in April 2021.
  - Steering committee member and organiser of the Academic Track at the GlobalOpenStreetMap Conference (State of the Map) 2021 which was held virtually in July 2021.
  - Invited position paper to an EU Expert Workshop on a Common European Agricultural DataSpace.
  - Invited expert participant for the European Commission's online focus groups on High Value Datasets under the Public Sector Information (PSI) Open Data Directive and their characteristics.
  - Co-delivered an online lecture series on Volunteered and Crowdsourced Geographic Information for EuroSDR. This is an umbrella group of all National Mapping and Cadastral Agencies (NMCAs) in European. Participants were drawn from industry, NMCAs and academia.
  - Invited lecture (online) on Geospatial Data Quality to the Open Geospatial Consortium's (OGC) Data Quality Working Group. OGC is an international voluntary consensus standards organisation encouraging development and implementation of open standards for geospatial content and services, sensor web and Internet of Things.

### Community partnership projects

The PACT group in the Department (Dr Aidan Mooney, Dr Rosemary Monahan, Professor Thomas Naughton, Dr Kevin Casey, Taina Lehtimäki, Joseph Duffin, Dr Liadh Kelly) are working on externally engaged research to support primary and secondary teachers to introduce computational thinking into (and enhance STEM generally) in their classrooms. Research is conducted into the open problem of how best to teach computer science at primary level. This €370,000-budget project (InSPECT) is partially funded through the Science Foundation Ireland Discover Programme with a €273,000 grant.

Dr Rosemary Monahan and the PACT research group have the SFI Discover project CoCoA: Co-create Collaborate Activate - Advancing Computational Thinking Education. This provides for CPD teacher training workshops in Computational Thinking, resources for students/teachers, school visits, the Bebras National Competition, and the development of our community of practice. Taina Lehtimäki works on this project as a tutor and manages much of the interactions with the schools.

## Electronic Engineering

There are in total 10 permanent staff members in the Department. There has been some flux in the reporting period. Dr Arman Farhang has left the Department, while Professor Gerard Lacey, Dr Erivelton Nepomuceno, and Dr Mustafa Kishk have joined. Professor Lacey will succeed Professor Subhrakanti Dey as Head of Department in 2022. Dr Erivelton was strategically hired as a strong addition to the COER research group. In 2021 the Department research outputs included 60 journal papers, another 37 conference papers, with the majority of publications in Q1 journals or major conferences. There were five PhD graduations, with a ratio of two PhD students per staff member. The Department is host to 21 PhD students, seven postdoctoral researchers and five new PhD students who commenced in 20/21.

## Research Funding

Continued funding of the Science Foundation Ireland Centres CONNECT, ADVANCE and MaREI in the areas of Future Networks & Communications and Energy, Climate & Marine was confirmed in the previous reporting period and this continues to be an important part of the Department's research efforts, with the Department's two largest research groups integrally involved in these two centres and benefitting from ongoing funding from these two centres.

There were 17 grant applications in the reporting period with a total value of €4.78m. During the same period six grant applications were approved with a value of €0.765m representing a successful year for the Department.

Overall, there is a high level of funding diversity with EU grants active during the reporting period (including one that was granted during the reporting period), several SFI grants including the aforementioned SFI centres, three SFI Frontier for the Future awards as well Enterprise Ireland funding as well as PhD funding from other sources.

Notable funding successes in the reporting period include two grants for Dr John Dooley including a prestigious FTI Frontier for the Future award from Science Foundation Ireland as well as Technology Centre funding from Enterprise Ireland.

The SMART HANGAR project involving Dr Marco Cognetti and Professor Gerard Lacey together with other team members Professor Rozenn Dahyot (CS, Maynooth University), DefOrg Liaison Capt Tom Mullarkey (Irish Air Corps) was funded under the SFI-Defence Organisation Innovation Challenge to assist in, or potentially automate, manoeuvring of aircraft between a hangar and apron. Smart Hangar will develop a co-operative system that will allow a human controller and robot to work together to manoeuvre aircraft.



Professor John McDonald, Dr Stephanie Keogh, and Professor Tim McCarthy, Maynooth University, Minister for Further and Higher Education, Research, Innovation and Science Simon Harris, Professor Philip Nolan, Science Foundation Ireland, Minister for Defence and Foreign Affairs, Simon Coveney, and Comdt Jay O'Reilly, Defence Forces

The Co-Pilot AI project involving Dr John Dooley together with Professor Tim McCarthy and Professor John McDonald (CS, Maynooth University), was funded under the SFI-Defence Organisation Innovation Challenge to use Earth Observation and Artificial Intelligence technologies in assisting ground and air crews to tackle forest fires. This new system will be capable of providing real-time information to responders in the air and on the ground. The key to providing this information will be reliable wireless communication links.

The Centre for Ocean Energy Research Group (COER) commenced or continued work on eight externally funded projects, with a research team of 13-18. Funding was secured for a new MaREI PhD project as well as an Eoin Sweeney Scholarship from the Marine Institute. Eight grant applications with national and international reach were submitted and Dr Erivelton Nepomuceno was appointed.

Dr Erivelton Nepomuceno, who started in September 2021 is involved in three ongoing research projects:

- Computational Chaos: Analysis and Application using Computer Arithmetic (CNPq: US\$ 7,959.18).
- Reinforcement Learning: Engineering and Statistics for society improvement (UFSJ Rector: US\$ 10,204.08).
- Chaotic dynamics in complex networks using computer arithmetic (CNPq: 425509/2018-4 - US\$ 8,418.06).

Dr Indrakshi Dey commenced two new research awards in the form of CONNECT Trench 2 Platform funding for:

- Probabilistic Quantum Communications Networks - Theoretical Framework and Capacity Calculations (QuCommNet) €107,500.
- Bayesian game theory-based protocols for resource sharing among massive number of IoT devices €107,500.



# Faculty Highlights

## Faculty of Science and Engineering

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### Publications

In the reporting period, five book chapters, 60 journal papers, and 37 conference papers were published for the Department as a whole. It should be noted that the vast majority of these (37) were produced by the COER group.

Professor Subhrakanti Dey was appointed as a Senior Editor in IEEE Control Systems Letters for a 3-year period starting January 2022.

### Industry engagement

In addition to the industry facing projects already mentioned above the following research is ongoing:

- In 2021 the BioPhotonics research group initiated an ongoing collaboration with the multinational company TE Connectivity which has involved biweekly meetings of collaborating researchers from both groups over the year. The collaboration continues.
- In 2021 the BioPhotonics Research Group completed an SFI Career Development Award, which produced an Automated Raman Cytology system for Diagnostics. This automated system was one of the primary research goals of the project. The system is currently will be tested on patient samples from the Coombe hospital in 2022 to investigate its efficacy in detecting precancerous cells from Pap Smear cervical cytology samples.
- Professor John Ringwood is involved in a MaREI/SFI and industry funded project with CorPower, a leading Swedish wave energy company. The project will attempt to improve the economic performance of the CorPower device by maximising energy capture using control technology.
- The COER 'wave powered data buoy' Marine Institute funded project has a wide range of industrial and academic partners: PLOCAN, Techworks marine, Monterey Bay Aquarium Research Institute (USA), Dundalk IT and Resolute Marine (USA).

### Experimental Physics

In the academic year 20/21 the Department of Experimental Physics hosted eight academic staff and two Emeritus staff. The Department published four peer reviewed articles and were awarded a further two research grants during the reporting period. The Department has four very active research groups, the Terahertz Space Optics groups, The Star and Planet Formation Group, the Atmospheric Physics group and the Molecular Physics group.

#### Terahertz Space Optics (PIs: Dr C. O'Sullivan, Dr N. Trappe, Dr M. Gradziel, Dr C Bracken)



Terahertz Space Optics Group, Dr Neil Trappe, Dr Creidhe O'Sullivan, Professor Philip Nolan, Dr Marcin Gradziel and Professor Anthony Murphy, Department of Experimental Physics

### MKIDs

Dr Bracken and students in the Department have continued researching new methods for automating and optimising the geometrical and electrical design of MKID (Microwave Kinetic Inductance Detector) arrays, to assist the broader research being carried out in collaboration with DIAS (funded under Professor Tom Ray's (DIAS) SFI grant). The year 2020/2021 saw significant progression on the DIAS/Maynooth/TCD project, with multiple prototype arrays of superconducting MKIDs being produced at Trinity College Dublin/CRANN and the Tyndall National Institute in Cork. The new MKID designs relied on the simulations carried out at Maynooth University Experimental Physics. These arrays, which are fabricated out of novel Ti/TiN multi-layer materials are currently being tested at the cryogenic facilities in the DIAS MKID lab.

Four papers will be presented at the 2022 SPIE Astronomical Telescopes Conference in Montreal in July 2022, showing progress made in 2D superconducting materials, noise-reduction, and large photon statistics and the associated readout hardware and software developed at Maynooth/DIAS.

A separate paper describing the simulation work and related data-mining code is currently being written, and will be sent to an appropriate journal.

Dr Bracken continues to collaborate with the Electronic Engineering Department at Maynooth University, toward new hardware, firmware, and software solutions for clean channelisation of broadband signals. While EE aim for applications in 5G networks, Experimental Physics aim to use the new tools and techniques for frequency domain multiplexing (FDM) readout electronics for the MKID detector arrays.

### Q&U Bolometric Interferometer for Cosmology (QUBIC)

Work has continued on QUBIC, a ground-based experiment that aims to measure the extremely faint polarisation features of the Cosmic Microwave Background (Maynooth PI, Dr C. O'Sullivan, PhD students D. Gayer, D. Burke and J. Murphy). Once Covid restrictions were relaxed the instrument Technical Demonstrator was shipped from Paris to Argentina from where it will make observations at the Alto Chorrillos site near San Antonio de los Cobres, in the Salta province. The instrument arrived at Salta, in July 2021 and tests have confirmed that the instrument is operating as expected. A series of eight papers describing different aspects of the instrument were submitted to the Journal of Cosmology and Astroparticle Physics. PhD Student D. Burke successfully defended his viva in March 2021. Both D. Burke and J. Murphy are funded by the Irish Research Council.

### BISOU

The BISOU (Balloon Interferometer for Spectral Observations of the Universe) project aims to study the viability and prospects of a balloon-borne spectrometer, a pathfinder for a future space mission dedicated to the measurements of spectral distortions in the Cosmic Microwave Background. We (Dr N. Trappe, Dr C. O'Sullivan) are part of the BISOU consortium that is led by the Université Paris Sud. Continuation after this Phase 0 study will be driven by the European Space Agency's decision about the M7 selection. During 2021 a preliminary optical design for BISOU was developed and studied and student D. Byrne was awarded his MSc for research on PRISTINE, a forerunner of BISOU.

### Irish THz Measurement Facility

In collaboration with Rochester University, University of Illinois and the University of Chicago, Dr Marcin Gradziel & Dr Neil Trappe are measuring and analysing a terahertz waveguide spectrometer around 1 THz, using the Terahertz Measurement Facility developed as part of an SFI Infrastructure research grant. Maynooth is able to verify the operation of the waveguide spectrometer being developed in this programme as part of a NASA ARPA project called 'Axion Decay with RAXDEX' (Rocket Axion Decay Experiment). We were invited to participate in this programme for our Terahertz Measurement Facility capability to transmit/receive EM radiation with frequencies as high as 1100 GHz.

### Focal Plane Arrays

We were awarded seed funding to begin a new collaboration with Manchester University to study focal plane arrays that are of potential interest for the European Southern Observatory's ALMA telescope. MSc student J. Graham designed a platelet corrugated horn array to couple to Manchester's OMTs and a test array based on the design will be manufactured in Manchester. The work will constitute a significant portion of his thesis. J. Graham also worked with Professor Emeritus J.A. Murphy

### Star and Planet Formation Group (PI: Dr E. Whelan)

The star and planet formation group continued to work on three related projects in 2021. The first was to understand the launching of protostellar jets (PhD students A. Murphy, A. Miller, M. Birney; MSc student D. Cashin). The second was to explore techniques for detecting exoplanets in the disks of young stars (PhD students A. Murphy, A. Miller). The third is related to disk winds in young stars and their role in setting the conditions for planet formation (PhD student N. Otten).



Dr Emma Whelan, Department of Experimental Physics

Aisling Murphy continued her work on European Southern Observatory's Very Large Telescope (ESO VLT), MUSE observations of the protostellar jet from the young star TH28. She was working with Dr C. Dougados of the Institut de Planetologie et d'Astrophysique de Grenoble (IPAG) thanks to ULYSSES funding awarded to the group in 2017. In 2021 her focus has been finalising her study of the evolution of the TH28 jet axis. Her paper titled 'A MUSE spectro-imaging study of the Th 28 Jet: precession in the inner jet' was published in Astronomy & Astrophysics in August 2021. Aisling Murphy presented this work at the European Astronomical Society Annual Meeting in June 2021 and at the conference 'Star Formation: From Clouds to Discs in October 2021'.

Andrew Miller is also working on VLT/MUSE data in collaboration with C. Schneider at the University of Hamburg and C. Manara at ESO. Andrew finished his work on the intermediate mass star HD 163296 and a paper was submitted in late 2021. This paper was accepted for publication in early 2022. He also worked on a second paper on the protoplanetary disk 244-440. As part of his work on the launching of protostellar jets Andrew submitted a successful observing proposal to VLT for more MUSE observations. The title of the proposal was 'A 3D mapping of the jets from two brown dwarfs'. The competition for VLT time is strong, with MUSE in particular being highly over-subscribed. Therefore, it was a significant achievement that Andrew's proposal was successful. The data were collected in Winter 2021 and are currently being processed. Andrew presented his work at the conference 'Star Formation: From Clouds to Discs in October 2021'.

# Faculty Highlights

## Faculty of Science and Engineering



Hume scholar Matthew Birney was awarded a NUI travelling studentship in 2021

Matthew Birney is a Hume scholar and in 2021 he was also awarded a NUI travelling studentship ([http://www.nui.ie/awards/Profiles/2021/Matthew\\_Birney.asp](http://www.nui.ie/awards/Profiles/2021/Matthew_Birney.asp)). This funding will allow him to spend a year of his PhD studies abroad. This will be broken into three research visits, the first of which took place in late 2021. Matthew is working on integral field data of protostellar jets. In 2021 the main focus of his work was SINFONI data of the HH46-47 jet. This can be considered preparatory work for observations which will be taken with the James Webb Space Telescope. Matthew also presented his work at the conference 'Star Formation: From Clouds to Discs' in October 2021.

Darren Cashin continued with his MSc work on integral field data of the young star RW Aur. 2021 was the second year of Darren's MSc work and he submitted in April 2022.

Dr Emma Whelan continued her study of disk winds and published the first paper of the project. This work is supported by the MUS seed fund. Funding was awarded in 2019 and extended to 2022 due to the effects of the Covid 19 pandemic. The technique of spectro-astrometry is central to this work. To grow this project a large amount of ESO/VLT time (5 nights) was granted for Autumn 2021 working with the instrument UVES. The title of the proposal was 'Optical Spectro-astrometry as a test of wind driven accretion'. This project now involves collaborations with several groups in the US and Europe. She submitted an application for an IRC Laureate award in November 2021 but unfortunately was unsuccessful. Dr Whelan was also a Co-I on a successful application of James Webb Space Telescope time. The title of the proposal is 'PROJECT-J PROtostellar JET's Cradle Tested with JWST'. Dr Whelan gave three contributed/invited talks in 2021. Noah Otten is also working on this project for his PhD thesis. In 2021 his main focus was to develop python routines for the application of spectro-astrometry to UVES data. Again Noah presented his work at the conference 'Star Formation: From Clouds to Discs' in October 2021.

Highlights for the star formation group include the publication of two peer-reviewed papers (in *The Astrophysical Journal* and *Astronomy & Astrophysics*), the award of three telescope time allocations, three hours of VLT time (P.I Miller), five nights of VLT time (P.I Whelan), Cycle 1 JWST time (Co. I Whelan) and the award of the NUI travelling studentship to Matthew Birney.

### Atmospheric Physics (PI: Dr Frank Mulligan)

Collaboration with colleagues in Australia continued with the submission of a proposal to continue operating the *Davis Atmospheric Observatory* for the next 10 years made to the Australian Antarctic Division. Work began on an examination of stratospheric planetary wave influences on winter temperatures in the mesopause region above Davis, Antarctica. Closer to home, Julianne Kealy completed her doctoral thesis on a study of infrasound signals in mesopause OH\* emissions using a ground-based three-element array at Maynooth.

### Molecular Physics (PIs: Dr P.J.M. van der Burgt (Emeritus), Dr M. Gradziel)

The Molecular Physics group continued their work on time-of-flight mass spectrometry. The data acquired from electron impact fragmentation of anthracene molecules were processed and prepared for publication and were well received when presented at an online conference. A peer-reviewed publication has been accepted for 2022.

#### New Research

A new collaboration was started between Maynooth University Exp. Physics, Frankfurt Institute of Advanced Studies (FIAS), and Bristol University. Combining the experimental expertise in optics at Maynooth University Experimental Physics with the novel theoretical ideas coming from FIAS and Bristol, work was started on a series of measurements to probe some of the underlying assumptions and principles of quantum physics. Following-on from a 2022 final-year undergrad project, a SPUR fellow will continue the work throughout the Summer with the help of Dr Bracken. A paper describing this new work was presented (remotely) by Dr Bracken at the bi-annual Low Temperature Detectors (LTD) Conference in July 2021. The paper was received well, and is accepted for publication in the special edition of *The Journal of Low Temperature Physics* (pending minor edits). A second paper describing this work in more detail has been submitted to the prestigious *Physical Review Letters* (PRL) – Bracken and his two co-authors are still awaiting an answer regarding acceptance. This paper is available on the Cornell University open-source preprint server 'Arxiv' at: <https://arxiv.org/abs/2111.09347>, and <https://arxiv.org/abs/2112.00436>.

In September 2021 Dr Arnaldo Donoso joined the Department of Experimental Physics as an Assistant Professor. He is currently working on two publications and a final year student project looking at the design and fabrication of a prototype power source capable of measuring the amount of charge stored in a battery. A first application is to assess the integrity of discarded batteries of diverse kind and the possibility of extending their life span before being discarded as waste.

In December 2021 Dr Donoso participated in the organisation of a meeting, 'Sustainable development: a view and actions from latin american physics' as a member of the directive council of the Latin American Center of Physics (CLAF). The meeting was held online and featured speakers from Costa Rica, Cuba, Mexico, Peru, Uruguay and Venezuela.

Following a call for expressions of interest for Professor A posts under the HEA Senior Academic Leadership Initiative (SALI) 2020 a joint bid from the Departments of Experimental Physics and Theoretical Physics was shortlisted for submission by the University and we were delighted when our 2021 application for a Professor A post in Observational Astrophysics or Cosmology was successful. This post will add to the existing research strengths in the Department and will also allow us to bridge the gap between existing research in the two Departments.



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## Mathematics and Statistics

During 2020-21, the Department had 20 long-term academic positions plus three postdoctoral researchers. Of the 20 regular positions, two were seconded partly or fully to the Hamilton Institute (Andrew Parnell and David Malone) and one was the Maths Support Centre Director (Ciarán Mac an Bhaird).

As well as the long-term academic positions, the Department hosted three postdoctoral researchers (Diarmaid Hyland, Gaurav Dhar, Jitendra Jain). Members of the Department supervised 20 PhD students, and six research Masters students registered with the Department. The PhD numbers do not include six PhD students that are registered to the Hamilton Institute and who are supervised or co-supervised by members of the Department.

Members of the Department had 70 publications in 2021. Of these 70 publications, 54 of which were in peer-reviewed journals. There were also 28 conference contributions.



Professor Andrew Parnell, Hamilton Institute, Mathematics and Statistics, ICARUS

In addition to three new grants with a total direct value of about €515,000. Professor Andrew Parnell was awarded two grants with a total value of nearly €168k in the period October 2020-September 2021. The Department is also involved on an ongoing basis in two CRTs that were funded by SFI starting in 2019 (Foundations of Data Science and ADVANCE): both networks were awarded over €13m by SFI and have additional private funding. We are involved in the SFI Research Centre CONNECT which received word of fresh funding of €39m during 2020 (although the launch did not take place until 2021). Finally, we hosted Diarmaid Hyland, an IRC postdoc fellow for 2019-21 (€91,900).

### Publications

Dr Rafael A. Moral published a review on zero-inflated modelling approaches in International Statistical Review. This paper categorised models used to analyse zero-inflated data that were until then studied separately into three main categories, and proposed a novel fourth category of zero-inflated models. He also published a review on the effects of non-pharmaceutical interventions (NPIs) on preventing Covid-19 infection in Science of the Total Environment. In this paper, the role of NPIs, especially the use of face masks, was discussed in the

context of the Covid-19 pandemic, as well as how mathematical and statistical models play a primary role on understanding how NPIs aid preventing infection.

Dr Moral also published a new result on how tree diversity in tropical forests affects light interception in Journal of Ecology. In this paper, state-of-the-art statistical modelling tools were used to show how ecosystem functions take longer to saturate in tropical forests. Datasets from experiments in Brazil and Panama which included more than 100 species were analysed and made available to the public.



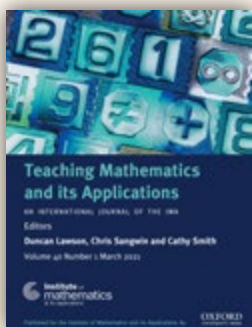
Dr Niamh Cahill, Department of Mathematics and Statistics, Hamilton Institute and ICARUS co-authored a paper in Nature Geoscience "Current Atlantic Meridional Overturning Circulation weakest in last millennium"

Dr Niamh Cahill co-authored a paper in Nature Geoscience which compiled proxy data taken from natural archives like ocean sediments or ice cores, reaching back many hundreds of years, to reconstruct the flow history of the Gulf Stream System known as the Atlantic Meridional Overturning Circulation (AMOC). They found consistent evidence that an AMOC slowdown in the 20<sup>th</sup> century is unprecedented in the past millennium and is likely linked to human-caused climate change. The giant ocean circulation has an impact on the climate of Ireland, Britain, and all of northwestern Europe; its slowdown is also associated with an observed 'cold blob' in the North Atlantic.

Professor David Wraith co-authored a paper in the Journal des Mathématiques Pures et Appliquées, investigating the similarities and differences between the topological implications of positive scalar curvature and nonnegative scalar curvature for Riemannian manifolds. Whereas the positive versus nonnegative questions for the stronger notions of sectional curvature and Ricci curvature have been the subject of attention for many years, the scalar curvature situation had remained unstudied. To a large degree, this was due to the lack of suitable tools with which to investigate the problem. In this paper, a reasonably comprehensive answer to the question is established: it turns out that everything hinges on the existence or non-existence of Ricci flat metrics for which the universal covering space has a non-trivial parallel spinor.

# Faculty Highlights

## Faculty of Science and Engineering



Professor Ann O'Shea and Dr Diarmaid Hyland co-authored the paper 'The nature and prevalence of diagnostic testing in mathematics at tertiary-level in Ireland'

Professor Ann O'Shea and Diarmaid Hyland co-authored a paper in an IMA journal in which they presented the first analysis of mathematics proficiency tests administered to first-year undergraduate students in Ireland. Their analysis revealed the expectations of instructors at this level, and they were able to make comparisons between the university and Institute of Technology sectors in this regard. In addition, by comparing modern tests to some from the 1980's, they were able to track changes in the expected levels of mathematical-preparedness of students over time.

In the summer of 2020, Diarmaid Hyland and Professor O'Shea carried out a national survey of undergraduate mathematics students to gather information on their experience of the initial closures of universities due to the Covid-19 pandemic. Their work has been published in a special issue of the journal *Teaching Mathematics and its Applications* and it has implications for the implementation of future models of online and blended learning.

Professor O'Shea co-authored a paper in the Canadian Journal of Science, Mathematics and Technology Education on the role of tasks in the transition of students to undergraduate mathematics. They found that the types of tasks encountered by students at this stage in their education can have profound effects on their mathematical development, and also on their view of the importance of reasoning and conceptual understanding.

Dr Ciarán Mac an Bhaird's published a paper that on the effectiveness of mathematics learning support (MLS). This paper is the first which considers student views on the performance of MLS tutors. The outcomes, including tutor behaviour, teaching methods and content knowledge, have implications for the training provided for tutors to ensure continued best practice in the provision of MLS.

Dr Mac an Bhaird published another paper that evaluates resources developed for both management and tutors aimed at improving the mathematics learning experience of students with dyslexia. Feedback from participants was extremely positive and the trial is being used as a template for the provision of further supporting resources and instigated further investigations into student accessibility issues.



Dr Niamh Cahill, Mathematics and Statistics, Hamilton Institute, ICARUS

Dr Niamh Cahill was awarded a Science Foundation Ireland, Frontiers for the Future Award worth €200,000 of direct funding (+€50,000 overhead). The project titled *Predicting Sea Levels and Sea Level Extremes for Ireland*, aims to exploit existing methodologies for estimating current and future sea-level extremes and to expand upon them to produce state-of-the-art, accessible software packages and a web-application that will aid in the estimation and interpretation of the variability in Irish sea-levels and sea-level extremes in the past, present and future.

Dr Oliver Mason participated in a project concerning the use of optimal control theory to maximise the energy extracted from heterogeneous arrays of Wave Energy Converters (WECs). It is an international collaboration between Iowa State University, Queens University Belfast, and Maynooth University. The research at Maynooth University focusses on several fundamental questions related to the optimal and robust control of WEC arrays, taking state, control, and reactive power constraints into account.

### Engaged Research

Five lecturing staff in the Department (A. Parnell, D. Malone, C. Hurley, N. Cahill, R.A. Moral) participated in the Covid-19 Data Dive project. This was funded by SFI grant 20/COV/0081 (€70,000 emergency Covid-19 funding portal; PI Andrew Parnell) and generated computational tools to assist the prediction of epidemiological and economic implications of Covid-19 during the recovery from the pandemic.

Professor David Malone's archive of state exam papers from the STEM area has been maintained and expanded.

The collection of Leaving Cert and Junior Cert mathematics papers is now complete.

<sup>1</sup>This total excludes (numerous) conference-related papers/publications.

## Psychology

The Department of Psychology continues to be highly research active, with a world-class track record of research publication and dissemination, as well as a strong research-informed focus on teaching/education. The Department's continuing success is reflected most recently in its latest 'top 200' ranking of Departments of Psychology worldwide, as featured in the 2021 *Times World University Rankings* (the Department was previously ranked in the top 400 globally). This also places the Department at second in Ireland. In addition, the Department of Psychology received an Athena SWAN Bronze Award in October 2021, following a successful application prepared and submitted by its departmental Self Assessment Team, led by Dr Rebecca Maguire.



Maynooth University's Department of Psychology ranked in the top 200 Departments of Psychology worldwide in 2021

During the period covered by this report, the Department had a complement of over 40 academic and full-and part-time research staff, plus a substantial and growing postgraduate community. During 2021, staff produced approximately 150 publications/outputs, including mainly international and national peer-reviewed journal articles, but also books, book chapters and other professional publications aimed at diverse audiences, such as policy briefs, published/other research reports and articles of scholarly interest<sup>1</sup>.

The Department's research during the same period, has been published in a wide range of prestigious and highly ranked psychology and interdisciplinary journals, including: *Journal of the American Medical Association*; *Nature Communications*; *American Psychologist*; *Psychological Medicine*; *International Journal of Environmental Research and Public Health*; *American Journal of Preventive Medicine*; *Development and Psychopathology*; *Frontiers in Psychiatry*; *International Review of Sport and Exercise Psychology*; *Sleep Medicine*; *BMJ Open*; *Frontiers in Behavioural Neuroscience*; *Psycho-Oncology*; *Journal of Attention Disorders*; *Psychiatry Research*; *Multimedia Tools and Applications*; and *Health and Social Care in the Community*. Our research and attendant outputs reflect strong interdisciplinarity, as evidenced by publications related to, and collaborations involving, cognate disciplines such as medicine/psychiatry, nursing, health policy and social care.

The published research of the Department of Psychology is high impact and strongly international as shown by the KPIs outlined below for the period 2016–2021.

- Field-Weighted Citation index: 1.97.
- Citations per publication: 11.
- Percentage of publications amongst the top 10% most cited publications worldwide: 20%.
- Percentage of publications in the top 10% of journals ranked by citations: 22.5%.
- Percentage of publications co-authored with international researchers/collaborators: 66%.

The impact of our departmental research can also be seen in non-traditional metrics captured by Altmetric Explorer, which assess research attention in sources such as public policy documents, traditional media, social media, and Wikipedia. Outputs from departmental staff have received 9,068 mentions from a total of 49,486 across Maynooth University (i.e. almost 20% of total mentions at university level) and our departmental research was mentioned in 582 news stories and 70 policy documents.

The Department has three ongoing flagship projects based on funding secured during the period October 2019–December 2020 (totalling approximately €36.39m). These include: (1) the SHAPES (Smart and Healthy Ageing through People Engaging in Supportive systems) project which aims to find ways of helping Europe's ageing population live actively and independently at home - led by Professor Mac MacLachlan and Dr Michael Cooke (€21m); (2) GoGreenRoutes, an Horizon 2020 project on urban health led by Dr Tadhg MacIntyre and colleagues (€10.4m); and (3) the Science Foundation Ireland ADVANCE Centre for Research Training initiative, co-led by Professor Deirdre Desmond (and lead MU applicant) - with a total budget in excess of €13 million that involves the recruitment and training of 130 PhD scholars, a number of whom are currently based at Maynooth University.

A total of approximately €2.2m of new grant funding was won by departmental staff (during October 2020–December 2021) (excluding approximately €900,000 in industry and philanthropic funding) secured from a range of prestigious funding sources including EU Horizon 2020, the National Institute of Health Research (UK), UK Research and Innovation, Science Foundation Ireland, the Health Research Board, the Irish Research Council and Enterprise Ireland. A total of 18 bids for research funding submitted during the reporting period were successful while 10 were unsuccessful (ranging from €5,000 to €1.8m). This demonstrates an overall success rate of 64% and reflects considerable work and effort by departmental staff on the preparation and submission of funding applications to a range of national and international funding bodies.

Staff have been successful in securing a number of awards and notable funding achievements as well as significant media exposure during late 2020–2021. Some examples are listed below (in alphabetical order).



# Faculty Highlights

## Faculty of Science and Engineering

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### National and international awards

In October 2020, Professor Mac MacLachlan and Dr Emma Smith received awards from the *Rehabilitation Engineering and Assistive Technology Society of North America* (RESNA) for their work in the field of assistive technology. Professor Sinéad McGilloway won the *Maynooth University Faculty of Social Sciences Research Achievement Award 2021* whilst Dr Katriona O'Sullivan won the *Maynooth University Faculty of Science and Engineering Early Career Researcher Award 2021*. In October 2021, Dr Bryan Roche was awarded an honorary Doctorate in Psychology from the University of Chichester for his longstanding support for quality postgraduate research within its Department of Psychology.

### Other notable achievements

Dr Michael Daly and colleagues published a paper in the prestigious *Journal of the American Medical Association*, on vaccine hesitancy in the United States - finding that public trust and willingness to vaccinate increased significantly in early 2021. Professor Deirdre Desmond delivered a keynote address at the Australian Orthotics and Prosthetics Association Conference. Dr Unai Diaz-Orueta was guest speaker for the *Psychological Society of Ireland*, Division of Neuropsychology. Dr Philip Hyland and colleagues published an article which was the number one most read (148,000) and most cited (313) article in *Nature Communications* in 2021; this work investigated the psychology of Covid-19 vaccine hesitancy and resistance in Ireland and the UK. Professor Mac MacLachlan continues his work as Research & Innovation Lead for the WHO's Global Cooperation on Assistive Technology (GATE) programme and Knowledge Management Lead for the United Nations Partnership for the Rights of People with Disability (UNPRPD) Programme working across more than 20 countries. He also delivers regular presentations to the Oireachtas Committee on Disability Matters.

The *Centre for Mental Health and Community Research (CMHCR)*, led by Professor Sinéad McGilloway, played a key role in co-establishing, during 2021, the MU Interdisciplinary Childhood Outcomes Network (ICON), comprising staff from several Departments/institutes/centres, including Psychology, Froebel, Education, and Applied Social Studies. ICON successfully tendered to the Department of Children, Equality, Disability, Integration and Youth, to be included in its new multi-supplier framework (2022–2025). In November 2021, Dr Katriona O'Sullivan and colleagues published a synthesis paper in *Nature Communications* which sets forward a new digital framework to consider the achievement of the Sustainable Development Goals. The work considers digital poverty in the context of the UN agenda and is having a demonstrable impact on discourse in the field. Dr Bryan Roche is a collaborator on a new and novel 2021 *National Institute for Health Research* (UK) (NIHR) project examining the efficacy of SMART intellectual skill training for alleviating some of the cognitive impacts of Multiple Sclerosis. The SMART programme was developed by Dr Roche and colleagues and is currently offered online by the MU campus company RaiseYourIQ.com.

Research by members of the Department of Psychology has also received significant national media coverage and public interest during 2020/21. For example, Professor Andrew Coogan discussed his work on sleep health in six different outlets including RTÉ Radio 1 (Drivetime; the Clare Byrne Show), the Irish Independent Real Health podcast, the RTÉ news website and the Journal.ie. Dr Tadhg MacIntyre featured in the RTÉ science series '10 Things To Know About' (2021) which highlights innovations in evaluating the benefits of greenspace for health. Professor Sinead McGilloway's work (along with Dr John Weafer) on a new Junior Cycle Alcohol Education programme in Irish schools, was covered in 43 national and local newspapers and news websites (e.g. Irish Examiner, Kfm radio podcast) and discussed in nine radio interviews (e.g. Newstalk, RedFM, EastcoastFM; Galway BayFM). Dr Brenda O'Connell delivered five episodes for Spirit Radio on Nurturing Positive Mental Health.



Dr Katriona O'Sullivan's 'STEM Passport for Inclusion' project, featured in the recent RTÉ/IUA 'Changemakers' documentary series

Dr Katriona O'Sullivan's 'STEM Passport for Inclusion' project, funded by Science Foundation Ireland (approx. 300k) featured in the recent RTÉ/IUA 'Changemakers' six-part documentary series which explored game-changing research projects in Irish universities (this research was also covered in a Newstalk interview with Dr O'Sullivan). Dr O'Sullivan also discussed her research on women workers, and her experiences of homeschooling, during the pandemic, in a number of newspaper articles/interviews (e.g. The Irish Independent, Irish Examiner).

Dr Richard Roche participated in interviews on RTÉ Radio 1 and Newstalk, on the topic of science and art, whilst he was also an invited panellist on a number of online and in-person public discussions on arts and science, including science communication. In addition, he organised/ hosted two online events as part of *Brain Awareness Week 2021* (on synaesthesia and music consciousness) and contributed to an SFI-funded Science Week project on intergenerational learning about the brain.

During the reporting period, a number of departmental staff also contributed to important national and international research on the ongoing experiences and impacts of the Covid-19 pandemic, including work on various aspects of mental health and wellbeing and psychological responses to the pandemic, including: symptom trajectories and experiences (Daly et al.; Hyland et al.); families with parental mental

illness (McGilloway et al.); child and adolescent mental health (including the experiences of Leaving Cert students) (McGilloway et al.; O'Sullivan et al.); and the mental health of refugees and migrants (Murphy et al.). Additional work was conducted on: sleep timing and quality (Coogan et al.); vaccine uptake/refusal (Daly et al.; Hyland et al.); the impact of Covid-19 on rehabilitation and quality of life research in multiple sclerosis (Maguire et al.); experiences of loneliness (McHugh Power et al.); the macropsychology of COVID-19 (McVeigh et al.); the impact of the pandemic on parents and especially women (O'Sullivan et al.); and assistive technology use/provision (Smith et al.). Collectively, all of this work led to 35 national and international peer-reviewed journal articles.

## Engaged Research

Civic engagement continues to be an important aspect of the departmental research activities, involving partnerships with individuals and wider groups in the national and international community, including service users and providers, practitioners, schools, industry, governments, NGOs, United Nations agencies and other civil society representatives/actors. The work of both the ALL Institute and the Centre for Mental Health and Community Research (CMHCR), in particular - of which a number of departmental staff are members - is characterised by a strong engaged research ethos. Some examples, relevant to the reporting period, are provided below.

Professor Deirdre Desmond's research on 'Integrated Housing and Health Care for an Ageing Population Programme (IHHCAP)', funded by Age Friendly Ireland, is exploring programme experiences, perceptions and outcomes amongst service user participants in Healthy Homes. This brings together actors from housing, health, community care and assistive technology.

Dr Philip Hyland worked with the HSE's National Office for Suicide Prevention to co-design and execute the first nationally representative survey of the Irish adult population to determine the lifetime prevalence of suicidal ideation, non-suicidal self-harming behaviour, and attempted suicide. Dr Hyland also worked with Mental Health Reform to co-design and disseminate a study investigating the Irish public's attitudes to the government response to the COVID-19 pandemic.

Dr Rebecca Maguire has led projects in the field of Multiple Sclerosis, both within Ireland, and at a European level (funded by the European MS Platform), involving significant stakeholder input. For example, the FRaMeS (Framework for Multiple Sclerosis Ireland) project, funded by an Irish Research Council New Foundations grant, was found to have had a number of important service evaluation and monitoring impacts for MS Ireland. Dr Maguire also supervises a number of engaged research projects driven by public and patient involvement (PPI), focusing on, for example, the needs of paediatric cancer caregivers, experiences of gay/bisexual men and those living with Multiple Sclerosis.



Professor Mac MacLachlan, Department of Psychology, ALL Institute

Professor Mac MacLachlan is leading two engaged research projects (as well as the SHAPES project), including: (1) a Marie Skłodowska-Curie Actions COFUND Collaborative Research Fellowship for a Responsive and Innovative Europe (CAROLINE) which aims to promote the scaling of community social innovations to promote inclusion in SDG implementation; and (2) the AT2030 project funded by Ukaid/the UK Department for International Development, and led by the Global Disability Innovation Hub, which aims to promote Assisted Living for all.

The HSE-funded PRIMERA (Promoting Research and Innovation in Mental Health services for children and families) research team, led by Professor Sinéad McGilloway and Dr Mairead Furlong, have continued their collaboration with community-based adult mental health and Child and Adolescent Mental Health Service sites across Ireland to help embed evidence-based family-focused practice within mental health services. The PRIMERA team have also worked with a proposed innovative new residential mental health initiative called Kyrie Farm, to help them incorporate service user input into their planning/development. In addition, Professor Sinéad McGilloway supervises/mentors a number of engaged research doctoral projects, including Fiona Flynn's (IRC scholar) work involving the co-design - with young people and in collaboration with BodyWhys - a school-based body image and social media intervention (one of the first in the world) - to help young school going adolescents cope more effectively with body image and psychological wellbeing concerns. Mary Cronin also worked with family carers during 2021 (as part of the CHERISH project and in collaboration with Family Carers Ireland), to co-design and deliver carer workshops to help family carers communicate more effectively with their GPs/other healthcare professionals.

# Faculty Highlights

## Faculty of Science and Engineering

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Dr Joanna McHugh Power, Department of Psychology

Dr Joanna McHugh Power's work on the 'SOCIAL' (SpOusal Caregiver Loneliness during the nursing home admission of a person with dementia) project involves several community partners (the Alzheimer's Society of Ireland, St James' Hospital Dementia Support and Information Centre, the HSE, the Age Friendly Maynooth Initiative, and the Loneliness Taskforce) who are working together to help design and deliver services for spousal caregivers of persons with dementia to support them during nursing home admission. Dr McHugh Power is also a collaborator on the UKRI-funded 'SPACE' (Supportive environments for Physical and social activity, healthy ageing and Cognitive hEalth) project which involves working with several international networks to promote cognitive health and minimise cognitive decline by targeting modifiable population risk factors, reducing neurodegeneration risk and increasing cognitive resilience.

Dr Katriona O'Sullivan leads the STEM Passport for Inclusion project, a collaboration with Microsoft Ireland, Accenture, Munster Technological University and Mercy Inchicore Secondary school. The programme is working to support 1,000 young women from DEIS schools to build the social, cultural and human capital to understand and progress into STEM courses and careers. The Digital Wealth Project, also led by Dr O'Sullivan, is partnering with 45 schools and Microsoft Ireland, over the next three years to build school digital wealth.

With regard to wider community outreach and engagement, the SALaM Ireland research team, led by Professor McGilloway and Yvonne Leckey, organised and hosted an event on refugee mental health as part of Maynooth University's Social Justice Week (2021). The CMCHR also organised/hosted, in collaboration with the MU Access Programme and the Office of the VP for Equality and Inclusion, an online 'Challenging mental health stigma' event as part of the annual SeeChange Green Ribbon campaign in 2021. A number of departmental staff including several in the Centre for Mental Health and Community Research, also contributed actively during the reporting period, to the work of national networks such as the *Prevention and Early Intervention Network* (Yvonne Leckey) and the *National Parenting Network* (Professor Sinead McGilloway), both of which comprise a wide range of community-based NGOs. Dr Richard Roche has also been involved in a number of engagement and outreach activities as part of his role with the Federation of European Neuroscience Societies (FENS) Communication Committee, as well as a number of other community-based contributions, including an invited talk to the Glasnevin Virtual Alzheimer Café.

## Theoretical Physics

The academic year 21/22 was particularly successful for the Department with new research awards almost €600,000 and a total grant portfolio of €1.3m. The Department had six academic staff, 10 PhD students, one research masters and four postdoctoral researchers. Research in the Department focuses on five areas of research: Cosmology and Astrophysics; General Relativity and Quantum Field Theory; Far-from-equilibrium quantum dynamics; Topological phenomena in condensed matter physics and their application to topological quantum computation and Non-perturbative Quantum Field Theory

## Cosmology and Astrophysics

The main focus of work by Professor Peter Coles is on statistical cosmology, largely focused on developing and testing methods for the analysis of relevant data sets in preparation for the European Space Agency's Euclid mission, which is due for launch around 2022 and which will be used to probe the nature of dark matter, dark energy and the geometry of the expanding Universe. Professor Coles is a full member of the Euclid. Together with a Maynooth PhD student (Gallagher), he studied the evolution of large-scale structure in theories with ultra-light dark matter.

Dr John Regan continued his work is on the formation mechanisms of massive black holes in the early Universe. His group in the Department grew by the addition of two PhD students (McCaffrey and Ward).

The Department of Theoretical Physics also supports the *Open Journal of Astrophysics*, published by Maynooth University Press, an innovative and highly successful peer-reviewed Diamond Open Access Journal based on the arXiv overlay concept. Professor Coles is the Editor-in-Chief of this Journal.

## General Relativity and Quantum Field Theory

From October 2020 to September 2021 Professor Brian Dolan continued his work on the AdS/CFT approach to the Quantum Hall Effect, using different dyonic black hole space-times with a dilaton and axion field, with electromagnetic duality symmetry, to model modular symmetry of the QHE hierarchies. He published three papers in refereed journals during the period covered by this report. Professor Dolan retired from the University in August 2021.

## Far-from-equilibrium quantum dynamics

During this period, the primary theme of research by Dr Masud Haque was that of dynamical phenomena in quantum many-component systems. He published two papers in this area during the period covered by this report. He left the University in Summer 2021 for a position in Germany and is yet to be replaced. One PhD student (Nakerst) left with Dr Haque; another Maynooth PhD student (Burke) remains in Maynooth and is continuing to collaborate.



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## Topological phenomena in condensed matter physics and their application to topological quantum computation

An important highlight in this area was the award of a collaborative grant under the Disruptive Technologies Innovation Fund for Quantum Computing in Ireland: A Software Platform for Multiple Qubit Technologies which establishes the Department as a major player in this burgeoning area. Professor Jiri Vala who leads the Maynooth contribution is on sabbatical for the academic year 21/22 to allow him to devote 100% of his time to this project.



Professor Jiri Vala, Department of Theoretical Physics

Dr Joost Slingerland also carries out leading-edge research in this general area which receives ongoing research funding from Science Foundation Ireland. With Tomasz Maciazek (Bristol), he significantly developed 'graph braiding', the quantum description of particles exchanging at junctions in wire networks. A workshop on this topic was organised in Bristol in September 2021: Dr Slingerland and group members Alex Bullivant (PDRA), Gert Vercleyen (PhD) and Aaron Conlon (PhD) presented work there. Alex Bullivant and his collaborator Clement Delcamp (MPI Garching/Munich) developed mathematical structures that encode the process by which loop excitations are formed out of topological strings.



Dr Joost Slingerland, Department of Theoretical Physics

Maynooth PhD Darragh Millar submitted and defended his Ph.D. Thesis 'Interacting Anyons in One and Two Dimensions: Strong Zero Modes in Anyon Chains and Non-Abelian Anyons on a Torus'. With Graham Kells' group (DIAS), Dr Slingerland investigated the interplay of non-equilibrium classical and quantum transport of particles on a wire, combining two paradigmatic models for the quantum regime.

## Non-perturbative Quantum Field Theory

Over the period covered by this report, Dr Jon-Ivar Skullerud has continued to work on

- Quantum chromodynamics (QCD) at high temperature and density, and phenomenology of heavy-ion collisions.
- The problem of colour confinement; quark and gluon correlation functions.
- Bayesian inference and methods for solving inverse problems.
- Philosophy of physics and in particular of quantum field theory

Dr Skullerud was invited to give a keynote plenary talk at the 'Virtual Tribute to Quark Confinement and the Hadron Spectrum' conference in August 2021. With collaborators in Australia, Germany and Portugal he published the first ever calculation of the quark-gluon vertex in lattice QCD including the back-reaction of the quarks onto the gluons.

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# Faculty Highlights

## Faculty of Social Sciences





# Faculty Highlights

## Faculty of Social Sciences

### Applied Social Studies

The Department of Applied Social Studies encompasses the three disciplines of Community and Youth Work, Social Policy, and Social Work, united in a shared mission of advancing understanding of policy and practice in areas of social justice, human rights, and equality.

The Department of Applied Social Studies comprises 13 academic staff and 349 students, with 115 post graduate students including 18 doctoral students. For the year 2020–2021 71 publications were produced by staff, seven Research grants were awarded and €82,956 in grant monies received.

Research activities and achievements in the Department of Applied Social Studies in 2020–2021 continue to illustrate the disciplinary, interdisciplinary, and multidisciplinary nature of the Department's scholarship. Research achievements also illustrate the broad range of academic, professional, and public contribution interests and commitment of departmental staff.

The extensive scope and calibre of the Department's scholarships is reflected in the range of international peer-reviewed journals in which articles authored or co-authored by Applied Social Studies staff were published. These included Community Development Journal (Dr Jamie Gorman), British Journal of Social Work (Dr Niamh Flanagan), (Dr Calvin Swords), European Journal of Social Work (Dr Gloria Kirwan), Social Work and Social Sciences Review (Dr Gloria Kirwan), Qualitative Social Work (Professor Maurice Devlin, Families, Relationships and Societies (Dr Ciara Bradley), Journal of Mental Health Training, Education and Practice (Dr Calvin Swords), Journal of Culture, Health and Sexuality (Dr Kathryn McGarry).

During the year 2020–2021 Dr Gloria Kirwan co-edited the international Journal of Social Work Practice and Professor Maurice Devlin served on the editorial board of Youth Studies Journal.

A particularly creative and ground-breaking research publication in 2020–2021 was the publication in the journal, Irish Social Worker of an article by the entire graduating class of Masters in Social Work students with staff Dr Niamh Flanagan and Dr Gloria Kirwan on the push and pull factors of a social work career. This realised programme goal of students being published authors by the time of graduation.

The past year has seen the Department continue to develop its' contribution to Social Work scholarship and research, including continued contributions in Social Work and Mental Health. Significant journal contributions in this area were published by Dr Gloria Kirwan and Dr Calvin Swords on service user's voice in mental health (Social Work and Social Services Review) and on the recovery model in mental health (Irish Journal of Applied Social Studies).

Reflecting the continuing growth of digital technologies in the social professions, Dr Hilary Tierney led an innovative and collaborative project with the National Youth Council of Ireland and Léargas to produce open source, interactive materials which are now hosted on the

youthworkandyou.org website. This has involved the production of three online units and three modules on the theme of international youth work and includes three downloadable publications.

Reflecting the Departments' growing scholarship, research and reputation on housing, the Department hosted the highly successful third annual Maynooth public housing conference. The housing conference led by Dr Rory Hearne has become established as an important and unique national academic, policy and civil society conference in Ireland. Feedback on the conference from participants highlight its unique importance as a space for interdisciplinary and cross-sectional exchange and dialogue.



Dr Rory Hearne's article 'The Government does not want you to be able to afford to buy a home' was the most read opinion piece that thejournal.ie has ever published

Dr Rory Hearne has continued to publish extensively on housing policy in Ireland and a particular focus of his work in 2020–2021 has been bringing his housing research and policy analyses to a wider public audience. In this context his article 'The Government does not want you to be able to afford to buy a home' (Journal.ie 5 May 2021) went viral and has been read by approximately 150,000 readers. This makes it the most read opinion piece that thejournal.ie has ever published. More recently, the online news website Joe.ie did an extended interview with Dr Hearne in which he explains Ireland's housing crisis and how to address it. This extended interview had had over 10,000 views.

Also in June 2021, Dr Hearne was invited to present his recent book, Housing Shock, the Irish Housing Crisis and How to Solve It (Policy Press, 2020) to the President of Ireland, President Michael D. Higgins at Arás an Uachtaráin. Overall, 2020–2021 was a year in which Dr Hearne became established as one of the most published social policy academics in Irish media in 2021 including print, radio, TV and online.

On the continued development of Social Work teaching and research within the Department, Johanna O'Shea gave a range of conference papers including to the European Conference for Social Work research in Bucharest, and to the International Society for the Scientific Study of subjectivity (ISSS) in Nantes, France.



# Faculty Highlights

## Faculty of Social Sciences

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Reflecting the research on hate crime in the Department, Dr Séamus Taylor presented a paper to the National Disability Authority Annual Conference 2020–2021 on addressing Disability Hate Crime. He also made a written submission and gave oral evidence to the Oireachtas Justice Committee pre legislative scrutiny of the Criminal Justice (Hate Crime) Bill 2021.

The Department's continued its scholarship in gender equality studies and our commitment to university wide research collaboration Dr Ciara Bradley lead Work Package 2 on 'Training' across the MotherNet project as part of Horizon 2020 Marie Curie research and innovation programme, Twinning. This is a substantial part of the overall MotherNet project. Dr Bradley also serves on the MotherNet Project Steering Committee and on the Mother Net Research Ethics Committee

Staff actively contributed to European funded research on youth work and old age and social exclusion. Professor Maurice Devlin continued to serve as the Irish correspondent (appointed by the Department of Children, Equality, Disability, Integration and Youth (DECEDIY) for the European Knowledge Centre on youth policy established by the Council of Europe. Professor Devlin also served as a member of the National Working Group for the European Union Youth Dialogue convened by the DCEDIY as part of the European Union Youth Strategy.

Professor Devlin has also served in 2020–2021 as External Reviewer for the Research Grants Council of Hong Kong and on the Advisory Board of Youth and Globalization (Brill).

Dr Joe Larragy continued to serve as a member of the Management Committee for the ROSEnet COST ACTION (CA 15122) on Reducing Old-Age Exclusion: Collaborations in Research and Policy.

More generally, partnerships with civil society and direct public contributions to the policy and practice domains continued to be key aspects and defining strengths of the Department's scholarships.

Dr Brian Melaugh served as Board level Director with Merchants Quay Ireland, GP Care for All, Neart Le Chéile Drugs Project, North Inner City Drugs Task Force – inter Agency Drugs Project. Through these directorships Brian continued to contribute to policy and service developments to improve the lives of people who use drugs and to improve health outcomes for marginalised groups. In recognition of this contribution Dr Melaugh gave the keynote presentation, 'Irish Drugs Policy – looking back to look forward' at the Fergus McCabe Memorial Conference, From the Rabbitte Report to a Citizens' Assembly, A community development approach to the drugs issue. Professor Maurice Devlin served as Board level Director of LGBTQ+ Youth Service, BeLong To and completing his board tenure, he was succeeded on the BeLong To Board by Dr Brian Melaugh. Professor Devlin continued to serve in his role as joint Chairperson of the North South Education and Training Standards Committee for Youth Work (NSETS).

Professor Devlin also served as a member of the Assessment Panel for the Children's Rights Alliance's Report Card 2021, an annual assessment of the government's progress in developing and implementing effective and appropriate policies and services for children. Professor Devlin also is a member of the Learning and Development Appraisal Committee of

Solas, the national further education and training agency. Dr Marianne O'Shea served on the Policy and Practice Working Group of Community Work Ireland over the past year, as well as on the Community Work Educators Forum of the All Ireland Endorsement Body for Community Work Education (AIEB). Dr O'Shea also continued to serve as a board member of the Liberia Solidarity Group, Ireland and completed her tenure as a board member of Offaly Traveller Movement. Dr Ciara Bradley chaired the Maynooth University Social Justice Committee in 2020–2021 and oversaw a highly successful programme of events, and Dr Joe Larragy completed his tenure as chairperson of the Maynooth Green Campus with another highly successful year of green initiatives across the University. Dr Ciara Bradley also continued to serve as a member of the board of the All Ireland Endorsement Body for Community Work Education, as a member of the Community Work Ireland Centre Group, as a member of the Community Work Ireland Climate Justice Working Group and as a member of the Pavee Point Traveller and Roma Centre Research Committee.

Dr Kathryn McGarry continued to serve as a board member of the Irish Sex Workers Alliance.

Dr Niamh Flanagan, Dr Ciara Bradley and Dr Gloria Kirwan undertook an innovative student feedback and teaching research evaluation initiative funded by the Maynooth University Centre for Teaching and Learning. The team developed a suite of student feedback initiatives contributing to embedding the practice of securing and acting on student feedback within the Department.

Dr Joe Larragy continued to serve as a member of the Pensions Policy Research Group, a multidisciplinary research group undertaking research on Ireland's public and private pension systems.

Dr Rory Hearne served on the steering group of The Right to Housing campaign – Home for Good. Dr Hearne chaired an expert advisory group for the mental health charity, A Lust for Life.

Dr Séamus Taylor served as chair of the board of the Irish Penal Reform Trust, and as independent chair of the criminal justice system, Hate Crime Scrutiny Panel for London.

Dr Taylor served on the Department of Justice Review on the role of the police in criminal prosecutions. Dr Taylor also served as a member of the Government's Expert group on Equality Budgeting. Dr Taylor also served on the follow up implementation review of the Windrush Lessons Learned Review in Britain which is due to report in 2022.

### Engaged research in 20/21 included:

- Engaged research project exploring the benefits of a mental health service users social club (2020) Dr Gloria Kirwan and Dr Calvin Swords.
- Experiential dialogue research project exploring social work practitioners' issues (2020, Dr Niamh Flanagan, Dr Gloria Kirwan and J Hyland.
- Engaged research exploring positive mental health and suicide prevention with sex working communities. A collaborative study with community-based research partners Sex Workers Alliance Ireland, Red Umbrella Front and HIV Ireland. Involves a participatory action research design. Dr Kathryn McGarry Co-Pi.

- Engaged research project to explore issues of social inclusion and racism in a 2<sup>nd</sup> level school. Based on participative research design involving students as part of research team. Dr Niamh Flanagan, Tonye Benson-Olatunde, and Dr Elaine Wilson.
- Engaged research project on student feedback and teaching evaluation initiative (2020) Dr Niamh Flanagan, Dr Ciara Bradley, Dr Gloria Kirwan.
- Engaged research with Pavee Point Traveller and Roma Centre on Pavee Mothering in the COVID-19 pandemic. Dr Ciara Bradley.
- Development of open-source educational resource for Maynooth University hosted youth work website. Collaborative project with National Youth Council of Ireland and Léargas. Dr Hilary Tierney.
- Membership of the Assessment Panel for the Children's Rights Alliance, Annual Report Card 2021. Professor Maurice Devlin.
- Engaged research project on the experiences of minority ethnic young people in north County Dublin. Commissioned by NYCI. Lead by Professor Maurice Devlin and Associate Professor, Dr Hilary Tierney and being carried out with colleagues from the Centre for Youth Research and Development (Dr Jamie Gorman, Aidan Farrelly, Tonye Benson-Olatunde and Reuben Hambakachere) and in close collaboration with local communities, young people, and local organisations.

## School of Business

The School of Business employed 56.5 academic staff members during October 2020-August 2021. In 2021, School faculty published 57 peer-reviewed journal articles, three books, 18 book chapters, 29 conference publications and 39 other publications such as journal editorials, working papers, policy reports, mass media articles and blog posts. The faculty presented over 45 papers at various leading international conferences.

The Chartered Association of Business Schools (CABS) Academic Journal Guide is a leading international benchmark of the quality of business and management journals. 1,700 journals are ranked from 4\* to 1. CABS 4\* is reserved for 43 journals of distinction which are recognised worldwide as exemplars of excellence (top 2.5%). CABS 4 journals (top 5.6%) publish the most original and best-executed research and have high submission and low acceptance rates. CABS 3 journals (next 18.5%) are considered excellent. In 2021, 46 of the 57 peer-reviewed journal articles from the School of Business were published in ABS ranked journals, with two in CABS 4 journals and 24 in ABS 3 journals. In summary, 46% of all journal articles published by the School of Business faculty in 2021 appeared in journals that are classified as publishing original and well-executed research (CABS 3, 4 and 4\*), and 4% appeared in the outlets that publish the most original and best-executed research in the field (CABS 4 and 4\*). In addition, two editorial articles were published in CABS 4\* journals, so in total 7% of our publications appeared in CABS 4 and 4\* journals. This is an excellent outcome relative to international Schools of Business performance.

These CABS 4 and 4\* peer-reviewed journal articles are (in alphabetical order with Maynooth colleagues in bold):

- Geary, J., Nyiawung, J. (2021) 'The Impact of Chinese Investments on Western Multinational Enterprises' Work and Employment Practices: A Consideration of Institutional, Power and Dominance Effects'. Human Relations (CABS 4).
- Trif, A., Paolucci V., Kahancová, M., Koukiadaki A. (2021) 'Power resources and successful trade union actions that address precarity in adverse contexts: The case of Central and Eastern Europe'. Human Relations (CABS 4).

These successes demonstrate that the broad field of Management is a particular area of research excellence at the School of Business.

Publication trends in the School since 2014 indicate a steady shift towards a higher share of peer reviewed journal publications, and a shift towards a higher share of CABS 3 and 4 papers, which is an explicit strategic goal of the School.

The quality of the research done at the School of Business is also evidenced by the research paper awards received by our faculty. In particular, Dr James Duggan received the Best Paper Award for his paper 'Algorithmic management and app-work in the gig economy: A research agenda for employment relations and HRM' from the Human Resource Management Journal (CABS 4\*). Professor Audra Mockaitis received the Best Paper award at the British Academy of Management 2021 annual conference for her paper 'New Ways of Working and the Illusion of Flexibility: The Impact of Temporal Schemata, Role Conflict and Overload on the Wellbeing of Global Virtual Team Members'. Dr Kiera Dempsey-Brench received the Best Paper Award from the Management, Education and Development Division of the Academy of Management Annual Conference for her paper 'In the eye of the storm: Turbulent times and the MBA'. Dr Marian Crowley-Henry received the WAIB (Women in the Academy of International Business) Best Paper Award at the Academy of International Business conference for her paper 'The Impact of Gender Role Orientations on Subjective Career Success: A Multilevel Study of 36 Societies'



Dr James Duggan, School of Business

# Faculty Highlights

## Faculty of Social Sciences

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The service contributions of our faculty to the international academic community have been recognised as well. These include senior editorial roles and responsibilities: for example, Dr Olga Ryazanova wrote two editorial articles for the Academy of Management Learning and Education (CABS 4\*); Dr Sanjay Singh has been appointed as a Consulting Editor for the Journal of International Management (CABS 3) and as an Associate Editor for the Cross-Cultural & Strategic Management; Dr Marian Crowley-Henry has been appointed as a co-Editor-in-Chief of the Irish Journal of Management (CABS 1) for a 4-year term; Dr Adegboyega Ojo was appointed as an Associate Editor for the Digital Government – Research and Practice. Our faculty is also actively involved in guest-editing of the special issues in the journals. Dr Marian Crowley-Henry served as a guest co-editor of the special issue of Gender, Work, and Organization (CABS 3); Dr Bastian Rake as a guest co-editor of the special issue of Innovation: Organization & Management (CABS 2); Dr Sanjay Singh served as a guest co-editor for the special issues in the Journal of Business Research (CABS 3), Asia Pacific Journal of Management (CABS 3), IEEE Transactions on Engineering Management (CABS 3) and Cross-Cultural & Strategic Management. Dr Adegboyega Ojo co-chaired a conference track on Artificial Intelligence and Algorithms for Future Governments at the 22<sup>nd</sup> Annual International Conference on Digital Government Research. Dr Umair ul Hassan served as an Associate Chair of the 24<sup>th</sup> ACM Conference on Computer-Supported Cooperative Work and Social Computing. Dr James Duggan joined the Council of the Irish Academy of Management (IAM) to serve on the Early Career Development Network subcommittee and act as a Co-Editor of the bi-annual IAM newsletter. Dr Tatiana Andreeva co-organised a workshop on Necessary Condition Analysis at the British Academy of Management Annual Conference.

All these achievements indicate the recognition of the expertise of our faculty and acknowledgement of their contribution to the field by the international research community.

External funding secured by members of the School exceeded €1,500,000 in 2020/21 with the largest successes being Professor Markus Helfert securing funding through the Science Foundation Ireland for Adapt II project and through Lero Research Centre for the *RIPE: Responsible AI for Person Empowerment on Health and Wellbeing* projects. These successes demonstrate the strength of the Management Information Systems area in the School of Business in attracting external funding.

School of Business faculty actively engage with industry and the broader community through collaborative research with industry and the dissemination of research to the wider community through various forums. This includes organising workshops for various stakeholders, membership in various industry bodies and committees and consulting for industry. Our dissemination efforts include a wide range of invited presentations at different practitioner-focused forums and media appearances, including 14 opinion pieces published in various mass media, one radio interview and 11 blog posts.

A range of the industry engaged projects of our faculty have turned into long term regular collaborations, so in the examples below we focus on the new, recently started collaborations. One example is the collaboration by Dr Bastian Rake with AstraZeneca and different Swedish academic

institutions. This project explores how governance structures in four AstraZeneca's large-scale long-term, overlapping collaborative research projects with academia changed as a result of insights gained by both partners. Another example of School of Business research engagement with external stakeholders and wider community is a project by Dr John Cullen in collaboration with the Kildare County Council and the Climate Action Regional Offices. Dr Cullen's project, titled *Exploring Economic Opportunities from Climate Action for Local Authorities*, aimed to influence local government policy and practice on climate action and enterprise. The results of this work were presented to County Managers, SMEs and entrepreneurs. One more example is Dr Fabiano Pallonetto's engagement with the European Union as an expert in Sustainable Mobility consultation panel. The work of this panel will serve to inform policy in this area.



Dr Bastian Rake, School of Business

School of Business faculty actively engage with various external stakeholders in their research and research outreach activities. Between October 2020 and September 2021 these included:

### Workshops and seminars organised or delivered

- 5<sup>th</sup> International Conference on Power and Energy Applications (ICPEA 2022), Dr Fabiano Pallonetto served as a Publicity Chair - [www.conference2go.com/event/5th-international-conference-on-power-and-energy-applicationsicpea-2022/](http://www.conference2go.com/event/5th-international-conference-on-power-and-energy-applicationsicpea-2022/)
- Co-Design Workshop Opening Doors (02/06/2021): Dr Nicola Mountford designed and hosted a multi-disciplinary and multi-sectoral collaborative online workshop to examine Open Science and Open Innovation skills for PhD students. Participants included big pharma, high tech SME, government agency, research institutes, student unions and universities. (part of European Union's Horizon 2020 research and innovation programme)
- Co-Design Workshop CHAMELEONS (18 November 2020 and 30 March 2021): Dr Nicola Mountford co-designed and co-hosted two multi-disciplinary and multi-sectoral collaborative online workshops to examine ways of opening up non-academic career pathways for PhD students. Participants included patients, patient representative organisations, health technology companies, hospitals, researchers and students. (part of European Union's Horizon 2020 research and innovation programme).
- 2021 Open Scholarship Week (10 May 2021-14 May 2021): Dr Umair ul Hassan co-organised the Open Scholarship Week (OSW2021), that enabled staff, students, members of the public and a variety of other



stakeholders came together to talk about changing the ways scholarly information is openly communicated, shared, and used. OSW2021 offered a diverse range of talks and workshops representing many different perspectives and disciplines on Open practices in research and education. [www.nuigalway.ie/osw/pastconferences/2021](http://www.nuigalway.ie/osw/pastconferences/2021)

### Invited presentations at practitioner-focused forums

- “Role of AI in the Decarbonisation of our Society”, Dr Fabiano Pallonetto, 4 November 2021, 5<sup>th</sup> International Conference on Power and Energy Applications (ICPEA 2022).
- “Transforming Patient Experience in Public Hospitals through Advanced Analytics”, Dr Adegboyega Ojo, a keynote presentation at the 2021 edition of the International Conference on Transition from Observation to Knowledge, Ibadan, Nigeria, 19–20 August 2021.
- “The effects of the move to remote & hybrid work: First insights from a longitudinal study”, Dr Tatiana Andreeva and Dr Paola Zappa, invited oral presentation at The Future of Work: can hybrid really work? panel discussion organised by Grow Remote (held online, July 2021)
- “Exploring Economic Opportunities from Climate Action for Local Authorities: Interim Phase 1 Report”, Dr John Cullen, invited presentation on behalf of the Working Group on Exploring Opportunities from Climate Action to the Steering Group on Exploring Opportunities from Climate Action.

### Memberships in various committees and networks:

- Business in the Community Ireland (BITCI):  
BITCI is a movement for sustainable change supporting businesses to bring about a sustainable, low carbon economy and a more inclusive society. Dr Jean Cushen was appointed to a panel of industry and academic partners with the goal of creating a ‘sustainability maturity model’. This panel continues to work to develop this maturity model which aims to guide organisations to evaluate the sustainability of their business and provide a roadmap for change and improvement.



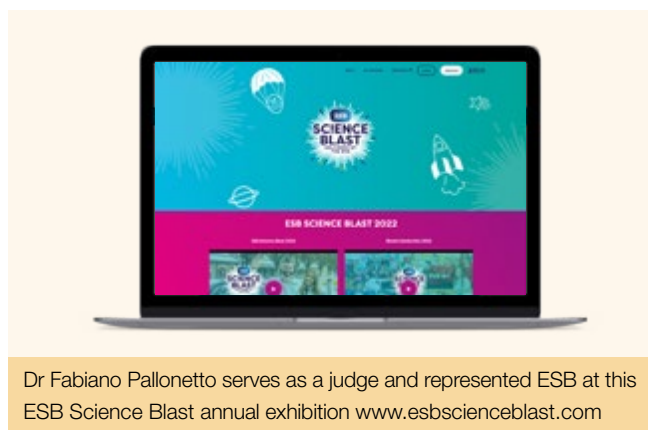
Dr Jean Cushen, School of Business

- Migration, Business & Society Network:  
Dr Edward O'Connor is a member of this global network of scholars, business practitioners, and human rights experts, dedicated to the generation and exchange of knowledge on the topic of migration. The network aims at combining business school research funding, academic and corporate efforts toward tackling migration-specific targets as reflected in the Sustainable Development Goals of the UN Agenda 2030.

- NSAI/ETC 48/SC 26:  
Human Resource Management. Dr Julius Nyiawung liaises with other committee members from various organisations operating in Ireland to advise and develop HRM protocols (policy and practice standards) for professionals and HR Departments.
- ISO/IEC/CEN/CENELEC:  
Human Resource Management (HRM) Standards Committee. Dr Julius Nyiawung is Ireland's representative at the ISO, and helps to develop standards (best practice, guidelines, templates, dashboards, scorecards, and metrics) for HR adoption and application in member countries. He also votes on behalf of Ireland for any new or modified HRM standards.
- Global Power System Transformation (GPST):  
Dr Fabiano Pallonetto is member of this worldwide consortium for rapidly accelerating transitions to advanced low emission power systems in collaboration with power system operators in all regions.
- Annex81 - Data-Driven Smart Buildings:  
Dr Fabiano Pallonetto is part of this network working for the International Energy Agency to integrate buildings in the power system to overcome barriers to the provision of energy efficiency software services and reduce reliance on manual/onsite service delivery.
- PPI Ignite National Forum:  
Dr Nicola Mountford is a member of the Working Group 2 which looks at Embedding PPI (Public and Patient Involvement) scholarship in UG/PG education.

### Other partnerships with external stakeholders

- BT Young Scientist and Technology Exhibition: Dr Jean Cushen serves as a judge and represented the University at this annual exhibition. This four-day event exhibits and evaluates 550 projects from secondary level students across Ireland. Dr Cushen judges and advocates for entries to the ‘Social and Behavioural’ category notably projects relating to the labour market, work, skills, employment, and careers. <https://btyoungscientist.com>
- ESB Science Blast: Dr Fabiano Pallonetto serves as a judge and represented ESB at this annual exhibition. This event exhibits and evaluates 550 projects from secondary level students across Ireland. Dr Pallonetto judges and advocates for entries to the climate change and energy category - [www.esbscienceblast.com](http://www.esbscienceblast.com)



Dr Fabiano Pallonetto serves as a judge and represented ESB at this ESB Science Blast annual exhibition [www.esbscienceblast.com](http://www.esbscienceblast.com)

# Faculty Highlights

## Faculty of Social Sciences

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### Provision of professional development activities to industry/practice

- *Competitive Strategy*, Dr Emmanuel Kypraios (November, 2021)  
Dr Emmanuel Kypraios delivered a keynote address to the security industry professionals as a part of the 'Professional certificate in strategic leadership and organizational change', a 5-week executive programme that prepares students for advancement through management levels, especially in the security industry.

### Research with/for industry

- Dr Jean Cushen and Professor Peter McNamara, supported by Niall Foster, worked in 2019–2021 with the National Forum for the Enhancement of Teaching and Learning in Higher Education on a funded project relating to Enhancing the Career Efficacy of International Postgraduate Students. They designed and invested in a range of practice engaged curriculum activities, one-to-one communications and recruitment supports for our international learners to support and enhance their prospects in the labour market; and carried out follow-up surveys to measure the impacts of these interventions.
- In 2021 Dr Jean Cushen, together with Dr Tatiana Andreeva and Dr Paola Zappa, worked collaboratively with Kildare based Recruitment and Coaching firm, Clark Recruitment, Grant Thornton and County Kildare Chamber to design and report on a significant workforce survey of employers and employees along five counties on the M7 corridor focusing on talent resourcing, skills, workplace culture and future trends for business success.
- In 2021 Dr Fabiano Pallonetto has a consultancy contract with the European Union as an expert in Sustainable Mobility consultation panel. The work of this panel will serve to inform policy and will produce a report (Autumn 2022).
- Dr Fabiano Pallonetto has been working since 2018 on a collaborative project with several EU universities and power system companies to develop an analytics software and optimisation model for power systems with high penetration of renewable energies. The objective is to develop a generic framework for scaling the optimal economic dispatch and unit commitment for large power systems – still ongoing.
- Dr Adegboyega Ojo co-developed a Health Research Board Project proposal jointly with co-applicants from the Health Information and Quality Authority (HIQA), Health Service Executive (HSE) and Department of Health (DoH) on the use of computational text analytics methods for the secondary analysing of the qualitative data collected as part of 2020 National Maternity Experience Survey and the 2019 National In-Patient Experience Survey. The successful proposal was submitted in May 2021.
- Dr Bastian Rake has been working on a project 'Doing science together: The increasing momentum of long-term explorative research collaborations' in collaboration with AstraZeneca and different Swedish academic institutions. The objective of this project is to study how governance structures in four AstraZeneca's large-scale, long-term, overlapping collaborative research projects with academia changed as a result of insights gained by both partners.
- Dr John Cullen leads the research programme for the Economic Opportunity & Climate Action project group for the Climate Action Regional Offices. As a part of this work. Dr John Cullen worked in

collaboration with the Kildare County Council and the Climate Action Regional Offices on a research project titled 'Exploring Economic Opportunities from Climate Action for Local Authorities', which aimed to influence local government policy and practice on climate action and enterprise. The results of this work were presented to County Managers, SMEs and entrepreneurs.

### Policy reports

- Cullen, J.G. (PI), Keyes, J., Church, R., Dunney, A., Maher, B., Regan, P., O'Riordáin, S., Phelan, D. (2021). Exploring Economic Opportunities from Climate Action for Local Authorities: Interim Phase 1 Report' Report of the Research Sub-Group of the Working Group on Exploring Opportunities from Climate Action.

### Student involvement in engaged research

- The Business Research Project (BRP) is an element of the MSc programmes that provides a significant opportunity for students, supervised by faculty, to gain real world experience of a business issue. This is an important method through which the research informed, practice engaged values of the School of Business are brought to life and how we seek to live our mission of providing both developing critical thinkers and impactful knowledge for society. The BRP enables students and faculty to apply their research and practice skills to a problem that a client organisation faces. Postgraduates at the School of Business carry out research on any one of a wide number of business areas of strategic importance to organisations. This year we had 102 BRPs across 50 organisations in a range of industries including Tourism, Consultancy, Sustainability, Education, Fashion and Technology. This number is almost doubled compared to the previous year's student involvement in engaged research.

### Participation in MU's SPUR programme

In the 2020–2021 academic year, the School of Business engaged in four SPUR projects with six students:

- 'The curse of specialization: Why Big Pharma did not respond to Covid-19', supervised by Dr Bastian Rake.
- 'Workplace Religious Discrimination: A Systematic Literature Research Project', supervised by Dr John Cullen.
- 'How to develop a successful data driven strategy for food blogging', supervised by Dr Fabiano Pallonetto and Dr Alireza Keshavarz.
- 'A sustainable community-led EVs charging demand response aggregator for shared premises', supervised by Dr Fabiano Pallonetto.

### Research outreach: publications in mass media

- Andreeva, T., O'Higgins, C., Zappa, P. (2021) We can work it out: The challenges of hybrid and remote work for professional service firms, *Law Society Gazette*, November.
- Andreeva, T., Zappa, P. (2021) The hidden aspects of (hybrid) work you should consider, *RTÉ Brainstorm*, September, 22, 2021.
- Andreeva, T. (2021) *Upravljaja znanijami* (Managing knowledge) (in Russian). *Atomic Expert*, November.
- Faury, O.; Fedi, L.; Cheaitou, A.; Etienne, L.; Rigot-Muller, P. (2021) *Avantages, coûts et risques de la navigation en Arctique Russe*. Paris: Magazine Article.

- Hasan, R. (2021) Can chatbots help companies deal with social distancing measures? RTÉ Brainstorm.
- Hayden, M.T. (2021). Beef farmers have lowest engagement level with advisers - research from Maynooth University. Irish Farmers Journal.
- Hayden, M.T. and McNally, B. (2021) Why Irish farmers face big issues when it comes to pensions. RTÉ Brainstorm.
- Hayden, M.T., McNally, B. and Kinsella, A. (2021) 'The Big Pension Problem for Farmers in Ireland' Research, Published by Teagasc, 16 (3).
- Hayden, M.T., McNally, B. and Kinsella, A. (2021) Farmers Locked out of State Pension Rely on Farm Income - Findings from Maynooth University Study. Irish Farmers Journal.
- Hayden, M.T., McNally, B. and Kinsella, A. (2021) Exploring state pension provision policy for the farming community. Media.
- Hayden, M.T., McNally, B. and Kinsella, A. (2021) Maynooth University study shows many low income farmers may be exempt from state pension. The Leinster Leader.
- Ryazanova, O. (2021) Why hybrid working will be a challenge for many companies. RTÉ Brainstorm.
- Sheppard, G. and Beck, M. (2021) Stakeholder Engagement in Public-Private Partnerships in Ireland.
- Sheridan, A. (2021) Ireland can come out on the right side of history by leading the way on climate issues. Irish Independent.

### Research outreach: other appearances in mass media

- Hayden, M.T. (2021) RTÉ 1, Morning Ireland Radio Interview - Expert opinion provided on Pensions Provision for the Farming Community. Media.

### Research outreach: blog posts

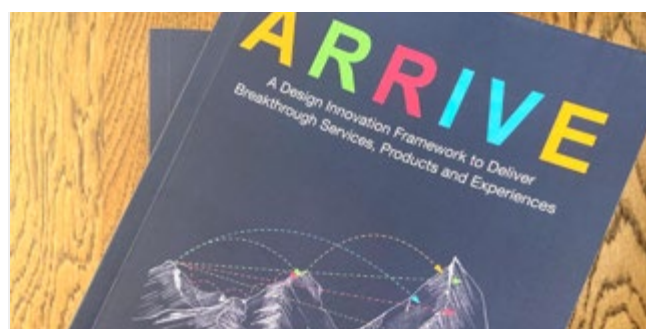
- Andreeva, T. (2021) Resources on doing a literature review.
- Andreeva, T. (2021) Want to publish a literature review? Think of it as an empirical paper.
- Andreeva, T. (2021) Do you really want to publish your literature review? Advice for PhD students.
- Fernandez De Osso Fuentes, M. (2021, November 26). What is digital placemaking and how can it impact well-being through nature? GoGreenRoutes.
- Hasan, R. (2021) 3 important tips to consider for your Influencer Marketing.
- Hasan, R. (2021) Deep Learning can be used to Investigate the Digital Behaviour of consumers.
- Hasan, R. (2021) Pre-Purchasing and Post-Purchasing Travel Behavior of Consumers on Social Media-Tools for your Social Media Strategies. Blog
- Hasan, R. (2021) Social Influences on Social Media and Its Influence on Consumer Behaviors.
- Hasan, R. (2021) Text Mining can be used to monitor social media.
- Hasan, R. (2021) Text mining the tweets to understand peoples' feelings towards a brand (Example: Ben & Jerry's).
- Hasan, R. (2021) What shapes of robots are preferred by consumers in hospitality services?

## Design Innovation

The Design Innovation Department comprises of seven academic staff. The Maynooth Innovation Lab (*Mi:Lab*) education project hosts four researchers. There were two new funded research awards totalling €41,157 and a further €14,000 from the *Mi:Lab* project, and the Department authored 26 publications in the reporting period.

The Department of Design Innovation has continued its growth in research output, building on research achievements from 2019/20, which saw the highest amount of research output to date in the Department. A strategic aim of the Department is to increase research output and while still working with a small team of staff, it is positive to see such growth. To be noted are the common research themes emerging across the Department: health, education, and the key role that design innovation plays across each of these areas.

In 2021 the Department published its first book, *ARRIVE – A Design Innovation Framework to Deliver Breakthrough Services, Products and Experiences* by Dr Frank Devitt, Martin Ryan and Trevor Vaugh. Published by Routledge, this book provides a best-practice guide for senior managers and directors with innovation responsibilities across a variety of organisational sizes and sectors. Dr Frank Devitt also published in the journal of Usability Studies as well as delivered a keynote address at the Design Thinking Ireland Conference in June 2021.



ARRIVE: A Design Innovation Framework to Deliver Breakthrough Services, Products and Experiences by Dr Frank Devitt, Martin Ryan, Dr Trevor Vaugh

Another source of high research output has been the work carried out within *Mi:Lab*, with its principal investigator (PI) Trevor Vaugh, and researchers (including Dr Threase Finnegan-Kessie), co-authoring peer-reviewed articles in national and international journals including, Higher Education Research and Development, The Design Journal, The Journal of Criminal Justice Education, The All Ireland Journal of Higher Education and The Journal of Teaching & Learning in Higher Education.

*Mi:Lab* was also awarded €7,000 to provide strategic alignment work for the National Recognition of Prior Learning (RPL) Project (a €6.9m Human Capital Initiative (HCI) Pillar 3 project), coordinated by the Technological Higher Education Association (THEA). They worked with the steering committee (including registrars from 19 HEIs across the country, and members of the HEA) to co-create a vision statement for the project, in addition to a *Book of Discovery*, which traced the development of the



# Faculty Highlights

## Faculty of Social Sciences

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vision statement. The broad reach of this project and inclusion of such a volume of participants makes this the biggest Design-Thinking project to have been conducted on the island of Ireland. On the back of this research, *Mi:Lab* is currently working on experience mapping the entire RPL eco-system and developing solutions to address the challenges faced in this sector.

Additionally, *Mi:Lab* published *Thrown in the Deep End: Student and Staff Experience of Teaching and Learning during the Covid-19 Lockdown*. This report was the basis of a seminar hosted by *Mi:Lab*, titled Redesigning Higher Education, which included 70 participants from HEIs across Ireland, the HEA, the THEA, the National Forum for the Enhancement of Teaching and Learning and the National Student Engagement Programme.



*Mi:Lab* published *Thrown in the Deep End: Student and Staff Experience of Teaching and Learning during the Covid-19 Lockdown*

As a result of this seminar, and the work completed for the National RPL project, *Mi:Lab* was awarded €7,000 to assist with the delivery and reporting of Work Package 7 of the *Moving Forward Together Project*, coordinated by the National Forum for the Enhancement of Teaching and Learning. The findings of these workshops were included in the National Forum for the Enhancement of Teaching and Learning's *Next Steps for Teaching and Learning* which was launched by the Minister for Further and Higher Education, Simon Harris.

Dr Aldo Valencia achieved much research output during 2020/21, adding to the aforementioned publications in collaboration with *Mi:Lab*, including a book chapter in *Handbook of Research Methods in Careers*, co-authored with a team of international researchers. He also secured funding (€3,000) from the MUSSI and Faculty of Social Science Co-Funded Small Research Grants (2020–2021) initiative, to deliver tactile activities during online classes to promote three-dimensional sense-making as well as funding from the Impact Through Dissemination Support Fund 2021 (€1,900). He received €1,000 from the Centre for Teaching and Learning's SPARK Initiative for his project *Playing and Learning: involving haptic, visual, and auditory learning among students for entrepreneurial topics* as well as funding from the Marie Curie Alumni Association, to support the dissemination of his previous research findings.

Over the 2020/21 period, Dr Linzi Ryan continued to research in the area of older person care, her peer-reviewed journal article, *Accessing Community Dementia Care Services in Ireland: Emotional Barriers for caregivers* was published in *Health and Social Care in the Community*

and she presented her research at several older care centric conferences (International Conference on Neuroscience and Dementia; World congress on dementia and Alzheimer's disease). She is currently leading the University's application for the *Age Friendly University Certification* which aims to be awarded by Q3 of 2022. Linzi is also research active in pedagogy development, acting as project lead on the Curriculum Design for Blended Learning Project, in collaboration with Dr Iain Macdonald and Lisa O'Regan. This grant awarded €30,000 to the Department in 2019/20 and resulted in a new programme proposal template for Teaching & Learning, and a paper presented at the Irish Conference on Engaging Pedagogy, as well as the National Forum in 2021. Linzi also secured €16,000 funding for a wholly industry funded project with Uccello Designs, a company specialising in the design of assistive technologies for the homes of older adults.

After a delay due to Covid-19, Dr Iain Macdonald was able to proceed with his 2019 IRC New Foundations grant in collaboration with colleague Dr Céline Healy, Education Department Maynooth University, Irish Cancer Society, and Dr Richard Firth and Dr Eva Malone from Edinburgh Napier University. This international, interdisciplinary and intersectoral project aimed to find new ways to communicate and improve Human Papilloma Virus (HPV) vaccination student awareness and advocacy amongst Transition Year pupils. This study also resulted in conference papers presented in 2021 at Horizons – STEM Higher Education Conference, Open University, and at GLAD (Group for Learning in Art & Design) Conference, Nottingham Trent University. A further grant was submitted through the MUSSI and Faculty of Social Science Co-Funded Small Research Grants (2020–2021) initiative to extend this IRC research budget and undertake another case study in either Scotland or Ireland (this grant was awarded in 2021/22). Iain also published his paper, *Window on the weather: a case study in multi-platform visual communication design, with a relationship to Design Thinking* in the journal, *Visual Communication*.

Dr Mary Galvin secured three peer-reviewed journal articles in 2020/21 with a book chapter since accepted for publication in the *Bloomsbury Handbook to the Digital Humanities*. She led the paper, *A design-led framework for engaged research: Using a design approach to understand and place the public at the core of health and social care*, which was published in *Administration*, the peer-reviewed journal of the Institute of Public Administration of Ireland. Her other peer-reviewed publications were within digital health and multimorbidity in older adults and are a result of her continued collaboration with the Trinity Centre for Practice and Healthcare Innovation at Trinity College Dublin. She was also co-investigator alongside PI, Martin Ryan, on a wholly industry funded grant worth €25,076. This project explored home buying of the future and moving the buyer journey online, for Glenveagh Properties PLC. Mary and Martin are currently working on a paper outlining the results of this project. In 2021, Mary also secured a visiting fellowship at the iNova Media Lab at Nova University, Lisbon.

## Engaged Research

Staff within the Department of Design Innovation are focused upon engaged research, collaborating with external organisations and prioritising public involvement and societal impact. Aside from their traditional academic outputs, staff have become involved with various research related activities within Ireland.



Trevor Vaughn, Design Innovation, ALL Institute, Mi:Lab

In September 2021, Trevor Vaughn was appointed by the Minister of Public Expenditure and Reform to the newly formed *Public Service Innovation Advisory Board*. In this role, he is tasked with monitoring the effective implementation of the national Making Innovation Real Strategy and providing recommendations to the Public Service Reform unit on best practice and trends in driving innovation activities within and across the public service. Trevor was also invited to join the Education and Social Rights Expert Working Group on the Science Foundation Ireland (SFI) National Creating our future Project.

Researching with the HSE, he has developed two national initiatives in 2021; *Design On The Frontline* which brings together designers and healthcare workers to develop solutions to healthcare challenges and *MakerLab*, a mobile makerspace currently being trialled in five hospitals.

Continuing his television and media work, Trevor Vaughn presented a science, research and innovation documentary on RTÉ One and podcast series called *Science to the rescue* for Science Foundation Ireland, covering the €2m Future Innovators Prize. Building on his work on RTÉ's Big Life Fix series, Trevor collaborated with Irish software development company Marino Software to develop a highly accurate AI generated cloned voice and communication app for veteran RTÉ Journalist Charlie Bird, who was diagnosed with Motor Neuron Disease. This AI voice has since been used by Bird to powerful effect – helping him continue campaigning on his #ClimbWithCharlie initiative, helping raise in excess of €1.8m for a number of charities. The project has been covered widely on national television, radio and print media, and its development will feature in a new documentary covering the first six months following Bird's diagnosis, to be aired in June 2022.



Dr Mary Galvin, Design Innovation

Dr Mary Galvin co-chairs the Faculty of Social Sciences Research Committee at Maynooth University as is a part of the Public Patient Involvement working group, which is now a part of the national HRB PPI Ignite Program. Dr Galvin also co-chairs three external research advisory groups: Coolmine TC (a charity focusing on those living with substance abuse), the Inclusion Health Forum (alongside colleagues from Trinity College Dublin, St James' Hospital, the Royal College of Surgeons Ireland, and University College Dublin), and the HSE Spark Innovation group. Her work on the organising committee of the Inclusion Health Forum, has involved the coordination of national learning events for a community of researchers, practitioners, and academics across Ireland, as well as a research prioritisation workshop for Inclusion Health in Ireland, launched by Minister Frank Feighan and Senator Lynne Ruane.

As well as sitting on the board of directors for Coolmine TC, Dr Galvin was also asked to sit on the board of Quality Matters, a not-for-profit working with organisations across Ireland to improve social service design provision and social enterprise. She also sits on the advisory board and expert groups for SEURO, an EU funded Horizon 2020 digital health project.

As noted earlier, Dr Linzi Ryan is currently leading Maynooth University's application for the Age Friendly University Certification which aims to be awarded by Q3 2022. Dr Ryan is also a member of the PPI working group.

# Faculty Highlights

## Faculty of Social Sciences

### Economics, Finance and Accounting

The Department of Economics is a vibrant diverse group of academics with an international reputation for excellence in research. In 20/21 the Department employed 12 academic staff members. The faculty members published nine peer-reviewed journal articles and book chapters, and 16 articles appeared as mass media articles, working papers and policy reports. The faculty also presented their research at leading international conferences.

In 2020, the Research Papers in Economics consortium ranked the Department in the top eight percent of economics research departments/institutions worldwide. Among economics departments in Ireland, this put MU among the top three with UCD and TCD. According to the same ranking, among Irish universities, the Department houses the top female economist Professor Rowena Pecchenino, and one of the top two economists in international trade theory - Associate Professor Dermot Leahy. Our position in research rankings in economics is a natural reflection of the Department's commitment to high quality research.



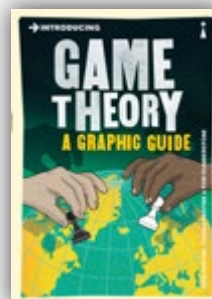
Professor Dermot Leahy, Department of Economics, Finance and Accounting

The Department published in journals ranked as internationally excellent. These papers below are in alphabetical order with Maynooth colleagues in bold. Information on journal rankings (Keele, ABS, ABDC) are included in parentheses. Keele ranking gives the journal's standing out of 443 economics journals – see Hudson (2013) *Economic Journal* for comparison of ranking systems.

- Mansoor, K. and D.O'Neill (2021) *Minimum Wage Compliance and Household Welfare: An Analysis of over 1500 Minimum Wages in India*, *World Development*, 147. (Journal rank: Keele: 73<sup>th</sup> in 443, ABS: 3, ABDC: A).
- McLaughlin, E and R. Pecchenino (2021) *Fringe Banking and Financialization: Pawnbroking in Pre-famine and Famine Ireland*, *Economic History Review*. (Journal rank: Keele: 141<sup>st</sup> in 443, ABS: 4, ABDC: A).
- Neary, P and D. Leahy (2021) *When is the Threat Stronger than the Execution: Trade and Welfare under Oligopoly*, *Rand Journal of Economics*. (Keele: 34<sup>th</sup> in 443, ABS: 4, ABDC: A\*).
- Pastine, I. and T. Pastine (2021), *Equilibrium Existence and Expected Payoffs in All-Pay Auctions with Constraints*, Economics Department Working Paper n311.21. Forthcoming, *Economic Theory* (Keele: 26<sup>th</sup> in 443, ABS: 3, ABDC: A\*).

Dr Irene Mosca's joint work with Robert E. Wright *Economics of Marriage Bar*, Economics Department Working Paper, 2021: n310.21, appeared as a chapter in the *Handbook of Labor, Human Resources and Population Economics* by Springer Nature which is one of the world's leading global research, educational and professional publishers.

Other publications in internationally peer reviewed journals include *the Oxford Review of Education*, *Latin American Policy and Enterprise and Society*. The maintained success in publications in top ranked international peer reviewed journals reflects an explicit strategic goal of the Department to target high impact journals.



Dr Tuvana Pastine, Department of Economics, Finance and Accounting co-authored book *Introducing Game Theory: A Graphic Guide*

Dr Pastine's co-authored book with Ivan Pastine *Introducing Game Theory: A Graphic Guide* continues to occupy the #1 Top Best-Seller in Game Theory in Amazon.com and it is #1 Top Best-Seller in Applied Mathematics in Amazon.ca in 2020–2021 with over 38 thousand readers.

#### Departmental staff continued to sit on external committees in 20/21.

- Dr Olive Sweetman was appointed as the chairperson of the Economic and Social Studies. Economic and Social Studies fosters and promotes education in the social and economic sciences. The journal *Economic and Social Review* is in its remit. The journal publishes papers, both theoretical and applied, in all areas of social science.
- Dr Aedín Doris and Dr Gerda Dewit are the Editor and the Associate Editor of the *Economic and Social Review*, Ireland's leading peer reviewed international journal for economics and applied social science. Dr Doris is also an Associate Editor of the *Journal of the Statistical and Social Inquiry Society of Ireland*.
- The Department members' consistent reach for excellence in economics research translates into external recognition. Dr Dermot Leahy and Dr Gerda Dewit are affiliated senior researchers at the Leuven Centre for Irish Studies (LCIS) at the Catholic University of Leuven. Their group conducts research on aspects of small open economies, like Ireland and Belgium, and their role in the European Union and the global economy.



- Professor Donal O'Neill and Dr Irene Mosca are research fellows at the IZA Institute for Study of Labor. IZA is the leading international platform that links and disseminates cutting-edge research in labour economics. Dr Irene Mosca is also a research fellow at the *Global Labor Organization (GLO)*. The GLO functions as an international network and virtual platform for researchers, policy makers and practitioners interested in scientific research and its societal implications on global labour markets, demographic challenges, and human resources. Both IZA and GLO's networks of selected research fellows are distinguished by their excellence in research contributions.

## Engaged Research

The Economics Department engaged research made key contributions to social and economic policy in Ireland during the academic year 2020–2021.

- Dr Aedin Doris, served as member of the Commission on Pensions, established by the Minister for Social Protection to examine the sustainability and eligibility issues in respect of State Pension arrangements and outlined the options for Government to address issues such as qualifying age, contribution rates, total contributions, and eligibility requirements. The Commission's report is currently under review by the Oireachtas.
- Dr Aedin Doris' expertise on the economics of education makes her a valuable member of the Irish University Association's Higher Education Access Route (HEAR) Review Group. Her guidance helps the group to revise the HEAR scheme, to improve its effectiveness, and to promote access of under-represented groups in higher education.
- Dr Aedin Doris, Professor Donal O'Neill and Dr Olive Sweetman were awarded a research grant from the Department of Enterprise, Trade and Employment and the Low Pay Commission to conduct research on the introduction of a living wage in Ireland. The research reviews the national and international evidence on the impact of the introduction of a living wage on employment, hours of worked, consumer prices, and other relevant margins of adjustment. It also examines the impact of a living wage on inequality, in-work poverty, and employer cost, as well as the possible interactions between a living wage and other policy instruments, such as tax rates, social insurance rates, social policy health, education, and housing policy. The report was presented to the Low Pay Commission in 2021 and will form a key part of the Commissions submission to government on the role of a Living Wage in Ireland.



Dr Aedin Doris, Department of Economics, Finance and Accounting

- Professor Rowena Pecchenino is a Council Member in the ESRI. This is an influential position as the Institute gives evidence-based policy recommendations to the government on the most difficult and pressing social and economic problems Ireland faces.



Professor Rowena Pecchenino, Department of Economics, Finance and Accounting

- Professor Donal O'Neill is currently a member of the Labour Market Advisory Council Evaluation Committee. The Labour Market Advisory Council evaluates the impact, effectiveness and efficiency of measures implemented as part of the Pathways-to-Work Strategy, and alternative labour market programmes and policies aimed at supporting unemployed individuals to access employment, ensuring that they align with sectoral needs. The evaluation committee oversees and advises on research conducted on behalf of the Minister for Employment Affairs and Social Protection by agencies such as the OECD and ESRI, as well as internal research conducted by the Department of Social Protection.
- Dr's Doris and O'Neill and Sweetman produced policy reports to the Low Pay Commission of Ireland
  - Doris, A., D. O'Neill and O. Sweetman (2021), *Research on a Living Wage in Ireland*, submitted to Low Pay Commission of Ireland.
  - Doris, A. with Pension Commission, *2021 Report of the Commission on Pensions*.
- Dr Irene Mosca published an article for RTÉ Brainstorm analysing how Ireland dealt with the 1951 flu epidemic. This piece compares the current Covid-19 pandemic with the flu epidemic that hit Ireland in 1951.
- Research by Dr Alex Farnell on hiring and firing of coaches in the NFL was featured in the *LA Times* in relation to the Brian Flores lawsuit. Using rich data on head coach characteristics, the research identifies determinants of quits and dismissals across four professional football leagues over the period 2002–2015.
- Dr Aedin Doris, Professor Donal O'Neill and Dr Olive Sweetman were interviewed by the *Irish Times* to discuss in detail the flaws with league tables of secondary school rankings available in Ireland. The interview draws heavily on research by Doris, O'Neill and Sweetman titled: 'Good Schools or Good Students? The Importance of Selectivity for School Rankings'. The article is published in the *Oxford Review of Education*. The research takes a value-added approach to measuring school performance.

# Faculty Highlights

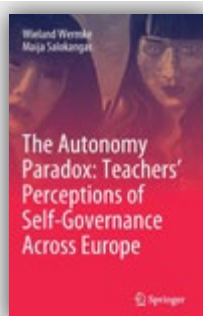
## Faculty of Social Sciences

### Education

The Department of Education is home to 16.5 full-time academic staff members in 2020–2021 and 796 students across nine major programmes. Approximately 600 students are studying at the Postgraduate level from Postgraduate Diplomas to Master and Doctoral degrees. The Department has an extensive doctoral level commitment, with 64 pursuing research degrees (28 PhD, 33 EdD and 2 MLitt).

Collectively, the Department has published across a range of venues, both scholarly and professional, with books, peer-reviewed articles, book chapters and reports comprising the bulk of our research outputs. For 2021, we published a total of 44 publications. Publications for the Centre of Public Education and Pedagogy (CPEP) totalled 27. While there are a number of ongoing research grants, for 2020–2021, the Department was awarded a total of seven awards, representing an overall value of €520,000 in university funding.

The Department once again has been strong in its identified research areas of Innovative and Creative Learning Environments, Social Justice and Inclusion, Human Development and Well-being, collectively demonstrating cutting edge engagement within the sub-fields of education in which we research and publish. The Department's scholarship cuts across many areas (for example, educational foundations, curriculum and pedagogy, educational leadership, teacher education, STEM, and well-being), yet it reflects a deep critical engagement with issues of equality, global citizenship and community in both schools and education more broadly speaking. These strengths continue to be reflected in programmatic strands within the Department's postgraduate offerings, and our policy research and interrogation underpins a number of our research initiatives as well as our approach to curriculum development within the Department.



The Autonomy Paradox: Teachers' Perceptions of Self-Governance Across Europe co-authored by Dr Maija Salokangas

Notable achievements in 2021 saw the publication of two new books within the Department. Dr Maija Salokangas co-authored *The Autonomy Paradox: Teachers' Perceptions of Self-Governance Across Europe* (Springer) with Dr Wieland Wermke of Uppsala University in Sweden based on their funded study of teachers across the EU. Drs Majella Dempsey and Jolanta Burke have also provided an invaluable guide on an emerging assessment trend: *Undertaking Capstone Projects in Education: A Practical Guide for Students*. The Department continues its impressive output in publishing

in peer reviewed journals. Some highlights include Dr Catriona O'Toole's 5 published articles this year, in both national and international journals, on her research into well-being and trauma-informed practices in schools. In terms of the area of educational foundations, Dr Thomas Walsh has published in the prestigious *Pedagogica historica* and Professor Sharon Todd has pursued her agenda of aesthetics, the senses and the environment in five international outlets; some of these are linked to the Swedish Research Council funded project, 'Forms of Formation' (2020–2024) which focuses on the embodied dimensions of classroom practice. Reflecting our commitment to STEM Drs Thomas Delahunty and Zerrin Doganca Kucuk have published independently in top international journals in the field, including the *International Journal of Education in Mathematics, Science and Technology* and the *British Journal of Educational Research*. Dr Grace O'Grady, who has been active in organising the Centre for Transformative Narrative Inquiry published two articles in this area, one in the prominent *International Review of Qualitative Education*.

Our colleagues have also been active in contributing chapters to books, highlights being Dr Majella Dempsey's significant output (five chapters) in the field of curriculum studies; and in the policy research area, significant individual contributions by Thomas Walsh and Maija Salokangas. In terms of the social justice research area a highlight has been Professor Aislinn O'Donnell's chapter entitled 'Encountering Extremism: Theoretical Issues and Local Challenges' that has grown out of her participation in the ongoing EU-ISF-P funded project *EDURAD - Educational Responses to Extremism* (2020–2022).

The Department has also been in receipt of significant new funding from the European Union's Horizon 2020 research and innovation program as part of the Marie Skłodowska-Curie Actions. The Innovative Training Network, *SOLiDi (Solidarity in Diversity)* worth a total of €4m will run from 2021 until the end of 2024. Professor Sharon Todd, who is co-investigator and lead at Maynooth (along with the Professor Gert Biesta from CPEP), is part of a network of 10 university and 23 non-academic partners from eight European countries. The project is committed to conducting place-based research in community organisations in order to highlight the importance of solidarity in working across diversity. Bernardette Mizzi has joined the Department and CPEP as one of 15 doctoral-level Early-Stage Researchers associated with the project to conduct research with migrant teachers and is partnering with the Migrant Teachers Project at Marino Institute of Education.



Dr Catriona O'Toole, Department of Education

Furthering her research into trauma-informed practice, Dr Catriona O'Toole has been awarded an IRC New Foundations Grant for 'Sanctuary Schools: Building Capacity for Trauma-Informed Practice in Education.' Dr O'Toole, in conjunction with Alcohol Action Ireland was organizer for an extremely successful event *When the Light Enters*, which involved a series of workshops with over 2000 participants on-line. The event showcased trauma-informed practices and attracted the world-renowned trauma specialist Dr Gabor Maté as keynote speaker and future collaborator.

Continuing her research focus on the links between education and extremism, Professor O'Donnell been awarded an EU-Migration and Home Affairs grant for 'Education and Youth: A Critical and Comprehensive Response to Violent Radicalisation,' which positions education as central to issues of responding to youth in contexts of extremism and radicalisation. The project involves local teachers and professionals as well as EU partners searching for meaningful educational engagement, drawing on critical and experimental approaches.

With respect to tendered research, Dr Bernie Grummell has attracted funding from the National Adult Literacy Agency for two different projects: one which focuses on issues of NALA's inclusion of literacy and another that involving a comparative analysis of recent FET research reports and related briefing papers. Dr Grummell's funding from external organisations reflects her engaged research activities (listed below) and has led to the writing of two reports on adult literacy in relation to learners with intellectual disabilities.

Other recent reports directly concerned with schools have been published: Dr Catriona O'Toole co-authored one on mental health promotion; and Drs Majella Dempsey and Jolanta Burke published four reports in 2021 focusing on the effects of the pandemic on teaching, well-being and school leadership which garnered significant media attention.

### Centre for Public Education and Pedagogy

Many members of the Department, along with colleagues from Froebel, Applied Social Studies, and Anthropology have been involved in research activities of the Centre for Public Education and Pedagogy (CPEP). This year, highlights include a series of online international seminars on public education with colleagues from the Centre for Research in Educational and Social Inclusion (CRESI) at the University of Southern Australia in Adelaide. This led to joint conference sessions at the Australian Association for Research in Education in November 2021 and resulted in co-authored papers for a special issue of *Educational Philosophy and Theory*. In 2020–2021, CPEP also began a series of seminars with Maynooth colleagues which has led to a forthcoming volume on the *New Publicness of Education* (Routledge), edited by Carl Anders Säfström and Gert Biesta who are professors of research within the CPEP.

Notable achievements include two new books, with Professor Carl Anders Säfström publishing *A Pedagogy of Equality in a Time of Unrest: Strategies for an Ambiguous Future* (Routledge) which centres on the importance of teaching as a democratic and public act of equality and Professor Gert Biesta authoring *World-Centred Education: A View for the Present* (Routledge) which seeks to develop an understanding of

education that moves beyond individual learning. In addition, they both have made outstanding contributions this year with Professor Säfström's five articles and Professor Biesta's four appearing in the top international journals in the field of education, along with their many book chapters and translated publications.



Professor Gert Biesta authoring *World-Centred Education: A View for the Present*

### Engaged Research

The Department is involved in a number of projects that stretch across schools, regulatory bodies, and community organisations. Angela Rickard received funding for the Ubuntu-funded Global Citizenship Education Project network and since October 2021, Dr Zerrin Doganca Kucuk has become lead on that initiative which works with student teachers in promoting global citizenship and social justice.

Dr Doganca Kucuk has also applied for an Erasmus+ Small Scale Partnerships in School Education Project with Dr Rose Dolan together with two Turkish colleagues in two different institutions.

A number of the Department's staff are engaged with civic bodies and governmental organisations, such as the NCAA and NLAL. For example, Dr Majella Dempsey is chair of the NCCA Biology Development Group and is also involved in Project Live with Kildare library services and local DEIS schools providing mathematics support for students. Dr Bernie Grummell is a member of the Technical Advisory Committee for the first National Adult Literacy Strategy Learning for Life in 2020-21 and completed a series of 6 Policy briefing papers on inclusion in the adult literacy services for SOLAS, ETBI, NALA during 2020–2021 to inform policy planning in the area.



Dr Majella Dempsey, Department of Education



# Faculty Highlights

## Faculty of Social Sciences



A Team Teaching Toolkit was published and is hosted on the Maynooth University website

With the support of a Teaching Council under the John Coolahan Research Support Framework, Angela Rickard and Thomas Walsh engaged closely with two post-primary schools to explore the challenges and opportunities relating to developing team teaching practices. The collaboration has resulted in the publication of a Team Teaching Toolkit hosted on the Maynooth University website comprised of resources developed by both schools and Maynooth University. The resources include videos from both schools, posters of team teaching models, CPD activities for schools, surveys and activities to gather student feedback, planning and reflection templates for teachers as well as a bibliography of further reading.

Dr Liz Meade's current research focuses on exploring the pedagogy of 'community of philosophical inquiry' with marginalised groups, examining both the process and the outcomes. The longer-term goal is to develop a working model for community philosophy with marginalised and disadvantaged groups in Irish society, supporting community engagement and the strengthening of democracy.

Maynooth University is the Irish partner on the SMILE Erasmus+ project (2020–2023) which involves twelve European partners who are doing research on inclusive practices on gender, socio-economic and migrant background and exploring how to inform institutional strategies and policies of higher education. Dr Bernie Grummell currently leads the Maynooth team in this project.

Dr Grummell is also engaged with colleagues from Centre for Teaching and Learning in research which develops social justice pedagogies and continuous professional development in Higher Education. The Disciplines Inquiring into Societal Challenges (DISCs) project with partners in UCC and DCU collaboratively builds social justice capacity across disciplines in Higher Education, conducting the first national student survey on social justice in Higher Education with USI and developing resources for teaching in Higher Education.

Dr Grummell became involved in 2021-22 with Adult Literacy Organisers Association (ALOA) in engaged research to inform their future planning about inclusion of adult literacy across Further Education and Training in Ireland.

In 2021, we have had a number of doctoral students who have received awards for their work.

Tazila Paveen Ramputh, a student in our Doctor of Education programme was awarded the NUI Mary L. Thornton Scholarship in Education (€6,000). Two PhD students have also been recipients of the following awards: Bebhinn Marie Carolan – Awarded an INTO Bursary 2021 (€3,000) and Cormac Davies was recipient of a John and Pat Hume Award in 2021 (Fee waiver).

## Adult and Community Education

The Department of Adult and Community Education has eight academic staff and three administrative staff. There are also three people working on the HEA funded 'Turn to Teaching' project. The Department has three part-time research assistants. There were 33 research students on its doctoral programmes in 2020-21. In 2020-21, staff in the Department were responsible for 93 publications and presentations and were involved in six international research projects valued at €437,050 and five national research projects valued at €97,787 in 2020-21.

The Department of Adult and Community Education is the main centre for research on Adult Learning and Education in Ireland and has built an excellent reputation internationally. Our research seeks to support democratic and transformative approaches to adult education underpinned by a commitment to equality and social justice. Over our forty-year history, we have had an especially strong focus on participatory and engaged research and we work in close collaboration with adult education, further education and higher education practitioners, civil society organisations and progressive social movements. Our research agenda directly supports Maynooth University's goals to play a leading international role and be the clear national leader in areas of research that address the major societal challenges of the 21<sup>st</sup> century.

## Shaping Further and Higher Education Practice and Policy

Over the past forty years the Department has given great care to initiate and sustain research partnerships with practitioners and policymakers in Irish further education and higher education. This means the Department is now particularly well-placed to inform changes in education, especially the current policy emphasis by DFHERIS on developing pathways and greater inclusion within and between Further and Higher Education sectors.

In 2021 we did consultation and engaged research with the following: the statutory education departments and agencies of DFHERIS; the Higher Education Authority; SOLAS; Community Education Network; National Adult Education Agency (AONTAS), National Adult Literacy Agency (NALA), and Adult Literacy Organisers Association (ALOA); and local Partnerships, Taskforces and groups across Dublin and the Midlands region.

We made 28 policy submissions in 2021. This higher number of policy consultations reflects the significant policy shifts in this area currently. These submissions including consulting with student, practitioner and community members to prepare submissions for the new *Irish Aid Development and Global Citizenship Education Strategy*, the *Student Universal Support Ireland (SUSI) Review Submission*, the *National Access Plan for Equity of Access to Higher Education (HEA)*. A key focus has been on shaping adult literacy policy through the series of six briefing papers prepared by staff for SOLAS, NALA and ETBI as well as formal membership on the Technical Advisory Group for the government's first Adult Literacy for Life strategy in 2021.

We also worked on the Saolta community development project which is funded by Irish Aid to create links across community groups to increase access to and the effectiveness of development education within the Adult and Community Education sector.

Our postgraduate research students are conducting a wide range of practitioner and engaged research in Higher and Further Education. Thirty-three doctoral research students are enrolled currently on our Structured PhD and Doctorate in Higher and Adult Education programmes, with three students graduating in 2020-21. These students work in a wide range of Adult, Further and Higher Education institutions, and many occupy key roles in leadership and research across Irish education and are conducting research on widening access, racism, inclusion, class inequality, effective collaborative pedagogy, and practitioner knowledge. A core requirement of these doctoral courses is that the research is fed back into communities of professional practice and scholarship, and this means research from the Department is having a cascade effect across Further and Higher Education.

### Research in Support of Widening Access and Progression to Higher Education

Research on access and widening participation has been a cornerstone of the Department's work for the past twenty years and was also a major focus of 2021. The Turn to Teaching project with the Maynooth University Access Programme (MAP) involves ongoing research on how to ensure greater diversity in the teaching profession which embeds social-justice orientated widening participation across schools, communities, and wider society.

The SMILE Erasmus+ project involves twelve European partners who are doing research on inclusive practices on gender, class, and migrant background and how to bring this to bear on institutional strategies and policies of higher education.

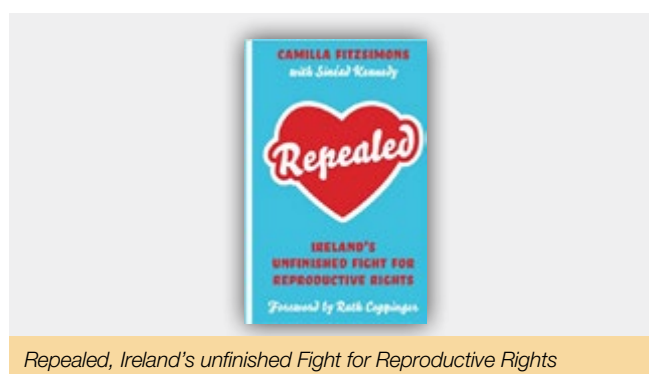
In 2021 we have also been involved in research which develops social justice pedagogies and continuous professional development in Higher Education. The Disciplines Inquiring into Societal Challenges (DISCs) project with partners in UCC and DCU collaboratively builds social justice capacity across disciplines in Higher Education, conducting the first national student survey on social justice in Higher Education with USI and developing resources for teaching in Higher Education.

The DIVERSITY Erasmus+ project continued in 2020-21 and this is looking at challenges and opportunities arising from migration-related diversity and develops training resources for Adult Education providers.

In 2021 we conducted a yearlong engaged research project on effective community engagement using participatory methods with the College Connect programme, funded by the HEA, which seeks to enhance HE-community partnership and involves AIT, DCU, DKIT as well as Maynooth University. This research was conducted in collaboration with a colleague from the Department of Anthropology and has fed directly into the College Connect's strategic development.

### Scholarship on Social Justice and Transformative Education

DACE is a leading centre of critical research on Adult Education and Learning based on our expertise on participative research methodologies, critical pedagogy, community education, transformative learning and equality issues. Departmental staff gave 18 papers, public talks and keynotes on issues of social justice and transformative education in 2021 as well as publishing chapters, articles, special issues and a book on these themes.



The book *Repealed, Ireland's unfinished Fight for Reproductive Rights* documents and analyses the 35-year long grassroots movement that successfully overturned the 8<sup>th</sup> Amendment ban on abortion in Ireland.

The centenary of the birth of the Brazilian adult educator Paulo Freire led to a staff member producing a special issue for the Australian Journal of Adult Learning on Paulo Freire entitled *Education as the Practice of Freedom*. For the anniversary we also ran an international seminar with the world-renowned writer on critical pedagogy Ira Shor and Irish adult educators, Ted Fleming and Brid Connolly. Staff also delivered papers on Freire in Ireland and in Portugal.

Drawing on Freire and other key Adult Education thinkers, the Department also co-organised three seminars in 2021 for an international research network Active Democratic Citizenship and Adult Learning on '*The pulse of freedom: Learning from experiments in democracy*'.

Other publications with a strong focus social justice included two special issues of international journals - one for Oxford University Press' *Community Development Journal* and another on the future of Adult Education policy for the *European Journal for Research on the Education and Learning of Adults*. Staff members also published book chapters on widening access to Higher Education for Travellers and on critical methodologies for research.

# Faculty Highlights

## Faculty of Social Sciences

The Centre for Studies in Irish Protestantism, funded by the Department of Foreign Affairs Reconciliation fund creates spaces for the Protestant community in both jurisdictions to engage in public discussions and engaged research in a post conflict society. It has been actively engaging in research with loyalist communities through a series of interviews seeking to understanding different perspectives and experiences.

### International Collaboration

In 2021 we participated in five international research consortia, four scholarly organisations and served as editors or members of the editorial board of eight international journals; this activity consolidated and enhanced our reputation on an international stage.

This includes The Foundations for Futures Europe (FFE) project funded under the Europe for Citizens programme, which brings together Higher Education Institutions and Civil Society organisations to engage citizens in thinking about and informing policy in relation to the challenges facing Europe. We hosted the inaugural international Foundations For Futures Europe Symposium in November 2021.

We continue to be the leading Irish Adult Education partner in Erasmus+ projects, including five Erasmus+ projects in 2021 which focused on enhancing social inclusion and learning in research collaborations between policy, education, and community partners. These include projects on developing inclusive policies, advocacy, pedagogies and planning in Adult Education and Higher Education across areas such as migration, socio-economic background, and gender as well as a study on supporting effective engaged citizenship across Europe.

In 2020-21 colleagues served on the Steering Committee of European Society for Research on the Education of Adults (ESREA) and were active in the Standing Conference on University Teaching and Research in the Education of Adults (SCUTREA), European University Continuing Education Network (EUCEN), the Popular Education Network, Education Studies Association of Ireland.

Staff members edit two international journals (*Journal of Transformative Education* and *the European Journal for Research on the Education and Learning of Adults*) and serve on the editorial boards of six journals (*Policy and Practice: The Development Education Review*, *Studies In The Education Of Adults*, *Adult Education Quarterly*, *Comunicar and Adult Education: Critical Issues*).

### Public engagement

The Department seeks to create platforms to give our diverse community a voice to reflect on our experiences with others and learn from this knowledge to create a more just and equal world.

We have developed a blog on Adult Education in 2020-21 which publishes approximately 8-10 new blogs annually which are actively promoted through our social media networks. The work of our Centre for Research in Adult Learning and Education (CRALE) enables us to engage publicly about our research activities through social media, research forums and public seminars.

We have longstanding relationships with different communities and groups such as the Local Partnerships, Local ETB providers, FET colleges, community-based, practitioners and advocacy groups. We were actively involved in the adult literacy communities in 2021 due to policy changes in this area, including supporting the Adult Literacy Organisers Association through engaged research about inclusion of adult literacy in FET. The Turn To Teaching project engages with a wide array of schools, students and practitioners and communities in promoting diversity in the teaching profession. We have longstanding relationships with regional FET providers and are currently involved in ongoing research and consultation with regional FET providers about developing progression pathways between Further Education and Higher Education in line with current government policy.

The Department's impact is also evident through its open access publications, with consistently high citations level evident in staff publications available through Maynooth University's Mural open access site. We published two open access books in 2019/20 with Brill international publishers, *Power and Possibility* and *Doing Critical and Creative Research*, which have been accessed 18,064 times up to the end of 2021.



### Engaged Research

The Department continues to engage with many practitioner and community groups as part of our emergent and community-orientated research activities. Some notable initiatives in 2021 include the following:

- *Learning from College Connect* - a yearlong participatory evaluation of the community engagement strand of College Connect. Findings presented to College Connect in a detailed report. It has been used for strategic development of the project which involves a collaboration between the access offices of AIT, DCU, DKIT as well as Maynooth University.
- *Developing the Learner Forum* - ongoing research on developing learner feedback fora and staff training in the Education and Training Boards. Led by AONTAS the national organisation of Adult Education. This project is now fully embedded in national policy and now involves over a thousand further education learners.
- *A virtual community of practice for teacher educators professional development* – Collaborative self-study of teaching practice based on narrative methodologies. International Further Education practitioner led research group including DACE staff that presented at international event.



- *Three Pillars Collective* - Irish Community Education Network in collaboration with Education and Training Boards and other practitioners at supporting critical education through research seminars and discussion throughout 2021.
- *Adult Literacy Organisers Association Strategy Development* – the Department delivered participative workshops at ALOA annual conference and engaged in research to inform their future planning about inclusion of adult literacy in FET.
- *Pathways between HE and FE* – ongoing discussions and collaborations with different FET college in the regions about developing more accessible and responsive pathways between FE and HE, including a research initiative led by College of Further Education adjacent to Maynooth.
- Colleagues have offered a range of professional development workshops, presentations and seminars for ETBs, adult and community education providers regionally.
- Through research initiatives such as Turn to Teaching PATH programme and the Communiversity, we continue to engage with DEIS post-primary schools across the region, the Public Library Service and Local Development Companies and Local Partnerships including Kildare Leader, Ballyfermot/Chapelizod Partnership, Dublin South County Partnership, Dublin South City Partnership and Northside Partnership.

## **Froebel Department of Primary and Early Childhood Education**

There were 23.5 academic staff employed in the Froebel Department of Primary and Early Childhood Education in 2020-21. 494 students were enrolled across a range of programmes, 16 of whom were students on the Master of Education (Research in Practice) programme. During the 2021 calendar year, departmental staff produced 19 storybooks for children, wrote and co-wrote 10 book chapters in edited collections, wrote and co-wrote six peer-reviewed journal articles, delivered 33 conference presentations, talks, and workshops, produced and co-produced 11 conference proceeding essays, multimedia, and public outputs, and co-wrote two reports. During the 2020–2021 academic year, departmental staff successfully secured six research grants valued at €291,348.13.

Research achievements and activities in the Froebel Department of Primary and Early Childhood Education during 2020-21 illustrate a rich and broad range of academic, professional, and civic engagement interests and commitments from departmental staff. It was a productive year for the Department and a significant one in consolidating our departmental research strategy 2018–2023. The Department's research goals focus on enhancing, through research and engagement with relevant agencies, the development of early-years and primary education as scholarly and practice-based disciplines, and contributing through research, scholarship, reflection, and strategic engagement to national and international educational initiatives. Informed by Froebelian values, the Department aims to contribute through research and scholarship to the development of an education system and a society that promotes the values of

human rights, social justice, and equality. Arising from the strategy, the Department has identified key areas of interest which include: Pedagogy of Teacher Education and Educator Professional Development, with particular emphasis on Froebelian philosophy and methods; The Purposes, Practice and Quality of Primary Education, Early-Childhood Education and Teacher Education; Language Arts and Arts Education; Global Citizenship Education, Social Justice, and Inclusion; and Practitioner-Based Research and Engaged Research. Some of the highlights from the work of departmental faculty in 2020–21 are listed below.

### **Books**

During 2021, Dr Máire Nic an Bhaird authored 19 Irish-language, primary-school-programme *Cosán na Gealaí* storybooks for first class which were published by GILL Education. *Cosán na Gealaí* is the leading text on the application of the New Primary Language Curriculum, embedding global citizenship and the Sustainable Development Goals into Irish-language-learning books.



Dr Máire Nic an Bhaird authored 19 Irish-language, primary-school programme *Cosán na Gealaí* storybooks

### **Book Chapters**

During 2021, a number of faculty individually and collaboratively published chapters in a range of books illustrating a rich breadth of research interests across the Department.

Dr Liam Mac Amhlaigh had five book-chapter outputs during 2021. He individually authored the chapter, *Portráidí na Scribhneoirí Gaeilge/Portraits of Irish-Language Writers: a unique multi-media print production*, and co-authored the chapter, *Learned Journals and Popular Journalism in Irish, 1795–2010s* in the prestigious collection of essays, *The History of the Irish Book, Volume 2: The Printed Book in Irish, 1567–2000*, published by Oxford University Press. His expertise in the works of Michael Davitt are demonstrated in his chapters, *Tairseach an Aistir: Michael Davitt, Bligeard Sráide agus Dánta Deireanacha Dá Chuid* (in *Ar an Imeach i Lár an Domhain?: An Tairseachúlacht i Litríocht agus i Gcultúr na hÉireann agus na hEorpa*), and *Amharcfhíneid na Teilifíse i Bhfilíocht Mhichael Davitt* (in *Ó Chleamaraí go Ceamaraí: Drámaíocht agus Taibhealaíona na Gaeilge*). He also wrote the chapter, *Tomás de Bhaldraithe*, in the edited collection, *Ar an Imeach i Lár an Domhain*, published by Leabhar Breac. This collection contributes new insights about the relationship between Ireland and Europe and acts as a model for similar cross-cultural literary scholarship.

# Faculty Highlights

## Faculty of Social Sciences



Dr Patricia Kennon's contributed the chapter *Zombies Vs Unicorns: An Exploration of the Pleasures of the Gothic for Young Adults in Young Adult Gothic Fiction: Monstrous Selves/Monstrous Others*

The Froebel Department's commitment to respecting and promoting the agency of young people and teachers inform the following book chapters published during 2021. Dr Patricia Kennon's chapter *Zombies Vs Unicorns: An Exploration of the Pleasures of the Gothic for Young Adults* in the edited collection *Young Adult Gothic Fiction: Monstrous Selves/Monstrous Others*, explores the pleasures of reading Gothic literature for teenagers and how the Gothic mobilises the shifting conception of adolescence as a liminal stage. In response to the wide-ranging Covid-19 changes impacts on academic practice and educational development in higher education, Niamh Fortune co-wrote *Beyond the University: Towards Transfer*, in the edited collection, *Emerging Issues IV: Changing Times, Changing Context*, published by Educational Developers in Ireland Network. The chapter examines how student writers make connections and navigate transitions between academic setting writing (writing done in the University) and writing beyond the university in professional settings. Dr Suzanne O'Keeffe's chapter, *Power and Policy* in the Brill volume, *Recruiting and Educating the Best Teachers: Policy, Professionalism and Pedagogy*, highlights power as a performative process that encompasses agency, causality, dynamics and topologies, and advocates for allowing teachers' voices to have centre stage in the construction and validation of knowledge. In *Investigating the perceptions of young children in school-based pretend play*, Dr Triona Stokes promotes the prioritising of the rights of the child and the voice of the child and principles of playful research. This chapter was published in the child-centred edited collection, *Research through Play: Participatory Methods in Early Childhood*, published by Routledge. Tony Sweeney co-authored *Learning to Teach Generalist Primary Teachers How to Prioritize Meaningful Experiences in Physical Education*, which positions movement as a primary way to enrich the quality of young people's lives. This chapter was published in the Routledge edited collection, *Meaningful Physical Education: An Approach for Teaching and Learning*.

### Peer-reviewed Refereed Journals

Dr Leah O'Toole, Dr Suzanne O'Keeffe, and Deirdre Forde collaborated on two co-authored peer-reviewed articles which were published during 2021. *Contested Childhoods across Borders and Boundaries: Insights from Curriculum Provisions in Northern Ireland and the Irish Free State in the 1920s* (published in the *British Educational Research Journal*)

explores the conceptualisation of children, and of childhood more broadly, in educational documentation, particularly primary school curricula, in the 26-county Irish Free State (South) and the 6-county Northern Ireland (North) in the 1920s following the partition of Ireland. Their co-authored article, *Philosophy of Education in a New Key: Publicness, Social Justice, and Education: A South-North Conversation*, (published in the journal, *Educational Philosophy and Theory*) continues this emphasis on the importance of inclusive education, equity-based teaching and learning, and social-justice issues in national and international contexts.

Dr Suzanne O'Keeffe's article, *'Artificial boundaries? Shaping Policy through Empowering Research'*, published in *Irish Educational Studies*, discusses the importance of teacher's participation in the production and validation of knowledge, and argues for the need for alternative ways of conducting educational research so that power in research design is utilised as a capacity for change. In her co-authored article in the *European Early Childhood Education Research Journal*, *'Why Parents Chose to Send their Children to Irish-Medium Immersion Preschools: Learning from Parental Choice Strategies in Celtic Countries'*, Dr Fiona Nic Fhionnlaoich investigates the reasons Irish parents chose to send their children to Irish-medium preschools settings over other forms of early-childhood education. Dr Patricia Kennon's article, *'Asexuality and the Potential of Young Adult Literature for Disrupting Allonormativity'* in the *International Journal of Young Adult Literature*, makes a significant contribution to the emerging field of scholarship on representations of asexuality in literature and explores the liberatory and inclusive potential of YA fiction to expose, problematise, and disrupt allonormative norms and hegemonies around sex and sexual orientations.

### Presentations, Talks and Workshops

During 2021, Department staff delivered 33 conference presentations, talks, and workshops on a rich range of educational issues and topics at national, and international events, many of which in were online format due to Covid-19 restrictions.

In 2021 Dr Máire Nic an Bhairst delivered papers on the life and work of Douglas Hyde (1860–1949) at a range of national and international conferences. Presentations delivered on this research comprise: *Vision in Volumes* at The Irish Humanities Alliance; *'Dúbhghlas de hÍde – Tábhacht na nDialann i Stair na hÉireann'* at the DCU Siomóisiam Lae ar an Dialann sa Ghaeilge; *'Douglas Hyde: The Hearth of Hyde'* at The American Conference for Irish Studies; and *Douglas Hyde: an Irish Idol in Chicago* at the International Association for the Study of Irish Literatures conference, Irish-American Metropolis Politics: Ethnicity, and Culture from 1830s to the Present Time. She was invited to present on her research on Douglas Hyde at the following 2021 conferences: the Dublin Learning City Festival; the Collective Memory Work in Serbia webinar; and the 2021 Celtic Congress. Dr Nic an Bhairst and Dr Laoise Ní Chléirigh presented on their H2020 €8-million-funded project AgroCycle and their research on waste valorisation and the circular economy, *There is No Away: Waste Valorisation*, during 2021 Maynooth University Green Week. They also presented their Horizon 2020 research *A Froebelian Voice in Sustainability* at the 2021 International Froebel Conference. In collaboration with other presenters, Dr Nic an Bhairst and Dr Ní Chléirigh co-delivered

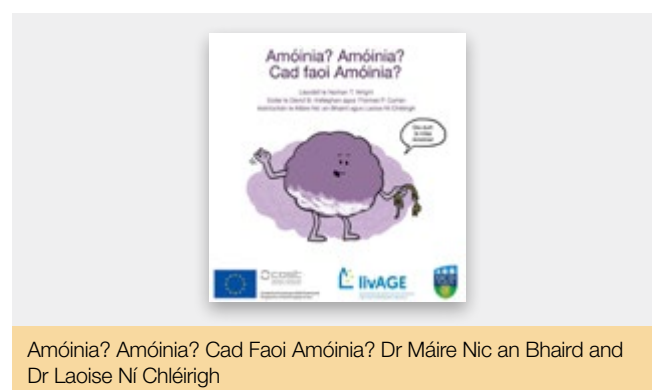
two workshops: *'The Tairseach Journey - Maynooth Project Live'*; and *'World Bee Day-Solitary Bee Box Workshop'*. Tony Sweeney delivered two presentations which similarly promote the importance of fostering young people's relationship with nature and physical development: *The Use of Digital Applications for outdoor learning* at the Navigating New Terrain in Physical Education IPPEA Annual Conference; and *Practitioners' Experiences of Implementing Meaningful PE* at the Descending the Mountain 2021 AIESEP Scientific Conference.

The Froebel Department is committed to the promoting the importance of the arts, creativity, and language in young people's lives and departmental faculty presented on a range of associated research areas. Dr Fiona Nic Fhionnlaioich gave the paper, *'Children's Experiences of Learning the Irish Language in English-Medium Schools'*, at the International Association of Applied Linguistics (AILA) 19<sup>th</sup> World Congress. Niamh Fortune co-presented on *Towards Trustworthiness in Writing Beyond the University* at the Centre for Engaged Learning Elon University US conference. Dr Tríona Stokes co-delivered the workshop, *Creative Youth in the Education System*, at the Early Childhood and Creativity in Ireland Early Childhood and Creativity in Ireland conference. Dr Stokes also presented *Establishing a Virtual Community of Practice for Teacher Educators Professional Development: A Collaborative Self-Study* at the Association of Teacher Education Europe conference, and *Taking Stock: Arts Facilitation in Early Learning and Care: Towards Best Practice Principles* at the Early Childhood Ireland conference. Dr Patricia Kennon was invited to present a research-oriented session on *Irish Young Adult Literature* for the International Youth Literature module on the Master of Librarian and Information Science, San Jose State University, USA. She presented on *The Representation of Irish Travelers in Youth Literature* at The Irish Society for the Study of Children's Literature, and on *Cognitive Approaches in Young Adult Literature* at the Let's Talk About Sex in YA conference, and she chaired the National Forum of Teaching and Learning seminar, *Integrating the Gender Dimension into Teaching and Learning'* Equity, inclusion, social justice, and diversity are key values of the Department's research community and Froebelian educational philosophy. Deirdre Forde presented on *Supporting Inclusive Practice across the Continuum of Teacher Education: A Model SEN Placement* and was a co-panelist for the *International Symposium on the landscape of Inclusion in the Irish Education System* at the American Educational Research Association conference. She also presented on *Contested Spaces and Special Educational Needs: Policy and Practice, Rights and Reality* at the Australian Association for Research in Education conference. Dr Suzanne O'Keeffe presented on *Bodily Boundaries: Irish male primary school teachers' understandings of their gendered positionality in contemporary primary schools'* at the Sociological Association of Ireland conference and co-presented on *Contesting Lingering Gendered Attitudes about Childhood* at the Australian Association for Research in Education conference. Dr Leah O'Toole co-presented on *Contesting Constructions of Children and Childhood through Relational Reflective Practice* at the same Australian Association for Research in Education conference, and also co-presented on *Teaching for Holistic Relational and Inclusive Early Childhood Education (THRIECE)* for the Association of Cognitive Analytic

Therapy (ACAT). During 2021, Aoife Titley gave four presentations and workshops on global citizenship education in primary-level education and third-level teacher education: *A Snapshot of Teaching: Using PhotoVoice as Counter-Storytelling to Capture the Narratives of Minoritized Ethnic Young People Interested in Primary Teaching* at the Sociological Association of Ireland Annual Conference; *Diversifying Irish Curricula: Best Practices and Challenges of Inclusive Programmes* at the International Society of Political Psychology Annual Conference; and *Froebel teachers in Kolkata: Reflections on Readiness to Teach Within, Through and For Social Justice* and *Putting Transformative Pedagogy and Social Justice on the Agenda in Froebelian Initial Teacher Education*, both at the International Froebel Conference.

## Multi-media Outputs, Outreach, and Public Engagement

Sharing research with wider audiences outside of academia is key for the successful integration of research into society and the Froebel Department is committed to the dissemination and sharing of knowledge, innovation, and good practice. During 2021, Department staff produced and co-produced 11 conference proceeding essays, multimedia, and public outputs, and co-wrote two reports.



Dr Máire Nic an Bhaird and Dr Laoise Ní Chléirigh were co-authors for the multi-authored comic, *'Amóinia? Amóinia? Cad Faoi Amóinia?'*, funded by The Environmental Agency and European Commission Horizon and aimed at children from eight years upwards and highlights the impact from ammonia in agriculture and sources solutions to the problem. Dr Nic an Bhaird and Dr Ní Chléirigh were interviewed for the online RTÉ Brainstorm publication about their research on the circular economy: *Will Social Media Influencers Take a Stand about Climate Change?*, and they produced the following educational articles and resources: *Community Engaged Learning– Addressing Societal Challenges through the Curriculum*; *Dearcán - Kildare Healthy Ireland Programme*; and *Teach Meet 2021: AgroCycle Kids Education Programme*. Dr Nic an Bhaird also presented her research on History of Education on the RTÉ television show, *Cosc - Corporal Punishment*.

Dr Fiona Nic Fhionnlaioich co-authored *'Conas a Roghnaíonn Tuismitheoirí Réamhscolaíocht agus Naíonraí Gaeilge dá Bpáisti?'*, published as part of An Tumoideachas: Deiseanna agus Dea-chleachtais conference proceedings. Dr Liam Mac Amhlaigh wrote the newspaper article, *'Na Meáin Ghaeilge sa Ré iarchadhnach'*, for *The Irish Times*. Dr Leah



# Faculty Highlights

## Faculty of Social Sciences

O'Toole co-wrote the '*Parental Involvement, Engagement and Partnership in Children's Education during the Primary School Years*': *Final Report* (published by Marino Institute of Education), and Dr Patricia Kennon co-wrote the *Inaugural Report on Maynooth University's Teaching and Learning's Engagement with Sustainability and the SDGs* (published on the University website) which comprised a collaborative trans-faculty and transdisciplinary investigation by the three MU Faculty Teaching and Learning Committees of the University's Departments, Centres, Institutes, and Schools' current and planned teaching and learning's engagement with Sustainable Development Goals.

During 2021, the Froebel Department developed its capacity building and expansion of an Irish Froebel Network in order to promote Froebelian practice in Ireland and a Froebelian community of practice of alumni, partner schools, and research organisations in primary and early years education. The network will act as a key national and international community for exchanging good practice and Froebelian scholarship.

### Other Research Contributions

Froebel Department faculty contribute to the early-years, primary-education, and teacher-education sectors and relevant disciplinary sectors at national and international level.

Dr Leah O'Toole sits on a Peer Review Committee for the Relation-Centered Education Network Conference in Sacramento State University. Dr Patricia Kennon is a member of the selection committee for the Laureate na nÓg (Ireland's laureate for children's literature), a member (and outgoing President) of the Irish Society for the Study of Children's Literature executive committee, and a member of the Editorial Board for *The International Journal of Young Adult Literature* (the first-ever journal dedicated to scholarship on young-adult literature). She acts as a regular reviewer for *Children's Literature Association Quarterly*, *Children's Literature In Education*, *The International Journal of Young Adult Literature*, and *Papers: Explorations Into Children's Literature*. She is the co-chair of the Faculty of Social Sciences Research Committee, a member of the Maynooth University Research Committee and Graduate Education Committee, and chair of MU SexGen, a scholarly network supporting MU faculty's, researchers', and students' scholarship and research in the areas of genders and sexualities. Dr Máire Nic an Bhaird is a reviewer for Gill Education, *Léann Teanga: An Reiviú*, and the *Irish Educational Studies Journal*. Dr Liam Mac Amhlaigh sits on two award panels for major literary awards in the Irish language. Dr Suzanne O'Keeffe contributes as a member of the Faculty of Social Science Ethics Committee at Maynooth University. She also sits on the editorial board for the *Springer SN Social Sciences Journal*, and acts as a regular reviewer for the journal, *Irish Educational Studies*.

### Grants Awarded

Dr Máire Nic an Bhaird (MU PI) wrote and submitted nine Horizon 2020 applications during 2020/2021 for a total funding of projects of over €2m and was funded approximately €250,000 for the €2 million Horizon Europe project, EdBioEc – Innovative Education for the Bioeconomy. Dr Nic an Bhaird is leading an international team specialising in the development of bespoke education programmes to address the science-society nexus. A key focus is on embedding the UN Sustainable Development Goals into primary and secondary education programmes across Europe, leading

to enhanced society-wide understanding of a sustainable future for the next generation. Dr Nic an Bhaird (PI) and Dr Ní Chléirigh were successful in achieving research funding of €5,000 from COGG (An Chomhairle um Oideachais Gaeltachta agus Gaelscolaíochta) for their research project, 'Draíocht Dara', which involves embedding the SDGs into Irish-language curriculum in primary schools. Dr Nic an Bhaird (MU PI) and Dr Ní Chléirigh were successful in achieving funding of €3,300 for their project, 'Dearcán', from Kildare County Council, which disseminated their research on the circular economy and health and well-being to Kildare citizens via the Government of Ireland Heathy Ireland Programme.



Séamie Ó Néill, Dr Nic an Bhaird and Dr Fiona Nic Fhionnlaoich received an annual grant of €1,750 for the Irish Language primary-school newsletter, *Eleathanach*

Séamie Ó Néill, Dr Nic an Bhaird and Dr Fiona Nic Fhionnlaoich successfully received an annual grant of €1,750 from an Chomhairle um Oideachas Gaeltachta agus Gaelscolaíochta (COGG) for the weekly production of the Irish Language primary-school newsletter, *Eleathanach*, which is shared with over 300,000 readers weekly. Professor Marie McLoughlin was successful in achieving funding of €26,871.96 from the Froebel Trust Research Grant from the Froebel Trust for the advancement of knowledge and understanding of Froebelian philosophy, principles and approaches in early childhood education and care. Dr Patricia Kennon (MU Co-PI) was successful in her collaborative application for a Royal Society of Edinburgh/ Royal Society of Ireland Ireland-Scotland Bilateral Network Grant (MU €4,426.17 drawn down of the €14,000 grant). This transnational project involves creating a new network of 7 key Irish and Scottish national arts organisations for young people and explores the impacts of COVID-19 on the Irish and Scottish children's and young adult literature sectors.

### Students as Researchers and Student Involvement in Research

In 2020/2021, Dr Máire Nic an Bhaird and Dr Laoise Ní Chléirigh, were successful in their SPUR proposal, *Taisce Froebel*, to mentor 1 undergraduate student from the Bachelor of Education (Primary) programme to produce *Taisce Froebel* which will promote better practice, policy, and theoretical approaches in education. Arising from COVID-19, and building on *AgroCycle Kids* research, students from the Froebel Department under the direction of Dr Nic an Bhaird and Dr Ní Chléirigh co-created and published online home-schooling resources, with offline learning opportunities using local environments as stimuli, avoiding excessive screen time. Students from the Department created and subsequently published home-schooling resources. These resources

disseminate new research on the science-society gap, providing creative educational home-schooling resources. The resources were based on Froebelian eco-focused philosophy which is a new philosophical educational theory which underpins the *AgroCycle Kids* research.

Final-year BEd and final-year PMEd (Postgraduate Master's in Education-Primary) students engaged in two community-engaged, research-based teaching and learning projects during 2020/2021: the funded MU Project Live *Tairseach*; and the funded Government of Ireland Healthy Ireland Programme. The *Tairseach* Tree Trail through Project Live was produced as a resource for Maynooth University and brought the message of Maynooth University's commitment to the SDGs to the primary schools of Kildare. Dr Nic an Bhaire and Dr Chléirigh coordinated and delivered the Dearthán Flash Talk where Maynooth University students delivered Maynooth University's commitment to incorporating the SDGs into teaching and learning across faculties via Kildare County Council.

The Department's Master of Education (Research in Practice) programme is in its fourth year. A wide range of topics on educational areas in early-years and primary education were presented by all students at an online seminar during the 2020-21 second semester. A research seminar for MEd graduates was organised by Dr Bernadette Wynn and Dr Suzanne O'Keeffe during November 2021 in which a MEd graduate shared their findings with an audience which included national and international scholars within the Action Research community.

## Summary of Engaged Research

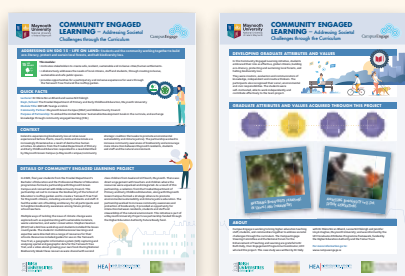
Partnership with civil society, and direct engagement with external stakeholders and agents of policy and practice continue to be key aspects of the Froebel Department's scholarship and research.

Dr Nic an Bhaire and Dr Laoise Ní Chléirigh published their community-engaged, research-based project on teaching and learning: 'Community Engaged Learning: Students Addressing Societal Challenges Through the Curriculum'. Community partners comprised Maynooth Green Campus and Kildare County Council. The project was chosen as an exemplar for community-engaged learning for HEIs and was disseminated via a written case study and video for MU Campus Engage: [www.campusengage.ie/wp-content/uploads/2021/10/49559\\_6-IUA-Campus-Engage-Case-Study-Ref-Maynooth\\_v4-1.pdf](http://www.campusengage.ie/wp-content/uploads/2021/10/49559_6-IUA-Campus-Engage-Case-Study-Ref-Maynooth_v4-1.pdf). Dr Nic an Bhaire and Dr Laoise Ní Chléirigh's Dearthán project, funded by Kildare County Council, is an engaged-research project which investigated and promoted the circular economy for enabling and supporting health and wellbeing to Kildare citizens during the pandemic via the Government of Ireland Healthy Ireland Programme.

Dr Patricia Kennon's (Co-PI) engaged-research project (funded by a Royal Society of Edinburgh/Royal Irish Academy Ireland-Scotland Bilateral Network Grant) explored the impacts and challenges posed by Covid-19 on the children's and young adult creative, cultural, and reading communities in Ireland and Scotland. The research brought together perspectives from a sample of children and teenagers, adult creators of children's and young adult literature, and cultural organisations in Ireland and Scotland. As part of the project, the unique, transnational Lionra: The Ireland-Scotland Youth Literature and Arts Network of seven key youth-literature and arts organisations in Ireland and Scotland was established in order to explore shared concerns and promote the exchange of learning and good practice between these two countries' youth-literature and arts organisations, academia, and individual creators. Dr Kennon was also invited to act as a member of the consultative group for the Children's Books Ireland 3-year, engaged-research project, 'Every Child A Reader: Reading Communities'. This Community Foundation for Ireland funded project (€302,690) involves Children's Books Ireland partnering with four primary schools and four children's book artists to establish Champions of Reading and to enhance the schools' creative capacity and networks.

Professor Marie McLoughlin, Dr Triona Stokes, Dr Leah O'Toole, Annette Kearns, and Patsy Stafford's project in partnership with DCU, 'Froebelian Principles in the 21<sup>st</sup> Century: Play Environments and Play Opportunities for Young Children Experiencing Stress', is an engaged-research project which investigates and advances Froebelian approaches in early-years education and care: [www.froebel.org.uk/research-library/froebelian-principles-in-the-21st-century-play-environments-and-play-opportunities-for-young-children-experiencing-stress](http://www.froebel.org.uk/research-library/froebelian-principles-in-the-21st-century-play-environments-and-play-opportunities-for-young-children-experiencing-stress). Funded by The Froebel Trust, this study proposes a critical, participatory investigation of play environments and play opportunities afforded for young children experiencing stressful situations in Irish early childhood education and care (ECEC), home, and community contexts. This study adopts a highly innovative participatory approach combining principles of participatory action research with the 'future workshop' methodology (Jungk) that will empower participants to take concrete steps towards change. The project has the potential to impact policy and practice across the Irish ECEC system from a dedicated Froebelian perspective.

During 2020-2021, Dr Liam Mac Amhlaigh continued as the PI for the five-year, engaged-research 'Léitheoirí na Gaeilge'/'Read in Irish' initiative funded by Foras na Gaeilge to create an all-Ireland strategy for the promotion of reading in Irish-language literature, and continued as editor of the *Portráidí na Scríbhneoirí Gaeilge*/Portraits of the Irish-language Writers engaged-research project working in partnership with Áiséineacht Dáiliúcháin Leabhar (ÁIS) (responsible for the distribution of Irish-language reading material), to initiate and develop the nature and concept of both the research-driven basis for the project together with the high-level digital and print outputs. This research on Irish-language writers showcases, by way of digital exhibition, the living legacy that they bestow on the reading public. As such, it has significantly helped ÁIS to persuade the English-language book/reading community to normalise their Irish-language counterparts.



Community Engaged Learning Case Study

# Faculty Highlights

## Faculty of Social Sciences

### Geography

The Geography Department comprises a multidisciplinary group of scholars and researchers with a strong national and international reputation. In June 2021 there were 19.5 (FTE) academic and teaching staff, including eight Geography academics within the ICARUS Climate Research Centre. In addition, three academic staff within MUSSI and NCG are aligned with Geography. There were 22 research staff funded by a diverse range of projects, and 29 PhD students. The Department is supported by three administrators (two p/t) and a technician. In 2021 there were over 120 publications across peer reviewed articles, books and book chapters, conferences and other formats. The number of new grants over 20/21 was 19 and the total value of new grants signed within this period was €7.7m including collaborative grants, with €4.4m coming to the Geography Department at Maynooth University. Among the funders were; EPA, EPA Five year Assessment Report, Copernicus, Microsoft/ Science Foundation Ireland, Marine Institute, Enterprise Ireland and IRC.

With a large and active Department and over 120 publications and 19 new grants this section contains just some of the highlights across the different strands of geography.

### Publications

A number of climate focused articles were published by ICARUS researchers in top-ranked journals including Nature Geoscience, Nature Climate Change, Journal of Geophysical Research, Environmental Research Letters and Journal of Quaternary Science. More detail of the important publications within climate research are detailed in the ICARUS research section.

Human Geography contributions include articles in The Lancet Global Health, *Geography*, International Journal of Urban and Regional Research, Journal of International Migration and Integration and International Journal for Academic Development.

Professor Peter Thorne was a Coordinating Lead Author on chapter 2 of the IPCC Sixth Assessment Working Group 1 report. Dr Lisa Orme and Dr Gerard McCarthy were contributing authors and Dr David Smyth, Ms Katherine Dooley and Ms Therese Myslinski were chapter scientists to chapter 2.

Leading journals edited by staff in 2021 include: *Space & Polity* (Professor Mark Boyle and Dr Alistair Fraser), *Human Geography* (Dr Alistair Fraser), *Geoinformatica* (Professor Chris Brunsdon, NCG), and *Irish Geography* (Dr Ronan Foley), whilst Professor Mary Gilmartin is an Editorial advisor for *Social & Cultural Geography*, whilst Professor Mark Boyle continues to serve as Editor in Chief of the leading international peer-reviewed journal *Space and Polity*, and as one of the Editors of the landmark *Elsevier International Encyclopedia of Human Geography* (2<sup>nd</sup> edition). Professor Karen Till was European Editor for the AAG Reviews of Books, and member of editorial boards for *Architecture and Culture*, *Cultural geographies*, *Space and Culture*, and *Memory Studies*. Professor Gerry Kearns is on the editorial boards of *Journal of Historical Geography*, *Historical Geography* and *Irish Geography*. Dr Stephen Flood, a Post-Doctoral researcher in ICARUS published an edited book *Creating*

*Resilient Futures: Integrating Disaster Risk Reduction, Sustainable Development Goals and Climate Change Adaptation Agendas*. The second edition of Professor Mark Boyle's book, *Human Geography: An Essential Introduction* was published by Wiley in 2021. Dr Adrian Kavanagh, with his two PhD students William Durkan and Caoilfhionn D'Arcy, published an important chapter on electoral geography in *How Ireland Voted 2020*

### Grants awarded

Dr Rowan Fealy and Professor Tim McCarthy are leading Terrain-AI, a €5m project, funded by Science Foundation Ireland and Microsoft through SFI's Strategic Partnership Programme. This outstanding integrative project brings together a cross disciplinary team of experts, ranging from climate modelling, earth observation, ecosystem processes, land use, soils and carbon, water, urban climates, transportation and artificial intelligence (machine learning) with the latest earth observation technology and high-end computational resources. The aim is to monitor, measure and ultimately model terrestrial or land-based carbon stocks and fluxes. The team is comprised of ~50 researchers from across a number of HEIs (Maynooth University, Trinity College Dublin, University College Dublin, Dublin City University and University of Limerick), the national farm advisory body (Teagasc) working in collaboration with state and semi-state agencies (Met Eireann, Department of Agriculture, Food and Marine, National Parks and Wildlife Service, Bord na Móna etc) and industry (Microsoft, TreeMetrics). In addition, Dr Rowan Fealy and Professor Tim McCarthy were national leads for the DG-Clima Framework Partnership Agreement on Copernicus User Uptake, working in collaboration with the Environmental Protection Agency, this funded project seeks to develop improved land use mapping methodologies for application in the national inventory of GHGs and national land use mapping project.



Dr Gerard McCarthy, Department of Geography, ICARUS

Dr Gerard McCarthy is the Maynooth Principal Investigator for ROADMAP, a €3m JPI Oceans and Climate European-wide project award across seven countries and 12 partners. The project focuses on regional climate variability and change, more reliable predictions of regional weather, and climate extremes. In addition, two new Marine Institute Cullen PhD fellowships funded in 2020 and 2021 will support the expansion of oceanic research in ICARUS by Dr André Düsterhus and Dr Gerard McCarthy.



WaterFutures is an EPA funded project exploring the impacts of multiple drivers on water quality and will inform next generation Water Framework Directive plans in Ireland. Both Professor Conor Murphy and Dr Gerard McCarthy are leading climate change aspects of this project, providing estimates of projected changes in river flows and sea level rise for Ireland.

Ireland's first national climate assessment started in 2021. ICARUS academics gained awards totalling over €500,000 via two of the six author awards, together with a coordination research fellow post award. ICARUS is also the lead contractor to Copernicus Climate Change Service contracts which combines data rescue activities with the provision of global land and marine meteorological data holdings which will run 2021–2025 and continues prior activities. A further companion contract for provision of baseline and reference quality observations to users of the Copernicus Climate Change Service has also been secured.

Professor Karen Till was awarded an Irish Research Council Enhancing Civic Society New Foundations Grant of c. €12,000, for *'Travellers' Tales and Memory Maps: A collaboration of Pavee Roads Home and Maynooth Geography*, as well as a consultancy award for *JUST CITY Counter Narrative Community Arts in Dublin 8*. Professor Karen Till's partnership with Pavee Point resulted in the Pavee Roads Home StoryMap. Pavee Roads Home received a National Irish Heritage Award and was reported on in *The Irish Times*.

Dr Chris van Egeraat (with partners in DCU and UCC), started a new research project on regional employment dynamics, using the employment survey data of the Department of Enterprise. He also continued his ongoing research on multinational subsidiary upgrading (together with Proinnsias Breathnach).



Dr Chris van Egeraat, Department of Geography

Dr Helen Shaw is working with Dr John Devaney (MU Biology and PI for the project) and others in a project examining the mapping and palaeoecological records of ancient woodlands in Ireland. The project is supported by the National Parks and Wildlife Service.

Dr Patrick Bresnihan and Dr Conor Cahalane successfully supported Government of Ireland Post-graduate and post-doctoral applications in 2021, whilst, in a connection with undergraduate teaching, Dr Helen Shaw and Professor Karen Till were awarded SPUR undergraduate studentships in summer 2021.

The year 2021 marks the tenth anniversary of the first publication of the international journal *Dialogues in Human Geography*. Founded by the initial managing editor, Professor Rob Kitchin (MUSSI). The journal has quickly established itself as a leading site for critical debate about key issues in the discipline and the wider world. Despite its young age it has once again ranked first of the 85 journals in the 2021 Geography ranking on the Web of Science's SSCI (Social Science Citations Index).

### Community and/or civic impact

Dr Patrick Bresnihan's research on data centres in Ireland received extensive international and national media coverage, including from Al Jazeera, Rapporteur (France) and RTÉ.



Dr Patrick Bresnihan, Department of Geography

### External engaged research highlights

Dr Patrick Bresnihan was expert witness before the Oireachtas Committee on Climate and the Environment, in September 2021. As part of Social Justice Week 2021, Dr Bresnihan co-organised a day-long event on *Environmental Justice in Ireland*, was hosted by MUSSI and had 240 people registered.

Dr Chris van Egeraat is a member of the steering committee for the National Economic and Social Council (NESC) research on Exploring Place-based Opportunities for Policy and Practice in Transition. He commenced a new research project (with partners in DCU and UCC) on regional employment dynamics, using the employment survey data of the Department of Enterprise. He also continued his ongoing research on multinational subsidiary upgrading (together with Proinnsias Breathnach).

Dr Malene Jacobsen's IRC-funded research on migration, displacement and refuge was highlighted on the Stories of Europe blog, and published in leading international peer-reviewed journals including *Annals of the American Association of Geographers* and *Area*.

Dr Gerard McCarthy is a partner in *Línte na Farraige*. The project, funded by Creative Ireland, Climate Action fund, is working with Finnish artists and the Climate Regional Office to create set of visual light installations across Irish coastal sites and create public visibility on the risk of future sea level rise.

# Faculty Highlights

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ICARUS researchers were also active in many examples of international and national policy-engaged research for which further information is available in a separate section. For example, Professor Peter Thorne continued to act as chair of the Global Climate Observing System's Atmospheric Observations Panel for Climate and was appointed as a member of the Climate Change Advisory Council in February 2021; whilst Dr Rowan Fealy was appointed as a Panel Member on the Global Energy and Water Exchanges (GEWEX) programme Global Hydrology Panel (GHP) for a period of three years. Professor Peter Thorne is also a lead in the All-island Climate and Biodiversity Research Network (AICBRN). The network was jointly launched by An Taoiseach and the Deputy First Minister in November during COP-26.

Dr Conor Cahalane continued research started in January 2020 partnering with Ordnance Survey Ireland, the Society of Chartered Surveyors Ireland, Esri Ireland, MU Education, and TU Dublin on an SFI Discover award (€300,000) exploring innovative ways for using GIS, satellite data, augmented reality, the UN Geospatial data themes to inform the public about Ireland's progress towards meeting the UN Sustainable Development Goals. Dr Cahalane also collaborated with Ordnance Survey Ireland on a OSi Research Fellowship (Started in 2017–€180,000) exploring applications of machine learning and computer vision for the national aerial mapping dataset to automatically detect changes to the national vector mapping database. The work was presented as part of OSi partnership research to the European Spatial Data Research Group combining all of the national mapping agencies and their partner research bodies in Europe. This project was successfully completed in July 2020. A further collaboration with the Geological Survey of Ireland and Rothamsted Research (UK) on applications of satellite bathymetry for mapping near shore locations for INFORMAR, the national seabed mapping programme.

Dr Ronan Foley had a busy year of external research engagement with a guest role on Manchán Magan's RTÉ 1 radio programme, *Almanac of Ireland*, to discuss wellness waters and holy wells, broadcast on 21 July. His work on swimming and sweathouses featured in October articles on the *Washington Post* and *BBC Travel* websites respectively. He also published a widely read piece in January on RTÉ *Brainstorm* on the Dryrobe Wars and was an invited speaker at the one-day *Swimposium* held across Dublin Bay in August, where he presented from a rubber dinghy in the middle of the Clontarf Baths. He was also an invited presenter on blue space, health and wellbeing as part of a prestigious joint-workshop on place, space and mental wellbeing organised by the *Royal Society and Wellcome Institute* in May 2021.

Professor Mary Gilmartin's research on migration and integration was highlighted by the Irish Research Council in a blog post on Professor Gilmartin's three co-authored publications with Dr Jenny Dagg (2021), based on IRC-funded research. During the year, Professor Gilmartin served as a member of the Research Steering Group for Crosscare Migrant Project, and as a member of the Research Sub Group for the Crossing Borders, Breaking Boundaries project (run by Ulster University). Her research was featured in an article by BBC News Ukraine in May 2021.

Professor Gerry Kearns was commissioned by artist Eamon Colman to write about his artistic practice, resulting in two essays by Kearns (one published in a catalogue in 2021) and one painting by the artist inspired by the collaboration. Kearns has also been engaged on research on the historical geography of Inchicore as part of the Spatial Justice in Dublin 8 project with the artistic collective Common Ground. Doctoral candidate Catherine Hayes forwarded her research on health provision by GPs by serving as a part-time contract tracer during the Covid-19 public health emergency. In researching the place attachments of the Pearse Street community, doctoral candidate Mary Broe led a project to digitise the archive of its community association and contributed to a public forum led by the writer Dermot Bolger on the legacy of Herbert Simms, the architect of the Pearse Street flats.



Professor Rob Kitchin's (MUSSI), *Data Lives: How Data Are Made and Shape Our Lives* was published by Bristol University Press

In addition to publishing eight co-authored journal articles in 2021, Professor Rob Kitchin's (MUSSI) latest book, *'Data Lives: How Data Are Made and Shape Our Lives'* was published by Bristol University Press. Professor Kitchin is ranked 5<sup>th</sup> (out of 15,978) geographers globally for citation impact and 5<sup>th</sup> for all disciplines in Ireland in 2020 as calculated using standardised citation indicators (by number of authors, first/last author, and removing self-citations) from Scopus, produced by the Meta-Research Innovation Center at Stanford University. Professor Kitchin's delivered 16 invited and keynote talks to events in 11 countries, including the Regional Studies Association, Pandemic Tech, Smart Data North and Digital Futures Institute (UK), Fruition and Challenges of Computational Social Science (Singapore), Sensing the City (Belgium), Digital Futures Distinguished Lecture (Sweden), Bundesministerium des Innern, für Bau und Heimat (Germany), Dig.Eat festival (Italy), Making smart and sustainable cities (Hong Kong), Rights to the Blockchain City and Transforming Cities Hub (Netherlands), Columbia University (United States) and Smart Urbanism Lab (Australia), and took part in six invited panel discussions in four countries. His research on smart cities and open data received international and national media coverage, including in *Forskserzonen* (Denmark), *ZDNet* (US) and *Toronto Star* (Canada), the *Irish Independent*, and *Dublin Inquirer*.

Professor Kitchin served as a member of the board of the Irish Research Council and Digital Repository of Ireland.

Dr Stephen McCarron saw the results of multiple collaborations on the sedimentary geology of the Irish continental shelf with the UK's NERC funded BRITICE-CHRONO research consortium and SFI-funded postdoctoral researchers based at Maynooth University. A series of landmark publications on the theme of ice sheet deglaciation of Ireland add significant new data to our knowledge of marine-based ice stream behaviour, one of the major unknowns in our understanding of modern West Antarctic ice sheet thinning and breakup such as the Thwaites Glacier.

Dr Martina Roche has initiated research into women in rural communities via a recent and ongoing MUSSI grant.

Professor Karen Till is PI for the Irish Research Council Enhancing Civic Society New Foundations Grant (awarded July 2021 for 2021–2022 (which began in October, due to a grant extension due to Covid), for 'Travellers' Tales and Memory Maps: A collaboration of Pavee Roads Home and Maynooth Geography'. With Dr Rachel McArdle, she received additional small grants to support the project and include MA students in the collaboration including: 'Engaging Irish Travellers in Knowledge Production', Maynooth University Social Sciences Institute and Faculty of Social Sciences, Co-funded Small Grants Scheme. The Department also received a SPUR 2021 grant from the Centre for Experiential Learning for two undergraduate researchers to participate in the project in July–September 2021. During this time we worked on a pilot Traveller community mapping of belonging/unbelonging in Coolock, Dublin, and a Community Mapping Toolkit. Professor Till also continues her work as academic partner for Common Ground, 'JUST CITY Counter Narrative Community Arts in Dublin 8', and as academic consultant and 'witness' to artist Kate O'Shea and CG 'Just City' projects. Projects included participation in the international Just City Reading Group, facilitated by Kate O'Shea; co-facilitated Spatial Justice workshops, as part of the MA in Spatial Justice (including Professor Gerry Kearns); and artist Kate O'Shea ran special 'Spatial Justice Zine' workshops with MA Social Justice students and PG Diploma students (as part of GY629, S2 2021). In her role as academic mentor for artist Seoidin O'Sullivan, Professor Till is co-facilitating an international, transdiscipline/practice reading group on 'Feminist Counter-Topographies'.

### Research related prizes/recognition

Terrain-AI won an AI Award for *Best Application of AI to Achieve Social Good* at the AI Awards ceremony (2021). The AI Awards, which are held annually, seek to recognise how AI can be ethically used to help solve some of the biggest business, academic, environmental, and health challenges facing our society today.

Dr Bresnihan received the Maynooth University 2021 Early Career Faculty of Social Science Research Achievement Award, based on his 'strong research portfolio, outstanding publication profile, strong grant capture, exceptional civic engagement, with a growing pool of research students.'

Dr Adrian Kavanagh was one of 72 awardees (across all Irish Universities) to win the Research Ally Award – *celebrating the role of mentors, supervisors, research officers and support staff in supporting and sustaining the Irish research community* as part of the 2021 Irish Research Council Researcher of the Year Awards.

By a vote of its members, in May 2021 the Geographical Association of the United Kingdom made Professor Gerry Kearns an Award for Excellence in Leading Geography, for the article (*Topple the Racists 1*) as the article in their journal, *Geography*, that 'contributed most to the development of good practice. *Topple the Racists 2* was published in *Geography* in 2021.

### Significant conferences hosted/organised

With the restrictions of the Covid-19 outbreak conferences were limited and mainly online. This did not stop Geographers from making important national and international contributions. For example, Geographers at Maynooth University hosted several important sessions at the Conference of Irish Geographers 2021, and Professor Karen Till and Professor Gerry Kearns with Dr Nessa Cronin (NUIG) co-organised a joint Zoom symposium through The Moore Institute (NUIG) and MU Geography on *Art, Geography and Earth Crises* as part of the Temple Bar Arts Gallery Book Fair.

Dr Louise Fitzgerald moderated a Roundtable on the UN Climate Summit in Glasgow (COP26), featuring Sinead Walsh, Ireland's Climate Envoy & Deputy Director General of Irish Aid, Department of Foreign Affairs and Kevin O'Sullivan, Environment & Science Editor at The Irish Times, Political Studies Association of Ireland Conference 2021. Dr Fitzgerald also organised the session and presented a paper on the 'Just Transitions: Frontiers Beyond Energy of Justice in Sustainable Transitions' panel, Political Studies Association of Ireland Conference 2021.

Dr Adrian Kavanagh, with Caoilfhionn D'arcy and Dr William Durkan, organised a one-day online conference on the Eurovision Song Contest *Eurovision: Maps, Memories and Music* 9 April 2021, in association with MUSSI this was a popular event with almost 200 attendees from across the globe.



*Eurovision: Maps, Memories and Music* a one-day online conference organised by Dr Adrian Kavanagh, with Caoilfhionn D'arcy and Dr William Durkan



# Faculty Highlights

## Faculty of Social Sciences

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### International Development

In 2021, the Department of International Development deepened its focus on developing engaged research, on learning and awareness raising relationships, and on developing opportunities for research and collaboration with international development organisations, networks, activist groups and educational institutions.

Developing the research capacity and reach of staff, and linking with Maynooth University research initiatives and supports, was central to the Department's work in this year in 2021. To this end, Dr Kieran Doyle facilitated a workshop with core staff on integrating research, publications and teaching in November 2021, and Niamh Rooney organised a seminar for MU Research week on contemporary research at the Department. Dr Sinéad McGrath, who sadly passed away in January 2022, was among the contributors to the Maynooth University research week seminar, presenting on her PhD research, which she completed at UCD in 2021. Her presentation focused on international migration organisations and their roles in relation to internally displaced women in the context of post-conflict transitional justice in Columbia. It offered significant insight for understandings of refugee discourses and interventions, especially highlighting the importance of recognising women's agency and the need for humanitarianism to be refugee-led. In addition to these two events, Dr Eilish Dillon continued to represent the Department on the Faculty of Social Sciences' Research Committee.

Research themes of particular interest to staff at the Department included critical global education, peacebuilding, climate change policy and pastoralism in the Horn of Africa, and ethical global development communications. Among the achievements of the Department in research and publications in 2021 were the following:

#### Critical Global Education

In the area of critical global education, Paddy Reilly and Dr Mags Liddy organised an international conference on behalf of the Department to mark the 100<sup>th</sup> anniversary of Paulo Freire's birth. The conference, which took place in September 2021, entitled *Looking back and looking forward: Conversations on Freire's Influence on Global Development Practice*, reflected on the influence of one of the most significant educationalists of the past century on development and educational practice, both at home and globally. The event included a range of international and Irish-based contributors, drawn from the sectors of development practice, community development and higher education. Papers arising from the conference will be published in 2022 in the Department's online Research and Perspectives on Development Practice paper series. All core staff in the Department participated in organisation and delivery of the event, with Dr Eilish Dillon contributing one of the keynote addresses - Dillon, E. (2021) *The Relevance of Paulo Freire's Work for Higher Education Today: Towards a Critical Pedagogy of Global Connection* and Reilly, P. (2021).

Also in the area of critical global education, Dr Eilish Dillon contributed to a number of international conferences, seminars and workshops in 2021. She was the keynote speaker at an Irish Development Education Association seminar on the history of development education in Ireland in May 2021, with a contribution, *History Matters in Development and Global*

*Citizenship Education*. She also gave an invited paper contribution at the annual international *Academic Network on Global Education and Learning* conference in June 2021, *Learning to Change the Focus – Perspectives from Critical Global Education for International Development NGO Communications*. Dr Eilish Dillon also contributed a written submission to the development of Irish Aid's Global Education Strategy (2021–2025).

#### Peacebuilding

In the area of peacebuilding, on request of the Department of Defence and Department of Foreign Affairs, Dr Kieran Doyle represents Ireland on the Academic Board of the European Security and Defence College (ESDC), which is a constituent of the European External Action Service (EEAS), Brussels and which has a wider network of 150 academic and operational institutions. The ESDC is a network designed to improve the exchange of academic research and operational practice, and to leverage the knowledge and innovative power of academia to address performance and operational problems in the EU's crisis management and peacebuilding work. Membership of this board means that he works to generate applied research with colleagues from all over the EU to inform the design of academic, executive and technical programmes that improve operational practice in civilian and military peacebuilding.

New courses are designed in partnership with international colleagues who are either part of the college network, or high level offices of the EU External Action Service Mediation Support Team, and then delivered to staff of the EEAS, and other public servants in the defence, justice, diplomatic, police, military and wider security establishments of EU member states and Third States. One example is the application of the recommendations of IECEU H2020 research project (2015–2018) which looked at systematic communication between EU mission and host nations. Based on the findings of the research, and working with faculty in ENISA University (Romania) Dr Kieran Doyle co-devised a syllabus and curriculum teaching StratCom to Press and Information officers from EU institutions, missions and operations. This programme has run in Bucharest each year since 2019. Other executive programmes designed in this manner include a programme on conflict analysis and developing capacity in mediation, negotiation and dialogue.



Dr Kieran Doyle, Department of International Development and Edward M Kennedy Institute for Conflict Intervention

Since 2019 the Irish Government on behalf of the EU, have funded Dr Kieran Doyle to act as EU Civilian Capabilities Thematic Coordinator in the field of 'Mediation, Negotiation and Dialogue'. This role requires "a champion of best practice within his/her area of competence, a focal point of contact for that particular capability or discipline, a driver of change in his/her area of competence, and the EU linchpin for the training authorities of international organisations". In February 2021 he presented research to CivComm, a preparatory body of the EU Council, on recommendations for High Level performance objectives and outcomes for preparation of EU civilian mediators. The report will undoubtedly inform EU mediation practice in the future. On 1 March 2021 these recommendations were approved and accepted by the Member States.

### Climate Change Policy and Pastoralism in the Horn of Africa

In January 2021, Dr Tom Campbell successfully passed his PhD Oral examination (Viva) and was conferred by DCU on 6 October 2021. He made oral presentations at a number of workshops and conferences in 2021: at the Development Studies Association of Ireland (DSAI) Summer School 2021 *Changing Climates: Challenges in Research and Development*, on the topic of *Climate Change Policy Narratives and Pastoralism in the Horn of Africa; New Concerns, Old Arguments?*, Virtual event hosted by Maynooth University and DSAI, 16 June 2021; at the International Association for the Study of the Commons (IASC) Land Commons Conference on the topic of *Climate Change Policy Narratives and Pastoralism in the Horn of Africa; New Concerns, Old Arguments?*, Virtual event hosted by Arizona State University, 15 September 2021; at the Joint XIV International Grasslands and XI International Rangelands Congress on the topic of: *Climate Change Policy Narratives and Pastoralist Predicaments in the Horn of Africa: Insights from Ethiopia and Kenya*, on the 26 October. His peer reviewed paper for this conference was subsequently published on the conference website - Campbell, Thomas (2021) *Climate Change Policy Narratives and Pastoralist Predicaments in the Horn of Africa: Insights from Ethiopia and Kenya*. In: Joint XIV International Grasslands and XI International Rangelands Congress, 25–29 October 2021, Nairobi, Kenya; He also presented at a European University Institute (EUI) workshop: Territorial Changes and livelihood transformations: Market integration, livelihood mobility, land use changes, on the topic of *Climate Change Policy Narratives and Pastoralism in the Horn of Africa; New Concerns, Old Arguments?*, a hybrid event hosted by European University Institute, Florence, 21 November 2021.

### Ethical Global Development Communications

In 2021, Dr Eilish Dillon published her New Foundations, Irish Research Council-funded research *Shifting the Lens on Ethical Communications in Global Development - A Focus on NGOs in Ireland*. Conducted in association with Dóchas, the network of international development NGOs in Ireland, findings from this research with over 60 NGO staff working in marketing, communications and education, were shared through a public seminar organised by the Department of International Development and Dóchas, as well as through a peer reviewed article in 'Policy and Practice: A Development Education Review' (2021), entitled *Why Opposites Don't Always Attract: Reflections on Binaries and Their Implications for Decolonising Development Communications and Education*. Dr Dillon also presented a paper on the research at the annual Development Studies Association of Ireland conference in September 2021, entitled *Creating a Climate for Ethical Global Development Communications - a focus on the case of NGOs in Ireland* and she was invited to speak on the topic of *Public Engagement in the light of Covid-19* at the launch of the Dóchas Worldview research in October 2021.



### Engagement with Development Organisations and Educational Institutions

External engaged research is central to the Department of International Development's approach to research. We see active engagement with those involved in development policy and practice as central to enhancing the quality, relevance and reach of our work at the Department. As such, we have developed partnerships with organisations in Ireland and internationally. As part of its wider engagement work, the Department of International Development continued its solidarity relationship with Comhlámh, the Irish Association of Development Workers and Volunteers, strengthened its blog series, developed a collaboration with the University of Makeni and continued its involvement with networks important to the work of the Department.

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Actively engaging with the Irish development sector, as well as with networks and other academic institutions, offers us opportunities to enhance the quality, relevance and reach of our work at the Department. Recognising this and motivated by shared values, the Department of International Development and Comhlámh continued their long-standing partnership of mutual support and solidarity through collaboration on various events, actions and campaigns. In 2021, Department staff moderated a range of Comhlámh First Wednesday public engagement events on issues such as – *Ireland, Palestine and the United Nations Security Council*, *'Education, Emancipation and Social Change, Workers' Solidarity in International Supply Chains* and *Coping with COP: Reflections on the Climate Crisis, Present and Future*.

In its blog series, *Stories of Change – From Knowledge to Action*, in 2021, blogs were published on the following topics: *A Global Moral Crossroad* – Niamh Rooney, February 2021; *Covid, College and Coping* – You are not Alone – Eoin Ryan, MA student, and *Reflections on Feminisms for International Women's Day* – Dr Eilish Dillon, March 2021; *Can the UN Food Systems Summit drive the necessary transformation or will it reinforce 'false solutions' based on unequal power relations?* – Michael O'Brien, graduate of the Department of International Development and Policy Advisor with Trócaire, July 2021; and *Roots of Regeneration* – Gareth Conlon, graduate of the Department of International Development and co-founder of Sólta Chroi, October 2021.

The Department of Development Studies, University of Makeni, Sierra Leone and the Maynooth University, Department of International Development have agreed in principle a collaboration to facilitate closer cooperation between the two parties in a range of education, research, exchange and development in areas of mutual academic interest related to higher education. The institutions seek to establish academic and educational collaboration with the mutual aim of developing staff and student learning. In pursuit of this shared interest, the parties held a joint webinar in March 2020 entitled *Teaching and Research in Development Studies in the Light of Covid*, which shared and explored experiences and challenges in teaching and research during the first 12 months of the global pandemic. In 2021, Dr Eilish Dillon joined the university's panel of international PhD supporting co-supervisors.

On-going engagement with and membership of networks and bodies such as the Irish Development Education Association (IDEA), Dóchas, the Development Studies Association of Ireland (DSA) and the European Association of Development Institutes (EADI).

## Anthropology

### Publications

In 2020–2021, members of the Department of Anthropology authored 24 publications and participated in 15 conferences. Dr Pauline Garvey co-authored two books as a result of her Horizon 2020 research on technology and ageing: *Ageing with Smartphones in Ireland: When Life becomes Craft* (co-authored with D. Miller) and the collaborative and comparative book entitled *The Global Smartphone: Beyond a Youth Technology*, both published by UCL/Chicago University Press. The publication of *The Global Smartphone* received widespread international attention and featured in newspapers from Europe to Asia, including full-page features in newspapers such as *The Guardian*, *The Sunday Times* and the *World Economic Forum*. Irish radio picked up on the Irish contribution in interviews on Drivetime (RTÉ Radio 1), Sean Moncrieff (Newstalk) and Clare Byrne Live (RTÉ Radio 1). Dr Garvey's other publications include *Grandparenting as the Resolution of Kinship as Experience* (with D. Miller) currently in press with the *Journal of the Royal Anthropological Institute* and *What Smartphones Teach Us about Ageing* on RTÉ's *Brainstorm*.



*Ageing with Smartphones in Ireland: When Life becomes Craft* – Dr Pauline Garvey and D. Miller

Professor David Prendergast directed edited and released the documentary *'Circuits of Care: Ageing and Japan's Robot Revolution'* in 2021 exploring human-technology relationships in test labs, nursing homes and private residences. The film is available through feelsales.com and has been shown at many festivals, conferences and seminars and is currently being used for teaching purposes at numerous universities in Europe and North America. Professor Prendergast also co-authored with Dr A Jamie Saris and Dr Katja Seidel a 65,000-word report for the Horizon 2020 Smart & Healthy Ageing through People Engaging in Supportive Systems (SHAPES) Innovation Action. This was submitted to the EU in November 2021 and preparations are underway to develop this into a monograph *From Legacies to Futures: Lifeworlds of Older Adults in Europe*. Vignettes from this research, edited by Prendergast, Saris and Seidel have been published throughout 2020–2021 at Dr A. Jamie Saris continued his successful collaboration with the Clinical Lead in the HSE Epilepsy Service with another publication in *Epilepsy and Behaviour* on transforming clinical services in a more patient-centred direction. While the formal research part of this project is now closed, its insights continue to impact coalface HCPs. In addition, Dr Saris continued his public intellectual activities publishing a widely read article on Whiteness



and Public Health in the run-up for the US Presidential Election in the November 2020 on the RTÉ Brainstorm site, *Why Donald Trump is Dancing to YMCA?*. He also (with Professor David Prendergast) is a PI on the H2020 SHAPES Project (Smart and Healthy Ageing through People Engaging in Supportive Systems), which aims to create the first European open Ecosystem enabling the large-scale deployment of a range of digital solutions for supporting and extending healthy and independent living for older individuals. He also published a major paper on addiction and social theory in *Ethnologia Actualis*. Finally, he was invited, as the senior medical anthropologist in Ireland, to contribute a piece The Irish Journal of Psychological Medicine on heroin and methadone in Ireland.

Together with collaborators in Australia and New Zealand, Thomas Strong co-edited a colloquium of essays on the *ethics of proximity during COVID-19* for one of anthropology's most prestigious journals, *Cultural Anthropology*, in August 2021. The collection grew out of the Social Science Research Council Rapid Response Grant on Covid-19 Dr Strong received, alongside L.L. Wynn (Macquarie Univ.) and Susanna Trnka (U of Auckland), with whom he also wrote its introductory essay. Additionally, in Dr Strong's article for the collection, entitled *The End of Intimacy*, he connects his research on social dimensions of Covid-19 with his work on gay male sexuality, funded by the Irish Research Council, through the idea of the "HIV uncanny": the sometimes problematic ways that HIV has been held to prefigure Covid-19. With his IRC COALESCE award, *Culture and Sexual Risk: An Ethnographic Analysis of Gay Male Sexual Worlds Today*, worked with performers and cultural producers in Ireland's contemporary queer community to create a film entitled "Shame/less," an experiment in community engagement under conditions of lockdown, which premiered during Dublin Pride 2021 and was screened during the GAZE 2021 film festival.



Dr Chandana Mathur, Department of Anthropology, Social Sciences Institute (MUSSI)

Dr Chandana Mathur published two articles on Covid-19 in India in the journal *Dialectical Anthropology*. She was the lead author of the *Report synthesizing secondary data on sources of conflict over water in India* for the EU Horizon 2020 funded PANI\_Water project.

Dr Steve Coleman collaborated on a research project for the COST-funded study group, the European Non-Territorial Autonomy Network (ENTAN). This collaboration resulted in the publication of a book chapter, "The Irish Gaeltacht as a Trans-Local Phenomenon" in the volume, *Non-Territorial Autonomy and Decentralization: Ethno-Cultural Diversity Governance* (Routledge 2020).



Dr Ana Ivasiuc published the book chapter "From Folk Devils to Modern State Devils: The Securitization and Racial Policing of the Roma in Italy" in the collective volume *Modern Folk Devils*

Dr Ana Ivasiuc published the book chapter 'From Folk Devils to Modern State Devils: The Securitization and Racial Policing of the Roma in Italy' in the collective volume *Modern Folk Devils: The Construction of Evil in Contemporary Europe*, edited by Martin Demant Fredriksen and Ida Harboe Knudsen and published by the Helsinki University Press. She also published in *Social Anthropology/Anthropologie Sociale* a review of the book *Engaging Evil: A Moral Anthropology*, edited by William C. Olsen and Thomas J. Csordas (2018, New York and Oxford: Berghahn Books).

Professor Hana Cervinkova's research resulted in the publication of three peer-reviewed articles and one book chapter in 2020-21. Her co-authored article on doctoral education reforms in Central/Eastern Europe drawing on the 2015–2019 Horizon 2020 project was published in the journal *Critical Education*. Together with colleagues in the Centre for Public Education and Pedagogy at MU and Pedagogies for Social Justice Research Group at the University of South Australia, she explored new ways of conceptualising the public sphere and education (published in the journal *Educational Philosophy and Theory*). Her work on memory in post-socialist cities appeared in an edited volume on urban Diversity in East-Central European Borderlands (Stuttgart: ibidem-Verlag).

Dr Mark Maguire's published the results of his research on airport counterterrorism in the journal, *Anthropology Now* (co-authored with D. Westbrook) and as a chapter in an edited volume *Bioinformation Worlds and Futures* (co-authored with E. Murphy).

## Research Projects

Professor David Prendergast and Dr Jamie Saris are Co-PIs in the H2020 SHAPES Project, which includes 36 institutional partners and has a total funding value of €21m, Professor Prendergast and Dr Saris (with senior postdoctoral researcher Dr Katja Seidel) led the work task responsible for conducting ethnographic research into the life worlds of older adults in 94 community dwelling older adults in ten localities across Europe. This extensive fieldwork was concluded during 2021 leading to a report that examined how ageing populations live, including empowerment models for healthy living, care pathways, age-friendly environments, and social inclusion. Insights from the lifeworlds of research participants are discussed in seven key areas presenting their experiences, narratives and needs with regards to living in the later stages of the life course.

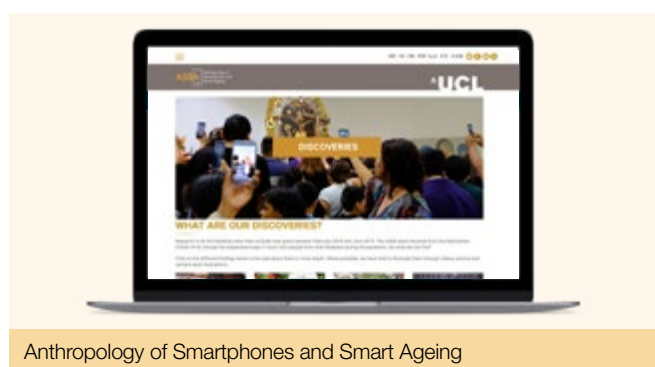
In addition, Dr Saris continued to participate in the *Medical*

# Faculty Highlights

## Faculty of Social Sciences

*Professionalism in Practice* - developing and understanding relationship-centred professionalism in medicine for the public, students, teachers and clinicians [Med PiP], which has now evolved into a broader project *Professionalism Across the Professions*. The Project Team conducted six focus groups in August-September of this year with a mix of the “traditional” professions (Medicine, Law and the Clergy) with other so-called “newer” professions (predominantly Guards, Accountants, and senior IT professionals), with Dr Saris running three of these groups.

Dr Pauline Garvey is a collaborator in the ERC funded research Anthropology of Smartphones and Smart Ageing, a multi-sited research project based at UCL Anthropology, primarily funded by the European Research Council (ERC) under the European Union’s Horizon 2020 research and innovation programme. In addition to two books and multiple articles, the ASSA team are also creating a Youtube channel with short films from the field sites and have a website where we blog every few days. On 6 May 2021 the group will see the launch a MOOC (a free university course) based on research findings hosted on the FutureLearn platform.



Dr Thomas Strong’s research achievements in 2020–2021 were centrally focused on sexuality, infectious disease, and the politics of risk. Both his IRC and SSRC projects came to a close, as he endeavoured to bring his findings into developing his teaching in medical anthropology, identity politics, and to engage community discussion. He was a guest on The Tortoise Shack podcast concerning *HIV and Healthcare*. He was also invited to speak about his research as a guest at the ‘Queer Hedge School,’ an online course offered as the Gay Project’s Festival of Dangerous Ideas. Quoted in several press articles during the advent of 40 years of HIV and AIDS, in December 2021 he was featured in a campaign sponsored by HIV Ireland combatting HIV stigma, entitled *Living*.

Dr Chandana Mathur continued to participate in the PANI\_Water project (2019-present), which was granted €4,969,749 under the EU Horizon 2020 Scheme. The Indian partners for this project are separately funded by the Indian government’s Department of Science and Technology. Professor Honor Fagan and Dr Mathur are the two Maynooth University based PIs, and Professor Fagan is the Social Science Work Package leader.

Professor Hana Cervinkova is the PI on the IRC GOI 2-year Postdoctoral Fellowship awarded to Dr Grace Zhou who is coming to Ireland to work on the project, *Theorizing Settler Socialism: Economy, Identity and Power in Post-Socialist Central Asia*.

### Conferences

During 2021 Professor Prendergast gave 11 public talks in forums ranging from the Society for Visual Anthropology, EHESS Paris, Service Design Network Ireland, Toyota Foundation, University of Bonn, and the Response-ability Conference in Bristol, UK. Professor Prendergast with colleagues Drs Saris and Seidel also hosted and presented a panel session for a H2020 SHAPES Dialogue Workshop and a paper ‘*Lives under Covid and the Terms Under Which We Become Old*’ at SIEF 2021, International Society for Ethnology and Folklore, Helsinki.

Dr Chandana Mathur gave an invited plenary lecture at the European Humanities Conference in Lisbon in May 2021. In her capacity as the Human Rights Liaison at the American Anthropological Association (AAA), she was involved in arranging a session titled ‘Palestine: Resurgent and Emergent Solidarities’ at the 2021 American Anthropological Association conference. Dr Mathur is the Vice-President of the European Association of Social Anthropologists (EASA), and currently serving as a member of the Scientific Committee for the upcoming 2022 EASA conference in Belfast.

Dr Strong’s SSRC grant was the spring board for a symposium – *Pandemic Imaginaries: Making Sense of Covid-19* – organised with his former Ph.D. student, assistant lecturer in Sociology Dr Pranav Kohli, with whom he also delivered a paper on scapegoats. As Chair of the Anthropological Association of Ireland, Dr Strong developed the theme for the 2020 Anthropological Association of Ireland conference. Surveying a social and political scene riven with images of transition and demise, the conference was entitled simply ‘Ending’ and attracted avid notice from anthropologists worldwide. Dr Strong also participated in an early career symposium sponsored by the AAI. In the Spring of 2021, he was also invited to be the discussant for a panel organised by Tony Crook and Marilyn Strathern for the Association of Social Anthropologists conference ‘in’ St Andrews.

Dr Saris has presented at two conferences in this period with papers on *Reshaping the SHAPES Project in the Covid-19 era* and *Ageing Names and Naming Ages* - based on initial findings of the SHAPES project, with more scheduled in 2021.

Dr Pauline Garvey participated in the Association of Social Anthropologist Conference and the conference of the Irish Anthropological Association 2020.

Dr Ana Ivasiuc presented the paper *Crimmobility: How the securitization of mobility brings about social immobility* at the conference *Crimmigration: On the merger of crime control and migration control*, University of Bielefeld, Germany.

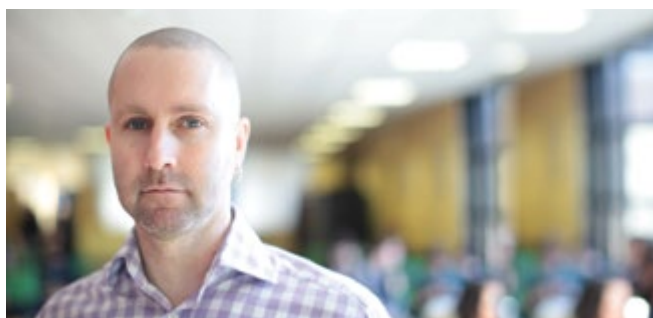
Dr Mark Maguire gave four lectures at international conferences on his counterterrorism research at airports and anthropology of security.

In November 2021 Professor Hana Cervinkova gave the annual invited *Ladislav Holy Lecture* organised by the Czech Association for Social Anthropology (CASA) focused on the predicaments of national belonging and cultural intimacy during the Covid-19 pandemic. In April 2021, together with Dr J.D. Golden she gave a keynote address at the annual Memory Studies conference at New School for Social Research in New York focused on material heritage and collective memory.

## Awards

David Prendergast's film *Circuits of Care* has been selected for seven film festivals, nominated for an award in four, and received two awards in the short documentary category.

Dr Thomas Strong's substantial and abiding research on the cultural politics of HIV has always also been joined to a commitment to activism related to AIDS and to sexual rights and freedoms. In recognition of this work, he was awarded in 2020 the AIDS and Anthropology Research Group's Moher Downing Distinguished Service Award. Earlier in the year, ACT UP Dublin, the AIDS activist organisation that Strong helped to found, was awarded the Noel Walsh HIV Activism Award by Ireland's National Gay and Lesbian Task Force.



Dr Thomas Strong, Department of Anthropology

The ASSA website, from Dr Pauline Garvey's research, which features books, videos, infographics and stories from the field recently won the AVA 2021 Award for Best Visual Ethnographic Material Addressing Ageing and the Life Course in the Multimodal category. The AVA Award is a collaborative effort of the EASA's Age and Generations Network, Association for Gerontology, Ageing and the Life Course and EASA's Visual Anthropology Network.

As part of the Irish Research Council's Researcher of the Year Awards 2021, Dr Chandana Mathur received a Research Ally prize for her "positive impact as a mentor".

Professor Hana Cervinkova received the 2021 Teaching Hero Award from the National Forum for the Enhancement of Teaching and Learning in Higher Education and the Union of Students in Ireland.



Professor Hana Cervinkova, Department of Anthropology, Centre for European and Eurasian Studies

## External Engaged Research undertaken during the academic year 2019–20

In 2019 Professor David Prendergast helped set up the new HSE Digital Academy MSc in Digital Health Transformation. This programme is a collaboration between the Health Service Executive and many of the universities in Ireland. In partnership with Professor Mac Maclachlan of the ALL Institute, the Departments of Anthropology and Design Innovation designed a module on Digital Health & Wellbeing in the Community'. This programme has been successfully repeated in the 2020-21 academic year training an additional 50 HSE staff to use ethnographic and design thinking methods to conduct targeted research into the challenges of loneliness and social isolation in later life.

In 2021 Professor Prendergast worked with colleagues to support the ongoing Maynooth University and Age Friendly Ireland Initiative, participating in a collaborative workshop on ageing and sustainable development. Professor Prendergast also continued his advisory function with the Sona Sasta Meals on Wheels charity, helping to ensure that meals continued to be provided to older adults throughout South Meath during the Covid-19 pandemic. He helped guide the redevelopment of new premises for the charity, an initiative that was awarded *Best Community Project* in the Rest of Leinster category of the Urban Land Institute 'Excellence in Placemaking' Awards 2021.

Professor Prendergast currently sits on the advisory boards of two research programmes: the ERC Anthropology of Smartphones and Smart Ageing and the H2020 Marie Skłodowska-Curie Project *visuAAL – Privacy-Aware and Acceptable Video-Based Technologies and Services for Active and Assisted Living*. He also continues to serve as a member of the Smart Dublin Advisory Network which he joined as a founder member in 2015. He also peer-reviewed books in 2021 for UCL Press and Rutgers University Press.

Dr Strong has a reputation as an activist scholar; as a result he is frequently consulted for fresh thinking about HIV and other health crises. He was a consultant to the HSE for Ireland's first ever national campaign promoting treatment as prevention for HIV. For World AIDS Day 2020, he was invited to take over the Instagram of the Association of Medical Students in Ireland (AMSI), using the opportunity to discuss insights into HIV stigma. Additionally he delivered a keynote address, *Positive Sexuality: A PrEP Talk*, to AMSI for its first ever conference on sexuality. He was also a guest on the Glow West Podcast, the Queer Hedge School sponsored by Gay Project Cork, and spoke to the Philosophical Society of Trinity College.

Dr Chandana Mathur participates in the PANI\_Water (Photo-irradiation and Adsorption based Novel Innovations for Water Treatment) project (EU Horizon 2020 Scheme), which is concerned with water access for disadvantaged groups in India. The project's research partners for the social science work package are not universities, but two prominent Indian NGOs – Development Alternatives, and TARA, Technology and Action for Rural Advancement.



# Faculty Highlights

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Dr Chandana Mathur continues to serve as a member of the Editorial Advisory Board for *sapiens.org*, an editorially independent magazine of the Wenner-Gren Foundation for Anthropological Research (appointed in January 2019). This digital magazine was founded with a mission to bring anthropology to the public and contains articles by professional anthropologists directed at a general readership.

Besides publishing in RTÉ Brainstorm, Dr Saris regularly contributes regular tweets on Health and Society under various hashtags on Twitter. He has consulted with the Irish NGO Safetynet on how to research the process of making some of the Covid-forced changes in delivering care to some of the most marginalized in Irish society that turned out to be a success, permanent. He also consulted pro-bono for an architectural start-up company. Finally, he continues to serve on the International Board of Consulting Editors, for Culture, Medicine and Psychiatry (1996-present) and that of Reviews in Anthropology (2011-present).

Dr Steve Coleman gave an invited public talk on 22 January 2020, *What is the 'Life' in 'Living Culture'?* This was the Third Annual Léacht Chuimhneacháin Sheosaimh Uí Éanaí/Joe Heaney Memorial Lecture, at NUI Galway, part of NUIG's Arts in Action series, and was a Galway 2020 European Capital of Culture event.

Dr Steve Coleman's and Stephanie Ford's (MU Dept. of Music) bilingual workshop, *Talamh nua: sean nós singing in contemporary contexts* featuring a roundtable discussion as well as performances from three well-known sean-nós singers and researchers, Iarla Ó Lionáird (Princeton University), Síl Ní Dhríoghneáin (Roinn na Nua-Ghaeilge, MU), and Síle Denvir (Fiontar, DCU) was open to the public, and a recording is available online via the ICTM (International Council for Traditional Music in Ireland) and the ITMA (Irish Traditional Music Archive).

Dr Pauline Garvey and Professor Daniel Miller, in collaboration with members of the Computer Science Department, Maynooth University developed several websites dedicated to Social Prescribing in Ireland and Milan, Italy. This applied aspect of the ASSA research project is on hold during the Covid-19 pandemic.

Dr Garvey also contributed to the highly successful launch of our online course: An Anthropology of Smartphones: Communication, Ageing and Health on FutureLearn. Dr Garvey continues to serve on the editorial board of the Nordic Journal of Social Research and as editor on international peer-reviewed journal *Home Cultures: Architecture, Design and Domestic Space* (Taylor and Francis).

## Law and Criminology

The Law Department has continued its growth and now comprises of 41 academic staff, with four new PhD students commencing their studies and host to 4 postdoctoral researchers. The Law Department also maintained its strong publication record in 2021.

Three books were published by Department staff during this reporting period:

- E. Richardson and O. Bartlett, *Legal Research and Writing Skills in Ireland* (Clarus Press, 2021).
- N. Maddox, *The Land and Conveyancing Law Reform Acts: A Commentary* (Roundhall Thompson Reuters, 2021).
- H. Smekal, J. Benák, L. Vyhnánek, M. Hanych and Š. Janků, *Mimoprávní vlivy na rozhodování českého Ústavního soudu* (Masarykova Univerzita, 2021).

Significantly, Alice Harrison won the Law Book of the Year Award 2022 at the Irish Law Awards for her book, *The Special Criminal Court: Practice and Policy* (Bloomsbury 2019).



Alice Harrison's book *The Special Criminal Court: Practice and Policy* won the Law Book of the Year Award 2022 at the Irish Law Awards

Three further books will also be published in the forthcoming months:

- Brandon and G. Dingwall, *Minority Ethnic Prisoners and Covid-19 Lockdown: Issues, Impacts and Implications* (Bristol University Press 2021).
- L. Black, *Gender and Punishment in Ireland: Women, Murder and the Death Penalty* (Manchester University Press 2022).
- S. Ring, K. Gleeson and K. Stevenson, *Child Sexual Abuse Reported by Adult Survivors. Legal Responses in England and Wales, Ireland and Australia* (Routledge 2022).

In terms of articles, staff members published a number of contributions in leading international peer-reviewed journals and produced important contributions aimed at law practitioners and policy makers in Ireland and beyond (e.g. *American Journal of Legal History*, *Arab Law Quarterly*, *ASA Bulletin*, *British Journal of Community Justice*, *British Journal of Criminology*, *Cambridge Quarterly of Healthcare Ethics*, *Casopis pro*

*pravni vedu a praxis, Common Law World Review, Crime, Law and Social Change, Criminology and Criminal Justice, Disabilities, Europe-Asia Studies, European Constitutional Law Review, European Constitutional Law Review, European Journal of Criminology, European Journal of Risk Regulation, European Labour Law Journal, European Political Science, European Public Law, Griffith Law Review, Ferderalism.It – Rivista Di Diritto Pubblico Italiano, Comparato Ed Europeo, Health Economics, Human Rights Law Review, International Criminal Law Review, International Journal of Constitutional Law, International Journal of Human Rights, International Journal of Restorative Justice, International Labor Rights Case Law, Irish Criminal Law Journal, Irish Jurist, Irish Medical Journal, Journal of International Banking Law & Regulation, Journal of Criminal Justice Education, Journal of Cross Border Studies in Ireland, Journal of Human Rights Practice, Journal of International Criminal Justice, Journal of Medical Ethics, Journal of Public Health, Journal of White Collar and Corporate Crime, Kuwait International Law School Journal, Law and Development Review, Legal Studies, Life Sciences Society and Policy, Moral Philosophy and Politics, Nordic Journal of Law and Social Research, Netherlands Quarterly of Human Rights, New York University Journal of Law and Liberty, Palestine Yearbook of International Law, Policy and Law. Policy and Law, Politique Européenne, Politics and Governance, Prison Service Journal, Probation Quarterly, Refugee Survey Quarterly, Revue de droit comparé du travail et de la sécurité social, South Texas Law Review, Study on the American Constitution, The North Carolina Historical Review, Third World Approaches to International Law Review, UCLA Law Review and University of Baltimore Law Review).*

Similarly, staff members made a number of important contributions to edited collections aimed at both domestic and international audiences (publishers include Beck Nomos, Bloomsbury, Brill, Cambridge University Press, Clarus Press, Edward Elgar, Hart Publishing, Oxford University Press, Palgrave Macmillan and Routledge). Staff members have been invited to contribute to a number of highly influential texts, edited by some of most highly regarded legal scholars in the world. These include:

- C. Bracken-Roche, 'The governance of emerging security technologies: towards a critical assessment' in A. Calcara, R. Csernaton and C. Lavallée, *Emerging Security Technologies and EU Governance* (Routledge 2020).
- D. Mangan, 'Article 7 – Respect for Private and Family Life (Private Life, Home and Communications)' in S. Peers, T. Hervey, J. Kenner and A. Ward (eds), *The EU Charter of Fundamental Rights: A Commentary* (Hart/Bloomsbury Publishing 2021).
- M. Dobbs and O. Stefan, 'EU Soft Law in the UK on the Eve of Brexit: (not) Much Ado About Nothing?' in M. Eliantonio, E. Korkea-aho and O. Stefan (eds), *EU Soft Law in Member States: Theoretical Findings and Empirical Evidence* (Bloomsbury/Hart 2021).
- B. Flanagan, 'Legal Disagreement as Disagreement about the Collectively Intended Meaning' in C. Valentini and T. Marques (eds), *Collective Action, Philosophy and Law* (Routledge 2021).
- B. Ní Ghráinne, 'Internal Protection Alternative' in C. Costello, M. Foster and J. McAdam, *Oxford Handbook on International Refugee Law* (Oxford University Press 2021).

- N. Higgins, 'National Liberation Movements', in C. Binder, M. Nowak, J.A. Hofbauer and P. Janig (eds), *Elgar Encyclopaedia of Human Rights* (Edward Elgar, 2021).
- T. Locke, 'A Common Travel Area? Brexit and the New (Northern) Irish' in C. McCrudden (ed.), *The Law and Practice of the on Ireland/Northern Ireland Protocol* (Cambridge University Press 2021).
- McMahon, 'Regulatory Authorities and Decision-Making in Health Research: The Institutional Dimension' in G. Laurie, E. Dove, A. Ganguli-Mitra, C. McMillan, E. Postan, N. Sethi and A. Sorbie (eds), *Cambridge Handbook of Health Research Regulation* (Cambridge University Press 2021).
- D. Coffey (with N. Ní Leathlobhair), 'Article 44.1 and the "Special Position" of the Catholic Church in the Irish Constitution, 1937–1972' in K. Costello and N. Howlin (eds), *Law and Religion in Ireland, 1700-1970* (Palgrave Macmillan 2021).
- A. Wiesbrock and C. Murphy, 'Seasonal Workers in EU Law' in D. Thym and K. Hailbronner, *EU Immigration and Asylum Law: A Commentary* (Beck Nomos 2022).

Traditionally, research funding has not been hugely significant in legal scholarship (as such work was primarily doctrinal, library-based, and carried out on an individual basis), but the research culture in the Department has changed significantly over the last number of years. In 2021, Dr David Doyle was awarded an Irish Research Council COALESCE Grant for his project, *Jurassic Patents: Patent Law and the Value of Species in the Age of De-Extinction*. The study seeks to understand the commercial and legal implications of de-extinction through a comparative analysis of European and United States Patent Law, and inform the production of laws/regulations/policies to address some of the key issues facing societies impacted by species loss and potential return. Dr Doyle and two other faculty members (Dr Aisling McMahon and Dr Treasa Kenny) also successfully applied to the IRC *New Foundations* Scheme, while four faculty members applied to the IRC Starting Laureate Awards

In addition to these IRC funding awards, there was a notable increase in the number of applications for research funding at a European level over the course of the year. For example, four staff members applied to the European Research Council (ERC) Starting and Consolidator Schemes in 2020/21. Dr Aisling McMahon was subsequently awarded a prestigious ERC Starting Grant (€1.5m) for her project *PatentsInHumans* which aims to fundamentally reconceptualise the role of bioethics in the patenting and licensing of technologies related to the human body, and has significant potential to shape the disciplines of patent law and bioethics, with significant scholarly and policy impacts. This project will be discussed in detail in the next reporting phase.

Other successful applications were also submitted to a variety of influential international funding programmes (e.g. British and Irish Law Education and Technology Association (BILETA); European Commission Call for Proposals on Preventing and Countering Violent Radicalisation Fund; Estonian Ministry of Justice; Glasgow Law Scholars Award; Director-General Employment, Social Affairs, and Inclusion; Royal Irish Academy; Society of Legal Scholars' Research Activities Fund etc.). For example, Dr Lauren Kierans

# Faculty Highlights

## Faculty of Social Sciences

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was awarded funding from the Norwegian Research Council (e.g. *Workers' voice and the right to manage – the case of whistleblowing in a comparative context: Norway, Denmark, Ireland, and the UK*), while a research team from the School (Dr David Doyle, Dr Avril Brandon, Dr Joe Garrihy and Dr Amina Adanan) won an Irish Penal Reform Trust research tender (funded by the Irish Human Rights Equality Commission). Dr Mary Dobbs also secured funding in partnership with the Northern Ireland Environmental Link (NIEL) and the Irish Environmental Network (IEN).

Staff members in the Department are active in communicating and disseminating research with many speaking at a large number of virtual national and international conferences, and public webinars. Staff members from the Department of Law appeared regularly in national (e.g. BBC Radio Ulster, KFM, RTÉ News and TG4) speaking on matters relating, *inter alia*, to the Israeli attack on Gaza, Histories of Probation Project, Migrant Fishers, Surrogacy Law, and Universal Jurisdiction under International Law. Moreover, staff contributed pieces to Border Criminologies, Global Workplace Law Blog, RTÉ Brainstorm, Sunday Business Post, Trinity College Covid-19 Observatory, and The Journal.

### Public engagement, and contribution to public policy and law reform

The Department places a priority (as one of its underlying core values) on public engagement, and contribution to public policy and law reform. This year saw numerous contributions:

- **Reports**

*Inter alia*, for the Department of Justice (on knife crime); European Commission (on barriers experienced by vulnerable groups); the International Transport Workers Federation (on the needs and experiences of Non-EEA Fishers on the Irish Fishing Fleet); the Irish Penal Reform Trust (on minority ethnic groups in the Irish penal system) and the Irish Prison Service (A restorative practices strategy for the Irish Prison Service, 2021–2024).

- **Consultant/Advisor/Judicial Training**

Staff members acted in an advisory/expert capacity, *inter alia*, to the Academy of European Law, Estonian Ministry of Justice, House of Lords, the Northern Ireland Assembly, Irish Citizen Assembly, International Penal and Penitentiary Foundation, Irish Transport Workers' Federation, Scottish Parliament, Senedd Cymru (Welsh Parliament) and the World Health Organisation. Seth Tillman filed, with the United States Supreme Court, two friend-of-the-court briefs discussing the U.S. Constitution's Foreign Emoluments Clause and Presidential Emoluments Clause.

- **Oireachtas Committee Appearances**

Oireachtas Joint Committee on European Affairs (Dr Oisín Suttle); Oireachtas Joint Committee on Finance, Public Expenditure and Reform (Dr Lauren Kierans); Oireachtas Joint Committee on Foreign Affairs and Defence (Dr Aisling McMahon); Oireachtas Joint Committee on Education and Further Education, Research Innovation and Science (Dr David Doyle).

- **State Appointments/Boards**

Professor Michael Doherty was nominated by the Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar, to chair a high-level group to review the industrial relations and collective bargaining landscape in Ireland.



Professor Michael Doherty, Department of Law, Centre for European and Eurasian Studies

### Engaged Research

- Dr David Doyle, Dr Avril Brandon, Dr Joe Garrihy, Dr Amina Adanan and Professor Denis Bracken (with the Irish Penal Reform Trust), “Sometimes I’m missing the words”: the rights, needs and experiences of foreign national and minority ethnic groups in the Irish penal system (funded by Irish Human Rights and Equality Grant Scheme 2020).
- Dr David Doyle and Dr Joe Garrihy (with the Irish Council for Prisoners Overseas), Understanding the Needs and Experiences of Foreign National Prisoners in Ireland (funded by IRC *New Foundations* Scheme 2020).
- Professor Claire Hamilton, Dr Joe Garrihy, Dr Ciara Bracken-Roche, Dr Ian Marder, Dr Rose Ryan, Gemma Murphy and Trevor Vaughn, Unlocking Potential (funded by Department of Public Expenditure and Reform Public Service Innovation Fund 2020).
- Dr Treasa Kenny (with Glencree Centre for Peace and Reconciliation), Glencree Centre for Peace and Reconciliation: Evaluation of Facilitated Dialogue Programmes (funded by IRC *New Foundations* Scheme 2020).
- Professor Aisling McMahon (with Breakthrough Cancer Research), Patients’ Access to Advanced Cancer Therapies: Ethics and Equity of Access (funded by IRC *New Foundations* Scheme 2020).
- Dr Clíodhna Murphy, Dr David Doyle and Stephanie Thompson (with Michael O’Brien, ITF Fisheries Campaign Lead), Experiences of Non-EEA Workers in the Irish Fishing Industry (International Transport Workers Federation 2021).



## Sociology

The Department continues to succeed in international and national funding bids, winning €750,000 in funding over the period of this report, with funding from Adapt, Advance, IRC, and consultancy contracts with various government departments and statutory agencies. The Department continued its International impact publishing four books, 20 book chapters and 34 Peer Reviewed articles cross a diverse range of themes published in quality international academic journals including *Oxford Review of Education*, *New Media and Society*, *Culture, Health & Sexuality*, *Urban Studies*, *Social Policy and Administration*, *Social Science and Medicine*, *Paladyn, Administration and Society*, *Public Management Review*, *Economic and Social Review*, *Politique Europeenne*, *European Politics and Society*, *Journal of Religion in Japan*, and Irish journals *Administration*, *Irish Studies Review*, *Irish Studies in International Affairs*, *Journal of Cross Border Studies in Ireland*, *Irish Political Studies* and *Irish Journal of Sociology*. This work is discussed throughout this narrative report.

### Public Sociology

The Department is characterised by our strong and critical public engagement and impact on public policy as diverse as gambling, water, care, gender equality, working conditions, education, Brexit and EU enlargement. Our engaged research and public discourse offer evidence of our public facing work, as does our culture of excellence in publicly engaged research, co-production and dissemination. This is seen in diverse outputs across blogs, editorials, magazine, articles, videos, film and various social media and reflected in core research contributions and leadership across the university. These include leadership research ethics (Dr P Cullen, Dr P Ryan), in MUSSI (Professor Honor Fagan, Professor M Murphy), in the Jean Monet and Centre for European and Eurasian Studies (Professor John O'Brennan), Athena Swan renewal (Dr P Cullen, Professor Mary Corcoran), in the MU Technology and Society cluster (Professor Aphra Kerr), in the Irish Qualitative Data Archive (Professor Jane Gray). We stand out for contribution to public discourse and for our public communication of sociological research, as a critical voice across diverse publics (blogging, editorials, radio and TV commentary, Brainstorm, documentaries, social media, for example Professor John O'Brennan on Brexit, Dr P Cullen and Professor M Murphy on gendered impact of the pandemic, Dr Rebecca King-O'Riain on Squid game, Dr Laurence Cox on social movements, Professor Aphra Kerr and Professor John O'Brennan on gambling (report downloaded 524 times from MURAL since March 2021 and extensive media reportage and analysis (Irish Times, Irish Examiner, Pat Kenny Newstalk).

### Research-led teaching

There is strategic overlap, with parallel thematic streams relating to core societal challenges and the UN Sustainable Development Goals, in the Department's research and teaching. These themes are reflected as pathways in masters' programmes (Digital Societies, Intimate lives, Sustainability, Work and Digital Transitions) and undergraduate elective sociology pathways (Social change, Societal Challenges, Intimate lives, Sustainability, and Inequalities), and politics pathways (International

Studies, Power from Below and Public Policy). Our significant methodological strengths are reflected in our proposal for a new MA in Innovative Social Research Methods, we aim to build on our cluster of competencies in digital sociology. Our innovative research-led teaching led to five academic staff Teaching Hero Awards (2021) from the National Forum for the Enhancement of Teaching and Learning in Education for innovative and inspiring teaching in the context of Covid-19 (Dr Rebecca King-O'Riain, Dr P Cullen, Professor M Murphy, Dr Mary Benson, Dr Eoin Flaherty).

### Standout impacts

Dr Laurence Cox and Dr Eoin Flaherty were both awarded the IRC Research Ally Prize, 2021, while Professor Aphra Kerr was elected Member of Academia Europaea (MAE) in the Film, Media and Visual Studies section. Our excellence and reputation are reflected in key contributions to disciplinary knowledge sociology and politics, in two key disciplinary encyclopaedias (UN Sustainable Development Goals Lima, Video Games, Professor Aphra Kerr), and a Wiley special collection for World Food Day 2021, Professor Mary Corcoran. We contributed three chapters to the *Oxford Handbook of Irish Politics* Dr Rebecca King-O'Riain, Rhatigan, Dr Delma Byrne, Professor John O'Brennan, and Collins & Professor M Murphy, the *Journal Sociology Compass Conway*, and in two contributions, Professor Mary Corcoran, Dr Rebecca King-O'Riain to a special 30<sup>th</sup> Anniversary Issue *Irish Journal of Sociology* (guest contributor President M.D. Higgins).



Professor Mary Corcoran and Dr Rebecca King-O'Riain contributed to a special 30<sup>th</sup> Anniversary Issue *Irish Journal of Sociology* (guest contributor President M.D. Higgins)

Dr P Cullen convened the midterm conference of the ESA RN 32 Political Sociology at Maynooth University 29–31 October 2020 *Back to the Future? European Progressions and Retrogressions*. Dr P Cullen was lead organiser, 250 participants Political Sociology Section of the ESA General Conference in September 2021 (3,800 delegates from 74 countries), these raised visibility of MU, Sociology Department and Irish Sociology across Europe.

# Faculty Highlights

## Faculty of Social Sciences

### Overlapping thematic clusters relate to grand societal challenges

#### A. Digital Media, Technology and Society

High profile work on the gaming industry continues with a Life (online): #AoIR 2020 special issue Hutchinson and Professor Aphra Kerr, book chapters in book Digital Media Distribution. *Portals, Platforms and Pipelines* (Professor Aphra Kerr) and peer reviewed articles including *Paladyn* (Vasiliu L. et al including Professor Aphra Kerr). This work has been disseminated in prestigious keynotes in University of Concordia, Canada, 10 May 2021 (Professor Aphra Kerr), Queensland University of Technology (Professor Aphra Kerr and Joshua Moody) and Jagiellonian University, Poland (Professor Aphra Kerr). Analysis of representation and mediation in music, digital and TV screen includes spectres of *the Troubles* in contemporary Northern Irish cinema in *Irish Studies Review* (Dr Colin Coulter), on Korean Screen Culture (Dr Rebecca King-O'Riain) and on Cine y Hospitalidad (Dr Barry Cannon). Dr P Ryan & Dr Kathryn McGarry's Culture, Health & Sexuality research on sex work and the study of prostitution policy in a digital age. Professor Aphra Kerr was member of conference committee of the annual conference for the Association for Internet Research 27–21 October 2020. This shifted from online to in person in Dublin, also led to special issue (Professor Aphra Kerr co-edited), 366 contributions and 750 attendees from around the world. Key topics include social media, algorithms and platforms.

#### B. Democratic challenges: Social Movements, the State and Politics

The study of global and local social movements, and power from below is a defining feature of research in the Department, with one book publication *Social Movements Outcomes in Historical Perspective*, Lima, V. et al and one electronic book *Haciendo que otros mundos sean posibles: Por qué los zapatistas nos importan* Dr Laurence Cox and a book chapter in *Social Movements* Dr Laurence Cox, and several conferences on engaged sociology, activism, scholar-activist and themes of citizenship education. 25<sup>th</sup> issue of MU Sociology based *Interface* (July 2021), the leading open-access journal in social movements research.



*Northern Ireland a generation after Good Friday: lost futures and new horizons in the "long peace"* (Coulter, Gilmartin, Hayward & Shirlow)

Our long-standing focus on *Ireland in transition* and Northern Ireland meant we responded quickly to the potential and actual challenges of Brexit. Northern Ireland is a core theme in the Department's collective work producing a full book publication, three book chapters, and two journal articles. The MUP book *Northern Ireland a generation after Good Friday: lost futures and new horizons in the "long peace"* (Dr Colin Coulter, Dr Mary Gilmartin, Hayward & Shirlow) and book chapter: *Class and Inequality in Northern Ireland* Dr Eoin Flaherty Flaherty and McAuley. Peer reviewed articles focus on the theme of imagining, *Irish Studies Review* Dr Colin Coulter & Shirlow and *Irish Studies in International Affairs* (Professor M Murphy). Gallagher, Rhatigan and Dr Rebecca King-O'Riain published on Brexit in Ireland and the European Union while Professor John O'Brennan has contributed in various ways to key debates on Brexit including national media, key notes and in the *Journal of Cross Border Studies in Ireland*.

Key contributions to public policy *the Irish edition of the international Policy Analysis series* (Policy Press). *Policy Analysis in Ireland* edited by Dr John Hogan & Professor M Murphy, 16<sup>th</sup> of this international series. The 16 chapters are written/cowritten by Department of Sociology academics Introduction (Dr John Hogan and Professor M Murphy), Gender expertise (Dr P Cullen) and Civil Society (Professor M Murphy & O'Connor). Study of public policy analysis was also published in *Administration and Society* Dr Michael McGann, and *Public Management Review* Dr Michael McGann; Wells, T; Blomkamp E.

#### C. Societies in Transition, Societal Challenges and SDGs

Globalisation, internationalisation: culture and politics: Several academics are researching historical and contemporary diverse sociological themes in Korea, Japan and Myanmar, while others work as specialists on Latin America, The Balkans and Eastern Europe, and India. Dr Rebecca King-O'Riain has a well-established record of work on youth pop culture (K-pop) in Korea, published in *New Media and Society* and disseminated in several conferences. Dr Laurence Cox has given lectures on his 2020 publication *From Irish hobo to Buddhist monk in Myanmar* and co-published *Journal of Religion in Japan* on Japanese Buddhism in Ireland (with Ó Laoith). Professor John O'Brennan continues as Jean Monet Professor on European Integration, to lead the Centre for European and Eurasian Studies, which over this pandemic period delivered 10 online seminars attracting an intentional audience of over 1,000.

Sustainability and environment are a growing theme of the Departments work reflected in several key publications and peer reviewed articles across a diverse range of themes relating to sustainability. Including *Sustainable Welfare a Special Edition of Social Policy and Society* edited by Professor M Murphy and Dr Michael McGann *Journal of Agrarian Change* Flaherty, *Urban Agriculture and Regional Food Systems* Corcoran. Fagan chaired Suomen Akatemia's (Academy of Finland's) Security in a Networked World Programme Evaluation, 2021.

Inequality is a core departmental strength in quantitative and qualitative research (stratification and intersectionality). A core sociological theme of intersectional inequality, particularly gender inequality, was the focus for several academics and published in the *Oxford Review of Education*

McCoy S.; Dr Delma Byrne; O'Connor examining gender and educational inequality, *Politique Européenne* Dr P Cullen; *European Politics and Society* (examining political inequality and representation, and the gendered analysis of populism), housing inequality in *Urban Studies* (Lima), and labour market inequalities in *Administration* Professor M Murphy and Dr Michael McGann.

## Pandemic and Inequality

The pandemic not only impacted our research work (with particularly gendered effects) but our long-standing work on inequality meant we were particularly agile in ensuring a sociological framing on pandemic impacts on gender equality and care, contributing to and impacting on the work of the *Citizens Assembly on Gender Equality* Dr P Cullen, Professor M Murphy. Professor M Murphy and Dr Rod Hicks's comparative work on ROI and UK pandemic Income supports was published in an early global special issue of *Social Policy and Administration*, while Dr P Cullen's work on care and gender inequality related pandemic analysis is widely disseminated, *Gender, Work and Organization* (Dr P Cullen & Professor M Murphy). Dr Eoin Flaherty *et al* focus on pandemic data democratisation was published in *Social Science and Medicine* while Cannon reflects on implications for politics in his book chapter in *Global Resurgence of The Right: Conceptual and Regional Perspectives*.

Labour market transitions: The *IRC Coalesce funded A Collaborative Approach to Public Employment Services* ended in May 2021 with several research outputs and impacts. The project collaborated with *GAIL (Governing Activation in Ireland)* (Dr Michael McGann). A special edition of the journal *Administration* edited by Professor M Murphy and Dr Michael McGann showcased five departmental academics and PhD labour market activation research (Dr Michael McGann and Professor M Murphy, Finn, Professor M Murphy, Dr Michael McGann, Dr Nuala Whelan). The final international conference - *Leave No One Behind*, March 9<sup>th</sup>, 2021, launched this edition, and featured international speakers. Work was also published in the *British Journal of Guidance and Counselling* (Dr Nuala Whelan, Professor M Murphy, Dr Michael McGann) and *The MEEG (Model of Enabling Employment Guidance) Practitioner Toolkit* (Dr Nuala Whelan) was launched and is in wide use. Work and working conditions in the digital industries was addressed in Joshua Moody and Professor Aphra Kerr's *What's the Score? Surveying Game Workers in Ireland 2020* and in Dr Paul Ryan & Dr Kathryn McGarry's research on sex work and the study of prostitution policy in a digital age. Several publications continue to flow from the New Deals ERC funded project which ended in 2018, published in *Economic and Social Review* (Healy and Ó Riain) and in working papers (Dr Rebecca King-O'Riain).

Intimate Lives is a core theme reflected in Dr P Ryan & Dr Kathryn McGarry's (2021) article on male digital sex work in *Culture, Health & Sexuality*. The core sociological theme of intersectional inequality, particularly gender inequality, was the focus of several academics and published in the *Oxford Review of Education* McCoy S.; Byrne D.; O'Connor examining gender and educational inequality, Dr P Cullen's work on care and gender inequality related pandemic analysis is widely disseminated, *Gender, Work and Organization* (Dr P Cullen and Professor M Murphy). Family was the focus of the Online Data base *RESCuE: Patterns of Resilience during Socioeconomic Crises among Households in Europe-Ireland* (Dagg & Gray).

## Engaged Research

- Dr P Cullen worked on Assessing Supports for the Political Inclusion of Racial and Ethnic Minority Women in Ireland (ASPIRE) (December 2020-July 2021) IRC New Foundations Enhancing Civic Society with National Traveller Women's Forum (NTWF) and AkiDwA, (African and Migrant Women's' network). She has worked with National Women's Council NWCI (2021) Increasing Gender Balance on Boards: The Case for Legislative Gender Quotas in Ireland. (February 2021-present) and Domestic Workers Action Group (DWAG) (Migrants Rights Centre Ireland) *My Fair Home campaign*.
- Professor M Murphy and Dr Nuala Whelan through IRC Coalesce funded ACA PES: A Collaborative Approach to Public Employment Services worked with Irish National Organisation of the Unemployed, Irish Local Development Network and Local Employment Services Network on the issue of labour market inclusion and the SDG aim of Leave No One Behind.
- Dr Barry Cannon works with three NGOs: Comhlámh, the Returned Development Workers Association; the Latin American Solidarity Centre (LASC) and Crosscare's Migrant Project incorporating €11,975 from the IRC for the STOPFARRIGHT project Resisting the far right in Ireland *Cross Care*. In each case he is key consultative resource person to consult on a range of common interests.
- Dr P Ryan is co-chair of the Irish Sex Work Research Network (IRSWRN) [www.iswrn.org](http://www.iswrn.org) a network of academics researching sex work and prostitution policy, has been invited onto Amnesty's International Secretariat policy on sex work and criminalisation, and the Abortion Rights Campaign (ARC) Evaluation of Abortion Services Advisory Board.
- Professor Honor Fagan has collaboratively co-authored three socio-economic and governance reports on Indian water resourcing during this period (H2020) which have been widely and creatively disseminated with local partner Development Alternatives (DA) using webinars and radio messaging to reach different publics in India.
- Dr Rebecca King-O'Riain engaged with Asian Irish Content Creators, Dublin, interlinked communities of 10 to 15 Asian Irish creators of *TikTok*, photography, video, musical, fashion and creative content and with the Korean and Japanese Embassies working on a popular culture project to increase interest and awareness of East Asian popular culture in the west.



Dr Rebecca King O'Riain, Department of Sociology, Social Sciences Institute (MUSSI)



# Faculty Highlights

## Faculty of Social Sciences

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- Dr Laurence Cox led the social movements cluster of the Oxfam/ Atlantic Fellowship for Social and Economic Equity *Emergent Agency* project researching collective action during Covid-19.
- Professor Aphra Kerr, Professor Jane Gray and Dr Eoin Flaherty engaged with the South Dublin Rights Platform, to co-lead the 2020 MU Project Live – Re-House that Data: Building Data and Communication Skills for Social Change.

### Consultancy reports

- Increasing Gender Balance on Boards: The case for Legislative Gender Quotas in Ireland Dr P Cullen.
- *Researchers Respond to the Report of the Commission of Inquiry into Mother and Baby Homes* Dr Laurence Cox & Ballantine.
- Pierson, J. et al including Professor Aphra Kerr, (2020) 'AI in Media and Technology Sector: Opportunities, Risks, Requirements and Recommendations' Atomium European Institute for Science, Media and Democracy, Belgium: Brussels. December.
- Joshua Moody & Professor Aphra Kerr (2020) *Game Workers Unite Ireland 2020: Surveying Game Workers in Ireland* September 2020. Game Workers Unite and the Financial Services Union Ireland.
- Professors Aphra Kerr & John O'Brennan Department of Justice report, 'Value of the Irish Gambling Market and International Approaches to Gambling Taxes and Social Levies', External consultancy.

### Partnerships with civic bodies

- Professor Mary Corcoran, Chairperson South County Dublin Local Community Development Committee
- Professor M Murphy, Member and Trustee St Stephen's Green Trust
- Professor M Murphy, Board member Oxfam Ireland, Chairperson OI Programme Performance and Impact Committee
- Professor Aphra Kerr, member of the Foróige Online Safety Advisory Committee, September 2021
- Professor Aphra Kerr, member of the Media and Technology Committee of the AI4people initiative Atomium European Institute. Report for European Parliament [www.eismd.eu/ai4people/committees/committee-on-media-and-technology/](http://www.eismd.eu/ai4people/committees/committee-on-media-and-technology/)
- Professor Aphra Kerr, Media Literacy Ireland member, 2017
- Professor Aphra Kerr, Advisory Group expert member, *Pan European Games Information (PEGI) system*, September 2015–present, advising on the content and age ratings system for digital games in Europe.
- Professor Honor Fagan, *Partnership in PANIWATER H2020 Programme* with (DEVALT, India) INNOVA, Italy; Kwaliti Photonics Private (India); AquaSoil (Italy) TARA (India); Affordable Water Solutions AWS, India.



Dr Pauline Cullen, Department of Sociology, Centre for European and Eurasian Studies

### Contribution to public policy

- Professor Aphra Kerr, Science Gallery Dublin/ADAPT Bias exhibition. New commission awarded and produced May–August 2021. Exhibition October 2021–January 2022, Dublin Science Gallery. €7,700.
- Dr Laurence Cox, external engaged research with Fergal Finnegan (ACE, PI) and three European active citizenship training networks I am part of the Erasmus+ 'Innovations in Education for Transnational and Transversal Active Citizenship' project (€312,467; start date October 2021).
- Dr P Cullen led PI for the report *Women Beyond the Dail: More Women in Local Government*. Commissioned by National Women's Council (NWC) funded by the Department of Housing, Planning and Local Government (Electoral Reform).
- Dr P Cullen, research analyst of submissions to the Citizens' Assembly on Women in Public Life (2021), Oireachtas Committee on a Family Friendly Parliament (2021) National Strategy for Women and Girls (2021).
- Professor M Murphy, high profile inputs on pandemic impacts on gender inequality to reconvened Citizens Assembly on Gender Equality, July 2021.

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# Maynooth University Library



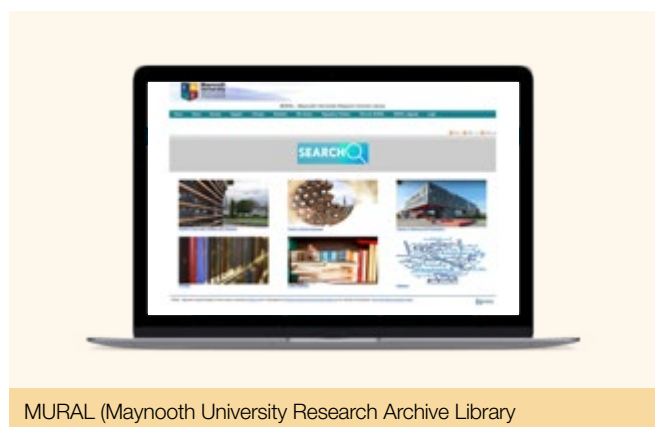
Library staff continue to publish and present at conferences. During the reporting period articles were published in *New Review of Academic Librarianship*, *Insights*, *An Leabharlann: The Irish Library*, *Liber Quarterly* and *Journal of the Institute of Conservation and Archaeology Ireland*.

Following a very successful joint conference with Waterford Institute of Technology on the playwright Teresa Deevy, whose archive the Library holds, work on an edited collection has been significantly advanced, with library staff contributing chapters as well as collaborating as editors. This peer reviewed monograph will be published later in 2022 as both a print monograph and a fully open access electronic book, ensuring the broadest possible dissemination of our scholarship.

The Library supports the Open Access publication of peer-reviewed journals in collaboration with MU staff. These include:

- The Open Journal of Astrophysics (via Scholastica)
- Journal of Military History and Defence Studies (via Open Journal System)
- Dancecult Journal of Electronic Dance Music Culture (via Open Journal System)
- Journal of Mediation and Applied Conflict Analysis (via ePrints).

The Library maintains the Institutional Repository, MURAL (Maynooth University Research Archive Library), a database showcasing the research output of Maynooth University and St. Patrick's College staff and postgraduate students. There were 1,401 items submitted to MURAL in the last academic year, with 644,163 downloads. The total number of publications in MURAL is now 14,377.



The Library, with the Arts and Humanities Institute, has established three visiting fellowships to facilitate greater research engagement in the Library's unique and distinctive collections, and to further the research mission of the Institute. After a pause due to COVID-19, these fellowships have recommenced with one academic from Canada currently using our collections and several other scholars due to avail of them in the summer

Library staff members are involved in editorial roles and professional associations including:

- Associate Editor of *New Review of Academic Librarianship* (NRAL), a peer-reviewed Taylor & Francis Journal
- Chair and information coordinator of International Federation of Library Associations (IFLA) Buildings Group
- President Library Association of Ireland (LAI).

The Library is represented on the following research support groups:

- National Open Research Forum (NORF) Skills Working Group
- NORF Open Access Group
- Library Association of Ireland (LAI) Publishing Group
- Library Association of Ireland (LAI) Open Access (OA) Group
- Irish Research electronic Library (IReL) ORCID consortium, DOI consortia
- CONUL Research Group and CONUL Research Data Management (RDM) Group
- Digital Scholarship Network Ireland



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# Research Institutes and Centres



# Research

## Institutes and Centres

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### The Arts and Humanities Institute

The Arts and Humanities Institute (AHI), housed in the Iontas Building, was instituted in January 2018. It replaced An Foras Feasa (AFF) as the Faculty of Arts research institute. In line with the University's Strategic Plan 2018-22, AHI has a threefold objective: to support and enhance research culture in the Faculty of Arts and the University generally; to increase volume and quality of Faculty research outputs; to grow external research grant income.

### Summary of Arts and Humanities Institute Activities 2020–2021

The Covid-19 pandemic affected Institute activities during the second half of the year under review. Nevertheless, the Institute continued its research and research support work, enhancing research culture, increasing volume and quality of Faculty research outputs and growing external research grant income. The Institute also developed its research specialism in digital humanities, particularly historical digital prosopography, metadata schemas, data modelling.

### Digital Humanities Activities

- Technical development in digital humanities programming, software development, front-end development, digital prosopography, and trouble-shooting for existing projects;
- Networking with digital research projects at home and abroad, including Nodegate (Utrecht), Beyond 2022 (Trinity College Dublin), Ireland/UK digital humanities Advocacy (Glasgow University) King's College London Digital Laboratory; Digital Repository of Ireland, Dublin; Royal Irish Academy; Queen's University-Hunter Project
- Co-operation with Library Maynooth University on all issues relating to data processing
- Digital humanities advocacy within the Faculty and the University. This included preliminary discussion with Computer Science and other colleagues regarding the introduction of dedicated post-graduate modules in digital humanities with a view to development a full, digital humanities post graduate offering. It also covered discussion regarding the standardization and rationalization of digital training for all student cohorts and for faculty staff.

### Project Hosting

AHI hosts externally funded research projects: Macmorris Project; Clericus Project; Motherhood Project. Two Covid-extended projects, Medieval Irish Medicine Manuscripts and Chronologicon Hibernicum were also hosted. The Institute welcomed three new, externally funded research projects: Women in the Frame Project, Full Stack Feminism in Digital Humanities and OG(H)AM Project, which commenced in September 2021 and will continue until 2024.

### Post-doctoral Accommodation

AHI provides desk space to all faculty post-doctoral researchers. A post-doctoral researcher group has been set up in the Institute to provide an intellectual and social forum for visiting scholars.

### Visiting Fellows Scheme

AHI's visiting fellows scheme suffered due to Covid but, during relaxation of government regulations, some visiting fellows were able to come on campus. AHI runs two Visiting Fellows schemes: the first, worth €3,000, is focused on research cooperation between external entities and faculty colleagues. The second, worth €4,000, is run in cooperation with the Library and funds fellows working on Library collections.

### Lecture Series

AHI hosts research seminar and lecture programmes for all Faculty Departments. During Covid, the vast majority of these moved on-line.

### PhD Laboratory

AHI maintains and manages the PhD laboratory, which is home to 39 faculty PhDs. They enjoy access to research, catering and social spaces in the Institute.

### New Research Centres Scheme

With the Office of the Dean of Arts, AHI runs a competitive new research centres scheme to support new research ventures in faculty. Two centres are currently supported (2020-22).

### Writers in Residence

With the English Department and Kildare County Council, AHI hosts two writers in residence.

### Hosting of Funded Projects

#### 1. The Women in Frame Project 2021-24:

##### Funder AHRC/IRC PI Dr Sarah Arnold

The Women in Frame Project will shine a light on the role of women amateur filmmakers and make their work visible in archive records. Funded by the AHRC and IRC Digital Humanities scheme, the project will analyse a largely unknown archive of amateur women filmmakers in the UK and Ireland, to reveal gaps in existing archival practices and suggest changes that will make the films (and filmmakers) more accessible.

Industry partners in the project include the East Anglian Film Archive (EAFA) and the Irish Film Archive (IFI), part of the Irish Film Institute. The full project team consists of Professor Keith M. Johnston (UEA), Dr Sarah Arnold (Maynooth University), Dr Paul Frith (UEA), Angela Graham (EAFA), Sean Kelly (EAFA), Kasandra O'Connell (IFA), Dr Lorna Richardson (UEA), Dr Sharon Webb (Sussex), and Professor Melanie Williams (UEA).

Postdoctoral Fellow, Dr Carol Ann Madden

Irish Film Archive website



## 2. Full Stack Feminism in Digital Humanities 2021-24:

**Funder AHRC/IRC PI Dr Jeneen Naji**

Full Stack Feminism in Digital Humanities Project (FSFDH) is a collaborative UK-Ireland project between the University of Sussex (UK), Technological University Dublin (Ireland) and Maynooth University (Ireland). Partners include Cambridge

Digital Humanities (UK), the Digital Repository of Ireland and the Irish Museum of Modern Art. The project will make the field of Digital Humanities more inclusive by applying feminist approaches that link cultures, communities, and repositories, and will embed intersectional feminist praxis, as a critical methodological approach, across DH environments. Twitter: @FullStackFem



Dr Jeneen Naji, Department of Media Studies, Arts and Humanities Institute

## 3. The OG(H)AM project 2021-24:

**Funder AHRC/IRC PI Professor David Stifter**

The OG(H)AM project is a collaboration of scholars from Maynooth University (Professor David Stifter, Dr Deborah Hayden, Dr Nora White) with colleagues from the University of Glasgow (Professor Katherine Forsyth, Dr Megan Kasten). The project will harness digital tools from different fields (e.g. 3D-scanning, digital groove analysis, etc.) to transform scholarly and popular understanding of ogham – an ancient script unique to Ireland and Britain. This project provides the long-awaited opportunity to complete the corpus of ogham-inscribed Irish stones begun by the Dublin Institute for Advanced Studies' *Ogham in 3D* project (2012-15, 2016-17; created by Dr White with our partner organisations, the Discovery Programme, and the Irish Government's National Monuments Service) and to extend it to include oghams in all media, including small portable objects and manuscripts up to 1850, and the many oghams outside the Republic of Ireland, especially in Scotland, Wales, and the Isle of Man.

## Continuing externally funded projects hosted in the Institute

**MACMORRIS 2019–24 Mapping Actors and Contexts:**

**Modelling Research in Renaissance Ireland in the Sixteenth and Seventeenth Century:**

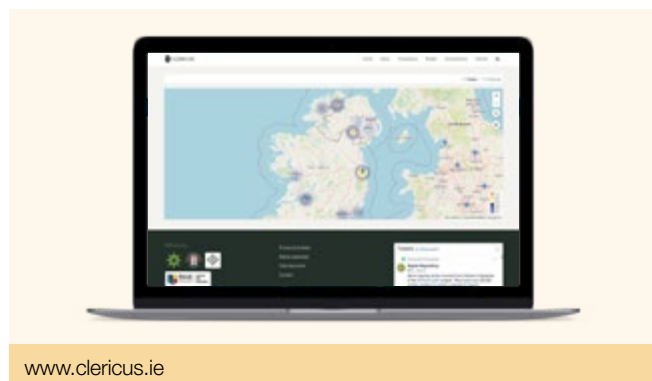
**Funder IRC: €1.2m**

PI Professor Pat Palmer (English); MACMORRIS is an Advanced Laureate digital-humanities project that seeks to map the full range and richness of cultural activity, across languages and ethnic groups, in Ireland from 1541 to 1661. Covid affected some activities, preventing travel to archives and conferences but, otherwise, good progress was made. The research team assembled the project's cast list of primary and secondary cultural actors from the *Dictionary of Irish Biography* and Bardic Poetry Database databases which were kindly shared with us by CUP and DIAS. The existing team – Professor Pat Palmer, Dr Phil Mac a'Ghoill, and Dr Evan Bourke – was joined by programmer Rupavathi Subramani in September (2020), who is charged with designing the back-end of the project's infrastructure. Dr Bourke has overseen that process and has cleaned the data from the back end of the DIB; The project also recruited a PhD student, Alan Waldron, who is working on theatre in mid-17<sup>th</sup>-century Ireland. Dr Kevin Tracey was awarded an IRC post-doctorate for a project, AMERGIN, linked to MACMORRIS. The project has presented our results-virtually – 'at' UConn, UCD, UL, and in the Digital Frameworks workshop in Maynooth. The project also launched its bilingual website: The project has a Twitter account, @macmorr1s\_

**Clericus Project (first phase): 2020-21**

**Funder: St Patrick's College Maynooth, €74,000**

PI Thomas O'Connor AHL; December 2020–June 2021. Project team, consisting of PI technical lead, software-engineer and PDRA developed a central infrastructure to ingest and host prosopographical data on the Irish clergy for the early modern and modern periods, from multiple types of resources, including St Patrick's photographic collections. This included a comprehensive cataloguing environment and a modern content delivery front-end; data modelling i.e. identifying main entities and their relations; AI-assisted data import and cataloguing; data analysis; data delivery/representation. The resulting infrastructure is sufficiently flexible to allow the cataloguing of a broad range of resources (i.e. books and manuscripts, photos, portraits etc.). This developing project intends to set a digital standard for the field. Project website.





# Research

## Institutes and Centres

### **Motherhood Project: 2020-24:**

**Funder:** ERC

**PI:** Professor Valerie Heffernan

The MU Motherhood Project, a research group composed of seven researchers in the Faculty of Arts, Celtic Studies and Philosophy, and six researchers in the Faculty of Social Sciences, successfully applied for funding through the H2020 TWINNING programme in November 2019. This funded project, which involves a collaboration with Vilnius University in Lithuania and Uppsala University in Sweden, formally began on 1 January 2021. It is due to last for three years. In 2019–20, researchers in the MU Motherhood Project published peer-reviewed research on motherhood in prestigious journals such as *Journal of Popular Film and Television* (Dr Julie Rodgers), *Families, Relationships and Societies* (Dr Ciara Bradley), and *International Journal of Intercultural Relations* (Dr Marian Crowley-Henry). Dr Moynagh Sullivan published a chapter on a new book entitled *Anne Enright, Feminine Aesthetics, Writing, Mothering, Spiralling* (ed. by Caroline Eufrausino, Peter Lang: 2020). Members of the MU Motherhood Project also presented their research on motherhood at a number of research events during this period, including for example a symposium on “Mediating Motherhood” at Maynooth University (Professor Valerie Heffernan), the British Graduate Shakespeare Association (Orlagh Woods), and the Women in French Conference in Leeds (Dr Julie Rodgers).

The research produced by the members of the MU Motherhood Project was also featured in mainstream media in 2019–20. Dr Julie Rodgers and Professor Valerie Heffernan were quoted in an *Irish Times* article by Sheila Wayman on outsourcing motherhood in July 2019 and Valerie Heffernan's research on mothers who regret their motherhood was mentioned in the Canadian magazine *Véro* in September 2020. She was also interviewed about the MU Motherhood Project on Kildare FM in August 2019.

The researchers' recent grant success also bodes well for the future. Two members of the MU Motherhood Project were successful in the recent round of New Foundations grants from the Irish Research Council: Dr Moynagh Sullivan was awarded €11,774 for a collaboration with the Irish Cancer Society entitled ‘MamaEcology: Making Mediums to mediate breast cancer through sustainable narrative, art, and pOetrY practices’ and Dr Ciara Bradley was awarded €11,521.33 for a cooperation with Pavee Point Traveller and Roma Centre entitled ‘Pavee Mothering during COVID-19’.



Professor Valerie Heffernan, School of Modern Languages

### **Medieval Irish Medicine in its North-western European Context project**

**Funder:** IRC, €190,640

**PI:** Dr Deborah Hayden (Early Irish)

The MIMNEC project was severely affected by the pandemic, in terms of its impact on both scheduled academic events in 2020 and on the personal lives of the two project members during this time. IRC costed extension has facilitate the continuation of the project into 2021 with a few to finish in September 2021. The core MIMNEC project conference, ‘Medicine in the Medieval North Atlantic World’, organised in collaboration with Dr Sarah Baccianti (QUB) and jointly funded by the IRC and the British Academy was originally due to take place at Maynooth on 19–21 March 2020, but had to be postponed due to the first COVID outbreak in Ireland, rescheduled as virtual event for 13–15 May 2021; project team presented 5 conference papers (including 3 invited talks) over the course of the academic year. PI and PDRA published 6 peer-reviewed journal articles and 1 book chapter in 2019–20 (listed below); PI submitted 7 project related articles, currently still at various stages of the peer-review process, many of them very delayed due to the pandemic. At the start of 2020, PI took over as Lead Editor of the interdisciplinary, peer-reviewed journal *Language & History* (published by Taylor & Francis); PI became a Co-Investigator for the IRC-AHRC Digital Humanities Networking grant project *A Digital Framework for the Medieval Gaelic World*, for which I have been working alongside Irish PI Professor David Stifter (Maynooth), UK PI Professor Greg Toner (QUB), and academics from several other institutions in Ireland and the UK.



Professor David Stifter, School of Celtic Studies

### **Chronologicon Hibernicum**

**Funder:** ERC €1.8 million

**PI:** Professor David Stifter

The project was due to finish at the end of August 2020, but it has been possible, partly because of the Covid-situation, to get an extension from the ERC first until February 2021, and then to April 2021. Thanks to the generous support through the MU HEA Covid support fund, it has furthermore been possible to extend the contracts of all team members until April. This allowed the completion of the crucial final stage of the project, building and finishing the project database CorPH (Corpus PalaeoHibernicum) and preparing it for a public launch. From January 2020, Professor Stifter and Dr Deborah Hayden steered the Irish part of the AHRC-IRC Digital Humanities Network Grant for “A Digital Framework for the Medieval Gaelic World.”

## Post-doctoral research Awards hosted in the Institute

- Project:** A Triad of Medical Glossaries (Government of Ireland Postdoctoral Fellowship)  
**Awardee:** Siobhán Barrett  
**Funder:** IRC  
**Start/End Dates:** 1 October 2020/30 September 2022  
**Award:** €91,970
- Project:** MACMORRIS (Mapping Actors and Contexts: Modelling Research in Renaissance Ireland in the Sixteenth and Seventeenth Century)  
**Awardee:** Alan Patrick Waldron.  
**Funder:** IRC  
**Start/End Dates:** 1 October 2020/30 September 2022  
**Award:** €91,970
- ERC:** Marie Skłodowska-Curie Global Fellowship  
**Awardee:** Dr Joe Davies.  
**Mentor:** Lorraine Bodley Byrne (Music) with University of California Irvine (2021-24)  
[www.maynoothuniversity.ie/music/news/dr-joe-davies-has-been-awarded-marie-skłodowska-curie-global-fellowship-european-commission](http://www.maynoothuniversity.ie/music/news/dr-joe-davies-has-been-awarded-marie-skłodowska-curie-global-fellowship-european-commission)
- GOI postdoctoral Fellow in English**  
**Awardee:** Dr Edmund Chapman.  
**Funder:** GOI  
**Start/End Dates:** 1 October 2021/30 September 2023

## New Research Centres Scheme

AHI and the Dean's Office collaborated in 2021 to run a competition for the establishment of two new research incubation centres, funded jointly by AHI and Dean's office, for two years @ €5,000 each per annum. The scheme facilitates colleagues in collaborative areas of research which can enhance research activity in the Faculty and lead to research funding bids and grant capture in the future. Its awardees work closely with the Research Development Office to write a bid for external funding at or before the end of the two-year period and to promote their work, to create research networks, to host a symposium or conference, and to produce at least one peer-reviewed article during the initial two-year period. Proposals involve at least three members of the Faculty from at least two separate faculty Departments. The competition ran in spring 2020, attracting six applications. Adjudication was facilitated by RDO.

- Motherhood Project** led by Professor Valerie Heffernan (German), with Dr Sarah Arnold, Dr Mercedes Carbayo Abengozar, Dr Anne O'Brien, Dr Julie Rodgers, Dr Moynagh Sullivan and Orlagh Woods.
- Storytelling Across Media**, led by Dr Jeneen Naji (Media Studies), Dr Ann O'Brien and Dr Stephen O'Neill. Both projects commenced in September 2020.

## Visiting Fellowships Scheme in 2020/21

Name	Home Institute	Academic Sponsor
Shaun Blanchard	Baton Rouge, Louisiana	Thomas O'Connor
Jeffrey Klenotic	New Hampshire University	Denis Condon
Stephen Lahey	University of Nebraska	Michael Dunne
Stephen Morgan	King's College, London	Sarah Arnold
Andrei Nacu	Romanian Academy	Thomas O'Connor
Barry Nevin	TU Dublin	Julie Rodgers
Lesa Ni Mhunghaile	NUI Galway	Fionntán de Brún
Martin O'Donoghue	Northumbria University	Terence Dooley
Deana Rankin	Oxford University	Pat Palmer
Mark McGowan	University of Toronto	Thomas O'Connor
Thomas Bak	University of Edinburgh	Ann Gallagher
Lucis Boldrini	Goldsmiths, Uni of London	English Rita Sakr
Thomas Herron	University of East Carolina	English S O'Neill
Michele Mangini	University of Bari	P Rosemann
Bridget English	University of Illinois, Chicago	Emer Nolan
David Baker	University of North Carolina	Pat Palmer
Kerry Bristol	University of Leeds	Terry Dooley
Katarzyna Kociotek	University of Warsaw	Stephanie Rains
Philip Beeley	University of Oxford	C. Macan Bhaird
Berit Astrom	University of Umeå	V. Heffernan
Avishek Ray	National Institute of Technology Silchar (India)	J. Redmond/ Chandana Mathur
Ruth Canning	Liverpool Hope	Marian Lyons
Thomas Dolan	University of York	Terry Dooley
Jason O'Rorke	NUI Galway	Deborah Hayden
Jelena Dureinovic	University of Vienna	J P Newman
Enrico Terrononi	IUL Milan	Emer Nolan

Covid restrictions obliged visiting fellows scheduled to come to Maynooth in 2020 to postpone their visits. The Institute is working with the fellows concerned to reschedule their visits for 2021 and 2022.

# Research

## Institutes and Centres

### Writers-in-Residence 2021:

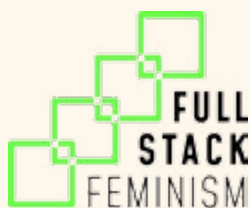
- Ryan Dennis
- Oisín Fagan



Writers-in-Residence 2021, Ryan Dennis and Oisín Fagan

### Hosted Events 2020-21:

- Postgraduate seminars Early Irish & Celtic Studies X 3
- Postgraduate Seminars History X 3
- Postgraduate Seminars English X 2
- Postgraduate Seminars Media Studies X 1
- Military History Workshops for postgrads from the Curragh X 3
- Military Leadership workshops X 4
- Viva Voce X 4
- Departmental meetings x English and Media studies meetings
- MA Classes History – weekly – up to March 2020



Full Stack Feminism in Digital Humanities

- **Full Stack Feminism in Digital Humanities - Launch Event**  
A hybrid, co-located event to officially launch our new two-year funded project, Full Stack Feminism in Digital Humanities. When: Friday, 10 December 2021.
- **The Politics of Memory on the Second World War in Contemporary Serbia:** Collaboration, Resistance and Retribution. Join Dr Jelena Đureinovic, and Dr John Paul Newman. When: Wednesday, 8 December 2021.
- **Conference: Reading Beauty in Late Antiquity**  
The Department of Ancient Classics and the Arts and Humanities Institute at Maynooth University announce the conference 'Reading Beauty in Late Antiquity'. 26 November 2021.
- **Seminar: A People's History of Latin - Dr Charlie Kerrigan (TCD)**  
Dept. of Classics Presented Dr Kerrigan's paper, "A People's History of Latin", as a hybrid event. 22 November 2021.

### • Léachtaí Cholm Cille 2021

Istigh leis seo gheobhaidh tú clár Léachtaí Cholm Cille 2021: Stair agus ficsean ó Beatha Cholaim Chille go Bealach na Spáinneach. Beidh na himeachtaí ar siúl i Léachtlan IONTAS (Campas Thuaidh) 12 November 2021.

### • English Department's 'Interculturalism, Literature and the Arts in Ireland' Autumn Webinar Series.

The English Department's 'Interculturalism, Literature and the Arts in Ireland' autumn webinar series. 11 November 2021.

### • Lecture: 'An Irish origin of Modern Computers: Investigating the Work and Life of Percy Ludgate (1883-1922)'

As part of Science Week. 'An Irish origin of Modern Computers: Investigating the Work and Life of Percy Ludgate (1883-1922)'. 9 November 2021

### • MU Writer-in-Residence Event: The Internet is Written by Oisín Fagan & Ian Maleney

Oisín Fagan and Ian Maleney discussed the history and philosophies of the early internet and how they relate to our current forms of communication. 28 October 2021.

### • Visiting Fellow Speaker Series: The unspoken crisis.

Reforming mathematical instruction in Scottish and English universities around 1700. Dr Philip Beeley (University of Oxford) delivered a talk on *The unspoken crisis: reforming mathematical instruction in Scottish and English universities around 1700*. The first in a series of talks delivered by Visiting Fellows based at the Arts & Humanities Institute. 30 September 2021.

### • Conference: Engaging with Web Archives 4 Digital Humanities (#EWA4DH)

The EWA 2021 conference was a virtual get-together. Hosted by Dr Juan-José Boté (University of Barcelona), Sharon Healy (Maynooth University), and Michael Kurzmeier (Maynooth University). 1 September 2021.

### • Marie-Curie Postdoctoral Fellowships Webinar 2021 - MU

This event focused on the Marie-Curie Postdoctoral fellowships (Ex Individual Fellowships) and featured information and advice on applying for and developing a Postdoctoral Fellowship proposal, talks from incoming and outgoing fellows as well as an evaluator and supervisor. 15 July 2021

### • Poetry Reading: Ishion Hutchinson

Continuing the Department of English's, Poetry and Poetics series into 2021, we welcomed the multi-award-winning poet Ishion Hutchinson to read from and discuss new and published work. 18 February 2021

### • Monthly Talk Series: Experimental Publishing with Nathan O'Donnell Maynooth University Writer in Residence

Crossing disciplinary boundaries & artistic forms, experimental publishing takes alternative approaches to the act of making public: collective, collaborative, provisional, political, anonymous, or participatory processes that disrupt the conventions of the book. The public programme for experimental publishing will feature a series of talks & panel discussions, exploring & illuminating the field today. 27 January 2021.



- **Scríobhaithe Gaeilge an Tuaiscirt, 1650-1900**  
LÉACHTAÍ CHOLM CILLE 51: Scríobhaithe Gaeilge an Tuaiscirt, 1650-1900 Aoine 11 Nollaig Ar MS Teams – cláraigh roimh ré ag [nua.ghaeilge@mu.ie](mailto:nua.ghaeilge@mu.ie). 11 December 2020.
- **The Past Can't Heal Us: The Dangers of Mandating Memory in the name of Human Rights**  
On Human Rights Day, the Maynooth Centre for European and Eurasian Studies hosted an on-line panel on Lea David's new book *The past can't heal us*. Thursday, 10 December 2020
- **Poetry Reading and Conversation with Philip Metres**  
In the second event of our Poetry and Poetics reading and discussion series, Maynooth English Department hosted the multi-award-winning poet Philip Metres. The event included an interactive Q&A with the poet, featuring questions from Maynooth students and attendees of the webinar. 8 December 2020
- **MU Sexualities & Gender Network Online Postgraduate Research Symposium**  
Maynooth University's Sexualities and Gender (SexGen) Research Network presented an online, graduate-research symposium via Zoom. 23 November 2020.
- **Conference: Emerging Perspectives on the Middle East and North Africa from Ireland**  
*Emerging Perspectives on the Middle East and North Africa from Ireland*, the first networking event of the newly established Irish Network for Middle Eastern and North African Studies, took place online on 15-16 November 2020.
- **Webinar: The Hidden Threat of COVID-19**  
SAR Network – Ireland, of which Maynooth University is a founding member, is hosting a series of webinars addressing Academic Freedom at Risk. Our first Webinar on 6 November 2020 examining the Hidden Threat of Covid-19 to Academic Freedom.
- **Poetry Reading: Carolyn Forché**  
Inaugurating our Poetry and Poetics event series, Carolyn Forché read from her latest collection, *In the Lateness of the World*, and engaging in a question and answer session on poetry and poetics at times of crisis with staff, students, and attendees. 5 November 2020
- **Book Launch: George MacNemara of Cong Folklore & Facts 1722-1760 by Brigid Clesham**  
Launch on Zoom by Professor Nicholas Canny of Brigid Clesham's book – *George Macnemara of Cong: Folklore & Facts 1722-1760* Wednesday 21 October 2020

## Gender Policy

AHI is committed to the achievement and maintenance of equality, diversity and inclusion across all its activities. AHI director is a member of the Institutional Athena Swan Self-Assessment Team (2017-), the Faculty of Arts Athena Swan Self-Assessment Team (2020- 2021) and the institutional Aurora mentoring scheme.

## Institute Publications



Professor Thomas O'Connor, Arts and Humanities Institute, Department of History

- Professor Thomas O'Connor, 'Irish captives in the British and Spanish Mediterranean 1580-1760' in Ana Sáez-Hidalgo and Berta Cano Echevarría (eds), *Intersections: Exile, diplomacy and texts: exchanges between Iberia and the British Isles, 1500-1767* (Leiden, 2020), pp. 55-73
- Professor Thomas O'Connor, 'La réception de la *Geschichte der Päpste* de Ludwig Von Pastor dans le monde anglophone' in Andreas Sohn and Jacques Verger (eds), *Ludwig Von Pastor (1854- 1928): Universitätsprofessor, Historiker der Päpste, Direktor des Österreichischen Historischen Instituts in Rom...* (Regensburg, 2020), pp. 161-74
- Professor Thomas O'Connor (ed.): *Archivum Hibernicum* LXXIII, (2020)
- Professor Thomas O'Connor: Invited speaker: Vanderbilt University early modern religion conference, April 2020 (postponed due to Covid)
- Professor Thomas O'Connor: Invited speaker Glasgow University Reformation History Seminar, November 2020 'Lisbon and the Irish Counter-Reformation'
- Professor Thomas O'Connor: Invited Speaker Eighteenth-Century Ireland Society Conference, Limerick 17 June 2021 'Irish Masons and their networks in eighteenth century Lisbon'
- Professor Thomas O'Connor, AHI Director, is a member of the board of the Irish Humanities Alliance; member of the advisory board of *Beyond 2022*; member of the *Fondation irlandaise* (Paris), member of the Irish Cultural Centre Paris strategy committee; member of Irish Manuscripts Commission; Academic Referee for Research Foundation Flanders/ European Science Foundation; editor *Archivum Hibernicum*; member of the NUI Senate
- Dr Richard Fitzpatrick, 'Catholic inheritance under the penal laws in Ireland', *Irish Historical Studies*, xlv, no. 166 (2020), pp 224-247.

# Research

## Institutes and Centres

### Hamilton Institute

In 2019–2020 the Institute was host to 3–5 full time Professors, ending the year with 3; 1 half time Professor (D. Malone); 2 FTE Admin; 5–6 Postdoctoral Scholars; and 40+ PhD students. This represented an expansion of personnel hired on research grants from the previous reporting period.

The institute acts as a multi-departmental focal point for 38 affiliated university faculty with research expertise and interests in the Numerate Disciplines. In addition to its Director, it currently hosts two and half seconded MU faculty and their research teams drawn from the Departments of Computer Science, and Mathematics and Statistics, with recruitment for a replacement professor for underway. Affiliates of the institute participate as principal and funded investigators in the SFI Research Centres including CONNECT, INSIGHT, I-FORM, MaREI and LERO. The institute co-hosts the SFI Centre for Research Training in Foundations of Data Science.



MaREI/SFI funded Nature+Energy group

Seconded faculty at the institute currently hold and are delivering on over €11m of active grants. Professor Parnell is a Co-PI in the MaREI/SFI funded Nature+Energy group. A €>1m collaboration across industry and between MU, TCD, and Wind Energy Ireland which aims to build data-driven decision support systems for the management of on-shore wind farms in Ireland. MU's role in this project is to sensorise and develop machine learning tools that enable wind farm sites to be evaluated in terms of their biodiversity and environmental impact. Other industry partners include SSE Renewables, Energia, ESB, the NTR foundation, and Greencoat renewables. In another successful application, Professor Parnell forms part of the core PI team of the €5m Terrain-AI SFI Strategic Proposal co-funded by Microsoft. This grant was led by Hamilton Institute affiliate, and Professor of Computer Science, Professor Tim McCarthy. It aims to quantify, and ultimately reduce, Ireland's Greenhouse Gas emissions. Hamilton faculty and affiliates will play a key role as many of the technologies behind these goals involve new data science and machine learning technologies.

Seconded HI faculty continue to assist institute affiliates and the broader MU academic community by providing with grant proposal feedback for agencies including Science Foundation Ireland, IRC, the ERC and other agencies. A significant, forward-looking initiative of the institute is its plan to host a dedicated grant writing research support post in collaboration with the RDO.

### Research Impact

Published work of seconded faculty encompassed a broad spectrum of materials in top-tier transdisciplinary venues. Examples of high profile research include Professor Duffy's work on familial programming in blood production published in *eLife* and Professor Parnell's work on the source of Tokyo earthquakes and pacific ocean tsunamis published in *Nature Geoscience*. In collaboration with colleagues from Nanyang Technological University, the Geological Survey of Japan, and the British Geological Survey, Professor Parnell's paper presents hypothetical computer simulations of rupture models that help explain an unusually large tsunami dating to around 1,000 years ago along 50km to the east of Tokyo. This work piqued general interest with popular article coverage in Science Daily and Phys.org, amongst others.

Professor Malone published several papers in the new area of quantum authentication, in collaboration with Dr Hazel Murray, a former Hamilton Institute student, now a lecturer MTU. Professor Parnell's work with colleagues in MU's Department of Mathematics and Statistics on extensions of probabilistic machine learning approaches was published in the highly regarded journal *Statistics and Computing*. Professor Duffy's work with colleagues from MIT and Boston University developing the first ever in silicon implementation of a universal error correction decoder was published as an invited paper at the IEEE European Solid State Circuits Conference. Professor Woods gave six keynote or invited talks in 2021, including the European Federation of Biotechnology Congress, 2021 (online), and at Inria, Sophia-Antipolis (FR, online), and the conference Unconventional Computing and Natural Computation (Aalto, FI, in person).

### Innovation, Industry and Enterprise

Novartis continued to collaborate Professor Parnell in the area of missing data analysis in clinical trials. A PhD student has joined the Novartis Real World Evidence Team to enhance the collaboration between the group. Professor Ken Duffy's collaboration with AstraZeneca and the Walter and Eliza Hall Institute using math modelling to inform the development of immunotherapies continues.

With Professor James Gleeson (UL) and Professor Claire Gormley (UCD), Professor Duffy co-directs the SFI Centre for Research Training (CRT) in Foundations of Data Science. At MU, the centre funds 31 doctoral students registered in the institute's structured PhD programme that are supervised by a body of 30 colleagues drawn from across MU faculty. The centre's enterprise alliance consists of sixteen entities: *Alkermes, Analog Devices International, the Central Bank, the Central Statistics Office, Ericsson, Grant Thornton, Hertz, HP Enterprise, Met Éireann, Novartis, Microsoft, Pramerica, RenaissanceRe, Susquehanna International Group, UL Hospitals Group, Valeo*.

For the eleven Maynooth University students who entered the CRT programme in 2020, placements were provided by *Alkermes, Analogue Devices, Central Statistics Office, Met Éireann, Microsoft, Novartis, Tata Consultancy Services, RenaissanceRe, and Valeo*, with hosting agreements arranged by MaynoothWorks. The relationships formed through the centre have blossomed into seconded faculty and affiliate collaborations that extend beyond the CRT, including with *Met Éireann*,

*Novartis*, and *Valeo*. The CRT programme hosted by the institute is reaching a level of research maturity where, in cooperation with MaynoothWorks, a scoping exercise understanding the innovation, patent and commercial potential of student's research can be conducted.



Professor David Malone also contributed to the THINKConnect! event

Innovation and technology transfer has been a consistent element of institute activity. Arising from Professor Malone's collaboration with IBM, a patent with joint assignees MU and IBM was awarded in the area of fog computing. Professor Malone also contributed to the THINKConnect! event, organised by the Technology Transfer Office at Maynooth, on the topic of cybersecurity. Professor Parnell submitted three invention disclosures jointly with UCD in additive manufacturing. The disclosures allow for a suite of sensors to place in or near the build chamber of a machine, to upload the data from the machine in real time to a database, and to perform machine learning anomaly detection routines which identify potential faults in the printing process without an operator needing to observe the system. Professor Duffy's research on forward error correction algorithms with collaborators at MIT resulted in two US patents being awarded, and one further application. Professor Duffy's work on DNA forensics also resulted in a patent filing in collaboration with colleagues from the Departments of Chemistry and Computer Science at Rutgers University.

### Hamilton Institute Research Community Activities

The institute hosts two seminar programmes. One is run by graduate students for graduate students of institute affiliates and hosted 24 remote talks in 2021. In response to the pandemic, the institute joined forces with MIT and Harvard to host a series that saw 22 speakers give seminars jointly organised by the three institutions. This online series has been a significant success, regularly having over 80 attendees. The institute is planning to adopt a hybrid in-the-room-and-streamed approach to its series post-pandemic.

In late 2020 the institute remotely hosted two two-week specialist courses under the auspices of the SFI CRT in Foundations of Data Science, Foundations of Data Science I and II delivered by 27 speakers from faculty at MU, UCD and UL, as well as external academic and industry experts from *DIAS*, *Valeo* and the *Central Bank*.

The annual Hamilton Institute Research Day brings affiliates together to facilitate collaboration. Organised in 2021 by Professors Duffy and Woods, had 19 contributed talks on a broad range of topics. The institute also organises the annual Dangerfield Lecture, a public talk in memory of a former student. This year, the talk was delivered by Dr Elisa Fadda, associate professor of Chemistry at Maynooth University, on her work to understand the structure of coronavirus using computational techniques.

The institute and the CRT continue to support the University's Summer Programme for Undergraduate Research (SPUR) programme by providing extended research internships for particularly promising projects supervised by affiliates.

Professor Woods' group continued expansion, with the hiring of two postdocs, and two promoted to senior postdocs, one of whom, Dr Rogers, was mentored by Woods on grant writing leading to a €551,000 SFI Pathways award to Rogers.

### Outreach and Related Activities



Love Data week

Institute faculty and research students contribute to outreach activities, with ten PhD students presenting during Maynooth University's Love Data week. Professor Malone continued to contribute to the debate on clock changes, making several media appearances. He also contributed to RTÉ Brainstorm, Galway Open Scholarship Week and the Mary Mulvihill Association on a range of topics. Professor Parnell's work with the Nature+Energy partnership was featured in *The Irish Times*. His ongoing work on the Covid-19 pandemic led to another article as part of the RTÉ primetime series, and his work on climate change was featured in an interview with *Silicon Republic*. Professor Duffy's work in building the first ever in silicon universal forward error correction decoder with collaborators from MIT and Boston University received significant technical press, including from MIT News.

Professor Woods was an invited plenary speaker at the National European Research Council (ERC) Support and Information Forum (Ireland). Jointly organised by Enterprise Ireland, SFI and IRC, the event had 850 participants, with Professor Woods providing national-level advice to academics and policy makers on obtaining ERC funding awards.



# Research

## Institutes and Centres

### MU Social Sciences Institute

Maynooth University is recognised as a leading national and international centre for interdisciplinary social science research and the provision of social and spatial research data infrastructures. The Institute comprises faculty, researchers and doctoral students from Departments across the Faculty of Social Sciences, as well Media Studies, Psychology, Computer Science, The Innovation Value Institute and the Hamilton Institute. In addition, it incorporates and builds on the longstanding success of a number of existing research institutes and centres, including the National Centre for Geocomputation (NCG), Kennedy Institute for Peace and Conflict Intervention, the All-Island Research Observatory (AIRO), the Irish Qualitative Data Archive (IQDA) and Digital Repository Ireland (DRI), ICLRD (Irish Centre for Local and Regional Development), the Centre for Mental Health & Community Research (CMHCR), Scholars at Risk (Europe), and former members of the National Institute for Regional and Spatial Analysis (NIRSA).

Maynooth University Social Sciences Institute (MUSSI) is very well known across the HEI sector and by social and economic stakeholders, both North and South. This is reflected in the significant amount of contract research that it is asked to undertake for public and third sector agencies. It is regularly asked to partner international organisations and other HEIs as part of transnational research bids. These awards have generated cutting edge research for policy and society in a wide range of areas.

This report provides just a snapshot/sub sample of our activities and PI's and researchers achievements in 2020-21 specifically. The Covid-19 pandemic, two lockdowns and movement of all staff to working off campus has presented significant operational challenges for all staff involvement in funded research including for those with caring responsibilities, in the period when schools were closed for long periods. Nonetheless, the institute has experienced continued growth and has continued to operate at full capacity.

#### Esteem Awards/indicators

The principal investigators of funded projects administered by the Institute (note, not all members) received a number of prizes and awards in recognition of their research excellence and activities. Internal awards included Professor Sinéad McGilloway being awarded the MU Faculty of Social Sciences Research Achievement Award, 2021, and Justin Gleeson, the John Scanlan Industry Engagement Award in 2021. External awards included a Research Ally prize from the Irish Research Council, 2021, for Dr Chandana Mathur and the Peter Saville Award for Advances in Organisational Psychology from Psychological Society of Ireland for Nuala Whelan. Professor Aphra Kerr was elected a member of Academia Europaea. Dr Aileen O'Carroll led the successful application for a Core Trust Seal Certification for the Digital Repository of Ireland. Professor Linda Connolly was awarded a Visiting Fellowship, Centre for Gender Studies, University of Cambridge in September 2021 for Lent Term 2022.

PIs also served on a number of important national and international boards and advisory committees. Professor Rob Kitchin served as a member of the board of the Irish Research Council and Digital Repository of Ireland; Justin Gleeson on the board of Ordnance Survey Ireland and as an advisory member of the National Planning Framework (NPF) Knowledge Group;

Professor John O'Brennan served as a member of the Irish Government's Brexit Stakeholder Group and Vice-President and Board Member of the Irish Association for Contemporary European Studies; Dr Chandana Mathur was elected Vice-President of the European Association of Social Anthropologists in January 2021 for a two year term, and also serves as the Human Rights Liaison for the Members' Programmatic, Advisory and Advocacy Committee of the American Anthropological Association and the Permanent Council of the Advisory Board of the World Council of Anthropological Associations. Professor Aphra Kerr was appointed a member of Foróige Online Safety Advisory Committee, National Youth Organisation, Ireland, and a member of the Media and Technology Committee of the AI4people initiative run by the Atomium European Institute for Science, Media and Democracy, Brussels. She continues to be a board member of Media Literacy Ireland, and an expert member of the Pan European Games Information (PEGI) system. Professor Tim McCarthy was appointed as a member of the Irish Aviation Authority Unmanned Aircraft Systems Advisory Council, Chair of Unmanned Aircraft Vehicles Working Group of the Society of Chartered Surveyors Ireland, and co-lead of Accelerating the Potential of Drones for Local Government work package by the Department of Public Expenditure and Reform and & Dublin City Council. Dr Aileen O'Carroll was appointed to the Expert Advisory Group, Feminist Art Making Histories (Funded by the AHRC and Irish Research Council.). She is also a member of the Archiving the 8<sup>th</sup> Steering Group and the Four Day Week Ireland steering group. Professor Sinéad McGilloway was appointed to the International Advisory Board for the Wales School for Social Prescribing Research and National Advisory Board for the Centre for Community Research (DCU). Dr Nuala Whelan was appointed to the Psychological Society of Ireland's Science and Public Policy Committee (SPPC) and to the Board of GEMS Northern Ireland, an organization that works across communities to create pathways to sustainable employment for people who experience barriers to the labour market.

#### Media coverage

Professor John O'Brennan undertook 13 radio interviews and 4 television interviews to Irish and international media, and his work was covered in 10 newspaper stories. AIRO's contribution to the COVID-19 response was reported in a feature article, 'Coronavirus pandemic moves data analytics front and centre', in the Irish Times in December 2020. The Centre for Mental Health and Community Research did extensive media work in 2021, with their research on a new Junior Cycle Alcohol Education programme in Irish schools covered in 43 national and local newspapers and news websites, and discussed in nine radio interviews.



Professor John O'Brennan, Department of Sociology, Centre for European and Eurasian Studies, MUSSI

Other media coverage included reports in The Irish Times and Irish Examiner, and a radio interview on Newstalk, about Professor John O'Brennan and Professor Aphra Kerr's research on gambling rates during the pandemic and Professor Rob Kitchin's work on smart cities and open data that was covered in Forskerzonen (Denmark), ZDNet (US) and Toronto Star (Canada), the Irish Independent, Dublin Inquirer. Sinead O'Gorman contributed a short article to the European University Association's 'Expert Voices' series and to media articles about the urgent situation facing scholars in Afghanistan. Professor Linda Connolly was consultant and participant on a TG4/RTE documentary "Cogadh ar Mhná," published articles in the *Irish Times* newspaper on gender, violence and commemoration and was invited onto Newstalk and RTE Radio 1 programmes.



Professor Linda Connolly, Social Sciences Institute (MUSSI)

A number of institute members have delivered keynote and invited talks in a dozen countries. Professor Mary Murphy was a keynote speaker at the North/South Social Welfare Summer School, organised by the Department of Communities NI and Department of Social Protection ROI, and was an invited speaker at events organised by the National Economic and Social Council, TASC, and University of Helsinki. Professor Linda Connolly spoke at the President of Ireland's 'Machnamh' seminar in Áras an Úachtaráin, which was broadcast on RTE on 24 May 2021, and gave a number of invited talks/keynotes including for the National Library of Ireland, Libraries Northern Ireland, Montclair State University, Trinity College Dublin, Society for Irish Latin American Studies (in Lima) and the University of Edinburgh. Professor Aphra Kerr presented keynote talks at the GAM(BL)ING: Commodification of Leisure in the Digital Era event organised by the University of Concordia (Canada) and Transnationalising Game Histories at Jagiellonian University, Krakow (Poland), and an invited talk at Digital Research Centre, Queensland University of Technology. Professor Rob Kitchin delivered 16 invited and keynote talks to events in 11 countries, including the Regional Studies Association, Pandemic Tech, Smart Data North and Digital Futures Institute (UK), Fruition and Challenges of Computational Social Science (Singapore), Sensing the City (Belgium), Digital Futures Distinguished Lecture (Sweden), Bundesministerium des Innern, für Bau und Heimat (Germany), Dig.Eat festival (Italy), Making smart and sustainable cities (Hong Kong), Rights to the Blockchain City and Transforming Cities Hub (Netherlands), Columbia University (United States) and Smart Urbanism Lab (Australia), and took part in 6 invited panel discussions in 4 countries. Professor Jane Gray presented an invited talk to the 'Contemporary Historians and the Re-use

of Social Science-Generated Data Sets' workshop hosted by the German Historical Institute, London, and a paper on life histories and biographies at Digital Repository of Ireland workshop. Justin Gleeson was a keynote speaker at the Analytics Institute Inspire Event, 'Geographic Data – Why Location Matters.' Dr Catriona O'Toole gave a keynote talk to the Psychological Society of Ireland - Division of Educational Psychology and Professor Sinéad McGilloway gave a keynote address at the Drinkaware Spring 2021 Research Briefing. Professor John O'Brennan gave two invited talks in Bulgaria and the UK.

The three SAR Europe staff at Maynooth (Sinead O'Gorman, Director; Dr Joel Hanisek, Programme & Policy Manager; Denise Roche, Advocacy Manager) were invited speakers at over 40 events over the past year. These included events organised by the European Association for International Education, Malmö University, University of Oslo, Aristotle University of Thessaloniki, University of Trento, Ruhr Universität Bochum, Leibniz University Hannover, the European Association of Research Managers and Administrators, the network of MSCA national contact points (Net4Mobility+), as well as Scholars at Risk sections in Greece, Italy, Sweden, Germany, and Ireland. A special highlight over the year was contributing to the SAR Ireland event featuring keynote contributions by President Michael D. Higgins and Professor Noam Chomsky. In addition, over the same period, the Inspireurope project, coordinated by SAR Europe at Maynooth ran webinars and trainings for 370 researchers at risk, 406 prospective and current employers of researchers at risk in Europe and a high-level forum in partnership with the Alexander von Humboldt Foundation.



The Inspireurope project, coordinated by SAR Europe at Maynooth ran webinars and trainings for 370 researchers at risk, 406 prospective and current employers of researchers at risk in Europe

## New grants

NCG's major project in 2021 was the €5m Terrain-AI (T-AI, PI Dr Rowan Fealy and Professor Tim McCarthy) a 24 month SFI Strategic Partnership project, co-funded by Microsoft, involving 50 researchers across MU, Teagasc, TCD, UCD, DCU and UL, which started in January 2021. The project is advancing standards of measurement, monitoring, verification and reporting of carbon stocks and emissions across complex environments using innovative new AI solutions and technologies, integrated with computational models. The aim is to provide more accurate estimates of carbon fluxes across scales and the effects of human activities to enable decision makers to develop more effective climate mitigation strategies.

# Research

## Institutes and Centres

DRI/IQDA received Wellcome Trust funding for the Archiving Reproductive Health project (PI Dr Aileen O'Carroll), €383,481 (MU share €118,635). The first data from one of the three research stakeholder projects has been ingested to the repository. This Irish Research Council and Irish Human Rights and Equality Commission funded project examined how organisations build trust and resolve conflicts in the social media age through a study of those who campaigned for the repeal of the Eight amendment in 2018 in Ireland. To date, the project has so published a major report and presented papers at 9 events.

AIRO has received approval from the HEA to continue the College Connect project for an additional three-year basis. AIRO/UCD agreed a new three-year contract with the Environmental Protection Agency and office of the Planning Regulator for the on-going maintenance and development of the Environmental Sensitivity Mapping platform.

Scholars at Risk Europe secured a grant of €25,000 from the Robert Bosch Stiftung towards coordination efforts to support threatened scholars, and a grant renewal of \$150,000 USD from the Open Society Foundations to continue its work.

The CMHCR successfully applied for two IRC New Foundations grants (approx. €23,000); and a John Hume scholarship (€11,000).

### Citation rates

Three of the Institute PIs were in the top 5 citation rates for Maynooth University in 2020-21 using Google Scholar data (Rob Kitchin, Chris Brunsdon and Martin Charlton). Rob Kitchin ranked 5<sup>th</sup> (out of 15,978) geographers globally for citation impact and 5<sup>th</sup> for all disciplines in Ireland in 2020 as calculated using standardized citation indicators (by number of authors, first/last author, and removing self-citations) using Scopus data, produced by the Meta-Research Innovation Center at Stanford University. Chris Brunsdon ranked 58<sup>th</sup> in Ireland for all disciplines and 144<sup>th</sup> (out of 52,403) Geological and Geomatic Engineers.

### Events held

The institute organised and hosted 31 workshops and conferences throughout the year (see Appendix). These were all hosted online and were very well attended by national and international audiences. Events were live-streamed via Facebook and recordings were also shared via Youtube for future viewing. This has increased the international reach and durability of the events.

### On-going research in addition to new projects

A number of projects were on-going in the National Centre for Geocomputation, including SFI/Industry funded U-Flyte (Drones), SFI funded Building City Dashboards, EPA funded SoMoSat (Soil Moisture modelling), H2020 funded MaCoBioS (Coastal Ecosystems), SFI/MI/ GSI funded PREDICT (Coastal Zone Environments), SFI LERO HDMaps (Autonomous Vehicles), SFI Research Infrastructure, National Autonomous Technologies Data Platform (NATDaP) which now includes an on-campus storage and test facility for various aerial and terrestrial robots, H2020/ FPCUP EoDataHub (National Copernicus Academy & Relay) and finally 3

X ESA funded Pathfinder projects (Earth Observation) due to commence March 2022. Building City Dashboards project (SFI Investigator Award).

AIRO has a number of on-going projects. In September 2021 they completed Phase 1 of the HEA funded College Connect project. As part of this project the team developed the College Connect Hub that is used by community connectors and Access Offices in MU, DkIT, DCU and TUS. In addition, AIRO developed the SEAI Local Authority Renewable Energy Strategy (LARES) mapping viewer through funding from the SEAI. They also continued to develop the Dublin Housing Observatory mapping viewer. They have undertaken project work for the County Development Plans of Kildare CC, Cork City Council, and Waterford City and County Council.



AIRO completed Phase 1 of the HEA funded College Connect project

Through the EU-funded Inspireurope project, Scholars At Risk Europe continued its work with nine European partners to strengthen national and European support for researchers at risk, including establishing new national fellowship schemes.

CMHCR had a number of on-going projects taking place throughout the year (to the value of €830K). The CMHCR played a key role in co-establishing, during 2021, the MU Interdisciplinary Childhood Outcomes Network (ICON) comprising staff from several Departments/ Institutes/Centres, including Psychology, Froebel, Education, and Applied Social Studies. ICON successfully tendered, in 2021, to the Department of Children, Equality, Disability, Integration and Youth, to be included in its new multi-supplier framework over the next four years (i.e. involving invited grant calls on different aspects of child/youth and family research).

The Kennedy Institute continued to work on 3 EU HORIZON 2020 projects, TRESSPASS, CREST and ECHO.

G. Honor Fagan and Chandana Mathur continue to lead the social science component of the PANIWATER Horizon 2020 research programme on water and wastewater sustainability.

### Institute schemes

The Institute ran two rounds of its small grants scheme, awarding 22 awards from the 2020-21 RIF allocation to members from across the faculty (see Appendix). In addition, it also ran its visiting fellows scheme, making 13 awards, though due to COVID-19 only one visited in the reporting period. Significantly, the Institute provided seed funding to Professor Aisling McMahon in Law who has since received an ERC Starting Award, demonstrating the value of these kinds of small investments.



## Engaged Research

Since the start of the Covid-19 pandemic AIRO and NCG has provided on-going support to the Department of Health on the weekly mapping and analysis of Covid-19 cases, including the development of the dashboard, and contributed to Epidemiological Modelling Advisory Group (IEMAG) of NPHET. In March 2021, AIRO launched the HEA National Gender Equality Dashboard, which they had developed. They also provided location and mapping analysis for Domestic, Sexual and Gender Based Violence Unit at TUSLA providing a spatial analysis of Crisis Accommodation for Domestic Violence. They produced a report on analysis of CLÁR Area allocation, demographic changes since 2006 and future CLÁR stratification options, and undertook an assessment of grant funding to Local Authorities (LAs) from Central Government (for Cork County Council). Many different presentations and talks to local authorities and Government Departments and these generally relate to project works. NCG continues to work with a number of industry (e.g. Microsoft, Airbus) and public stakeholders on their various projects.

Scholars at Risk Europe is the European office of the global Scholars at Risk network. In 2021, SAR Europe supported activities of 13 Scholars at Risk national sections and 10 partner networks across Europe to assist threatened scholars and to promote academic freedom, and helped launch a new SAR section in Greece. SAR published *Researchers at Risk: National-Level Actions in Europe*, a report gathering the experiences of 14 national-level initiatives in Europe to support at-risk scholars/researchers. Over the past year, SAR Europe also expanded its advocacy work to promote academic freedom. The European Coordinating Committee for Academic Freedom Advocacy, convened by SAR Europe, now includes 28 experts with organisational bases in 18 European countries, and representatives from 4 organisations with Europe-wide membership. SAR Europe submitted over 20 policy briefings to national and European institutions to inform policymaking in Europe on academic freedom.



Researchers at Risk: National-Level Actions in Europe

DRI pioneered an 8 week 'Digital Preservation for Community Archives' training and networking course. This programme featured weekly one-hour meetings, which combined video lectures and interactive sessions, and ended with an hour-long practical workshop.

The CMHCR played a key role in co-establishing, during 2021, the MU Interdisciplinary Childhood Outcomes Network (ICON) comprising staff from several Departments/Institutes/Centres, including Psychology, Froebel, Education, and Applied Social Studies. ICON successfully tendered, in 2021, to the Department of Children, Equality, Disability, Integration and Youth, to be included in its new multi-supplier framework over the next four years (i.e. involving invited grant calls on different aspects of child/youth and family research). Dr Brenda O'Connell delivered 5 episodes for Spirit Radio on

Nurturing Positive Mental Health. A number of CMHCR members contribute actively to national networks such as the Prevention and Early Intervention Network (Yvonne Leckey) and the National Parenting Network (Professor Sinead McGilloway). Dr Philip Hyland worked with the HSE's National Office for Suicide Prevention to design and execute the first nationally representative survey of the Irish adult population to determine the lifetime prevalence of suicidal ideation, non-suicidal self-harming behaviour, and attempted suicide. He also worked with Mental Health Reform to study the Irish public's attitudes to the government response to the Covid-19 pandemic. The HSE-funded PRIMERA (Promoting Research and Innovation in Mental Health seRvices for children and fAmilies) research team, led by Professor Sinéad McGilloway, maintained a collaboration with 15 community-based adult mental health and Child and Adolescent Mental Health Service sites across the country to help embed evidence-based family-focused practice within mental health services. Dr Rebecca Maguire led projects in the field of Multiple Sclerosis, both within Ireland, and at a European level (funded by the European MS Platform), that have involved significant stakeholder input. She also supervises a number of engaged research projects, driven by public and patient involvement (PPI) and, focusing on, for example, the needs of paediatric cancer caregivers, gay/bisexual men and those living with Multiple Sclerosis. Fiona Flynn (IRC scholar) co-developed - with young people and in collaboration with BodyWhys - a school-based body image and social media intervention (one of the first in the world) - to help young schoolgoing adolescents cope more effectively with body image and psychological wellbeing concerns. Mary Cronin worked with family carers during 2021 to co-design and deliver a carer workshop to help carers communicate more effectively with their GPs and other healthcare professionals. This project (called CHERISH) is being conducted in collaboration with Family Carers Ireland, the largest carer support/advocacy organisation in Ireland.

The Kennedy Institute recently delivered a Professional Certificate in Strategic Leadership & Organisational Change with 24 registered students from public institutions and private industry. It also delivered the Common Security Defence Policy (CSDP) EU courses in Negotiation Theory and Practice and Conflict Intervention and the Comprehensive Approach in cooperation with the European Security and Defence College in Brussels.

The PANI WATER project carried out a programme of engagement to accelerate the social sustainability impact of drinking water disinfection units and demo/pilot plants set up to recycle wastewater for agricultural use in various field sites. It supported the partner local organisation in India, Development Alternatives (DA), to carry out household surveys in six villages in two community sites, prepared twelve radio programmes to be telecasted by radio Bundelkhand, met with the Gram Panchayat of water in study areas, and carried out training and awareness programmes in Udaipur schools. A series of ten webinars on water issues involving key stakeholder groups was run in 2021.

A wide range of outreach activities were conducted by the GAIL and ACAPES projects including engagement with industry (non-academic) bodies, employment services organisations, and meetings with politicians and other policy actors. This included: a meeting with SIPTU; meetings with Employment Services Division of Department of Social Protection; a meeting with Seetec UK Senior Executives; presentations to Local Employment Services Mediators Forum; and a meeting with Claire Kerrane TD (politician), member of the Oireachtas (Parliamentary) Committee on Social Protection, Community & Rural Development & the Islands.

# Research

## Institutes and Centres

### MU Kathleen Lonsdale Institute for Human Health Research

In the 2020/21 academic year, the Kathleen Lonsdale Institute for Human Health Research had 48 Principal Investigators and their research groups, an Administrative Officer, a part-time Public Patient Involvement (PPI) Officer, a research fellow and eight Lonsdale PhD scholars. The Institute has maintained an excellent output with 113 publications in total, including 103 peer-reviewed publications in international journals of high standing. Lonsdale PIs were highly successful in securing 20 new research grants with a total value of €6,694,346.

The Kathleen Lonsdale Institute for Human Health Research has a strong inter-disciplinary focus that reaches across many Departments including, Biology, Chemistry, Psychology, Computer Science, Psychology and others. At the heart of the institute is the multi-disciplinary approach to improve Human Health through research spanning biological, psychological, social, physical and environmental factors across the life course. The primary focus includes including healthy ageing and chronic inflammatory diseases, obesity and antimicrobial resistance.

#### Publication Highlights (calendar year 2021)

PIs in the Kathleen Lonsdale Institute for Human Health Research published 103 publications in peer-reviewed journals. Most of these publications were in journals of high international standing (e.g. *Molecular Microbiology*, *MBio*, *Journal of Ecology*, *Plant Methods*, *Journal of Experimental Botany*, *Current Opinion in Microbiology*, *Scientific Reports*, *Journal of Immunology*, etc).

In addition, several publications have also been published prestigious journals such as *Cell*, *Nature Immunology*, *Nature Chemistry*, *Cellular and Molecular Immunology*. A number of these publications emanated from collaborations that spanned constituent Departments in the Institute highlighting the multidisciplinary nature of the Institute's research.

#### Exemplar Publications include:

- Dr Elisa Fadda was a co-author on the paper *SARS-CoV-2 simulations go exascale to predict dramatic spike opening and cryptic pockets across the proteome* *Nature Chemistry* (2021), 13(7), 651-659.
- Dr Andrew Hogan and Professor Paul Moynagh co-authored a News and Views article *The IRX(3)some factor in macrophages* *Nature Immunology* (2021) 22(10):1203-1204.
- Professor Andrew Coogan was a co-author on the article *Seasonal and Daytime Variation in Multiple Immune Parameters in Humans: Evidence from 329,261 Participants of the UK Biobank Cohort* *iScience* (2021) 24(4):102255.
- Dr Ozgur Bayram was a co-author on the paper *The velvet protein Vel1 controls initial plant root colonization and conidia formation for xylem distribution in Verticillium wilt* (2021) *Plos Genetics* 17(3):e1009434.

- Dr Trinidad Velasco-Torrijos was a co-author on the Editorial Glyco-Tools to Crack Unsolved Biomedical Needs published in *Front. Chem.*, (November 2021) and her review article *Targeting adhesion in fungal pathogen Candida albicans*, *Future Med. Chem.* (2021), 13, 313-334, was the most read article of the year.

#### Funding highlights

The Institute was awarded 3 highly prestigious grants (funding > €1,000,000 total costs):

- Dr Lorna Lopez; European Research Council Starting Grant, *FamilySleeps; Disrupted Circadian Rhythms in Families – an Endophenotype of Autism Spectrum Disorder*; €1,499,323
- Dr Karen English; SFI FFP award; *Removing the brake; Role of PPAR on mesenchymal stromal cell therapeutic efficacy in ARDS*; €1,297,245
- Dr Fiona Walsh; SFI FFP award; *Targeting antimicrobial resistance plasmids to resurrect antimicrobial therapies*; €1,195,040



Dr Lorna Lopez, Department of Biology, Kathleen Lonsdale Institute for Human Health Research

In addition there were a further 5 exemplar major grants awarded (funding > €100,000 total costs):

- Dr Emmanuelle Graciet; SFI FFP project; €617,895
- Professor Carmel Breslin and Dr Eithne Dempsey; SFI FFP Project; €616,915
- Dr Elisa Fadda; SFI FFP Project; €565,940
- Dr Mark Robinson; SFI COVID-19 rapid response; €281,141
- Professor John Stephens; Enterprise Ireland Commercialisation Fund; €251,668
- Dr Rebecca Owens; DAFM; €176,280

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## Postgraduate Students

PIs in the Kathleen Lonsdale Institute for Human Health Research secured 10 externally funded PhD scholarships. In addition, eight Lonsdale PhD scholars continued research into their third years.

### Prizes:

- Dr Lorna Lopez was awarded a SFI Early Career Researcher of the Year (November 2020)
- Dr Eithne Dempsey was awarded an IRC Research Ally Prize 2021. The Research Ally Prizes celebrate the role of supervisors, and other university staff in supporting and sustaining the Irish research community.

## External Engaged Research

PIs in the Institute were involved in new and continuing research with Industry partners:

- Professor John Stephens and Dr Andrew Hogan - EI innovation Enterprise partnership with Dairygold on novel food ingredients continued in 2021.
- Professor John Stephens is a supervisor on an IRC Government of Ireland Postgraduate Scholarship co-funded with Pfizer.
- Professor Carmel Breslin is carrying out consultancy work for CroiValve.
- Dr Roisin O'Flaherty has Enterprise partnerships with NIBRT and Agilent and has a collaboration with the charity Cystinosis Ireland.
- Dr Robert Elmes has an ongoing collaboration with Janssen/SFI SSPC.
- Dr Eithne Dempsey's H2020 project is with the food company Glanbia.
- Dr Fiona Walsh secured funding from the Enterprise Ireland/KTI Technology Transfer Strengthening Initiative 3 (TTSI3) Pipeline Fund to develop an artificial animal microbiome.
- Professor John Lowry has collaborations with the following industry partners - Boehringer Ingelheim Pharma GmbH & Co. KG (Germany); Basi Research Products, WL Gore and Ulysses Neuroscience Ltd. (Ireland).

## Significant conferences/meetings hosted:

- Public Meeting "In conversation with Professor Luke O'Neill and Dr Ciara Kelly: Following and Telling the Science of Covid-19 " (16 November 2021) Chaired by Professor Paul Moynagh (Institute Director)
- Big Data in Biomedical Research – UK Biobank (21 May 2021). 124 researchers registered, 92 attendees on the day from 10 higher education institutions and biomedical sector.
- Autism Research Thesis in Three (02/04/21). 69 registrations, 60 attended, 13 early career researchers presented from six Higher Education Institutions across Ireland (funding support from Kathleen Lonsdale Institute for Human Health Research).

## Informing public policy

- Dr Lorna Lopez provided input on genomics, secondary/incidental findings for the HSE National Consent for Research Policy
- Dr Fiona Walsh performed Gap analysis of research needs to understand the environmental dimension of antimicrobial resistance in preparation for iNAP2 (F. Walsh).

### Public Patient Involvement:

Rebecca Clinton was recruited as PPI Officer to Maynooth University in 2021 and is part funded and hosted by the Kathleen Lonsdale Institute for Human Health Research. Dr Mark Robinson co-ordinates MU PPI and was instrumental in Maynooth University becoming a partner in the National PPI Ignite Network. A PPI event was hosted on 02/04/21 for World Autism Awareness Day "Autism Research Thesis in Three". MU PPI spans the Experiential Learning Office, the Research Development Office, the ALL Institute, the Kathleen Lonsdale Institute for Human Health Research, IVI and MUSSI.



# Research

## Institutes and Centres

### Assisting Living and Learning Institute

The Assisting Living and Learning (ALL) Institute at MU, launched in November 2017, focuses on: Assisting Living, research to help people who may be challenged by disability, chronic illness, frailty or cognitive decline to benefit from the equitable application of technological, personal, community and societal initiatives, which assist and enable them to live a full life as valued participants of their community; and Assisting Learning, removing barriers to accessing and benefiting from education, especially at third level. We work with health and care services, civil society, and industry in Ireland; and with governments, industry, civil society and United Nations agencies across more than 50 countries. In 20/21 the members of the ALL Institute published 131 Peer reviewed journal articles, 56 refereed conference proceedings, 6 books and 24 book chapters. The Institute was awarded nine research grants valued at €751,133.35.



Ideas In ALL, the blog of the ALL Institute was launched in December 2020. The blog showcases a diversity of ALL research approaches and methodologies, championing interdisciplinary, human-rights based and empowering research, and discusses social inclusion, empowerment, and participation. Ideas in ALL also gives voice to lived experiences of people and offers a platform to discuss diverse ways of seeing and doing things, perceptions, life trajectories, reactions to norms and power-relations.

During 2020–2021, unsurprisingly, a number of ALL researchers contributed to emerging research insights on experiences and impacts of the Covid-19 pandemic with work focusing on assistive technology use and provision during Covid-19 (Smith et al.); child and adolescent mental health (O'Sullivan et al.); gender inequality (Clarke et al.); symptom trajectories (Hyland et al.); Irish perspectives from the GreenCOVID study (Foley et al.); blended to online learning (Kenny et al.); families with parental mental illness (McGilloway et al.); mental health and well-being of leaving cert students (McGilloway et. al.); state aid and covid (Ferri),

procurement of health products (McEvoy & Ferri) global equitable access to vaccines (McMahon); mental health of refugees and migrants (Murphy et. al.); older users of service and maintenance of personal autonomy (Maguire et. al.).

In November 2021, ALL members Dr Katriona O'Sullivan, Serena Clark, Kevin Marshall (Adjunct Professor), and Professor Mac MacLachlan published a synthesis paper which sets forward a new digital framework to consider the achievement of the Sustainable Development Goals. Published in *Nature Communications* the work considers digital poverty in the context of the UN agenda and is having a demonstrable impact on discourse in the field.

In November 2020, ALL members Dr Emma McEvoy and Professor Delia Ferri published 'The Role of the Joint Procurement Agreement during the Covid-19 Pandemic: Assessing Its Usefulness and Discussing Its Potential to Support a European Health Union' in *European Journal of Risk Regulation* ranked 5 in the top EU law journals.

In December 2020, Dr Kevin Marshall was appointed as Adjunct Professor with the ALL Institute, Maynooth University. Kevin is the Head of Education, Microsoft Ireland.



Dr Kevin Marshall, Adjunct Professor of the ALL Institute

Professor Mac MacLachlan continues his work as Research & Innovation Lead for WHO's Global Cooperation on Assistive Technology (GATE) programme and Knowledge Management Lead for the United Nations Partnership for the Rights of People with Disability (UNPRPD) Programme working across more than 20 countries.

In October 2020, ALL members Professor Mac MacLachlan, and Dr Emma Smith, were honoured with awards from the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) for their work in the field of assistive technology.

ALL researchers continued to disseminate their research via conference contributions including a keynote address at the Australian Orthotics and Prosthetics Association Conference (Desmond); regular presentations to the Oireachtas Committee on Disability Matters (MacLachlan); contributions to Global Standards and EU Law (Ferri). 9<sup>th</sup> Annual Conference of ALTER, European Society for Disability Research (Sanchez Rodríguez). Mutual Learning Workshop on Gender and Digitalization (O'Sullivan). In addition, ALL were delighted to (co)host a range of seminars and discussion events including:

- ALL Institute Virtual Seminar Series in association with the Lonsdale Institute, Tuesday, 2 March 2021. 'Public and Patient Involvement in Research'
- ALL Institute virtual Seminar in association with the Hamilton Institute, Monday, 19 April 2021. 'Social robots: the ultimate test for AI and robotics'



Flying Roots: Participatory Documentary Screening & Discussion, Tuesday, 11<sup>th</sup> May 2021

- Flying Roots: Participatory Documentary Screening & Discussion, Tuesday, 11<sup>th</sup> May 2021 [www.maynoothuniversity.ie/research/research-news-events/latest-news/flying-roots-participatory-documentary-screening-discussion-0](http://www.maynoothuniversity.ie/research/research-news-events/latest-news/flying-roots-participatory-documentary-screening-discussion-0)
- ALL Institute virtual conversation, Tuesday, 28<sup>th</sup> September 2021: Beyond Girls in STEM

New funding awarded to ALL researchers in 2020–2021 came from a range of sources including the Health Research Board, Science Foundation Ireland, SlainteCare, Enterprise Ireland, Microsoft, Department for International Development (UK), the National Youth Federation of Ireland, and the EU Commission.

## Public Patient Involvement in Research (PPI)

The second instalment of the ALL Institute Virtual Seminar Series in association with the Kathleen Lonsdale Institute for Human Health Research, took place Tuesday, 2<sup>nd</sup> March 2021. Entitled 'Public and Patient Involvement in Research,' the Virtual Seminar ran from 2pm–4.30pm.

- *What is PPI?* by Dr Mark Robinson.
- Marie Ennis-O'Connor (*Embedding the patient voice at the heart of healthcare systems and values*).
- Panel Discussion (*Benefits of PPI Across Academic Disciplines*): Dr Mark Robinson Dr Rebecca Maguire Dr Johanna O'Shea.
- Robert Joyce (*Patient advocate*).
- Edel Murphy (NUIG PPI Ignite and the National PPI Network).

### Innovation Value Institute

The Innovation Value Institute (IVI) employed five administrative (FTE) staff members during the period October 2020–September 2021. IVI had a total of nine post-doctoral researchers, eight PhD students and nine researchers as members of IVI contributing to IVI's research outputs. Over the course of the reporting timeframe, IVI researchers disseminated over 90 research outputs across a range of channels including peer-reviewed journals, conference publications, among others. In the timeframe, IVI staff and researchers published in 32 international peer-reviewed journals, 26 conference publications, one national report, and two working papers. In 2020/21, IVI researchers published nine book chapters and were featured in three mass-media outlets.

External funding secured by members of IVI exceeded €1.8 million in 2020/21 with the largest award grant for Empower – the Data governance Programme funded by SFI and in collaboration with SFI Research Centres. In addition, IVI secured funding via the SFI Research Centres Lero and Adapt. IVI also completed research under the Enterprise Ireland Innovation Voucher Programme with 10 companies. We were also engaged in direct funded research projects internationally on topics of Cybersecurity and Digital Transformation (Nine approved Consultancy/Tender projects). This and other substantive grant awards demonstrate the value of IVI's research and the institute's competency in attracting external funding.

The year 2021 also marked the 15<sup>th</sup> anniversary of the institute and presented a significant milestone in its journey with the official launch of the new IVI strategy, focusing on Digital Transformation. Over the last 15 years IVI has been recognised as a leading, internationally connected research institute that builds on the extensive knowledge and research related to the Capability Maturity Framework. IVI continues to support businesses and organisations in their digital transformation by providing research, training and sharing latest advances in Digital Technologies and Digital Transformation. As digital transformation continues across all sectors, many organisations are faced with strategic re-positioning of value chains and business ecosystems. Exploring digital driven business opportunities, value chains and innovative business models, IVI supports organisations with advice, knowledge and research to address those significant challenges along their Digital Transformation Paths. A major challenge over the next decade is establishing a greener and digital society, a key priority of the European Commission that estimates the creation of 700,000 new jobs by 2030 through establishing circular economies. The World Economic Forum estimates that digital transformation could be valued as high as \$100 trillion over the next decade.

Understanding strategic questions and developing sustainable options in the form of Digital Transformation Paths are key and a core focus of our new IVI strategy. Economic, societal and business implications of digital transformation need to be discussed with all stakeholders. The wider impacts and constraints of digitalisation needs to be understood in order to co-create Digital Transformation Paths to drive a greener and digital society that benefits all. This requires a different approach that brings together multiple stakeholders across disciplines and

sectors. IVI with its 15-years expertise of facilitating an open innovation and multi-stakeholder community is well positioned to address those significant digital transformation challenges. Developing and co-creating innovative solutions for organisations, are a core strength of IVI. We continue our mission to facilitate an open innovation community by bringing key stakeholders together to investigate, co-create and maintain strategic guidance and knowledge.

With the new IVI strategy, we have refocused IVI's aim to provide strategic guidance to transform and architect Digital Enterprises and Ecosystems by developing Capability driven Digital Transformation Paths. We have established a range of research clusters' and expanding our strategic partnerships with companies, public sector bodies, associations and the broader community to form those collaborative research clusters. Within those clusters, IVI members have access and can participate in a number of active working groups, for example on Digital Retail, Data Governance, Digital Construction, Agri and Food-Tech, Digital Health, Smart Manufacturing, and Smart Regions. Patron members are strategic IVI partners with a seat on the steering board prioritising industry-relevant research challenges and guiding IVI's research agenda. The repository of Digital Transformation Paths is continuously developed within the IVI working groups. The Digital Transformation Paths will be made available to the IVI members adding to the existing IVI portal. It includes Digital Readiness Assessments and a Benchmarking tool in addition to extensive information around the Capability Maturity Model. In addition, latest webinars and recordings key events are available on the IVI website.

Innovation Value Institute staff and researchers have built strategic partnerships with IVI members (Companies and public Sector bodies) and are actively engage with industry, the public sector, and the broader community, through a range of initiatives including collaborative research and the dissemination of research to the wider community through various channels. Engagement activities include organising workshops for various stakeholders, membership in various industry bodies and committees, and consulting for industry. Our research dissemination activities include a range of invited and guest presentations at different practitioner-focused forums, articles published in popular publications including Silicon Republic, research centre blog posts, and IVI's Webinar Series which showcases our research agenda and industry collaborations.

Despite the disruptions to typical working practice occasioned by the onset of the Covid19, IVI researchers substantively contributed academically, and for civic welfare in a range of areas.



## Engaged Research

### Data Governance Research

IVI is leading the work in Data Management and Data Governance and are leading the SFI Spokes Empower Programme on Data Governance. The programme represents research of almost €10 million focused on Data Platforms, Data Governance and Ecosystems, and will involve researchers from four SFI Research Centres: Lero, the programme lead, Insight, ADAPT and FutureNeuro, coordinated by Professor Markus Helfert (Maynooth University). Speaking at the launch of Empower, Minister Harris said: "One of this Government's core ambitions is to build competitive advantage and to foster enterprise development through a world-class research and innovation system. Empower clearly demonstrates that when we combine talent and investment, we here in Ireland can undertake cutting-edge, impactful research. We can compete with the very best internationally and we can contribute solutions to global challenges. Empower is an important strategic research project for our country and I'd like to congratulate and wish everyone involved the very best for the project".

### Leading Standards' development and Impacting Policy Making

Members of IVI have significantly contributed and are active contributor and in a number of Standardization Committees, including ISO/IEC JTC 1/SC 40 "IT Service Management and IT Governance and NSAI/TC 047/SC 22 BIM Building Information Management. Members of IVI also contributed to the NSAI Top Teams - Standards in AI Working Group, the Age Friendly Ireland: Housing for All Report, the Pensions Commission Report, Minister for Mental Health's consultation and the Stakeholder Roundtable on the National Digital Strategy. With Professor Markus Helfert chairing the Steering committee of the ELITE-S Cofund Programme "Future Leadership in ICT and Standardization in Europe" at the SFI ADAPT Research Centre, we contribute to the skills and standards development in Ireland and Internationally.

### Proven Company Engagement Process – Co-Developing Digital Transformation Paths

IVI's Re-Think-Re-Design programme, developed in 2021 with Kildare Chamber of Commerce, and MaynoothWorks is one of the new services specifically designed to support smaller and medium sized companies on their digital transformation journey. The programme can be fully funded (for eligible companies) through the Enterprise Ireland Innovation Voucher scheme. For other initiatives and targeted research, we provide access to a range of funding opportunities including Enterprise Ireland, IDA, European Union and through research centres, such as Lero, Adapt and Confirm funded by Science Foundation Ireland.

### Digital Retail Summit and IVI Summit

In 2021 we hosted two large scale events, the Digital Retail Summit and the IVI Summit, each attracting between 200-300 registered participants. The events brought together academic researchers and industry leaders across various sectors, strengthening the connection between industry and digital transformation researchers. With keynote addresses and parallel panel discussions, the summits discussed some of the key questions challenging digital transformation researchers and industry leaders today.



### Establishment of the International Advisory Board

In 2021 we also invited and established the IVI Advisory Board with members include Edwina Fitzmaurice, Client Technology, Chief Customer Success Officer, Principal Partner, EY; Professor Jan vom Brocke, Director of the Institute for Information Systems at the University of Liechtenstein; Professor Martin Curley, Director of the Digital Academy and Open Innovation at the Health Service Executive (HSE); John Barron, CIO, The Office of the Revenue Commissioners; Anne Flanagan, Data Policy & Governance Lead, World Economic Forum; Professor Iris Junglas, Professor of Information Management and Innovation in the Supply Chain, College of Charleston; Mathieu Gorge, Founder & CEO of VIGITRUST; Fin Goulding, Founder, CTO and Advisor, Enterprise Flow; and Professor Matthew Mullarkey, Director of the Doctor of Business Administration (DBA) Program for the USF Muma College of Business.

### Leading the All-Ireland Smart Cities Forum

Hosted at IVI, the All-Ireland Smart Cities Forum is a community of practice focused on the advancement of cities and communities in both the Republic of Ireland and Northern Ireland. The Forum is made up of city officials who have a wealth of knowledge and experience of the evolving smart city agenda, and the opportunities this provides for future growth and investment. The primary objective is that this will be a cooperative Forum for the advancement of smart city agendas across all partner cities. The cross-border initiative includes local authority representation from Cork, Dublin (all four local authorities), Limerick, Galway, Waterford, Belfast, Derry, and Newry who together will explore common challenges related to implementing smart city policies and projects.

### International Academic Memberships and Research Visits

At IVI we have re-established the academic memberships in order to partner with leading universities and research institutions internally. New members include the University of Palermo and the University of Applied Science, Upper Austria. In addition, as part of our collaboration with the SFI Research Centre ADAPT for AI-Driven Digital Content Technology we hosted Dr Jose Norberto Mazón from the University of Alicante (Spain) who contributed with his research to the Transparent Digital Governance research with mechanisms to raise awareness of the impact of open data from publication to re-use. We also hosted a cohort of students from the EM Normandie Business School of their MSc Artificial Intelligence program.

## Community Partnership Projects



### The All-Ireland Smart Cities Forum

- **The All-Ireland Smart Cities Forum** is a community of practice focused on the advancement of cities and communities in both the Republic of Ireland and Northern Ireland. The Forum is made up of city officials who have a wealth of knowledge and experience of the evolving smart city agenda, and the opportunities this provides for future growth and investment. The programme aims:
  - Provide Better Services:  
Develop, drive, and facilitate public services which are better, easier, more efficient, and accessible for citizens.
  - Promote Innovative Solutions:  
Provide new, innovative, and better solutions to existing and future challenges which impact citizens, businesses, and visitors.
  - Improve Economic Activity:  
Support regional economic development by helping to create an ecosystem that attracts and provides opportunities for entrepreneurs, investors, and businesses, and communicates this to the wider world.
  - Increase Collaboration and Engagement:  
Create effective internal and external collaborations and partnerships with local authorities, other public sector organisations, academia, external agencies, businesses, citizens, and international partners.
- **Maynooth University & Age Friendly Ireland (via Meath County Council) Ageing Partnership**  
The programme provides a means to operationalise the Dublin Declaration and to plan, to share resources, and to support the needs of an ageing population. This includes fostering international research opportunities. A scoping exercise on priority research areas for the partnership was facilitated by IVI in November 2020 to inform future work streams.
- **Rethink|Redesign programme with Kildare Chamber of Commerce and Meath Enterprise**  
In November 2019 IVI designed the Rethink|Redesign programme as a hands-on support initiative to help companies ideate new opportunities to reconceive their business model and value proposition in order to adapt to the challenges of doing business in the post-COVID world. In 2020–2021 this programme successfully completed projects with 10 companies, supporting digital transformation in the optimisation of their businesses.

### • MSc in Digital Health Transformation

In collaboration with the Health Service Executive and University of Limerick, co-designed an innovative MSc programme to ensure rapid digital transformation in the public health system. First in Ireland to comprise modules from all of the universities and some IoTs.



Enterprise Architecture and Formal Modelling (EAFM) research group

### • Enterprise Architecture and Formal Modelling (EAFM)

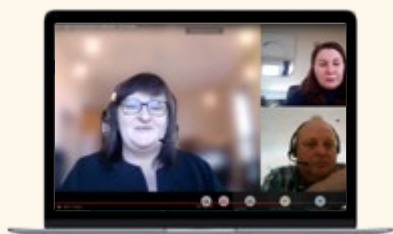
Enterprise Architecture and Formal Modelling (EAFM) research group is a joint research group from Business Informatics and Formal Methods Groups at Maynooth University. EAFM mainly focuses on the role, importance, modelling verification and simulation within the extended organisational and enterprise context. The research and projects cover the gamut from Business Processes and Information System design, to Mathematical Modelling and Formal Verification.

### • A Method and Process Model for Consent Withdrawal Management

New demands have been placed on Information Systems for the management of consent withdrawal under GDPR. This research proposes to identify the relationships between the underlying variables for consent withdrawal management in IS. The resulting research will be utilised in approaches to designing, deploying, or improving information systems for consent withdrawal requirements of GDPR.

### • Workshop Presentation: Scaling-Up Healthcare with Conversational Agents - Scale-IT-up 2021 – BIOSTEC 2021

Presentation from Dr Marco Alfano on the Proposed Use of a Conversational Agent for Patient Empowerment. On the one side, hospitals and health care providers introduce hospital information systems, electronic health records and telemedicine solutions for more efficient workflows within and beyond institutions. On the other side, patients may choose between a wide range of digital health applications provided by wearables and mobile phone applications supporting their self-management, health and well-being. A particular solution to support the patient, given the lack of always available caregivers or in scenarios where their absence is not avoidable or even desired (see the case of far-distance support in a pandemic situation), are conversational agents (also known as relational agents, virtual humans or chatbots). Conversational agents are computer programs that imitate the interaction with humans and provide guidance or coaching for patients on rule-or machine learning-based system. This workshop aimed to address questions around this area with the expert researchers in attendance.



Digital Transformation Challenges with guest lecturer, Orla Case

- **Guest Lecture: Digital Transformation Challenges**

In this guest lecture, Orla Casey, founder of Momentum Educate + Innovate explores digital transformation and the challenges that can be encountered. She does so both from the perspective of an industry practitioner, and as a policy maker. Afterwards, Orla is joined by Zohreh Pourzolfaghar and Markus Helfert for a thought-provoking discussion on the topic.

- **Guest Lecture: Architecting the Enterprise**

Professor Markus Helfert, Director of the Innovation Value Institute, provides a guest lecture on Architecting the Enterprise from a Design Science perspective.

- **Webinar: Accelerating SME Digital Transformation and Competitiveness through Collaboration and Partnership**

In this IVI webinar and panel discussion – in collaboration with our research partners Lero, ADAPT Centre, and with the Ireland Mid-East region's newest Digital Innovation Hub, MERITS – we showcase Irish firms who have embraced Big Data, AI, and IoT to digitally transform for success. We also introduce EIT Digital, Europe's leading digital innovation and entrepreneurial education organisation.

- **IVI Coffee&Talk: IVI Vision**

In this first IVI Coffee&Talk session, Professor Markus Helfert provides an overview of the vision for the Innovation Value Institute.

- **IVI Coffee&Talk: Retail Strategy in the Age of Retail Apocalypse**

Gultekin Cakir, MSCA fellow on the PERFORM EU Project, explore the potential strategies that could be utilised by retailers to thrive in what has been referred to as the age of the retail apocalypse. This presentation was followed by a discussion with audience members.

- **IVI Webinar: Digital Retail I: How Digital Innovations are Transforming the Digital Retail Sector**

The retail sector has gone through an unprecedented transformation in the last 12 months. The shift to online and omnichannel retailing has been swift. As now we are hopefully moving towards post-Covid retailing, businesses need to assess which digital innovations will help them sustain and grow and how these innovations need to be naturally engraved in the existing business models. Facilitated by Joan Mulvihill, Digitalisation Lead, Siemens Ireland, in this webinar we hear from Emer McCarthy, Group Strategy and E-commerce Director, Kilkenny Group; Rehan Iftikhar, MSCA fellow on the PERFORM EU Project and Artem Bielozorov, MSCA fellow on the PERFORM EU Project.

- **IVI Coffee&Talk: Design of the Buy-Online-Pick-Up-In-Store Service: Practical Perspective**

In this session Artem Bielozorov, MSCA fellow on the PERFORM EU Project, discussed the design of the buy-online-pick-up-in-store service from a practical perspective. He explored the importance of this service from a logistical and customer experience perspective. This presentation was followed by a discussion with audience members.

- **IVI Webinar: Digital Retail II: How AI Analytics can enhance customer experience & expose new opportunities**

From creating superior customer experience to improving operational efficiencies and uncovering new business opportunities, AI Analytics represents a major driver and capability for retailers. In this webinar, contributors discuss novel approaches and present case studies of various AI applications demonstrating the significant role data and analytics has become in the transformational process of the whole retail industry. Facilitated by Eric Weisz, Circlly, we hear from André Barbosa, Data Scientist, QuintoAndar; Douglas Cirqueira, MSCA fellow on the PERFORM EU Project; Caio Paulino, Head of Data & Analytics, C&A Brazil and Gueltekin Cakir, MSCA fellow on the PERFORM EU Project.

- **Summit: PERFORM European Digital Retail Summit**

Bringing together researchers, practitioners, and leaders of industry to explore current trends, innovations and the new frontiers of Digital Retail. During this event we brought together the expertise of both practitioners and researchers to present our audience not only with content on the latest digital innovations in the field, but also to stimulate future partnerships between the retail industry and digital transformation academics. Furthermore, our event website included the Marketplace function which will allowed all registered attendees to network virtually, not only on the day of the event, but for the following month also.

- **IVI Coffee&Talk: Virtual Reality in Omnichannel Retail**

During this session Rehan Iftikhar, MSCA fellow on the PERFORM EU Project, discusses the potential and logistics of a virtual store as one channel within a omnichannel retail strategy. This presentation was followed by a discussion with audience members.

- **IVI Coffee&Talk: Enterprise Architecture as an Enabler of Digital Transformation**

Dr Viviana Bastidas explored in this session the importance of enterprise architecture structures in supporting and enabling digital transformation of enterprise across all sectors. This presentation was followed by a discussion with audience members.

- **IVI Coffee&Talk: Information Management & Technology Adoption Challenges in the Construction Industry**

In this session, Dr Zohreh Pourzolfaghar discussed the challenges faced by the construction industry related to information management and technology adoption. This presentation was followed by a discussion with audience members.

- **IVI Webinar: Introducing Trustworthy AI**

Artificial intelligence (AI) is developing rapidly, but there is a delay in its introduction into the higher education curriculum. While more and more AI instruction is being offered in STEM subjects, a large number of students leave their careers without understanding the scope, opportunities, or risks of AI. We will explore the Learning Framework for ethical AI for stakeholders, our Open Educational Resources and our Hackathon Guide that offer practical tools for teachers to implement new content and develop ethical AI skills in students in a practical way. Moderated by Dr Zohreh Pourzolfaghar, IVI, in this session we heard from Professor Mohammad Reza BeikZadeh, Axiata; Dr Andrea Aler Tubella, Umea University; Douglas Cirqueira, MSCA fellow on the PERFORM EU Project and Dr Marçal Mora-Cantallops, University of Alcalá.

# Research

## Institutes and Centres

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- **IVI Coffee&Talk: Digital Health for Trusted Person-Centred Health and Wellbeing**

In this session Dr Marco Alfano discussed the development of digital health services and in particular the concept of person-centred digital health delivery. This presentation was followed by a discussion with audience members.

- **CIO Summit: Rethinking data management and governance to enable faster data value and wiser business decisions**

Professor Markus Helfert provided a presentation to the attendees of the CIO Summit 2021 where he discussed the importance of rethinking data management and governance. He explored how key changes to current practices would enable faster cultivation of data value and inform wiser business decisions.

- **IVI Coffee&Talk: Context & Vision for the GovTech Research Cluster at the IVI**

Dr Adegboyega Ojo outlined in his presentation the context and vision for the newly formed GovTech Research Cluster at the Innovation Value Institute. This presentation was followed by a discussion with audience members.

- **IVI Webinar: Digital Construction: ISO 19650-2: 2018 - Practical Insights & the Irish Annex**

ISO 19650-2:2018 is the standard for organisation and digitisation of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling and the Part 2 is for delivery phase of the assets. This webinar provides some insights to ISO 19650-2:2018 from different practice perspectives, and to introduce the Irish annex for this standard and the aims of creating this annex. Moderated by Dr Zohreh Pourzolfaghar, Innovation Value Institute, in this session we had contributions from Ralph Montague, ArcDox; Michael Earley, Dublin airport authority; Robert Moore, Grangegorman Development Agency and Rich De Palma, The DPW Group.



Dr Zohreh Pourzolfaghar, School of Business

- **IVI Coffee&Talk: Channel-Specific Products in Retailing: How channels influence new product development**

Gultekin Cakir, MSCA fellow on the PERFORM EU Project, explored channel-specific retail products. He discussed how various factors and attributes of different channels can influence new product development. This presentation was followed by a discussion with audience members.

- **IVI Webinar: Collective Intelligence: How data can be used for the public good**

With the abundance of data being produced in every sector the question emerges on 'how do we use the data, for what purpose and who is benefiting?' his webinar will bring together leading experts to explore the opportunities of collective intelligence and its strong potential for benefiting the society. We also will discuss the potential risks and disadvantages that may arise from shared data and collective intelligence. This session was moderated by Rob Gleasure, Copenhagen Business School, with presentations from Marisa Ponti, University of Gothenberg; Gar Mac Críosta, Health Service Executive and Adelya Fatykhova, SAP.

- **Webinar: Organisational Agility: Enabling digital transformation**

The current ongoing pandemic has highlighted the need for organisational agility and resilience. It has accelerated the digital transformation of many organisations and this has highlighted the need to rethink the leadership, organisational culture, operating models, and other aspects of the 'future of work'.

- **Webinar: Holistic Organisation Transformation**

When it comes to implementing organisation transformation and change, technology, strategy, processes, and people need to be understood in a holistic manner. In this webinar, we explore how an increased emphasis on the holistic interoperation of strategy, organisational culture, and process innovation can improve the likelihood of a successful transformation.

- **Webinar: Digital Construction & Design Delivery**

The construction industry is on the cusp of significant digital transformation. Over the next five to ten years, several digital technologies and processes including Building Information Modelling (BIM), Machine Learning, 3D printing and robotics will grow in use in the sector. In this webinar we explore how increased digitalisation will fundamentally change the industry over the next decade.

- **IVI Coffee&Talk: Digital Transformation Paths**

In this session Professor Markus Helfert discussed the potential benefit of conceptualising digital transformation in terms of pathways with key milestones, turning points etc. He discussed how mapping digital transformation in this way may strengthen and streamline many transformation processes across various enterprise sectors. This presentation was followed by a discussion with audience members.

- **IVI Webinar: How can retailers develop sustainability and competitiveness in the post-pandemic retail landscape?**

In collaboration with the Enterprise Ireland Retail Department, we hosted a webinar exploring what is next for digital retail as we are moving towards post-Covid retailing. Moderated by Tracy Pryce, Enterprise Ireland, we hear from Michael Killeen, The CX Company; Orla McDonnell, OMD Consultancy; Josef Baker Brunnbauer, Product XYZ and Aileen Carville SKMMP.

- **Co-creation Workshop: MU-AFI Co-Creation Workshop: Climate Action and Older Adults**

The aim of the workshop was to identify research priority areas for older people in relation to climate change.

### Enterprise partnerships

- Innovation Partnership Programme with high-profile Irish retailer: innovating augmented and virtual reality approaches to enhance the customer experience (CX).



## Centre for Ocean Energy Research



### The Centre for Ocean Energy Research (COER)

The Centre for Ocean Energy Research (COER) is an active international research centre involved in fundamental and applied research, and part of the Electronic Engineering Department. It is headed by Professor John Ringwood and funded by a range of external sources including industry, national agencies (such as SFI, Enterprise Ireland etc.) and international agencies including the EU H2020 research programmes. COER has a wide range of national and international collaborators, and a staff complement consisting of academic staff, postdoctoral researchers, research students and interns, all of which have a strong international dimension. The Centre has appointed two new academic staff in 2021, Dr Erivelton Nepomuceno and Dr Siyuan Zhan and is host to two postdoctoral researchers with five new PhD students commencing during the reporting period. In addition, the centre also welcomed 5 new interns.

In 2021 22 referred journal articles and 18 refereed conference proceedings were produced by the team.

### Highlights

- In December 2020 COER were awarded the 2020 Marine Institute Eoin Sweeney PhD Scholarship for the project *Wave Powered Data Buoy*.
- In December 2020, COER were awarded funding under US-Ireland R&D Partnership Programme, with a project proposal entitled: *Control Co-Design of Heterogeneous Arrays of Wave Energy Converters*. It is funded by SFI and the National Science Foundation (US). The project focuses on the development of numerical optimisation-based control strategies for the linear and nonlinear models of Wave Energy Converter (WEC) array.
- COER were awarded Platform PhD funding by MaREI in May 2021
- Mahdiyeh Farajvand was awarded a John and Pat Hume WISH PhD scholarship and began her studies in October 2020. Her studies concern the estimation of wave energy model uncertainty bounds in the optimal control of wave energy devices.
- COER scholars were awarded MARINETII funding for experimental testing in Denmark.

### Ongoing Projects

- The EU Horizon2020 LiftWEC project continued. With COER researchers working on control strategy of cyclorotor-based wave energy converters.
- The SFI Investigator project *A new generation of wave energy controllers* entered its final year.
- MaREI funded project *Estimation and forecasting for wave energy devices using moment methods*, which funds a PhD student for four years, continued.
- The MaREI and industry funded *CorPower* project continues, funding a PhD student.
- MaREI PhD funded project *Real time control of oscillating water columns* continued.

### Conferences Attended

In 2021 the COER team attended the European Wave and Tidal Energy conference in Plymouth. COER gave 12 presentations at the event.



### European Wave and Tidal Energy conference

### Communications and Public Engagement Activities

- **Science Week 2020 and 2021** – at MU – online presentations by our team of PhD students.
- **Engineers' Week, March 2021** – 2 PhD students gave online presentations.
- **Science Week, November 2020** – COER took part in virtual activities with Let's Talk science festival, UCC/SFI Science Week and MU Science Week, reaching over 7,500 young people.
- **Earth Day** – featured COER researcher Mahdiyeh Farajvand.
- **Filming a special edition of Science at Home** with Dan Nickstrom November 2021.
- **COER Seminar Series 2021** continued with presentations every week including contributions from 15 countries.
- A **MaREI** and industry co-funded PhD project in collaboration with Swedish Wave Energy Company CorPower, looking at the control of wave energy converters continued.

### ICARUS Climate Research Centre

The ICARUS climate research centre is a vibrant group of international climate scholars consisting as at end of 2021 of 13 academic staff from several Departments, 19 research staff funded by a diverse range of projects, and 18 PhD students. In 2021 there were a total of 37 peer reviewed articles published including articles in Nature Geoscience, Nature Climate Change, JGR, and ERL. In addition the sixth assessment report of the intergovernmental Panel on Climate Change Working Group I was published with ICARUS authorship on the Summary for Policy Makers, Technical Summary, leadership of a chapter including provision of chapter scientist support, and contributing authorship roles on two further chapters and the Atlas. The number of active grants over 2020/21 was 36 and the total value of new grants signed within this period was €3.9m. In addition, there were five new grants that were in progress for grant signature as of the end of year 2021 for a total value of €2.7m.

#### Publications

- Dr Levke Caesar led a high-profile Nature Geoscience paper on reconstructions of Atlantic Meridional Overturning Circulation (AMOC), including co-authors Dr Niamh Cahill and Dr Gerard McCarthy from ICARUS.



Dr Levke Caesar, ICARUS, Department of Geography

- Dr Lisa Orme was a co-author on a Nature Climate Change paper.
- Professor Peter Thorne was a Coordinating Lead Author on chapter 2 of the IPCC AR6 WGI report, a section lead on the Technical Summary, a drafting author on the Summary for Policy Makers and a contributing author to three further chapters. Dr David Smyth, Ms Katherine Dooley and Ms Therese Myslinski were chapter scientists to Chapter 2. Dr Lisa Orme and Dr Gerard McCarthy were contributing authors to this chapter.
- Professor Peter Thorne was a drafting team member for the Global Climate Observing System Status Report which was adopted by the UNFCCC at COP-26 in Glasgow.
- In 2021 ICARUS staff and students published a total 56 publications, including peer reviewed papers, book chapters, technical reports and conference publications.

#### Grants and consultancies

ROADMAP is a JPI Oceans and Climate European-wide project (seven countries and 12 partners) valued at €3m that builds on and extends our knowledge of regional climate variability and change, as well as more reliable predictions of regional weather and climate extremes including statements about the incidence of extratropical cyclones in the North Atlantic and North Pacific. Dr Gerard McCarthy is the MU PI and a work package leader on the project, Dr Samantha Hallam is the postdoctoral researcher on the project.

Two new Marine Institute Cullen PhD fellowships were funded in 2020 and 2021 that will support the expansion of oceanic research in ICARUS. Ashly Kalayil Uthaman is working on DeWaPic, which is a project modelling waves and wave overtopping, led by Dr André Düsterhus. In May 2022 a new PhD student will join ReTrO, which is a project recovering historical sea level data, led by Dr Gerard McCarthy.

Ireland's first national climate assessment started in 2021. Of the six author awards made in 2020 two went to ICARUS. ICARUS were also successful in securing the coordination research fellow post award. These three grants were signed in 20/21 with a total value of over €500,000. ICARUS will therefore take a leading role in all aspects of this high profile activity.

ICARUS is the lead contractor, via Professor Peter Thorne, to a new Copernicus Climate Change Service contract which combines data rescue activities with the provision of global land and marine meteorological data holdings which will run 2021–2025 and continues prior activities. Professor Thorne is also contributing to a further companion contract concerned with the provision of baseline and reference quality observations to users of the Copernicus Climate Change Service.

WaterFutures is an EPA funded project exploring the impacts of multiple drivers on water quality and will inform next generation Water Framework Directive plans in Ireland. Both Professor Conor Murphy and Dr Gerard McCarthy are leading climate change aspects providing estimates of projected changes in river flows and sea level rise for Ireland.

Terrain-AI is a €5m project, funded by Science Foundation Ireland and Microsoft through SFI's Strategic Partnership Programme. The project, led by Dr Rowan Fealy and Professor Tim McCarthy, brings together a cross disciplinary team of experts, ranging from climate modelling, earth observation, ecosystem processes, land use, soils and carbon, water, urban climates, transportation and artificial intelligence (machine learning) with the latest earth observation technology and high-end computational resources – to monitor, measure and ultimately model terrestrial or land based carbon stocks and fluxes. The team is comprised of ~50 researchers from across a number of HEIs (Maynooth University, Trinity College Dublin, University College Dublin, Dublin City University and University of Limerick), the national farm advisory body (Teagasc) working in collaboration with state and semi-state agencies (Met Eireann, Department of Agriculture, Food and Marine, National parks and Wildlife Service, Bord na Móna etc) and industry (Microsoft, TreeMetrics).

Dr Rowan Fealy and Professor Tim McCarthy were the national leads for the DG-Clima Framework Partnership Agreement on Copernicus User Uptake funded project, working in collaboration with the Environmental Protection Agency – seeking to develop improved land use mapping methodologies for use in the national inventory of GHGs and national land use mapping project.

## External recognition

Terrain-AI is an ambitious grant led by Dr Rowan Fealy and Professor Tim McCarthy that won in 2021 an AI Award for *Best Application of AI to Achieve Social Good* at the AI Awards ceremony. The AI Awards, which are held annually, seek to recognise how AI can be ethically used to help solve some of the biggest business, academic, environmental, and health challenges facing our society today.

Terrain-AI is jointly funded €5m by Microsoft Ireland and Science Foundation Ireland (SFI) and is a collaboration with Teagasc, Trinity College Dublin, University College Dublin, Dublin City University, and University of Limerick.

Dr Levke Caesar was awarded the Publication Prize for young scientists 2020 by the Leibniz-Kolleg Potsdam.

## International engagement

Professor Peter Thorne was a Coordinating Lead Author on the Intergovernmental Panel on Climate Change (IPCC) Working Group I contribution to the sixth assessment report cycle which was approved via a virtual approval session in August 2021. He was a section lead on the Technical Summary and a drafting author for the Summary for Policy Makers. Professor Thorne was also selected as core writing team member and made one of six section facilitators for the upcoming IPCC synthesis report to be delivered October 2022.

Professor Peter Thorne was a member of the editorial team for the Global Climate Observing System's latest Status Report, formally delivered and presented to UNFCCC at COP-26.

Professor Peter Thorne continued to act as chair of the Global Climate Observing System's Atmospheric Observations Panel for Climate. He was made a member of the WMO Infrastructure Commission Standing Committee on Earth Observing Systems and Monitoring. He was also made chair of the task team on tiered observing networks. He also contributed to work on station sets, the Global Basic Observing Network, the new WMO unified data policy, the GCOS Surface and Upper Air Reference Networks, and the development of guidance on the evolution of the global observing system for WMO members.

Dr Rowan Fealy was appointed as a Panel Member on the Global Energy and Water Exchanges (GEWEX) programme Global Hydrology Panel (GHP) for a period of 3 years. GEWEX-GHP seeks to improve our understanding and prediction of both global and regional climates and is a core project of the World Climate Research Programme. GEWEX directly drives the international research agenda by identifying global 'grand challenges' and implementing and supporting programmes to address these.

Dr Gerard McCarthy was an author and working group member of the European Academies Science Advisory Council report "A sea of change: Europe's future in the Atlantic realm" published in 2021.

## National engagement

ICARUS staff are involved in the forthcoming national climate assessment activity via a coordination post (Dr David Smyth) and two lead author positions (Professor Conor Murphy, Professor Peter Thorne)

Professor Peter Thorne was appointed as a member of the Climate Change Advisory Council in February 2021 and has been involved in the preparation of the first set of national carbon budgets which were delivered to government in October 2021.

Professor Conor Murphy continued his membership of the National Adaptation Committee, guiding government in the process of adapting to climate change at national and local levels. He also sat on the Royal Irish Academy committee on Climate and Environmental Change.

ICARUS have been instrumental, augmented by an in-kind contribution from RDO via Elaine McCarthy who has provided invaluable support, in the instigation of the All-island Climate and Biodiversity Research Network (AICBRN). The network was jointly launched by An Taoiseach and the Deputy First Minister in November during COP-26. Professor Peter Thorne participated in the panel event which was facilitated by Kevin O'Sullivan.

Línte na Farraige is a new project funded by Creative Ireland, Climate Action fund and lead by Trinity College Dublin, with ICARUS as partners (Maeve Upton, Dr Gerard McCarthy). The project team is working with Finnish artists and the Climate Regional Office to create set of visual light installations across Irish coastal sites and create public visibility on the risk of future sea level rise.



## Media

All ICARUS staff have been involved in many media activities across TV, radio, print and online media. The work of Dr Levke Caesar garnered interest from the Washington Post, New York Times and the Guardian. ICARUS profile in the Irish media continues to strengthen, with pieces undertaken following weather events and IPCC latest releases in RTÉ, RTÉ Brainstorm, Irish Independent and the Irish Times. These have included an editorial in the Irish Times on the IPCC report; live and recorded segments on RTÉ news; Primetime and various programs on RTÉ Radio 1.

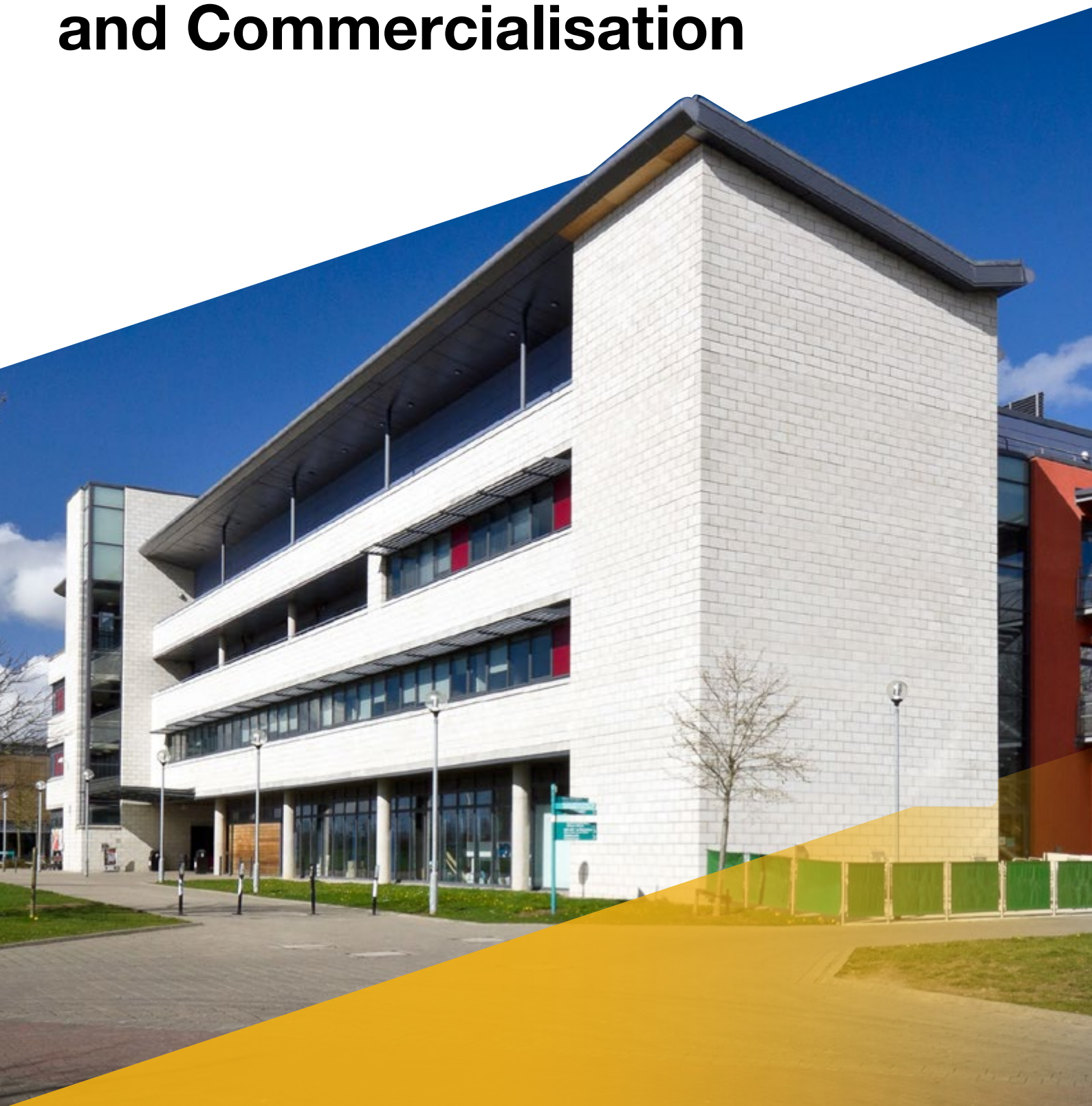
Professor Peter Thorne provided an invited training seminar to all RTÉ news and current affairs personnel as part of their efforts to improve climate reporting and has regularly provided advice to RTÉ staff. He has been appointed to an advisory panel for RTÉ current affairs reporting on the environment. He also provided a similar seminar to all Irish Examiner staff.



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# **MaynoothWorks**

## **Technology Transfer, Enterprise Partnerships and Commercialisation**





# MaynoothWorks Technology Transfer, Enterprise Partnerships and Commercialisation

The relative lull in research activity caused by COVID restrictions provided the MaynoothWorks team with the opportunity to lay firm foundations for our innovation pipeline, and to prepare for the changes that will be brought by the new national funding programme.

## Training and retaining talent

Our local talent pipeline was strengthened by the redevelopment of our Graduate Skills Programme in Innovation & Research Commercialisation, to provide new researchers with live, hands-on experience of business planning within real companies – and in doing so, support the development of early-stage enterprises from our New Frontiers cohort (which was itself successfully re-funded this year). The pilot programme ran successfully in Q4 2021, and is designed to dovetail with our flagship skills programme, the Startup Entrepreneur Experience which was highly commended at the 2021 KTI Awards. The combination of the programmes will provide a major boost to the entrepreneurial culture across our University, region, and national ecosystem, providing a pipeline of commercially experienced and technically expert graduates who will form the core of our knowledge transfer strategies over the coming years.



People and Place

## Spin-out success

People and Place is a non-typical university spin-out, launched from the All-Ireland Research Observatory (AIRO) and led by Justin Gleeson. Rather than spin out an academic research project, AIRO is well known for providing high quality socio-economic analysis and research for agency partners in Ireland and the EU. In contrast, People and Place focuses on data and policy product developments through new consulting partnerships. The establishment of People and Place has provided a brilliant platform to accelerate the commercial growth of research expertise that has been nurtured and developed by the team at AIRO over the last decade.

The company developed its business plans with expertise from the Startup Entrepreneur Experience, providing People and Place with strategically-vital information on funding opportunities, product licensing advice and route-to-market projections that underpin their business roadmaps. While now fully independent of the University, we look forward to collaborating with Justin and his team as People and Place develops.

## Industry partnerships

Empower, a major €10m industry-academic programme driving innovations in data management and protection, launched at MU in November 2021. Incorporating four SFI research centres alongside major industry partners including Meta, Siemens, and Huawei, it will position Ireland at the forefront of the European data economy. It will develop systems to protect citizens, using their data to work to their advantage while streamlining its exchange in the European business ecosystem. Empower brings together multidisciplinary research in data governance from across Ireland, exploiting our strong culture of academic-industry collaboration with companies across critical sectors such as biotech, fintech, agritech, and Smart Cities.



Empower

In a different digital technology space, Terrain-AI is enabling real collaboration between Microsoft and Maynooth academics to address major challenges in how Ireland manage its greenhouse gas emissions, through development of a petabyte-scale digital platform of multi-layer sensor networks. Advanced Earth System modelling and Artificial Intelligence work-flows provide accurate estimates of emissions, but can more crucially project quantitative measures to allow us to move to more sustainable production and living across our urban and rural environments. Terrain-AI builds on an already successful relationship with Microsoft: the project commenced in early 2021 and is led in Maynooth by Dr Rowan Fealy and Professor Tim McCarthy, who this year were the recipients of the John Scanlan Award for Industry Engagement.

# MaynoothWorks Technology Transfer, Enterprise Partnerships and Commercialisation

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## Business Incubation Centre news

Hospital software management provider Swiftqueue, based in the BIC since 2018, were acquired in November 2021 by global healthcare information company Dedalus. Swiftqueue's services, which were already widely used in Ireland, Canada, and the UK, will now become the front door for a wide range of Dedalus' worldwide services and systems. We look forward to supporting the scale-up and expansion that will be enabled by the new injection of resources.



### Swiftqueue

At an earlier stage of development, our community of start-up companies have benefitted extensively from MaynoothWorks new programmes. The Balanced Innovation Model, the rigorous business model assessment process that is the brainchild of BIC manager Joe Moore, has been substantially developed through an emerging, AI-enabled platform named Protolyst. This new infrastructure makes the toolkit fully scalable and it now under assessment by both Enterprise Ireland and ESA to provide development support to their start-up clients.

Four companies supported by New Frontiers benefitted from free market assessment and business intelligence from the redeveloped Graduate Skills programme, and extensive expertise from Startup Entrepreneur Experience teams. These regional start-ups are also benefitting from our membership of EIT Digital, leveraging our close new links to generate a wave of investments from funds previously untapped within Ireland. The partnership has begun to attract new ventures into the Maynooth ecosystem: UK companies seeking to avoid Brexit uncertainty and access EU innovation funding are now being signposted towards the region, to collaborate with the University and employ skilled staff in their R&D efforts.

To know more about any of these services, please contact [maynoothworks@mu.ie](mailto:maynoothworks@mu.ie).

# Glossary

AAA	American Anthropological Association
AAI	Anthropological Association of Ireland
ABS	Chartered Association of Business Schools
ACE	Adult and Community Education
ACM	Association for Computing Machinery
ADS	Anti-de Sitter
AFF	An Foras Feasa
AHI	Arts and Humanities Institute
AHRC	Arts and Humanities Research Council (UK)
AI	Artificial Intelligence
AICBRN	All-island Climate and Biodiversity Research Network
AIDS	Acquired Immunodeficiency Syndrome
AIEB	All Ireland Endorsement Body for Community Work Education
AIRO	All-Island Research Observatory
AIRR	Allergy, Inflammation and Remodelling Research
AIT	Athlone Institute of Technology
AKIDWA	African and Migrant Women's Network
ALL	Assisted Living and Learning Institute
ALMA	Atacama Large Millimeter/Submillimeter Array
ALOA	Adult Literacy Organisers Association
ALTE	Association of Language Testers in Europe
ALTER	European Society for Disability Research
AMERGIN	Analysing Macaronic Early modern Readers by Gathering Irish Networks
AMOC	Atlantic Meridional Overturning Circulation
AMR	Antimicrobial Resistance
AMSI	Association of Medical Students in Ireland
AOIR	Association of Internet Researchers
AONTAS	Aos Oideachais Náisiúnta Trí Aontú Saorálach (National Adult Education Through Voluntary Unification) (National Adult Learning Organisation)
APC	Alimentary Pharmabotic Centre
APRA	Advanced Research Projects Agency - Energy
ARC	Abortion Rights Campaign
ARDS	Acute Respiratory Distress Syndrome
ARISE	Assistive technologies in Resilient and Inclusive Systems and Enabling Environments
ASD	Autism Spectrum Disorder
ASSA	Anthropology of Smartphones and Smart Ageing
AT	Assistive Technologies
AULC	Association of Language Communities in the UK and Ireland
BAI	Broadcasting Authority of Ireland
BIC	Business Incubation Centre

BILETA	British and Irish Law Education and Technology Association
BIM	Building Information Modelling
BIOSPEC	Biomedical Engineering Systems and Technologies
BISOU	Balloon Interferometer for Spectral Observations of the Universe
BITCI	Business in the Community Ireland
BRP	Business Research Project
C3S	Copernicus Climate Change Service
CABS	Chartered Association of Business Schools
CAROLINE	Collaborative Research Fellowships for a Responsive and Innovative Europe
CASA	Czech Association for Social Anthropology
CEFR	Common European Framework of Reference
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
CFT	Conformal Field Theory
CI	Co-Investigator
CIO	Chief Information Officer
CLAF	Latin American Centre for Physics
CLÁR	Ceantair Laga Árd Riachtanais (Funding for Small-Scale Rural Projects)
CLEF	Conference and Labs of the Evaluation Forum
CMHCR	Centre for Mental Health and Community Research
CNN	Convolutional Neural Network
CNPQ	Conselho Nacional de Desenvolvimento Científico e Tecnológico (Brazilian National Council for Scientific and Technological Development)
CNRS	Centre National de la Recherche Scientifique
COALESCE	Collaborative Alliances for Societal Challenges
COCOA	Co-create Collaborate Activate - Advancing Computational Thinking Education
COER	Centre for Ocean Energy Research
COGG	An Chomhairle um Oideachas Gaeltachta agus Gaelscolaíochta
CONUL	Consortium of National and University Libraries
COP	UN Climate Change Conference of the Parties
COST	Cooperation in Science and Technology
CPD	Continuing Professional Development
CPEP	Centre for Public Education and Pedagogy
CPT	Charge, Parity, and Time Reversal
CRALE	Centre for Research in Adult Learning and Education
CRANN	Centre for Research on Adaptive Nanostructures and Nanodevices
CRESI	Centre for Research in Educational and Social Inclusion
CRT	Centres for Research Training

# Glossary

CSA	Coordination and Support Action
CSDP	Common Security Defence Policy
CSHIHE	Centre for the Study of Historic Irish Houses and Estates
CSVA	Centre for the Study of the Viking Age
CS	Computer Science
CUP	Cambridge University Press
CVPR	Computer Vision and Pattern Recognition
CX	Customer Experience
DA	Development Alternatives
DACE	Department of Adult and Community Education
DBA	Doctor of Business Administration
DCEDIY	Department for Children, Equality, Disability, Integration and Youth
DCU	Dublin City University
DEIS	Delivering Equality of Opportunity in Schools
DFG	Deutsche Forschungsgemeinschaft (German Research Foundation)
DFHERIS	Department of Further and Higher Education, Research, Innovation and Science
DIAS	Dublin Institute for Advanced Studies
DIB	Dictionary of Irish Biography
DISCs	Disciplines Inquiring into Societal Challenges
DKIT	Dundalk Institute of Technology
DNA	Deoxyribonucleic Acid
DOH	Department of Health
DOI	Digital Object Identifier
DORA	Declaration on Research Assessment
DPER	Department of Public Expenditure and Reform
DRI	Digital Repository Ireland
DSAI	Development Studies Association of Ireland
DWAG	Domestic Workers Action Group
EADI	European Association of Development Institutes
EAFA	East Anglian Film Archive
EAFM	Enterprise Architecture and Formal Modelling
EASA	European Association of Social Anthropologists
ECML	European Centre for Modern Languages
ECMWF	European Centre for Medium-Range Weather Forecasts
EDD	Doctor of Education
EE	Electronic Engineering
EEA	European Economic Area
EGID	Eosinophilic Gastrointestinal Diseases
EI	Enterprise Ireland
EM	Electromagnetic

EMILI	Early Medieval Irish Latin Inscriptions
ENTAN	European Non-Territorial Autonomy Network
EPA	Environmental Protection Agency
EPE	Education & Public Engagement
ERASMUS	European Community Action Scheme for the Mobility of University Students
ERC	Educational Research Centre
ERC	European Research Council
ESA	European Sociological Association
ESA	European Space Agency
ESB	Electricity Supply Board
ESO	European Southern Observatory
ESREA	European Society for Research on the Education of Adults
ESRI	Economic Social Research Institute
ETBI	Education and Training Boards Ireland
ETC	Electro Technical Committee
ETH	Eigenstate-Thermalization Hypothesis
EU	European Union
EUCEN	European University Continuing Education Network
EUSIPCO	European Signal Processing Conference
FACSP	Faculty of Arts, Celtic Studies & Philosophy
FDM	Frequency-Division Multiplexing
FE	Further Education
FENS	Federation of European Neuroscience Societies
FET	Further Education & Training
FFE	Foundations for Futures Europe
FFP	Frontiers for the Future Programme
FIAS	Frankfurt Institute for Advanced Studies
FPCUP	Framework Partnership Agreement on Copernicus User Uptake
FRAMES	Framework for Multiple Sclerosis Ireland
FSFDH	Full Stack Feminism in Digital Humanities Project
FTE	Full Time Equivalent
GAA	Gaelic Athletic Association
GAI	Governing Activation in Ireland
GATE	Global Cooperation on Assistive Technology
GCM	General Circulation Model
GCOS	Global Climate Observing System
GDPR	General Data Protection Regulation
GEWEX	Global Energy and Water Exchanges
GHG	Greenhouse Gases
GHP	Global Hydrology Panel
GHZ	Gigahertz



GIS	Geographical Information Systems
GISRUK	Geographical Information Science Research UK
GLAD	Group for Learning in Art & Design
GLO	Global Labor Organization
GOI	Government of Ireland
GP	General Practitioner
GPST	Global Power System Transformation
GSI	Geological Survey Ireland
GWR	Geographically Weighted Regression
HCI	Human Capital Initiative
HCP	Healthcare Professional
HE	Higher Education
HEA	Higher Education Authority
HEAR	Higher Education Access Route
HEI	Higher Education Institution
HELECS	Higher Education Language Educator Competences
HI	Hamilton Institute
HIQA	Health Information Quality Authority
HIV	Human Immunodeficiency Virus
HPV	Human Papilloma Virus
HRB	Health Research Board
HRM	Human Resource Management
HSE	Health Service Executive
IAA	Irish Aviation Authority
IAM	Irish Academy of Management
IBM	International Business Machines Corporation
ICA	Irish Country Women's Association
ICARUS	Irish Climate Analysis and Research UnitS
ICASSP	International Conference on Acoustics, Speech, and Signal Processing
ICLRD	Irish Centre for Local and Regional Development
ICON	Interdisciplinary Childhood Outcomes Network
ICPEA	International Conference on Power and Energy Applications
ICT	Information and Communications Technology
ICTM	International Council for Traditional Music
IDA	Investment and Development Agency
IDEA	Irish Development Education Association
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IEMAG	Irish Epidemiological Modelling Advisory Group
IEN	Irish Environmental Network
IFA	Irish Film Archive

IFAC	International Federation of Automatic Control
IFI	Irish Film Institute
IFLA	International Federation of Library Associations
IFTE	Intersections: Feminism, Technology and Digital Humanities
IHHCAP	Integrated Housing and Health Care for an Ageing Population Programme
IMVIP	Irish Machine Vision and Image Processing Conference
INSPECT	Introducing the Science of Problem-solving through Education in Computational Thinking
IOT	Internet of Things
IPAG	Institut de Planétologie et d'Astrophysique de Grenoble (Institute for Planetary sciences and Astrophysics, Grenoble)
IPCC	Intergovernmental Panel on Climate Change
IPPOSI	Irish Platform for Patient Organisations, Science & Industry
IQDA	Irish Qualitative Data Archive
IRC	Irish Research Council
IREL	Irish Research Electronic Library
IROS	International Conference on Intelligent Robots and Systems
IRSWRN	Irish Sex Work Research Network
IS	Information Systems
ISO	International Organization for Standardization
ISSS	International Society for the Scientific Study of Subjectivity
IT	Information Technology
ITMA	Irish Traditional Music Archive
IUA	Irish Universities Association
IVI	Innovation Value Institute
JPEG	Joint Photographic Experts Group
JTC	Joint Technical Committee
JWST	James Webb Space Telescope
KNOW	Knowledge Innovation
KTI	Knowledge Transfer Ireland
KWETB	Kildare and Wicklow Education and Training Board
LA	Local Authority
LAI	Library Association of Ireland
LARES	Local Authority Renewable Energy Strategy
LASC	Latin American Solidarity Centre
LCIS	Leuven Centre for Irish Studies
LGBTI+	Lesbian, Gay, Bi-sexual, Transgender, Intersex Plus
LGBTQ+	Lesbian, Gay, Bisexual, Transgender, Queer Plus
LTD	Low Temperature Detectors
MA	Master of Arts

# Glossary

MACMORRIS	Mapping Actors and Contexts: Modelling Research in Renaissance Ireland in the Sixteenth and Seventeenth Century
MAE	Member of Academia Europaea
MAIVV	Modular AI Verification and Visualisation
MAP	Maynooth University Access Programme
MAREI	Marine and Renewable Energy Ireland
MBA	Master of Business Administration
MEEG	Model of Enabling Employment Guidance
MERITS	Mid-East Region Innovation Think Space
METLA	Mediation in Teaching, Learning and Assessment
MI	Marine Institute
MIEC	Maynooth International Engineering College
Mi:Lab	Maynooth Innovation Lab
MIMNEC	Medieval Irish Medicine in its North-western European Context
MIT	Massachusetts Institute of Technology
MKID	Microwave Kinetic Inductance Detector
MLitt	Master of Letters
MLS	Mathematics Learning Support
MS	Multiple Sclerosis
MSC	Mesenchymal Stromal Cell
MSc	Master of Science
MSCA	Marie Skłodowska Curie Actions
MTU	Munster Technological University
MU	Maynooth University
MUSSI	Maynooth University Social Science Institute
NALA	National Adult Literacy Agency
NASA	National Aeronautics and Space Administration
NATDAP	National Autonomous Technologies Data Platform
NBS	Nature Based Solutions
NCCA	National Commission for Curriculum and Assessment
NCG	National Centre for Geocomputation
NEPS	National Educational Psychological Service
NGO	Non-Governmental Organisation
NIBRT	National Institute for Bioprocessing Research and Training
NIEL	Northern Ireland Environmental Link
NIHR	National Institute for Health and Care Research UK
NIRSA	National Institute for Regional and Spatial Analysis
NMCAS	National Mapping and Cadastral Agencies
NORF	National Open Research Forum
NPF	National Planning Framework
NPHET	National Public Health Emergency Team

NPIS	Non-Pharmaceutical Interventions
NRAL	New Review of Academic Librarianship
NREL	National Renewable Energy Laboratory
NSAI	National Standards Authority of Ireland
NSETS	North South Education and Training Standards Committee for Youth Work
NTWF	National Traveller Women's Forum
NUI	National University of Ireland
NUIG	National University of Ireland Galway
NWCI	National Women's Council
NYCI	National Youth Council of Ireland
NYU	New York University
OA	Open Access
OECD	Organisation for Economic Co-operation and Development
OGC	Open Geospatial Consortium
OMT	Orthomode Transducer
OPW	Office of Public Works
OSA	The Optical Society
OSI	Ordnance Survey Ireland
OSW	Open Scholarship Week
PACT	Programming Algorithms Computational Thinking
PDRA	Postdoctoral Research Assistant
PEGI	Pan European Games Information
PES	Public Employment Service
PG	Postgraduate
PhD	Doctor of Philosophy
PI	Principal Investigator
PPAR	Peroxisome Proliferator-Activated Receptors
PPI	Public and Patient Involvement
PRIMERA	Promoting Research and Innovation in Mental Health Services for Children and Families
PRISTINE	High Precision Isotopic measurements of heavy elements in extra-Terrestrial materials: origin and age of the solar system volatile Element depletion
PRL	Physical Review Letters
PSI	Public Sector Information
QHE	Quantum Hall Effect
QUB	Queen's University Belfast
QUBIC	Q&U Bolometric Interferometer for Cosmology
QUD	Quantum Chromodynamics
RDM	Research Data Management
RDO	Research Development Office
RESNA	Rehabilitation Engineering and Assistive Technology Society of North America

RIA	Royal Irish Academy	TLS	Times Literary Supplement
RIF	Research Incentivisation Fund	TUBITAK	Scientific and Technological Research Institution of Turkey
RIS	Research Information System	TUD	Technological University Dublin
ROI	Republic of Ireland	TUS	Technological University of the Shannon
RPL	Recognition of Prior Learning	TUSLA	Child and Family Agency
RSJ	Robotics Society of Japan	UAS	Understanding America Study
RTÉ	Raidió Teilifís Éireann	UAS	Unmanned Aircraft Systems
SAR	Scholars at Risk	UAV	Unmanned Aerial Vehicle
SAT	Self-Assessment Team	UCC	University College Cork
SCRIME	Studio de création et de recherche en informatique et musiques expérimentales	UCD	University College Dublin
SCUTREA	Standing Conference on University Teaching and Research in the Education of Adults	UCL	University College London
SDG	Sustainable Development Goals	UCONN	University of Connecticut
SEAI	Sustainable Energy Authority of Ireland	UEA	University of East Anglia
SED	Socially-Economically Disadvantages Backgrounds	UFSJ	Federal University of São João del-Rei
SEURO	Scaling European Citizen Driven Transferable and Transformative Digital Health	UG	Undergraduate
SFI	Science Foundation Ireland	UK	The United Kingdom
SHAPES	Smart and Healthy Ageing through People Engaging in Supportive Systems	UKRI	UK Research and Innovation
SINFONI	Spectrograph for INtegral Field Observations in the Near Infrared	UKSG	United Kingdom Serials Group
SIPTU	Services, Industrial, Professional and Technical Union	UL	University of Limerick
SME	Small and Medium-sized Enterprises	UN	United Nations
SMI	Society for Musicology in Ireland	UNFCCC	United Nations Framework Convention on Climate Change
SMLLC	School of Modern Languages, Literatures and Cultures	UNPRPD	United Nations Partnership for the Rights of People with Disability
SOLAS	An tSeirbhís Oideachais Leanúnaigh agus Scileanna (Further Education and Skills Service)	UP	University Press
SPACE	Supportive environments for Physical and Social Activity, Healthy Ageing and Cognitive Health	US	United States
SPIE	International Society for Optics and Photonics	USI	Union of Students in Ireland
SPPC	Science and Public Policy Committee	UVES	Ultraviolet and Visual Echelle Spectrograph
SPUR	Summer Program for Undergraduate Research	VALU3S	Verification and Validation of Automated Systems' Safety and Security
SSPC	Solid State Pharmaceutical Centre	VGI	Volunteered Geographic Information
SSRC	Social Sciences Research Centre	VIP	Very Important Paper
STEM	Science, Technology, Engineering, and Mathematics	VLT	Very Large Telescope
SUSI	Student Universal Support Ireland	VR	Virtual Reality
TASC	Think tank for Action on Social Change	WCRP	World Climate Research Programme
TCD	Trinity College Dublin	WECS	Wave Energy Converters
TEG	Teastas Eorpach na Gaeilge	WG	Working Group
TG4	Teilifís na Gaeilge	WHO	World Health Organisation
THEA	Technological Higher Education Association	WMO	World Meteorological Organisation
THZ	Terahertz		

# Appendix

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## MU publications for 2021 and external funding awards 20/21

A full list of MU publications for 2021 and external funding awards 20/21 can be found at:  
[www.maynoothuniversity.ie/research/research-and-innovation-maynooth-university/research-reports](http://www.maynoothuniversity.ie/research/research-and-innovation-maynooth-university/research-reports)

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