



UNIVERSITY OF  
**LIMERICK**  
OLLSCOIL LUIMNIGH

Health  
Research  
Institute

# 2021 Annual Report





# Delivering research excellence & impact

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# Message from the Director

Welcome to the 2021 annual report of the University of Limerick (UL) Health Research Institute (HRI).

We are delighted to report that in the academic year 2020/21, HRI members published 250 papers with international co-authors, an increase of 21% versus prior year, attracted € 8.2 million in research funding, and that HRI publications were cited 7,142 times, an increase of 86% from the previous year, these examples indicating the growing strength and impact of HRI research.

The HRI has continued to grow in both membership and productivity during 2021. The report highlights our success in attracting research funding from diverse National organisations as well as from the European Union and Industry. The report focuses on a number of these projects, giving you an insight into HRI Members' activity, focus and innovation throughout 2021.

A key investment by the HRI in 2019 created six research clusters, including four large clusters:

- **Health Implementation Science and Technology (HIST)**
- **UL Cancer Network (ULCaN)**
- **Ageing Research Centre (ARC)**
- **Physical Activity for Health (PAFH)**

In addition, two emerging research clusters were funded:

- **The Creative Process Meets the Creative Product-Enhancing the Performance Artist through Research, Design and Technology: PD+PA (Product Design and Performing Arts)**
- **Participatory and ARTs based methods for Involving Migrants (PART-IM).**

The success of this investment is illustrated later, indicating the growing strength, impact, and momentum of these groupings.

The 2021 report also covers a new and exciting development in cancer research in Limerick- the establishment of the **Limerick Digital Cancer Research Centre (LDCRC)**. This initiative links clinicians and academic researchers in applying technology, particularly artificial intelligence methods, to the diagnosis and treatment of cancer.



In this report, it is my pleasure also to provide you with an update on a selection of the successful applications to an internal seed funding call undertaken by the HRI in 2018, the results of which are now available. The aim of this call was to provide a platform for relevant, collaborative, multi-disciplinary research and allowing it to develop to the point that it would be eligible for and indeed competitive in, external research funding calls. I am delighted to report that this investment validated our belief and confidence in its potential benefits to the health research ecosystem, with significant success achieved in research impact and funding and robust links established with our clinical partners.

As we continue to focus on our talent pipeline, it was my great pleasure to oversee the introduction of the Postgraduate/Postdoctoral Hub in 2021 - a peer led community group which aims to provide multi-faceted support to this cohort of members. The Hub is a very positive development in the evolution of the HRI and has already enriched our research community.

Moving forward, the HRI will continue to develop its interdisciplinary focus on addressing grand societal challenges. We will continue to strengthen linkages with our clinical and industry partners whilst ensuring our internal relationships with other UL Institutes and Centres are nurtured. We look forward to further supporting our members on their research journeys and career paths, in an inclusive, innovative environment.

I am delighted to present you with the Health Research Institute's 2021 annual report, and I hope that you will enjoy reading it and further understanding our research strengths, impact, and focus.



**Prof. Alan Donnelly**  
HRI Director

Providing a platform for relevant, collaborative & multi-disciplinary research

# Introduction to the Health Research Institute



The University of Limerick's Health Research Institute (HRI), founded in 2014, has a primary role in fostering and delivering health research in Limerick and nationally.

The HRI has developed a unique transdisciplinary approach to health research, focusing on translational outputs with direct relevance to health practice, and delivering research excellence and impact in the health domain through a vibrant membership and supportive ecosystem.

The HRI has been built upon the unique blend of research disciplines that have emerged during the development of health-related teaching and activity across the University.

These disciplines are encapsulated in our research themes:

- **Lifestyle and Health**
- **Health Services Delivery**
- **Health Technologies**
- **Public and Patient Involvement**

These themes cross disciplines and faculties and group the Institute's researchers into resonant research areas, with a high degree of inter-theme collaboration and knowledge exchange.

Included in the HRI is the Clinical Research Support Unit (CRSU), located in the Clinical Education and Research Centre (CERC) at the University of Limerick Hospital (UHL). In 2021, 1,400 patients were enrolled in studies supported by the CRSU- an increase of 22% versus prior year.

As mentioned earlier, in 2019 the HRI provided strategic funding through an externally reviewed competitive process to focus and strengthen research activities and influence within its core areas.

The resulting clusters were tasked with developing their research capacity, enhancing networking and training for emerging researchers, expanding their national and international network, and providing a sustainable research portfolio within each of the cluster areas. Building on our strong foundation and benefiting from the continued development of these research clusters, the Health Research Institute advances transdisciplinary and interdisciplinary research that will bring about innovative solutions for disease prevention, enhanced healthcare delivery, and will ultimately contribute to the health and wellbeing of the population.

The 2021 report summarises the achievements of our members, and demonstrates how researchers in the HRI have achieved national and international impact. The report details the HRI support mechanisms, provides updates on the research clusters and their activities, the internally awarded seed-funding (pump-priming) projects and a spotlight on members from each of the three membership groups.

# Mission, Vision and Goals

**Mission** The HRI will conduct outstanding person-centred research to enhance the health and wellbeing of individuals and transform the health environment for the population.

**Vision** The HRI will be an internationally recognised research institute that delivers excellent research with impact in the areas of Lifestyle and Health, Health Services Delivery, Health Technologies, and Public and Patient Involvement (PPI). It will foster a culture of interdisciplinary research collaborations to support discovery and innovation in health and wellbeing while also providing relevant and critical research training.

**Goals** The success of the HRI is based around the achievement of the following four strategic goals:

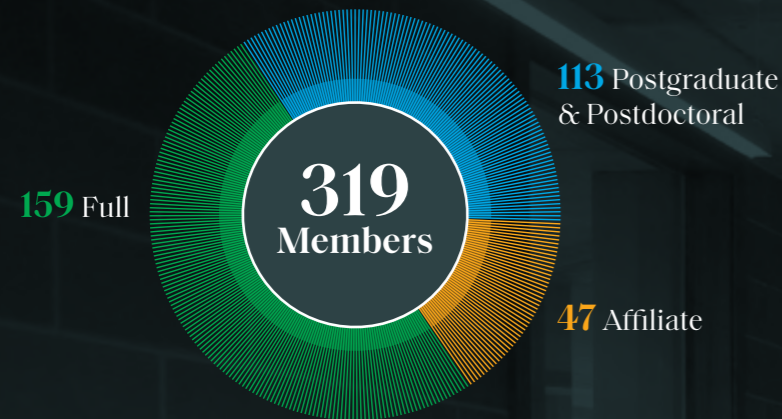
- 1 Research Excellence** Deliver excellent research to establish our reputation as a health research institute.
- 2 Impact** Leverage our position as the bridge between clinically-based and university-based researchers to make an impact on patient health and wellbeing.
- 3 People and Ecosystem** Invest in and empower our people through a culture of excellence and impact.
- 4 International Reach** Extend our international reach by engaging in collaborative partnerships and disseminating research.



Outstanding  
person-centred  
research

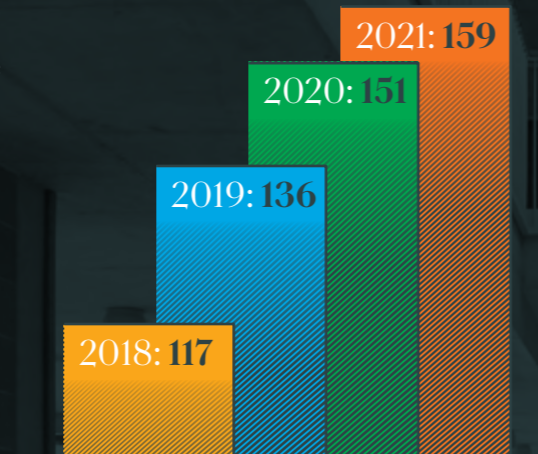
# Main Achievements 2021

## HRI Membership 2021



## Full Members 2018–2021

Please refer to **Appendix 1** for a list of Full Members (2021)



**87 awards granted**

an increase of 24% on PY



**>750 people**

attended HRI events and training, an increase of 25% on PY

**>1,400 patients**

involved in Clinical Research Support Unit (CRSU) studies, an increase of 22% on Previous Year (PY)



**€8.2 million**

external research funding 2020/2021

## HRI Publications 2021

Please refer to **Appendix 2** for a list of Decile 1 publications

**Publications in top quartile +2%**

116

150

**Publications with international co-authors +21%**

**Publications in top decile**

34

250

**HRI-affiliated publications +19%**

**Citations (2017–2021) +86%**

7142

Note: all increases are versus prior year

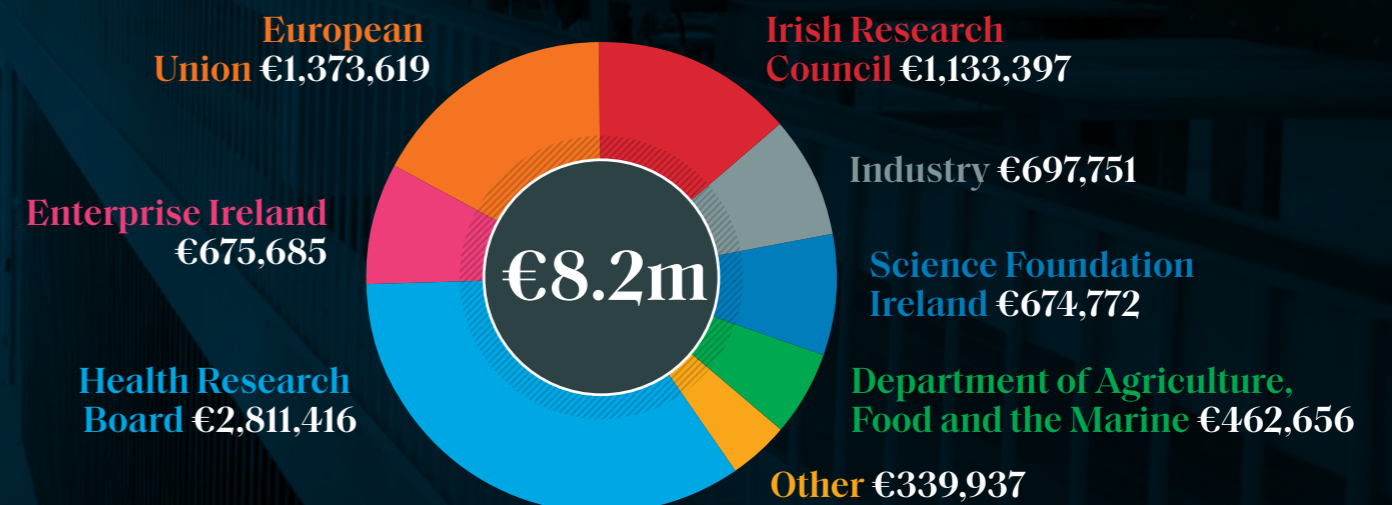
## Research Grants Awarded

In total, HRI's research income for the Academic Year (AY)\*\* 2020/21 was **€8.2M**.

Grants valued at over €50,000 accounted for over €7.6M of this total.

Please refer to **Appendix 3** for a list of Research Grants Awarded 2020/2021 (>€50K in Value).

Main funding sources included: **Health Research Board**; **Science Foundation Ireland**; **Irish Research Council**; **European Union**; **Enterprise Ireland**; **Department of Agriculture, Fisheries and the Marine**; and also **Industry**, as illustrated below.



Grants of below €50K accounted for over €500K and were comprised of awards provided by the **Irish Research Council**: GOI PG Scholarships and New Foundations; **Health Research Board**: Student Summer Scholarships. Funding was also secured through **Enterprise Ireland**: Commercialisation Fund Feasibility support. Industry partnerships, EU, HSE and SFI were also sources of this funding.

This data is collated from the Full HRI membership list.

\*\* Please note that Academic Year (AY) refers to 1 October 2020 - 30 September 2021.

# Research Excellence Awards Spotlight 2021



## Nationally Funded Awards

### Towards an integrated model of care for older adults transitioning from the Emergency Department to the community

**Funder:** HRB of Ireland Research Leader Award 2020 (HRB-RL-2020-010)

**Principal Investigator:** **Professor Rose Galvin**, Senior Lecturer in Physiotherapy, School of Allied Health, UL

**Co-applicants:** **Professor Anne MacFarlane**, School of Medicine, UL; **Professor Sarah Lamb**, University of Exeter; **Dr Diarmuid O'Shea**, National Clinical Programme for Older Persons; **Professor Colette Cowan**, UL Hospitals Group; **Ms Kate Duggan**, Mid-West Community Health Organisation

**Professor Rose Galvin** is one of five new research leaders nationally who have been funded by the HRB to conduct research programmes that will deliver evidence to directly inform changes in health policy and practice. Professor Galvin's programme of research concentrates on older adults who are discharged to the community after they present to the Emergency Department (ED) because research indicates that these older adults can be at risk of poor outcomes after being discharged from the ED.

In collaboration with colleagues across academic, hospital and community healthcare settings, Professor Galvin aims to develop and evaluate a streamlined and coordinated care pathway so that these older adults get the care they need, when they need it, in a straightforward manner that achieves the desired results for them and provides value for money.

This overall aim will be achieved by looking at international models of best practice, examining local and national data on older adults' trends in healthcare use and engaging meaningfully with older adults and their families and carers, advocacy groups, health decision makers and health practitioners. This programme of work responds to key priorities identified in national and international ageing, emergency care and integrated care strategies relating to the development and delivery of care pathways that are responsive to the changing needs and preferences of older adults.



- 1 **Professor Rose Galvin**, School of Allied Health, UL
- 2 **Ms Kate Duggan**, Mid-West Community Health Organisation
- 3 **Professor Colette Cowan**, UL Hospitals Group
- 4 **Professor Sarah Lamb**, University of Exeter
- 5 **Dr Diarmuid O'Shea**, National Clinical Programme for Older Persons
- 6 **Professor Anne MacFarlane**, School of Medicine, UL





## The Knowledge Translation and Exercise for Degenerative meniscal tears in Primary care (KNEE-DEeP) project

- Funder:** HRB – Clinician Scientist Postdoctoral Fellowship (HRB-CSF-2020-012)
- Principal Investigator:** **Professor Karen McCreesh**, Senior Lecturer and Discipline Lead for Physiotherapy, School of Allied Health, UL
- Award holder:** **Dr Helen O’Leary**, Clinical Specialist Physiotherapist, University Hospital Kerry and HRB Clinician Scientist Post-doctoral Fellow, School of Allied Health, UL
- Research Team:** **Professor Liam Glynn**, School of Medicine, UL; **Dr Katie Robinson**, School of Allied Health, UL; **Dr Helen French**, Royal College of Surgeons, Dublin; **Professor Ewa Roos**, University of Southern Denmark; **Mr Liam Ryan**, Physiotherapy Manager, Kerry University Hospital; **Dr Clodagh Toomey**, School of Allied Health, UL

Knee pain due to a degenerative meniscal tear (DMT) is a common joint condition seen in Irish orthopaedic clinics. The meniscus is the cartilage within the knee that helps cushion the joint, and ‘wear and tear’ changes occur normally with age but can be associated with pain in some middle-aged adults. Strong evidence shows that exercise is an effective treatment to aid recovery, while surgery to remove the worn-out cartilage does not provide any additional benefit. Despite this, many people in Ireland with degenerative meniscal tears are referred to an orthopaedic surgeon by their GP. It is clear from qualitative work undertaken by our team that patients have an expectation that they will have a scan of their knee and have any tears repaired surgically, and that many don’t have a strong belief in the role of exercise for their condition.

The Knowledge Translation and Exercise for Degenerative meniscal tears in Primary care (KNEE-DEeP) project aims to investigate the feasibility and acceptability of delivering a two-stage intervention for managing DMT in primary care: (i) a knowledge transfer intervention for GPs and (ii) an exercise intervention for patients. Firstly, semi-structured interviews will be conducted with GPs for the purpose of understanding treatment decision making for this condition and the factors that influence the delivery of evidence-based care. These findings will inform the design of a knowledge transfer intervention for GPs to use with patients in deciding the best approach to take.

A feasibility cluster randomised controlled trial will pilot the knowledge transfer intervention and group exercise programme with patients and GP practices. Patients will be allocated to the intervention arm or ‘usual care’ control arm based on their GP practice. The project will incorporate a public and patient involvement (PPI) approach with a multi-stakeholder panel of patients and clinicians providing input into the design and implementation of the study.

**Dr Helen O’Leary** (Clinical Specialist Physiotherapist, University Hospital Kerry and HRB Clinician Scientist Post-doctoral Fellow, School of Allied Health, UL) was awarded funding of over €215K for this project in the HRB Clinician Scientist Postdoctoral Fellowship scheme. **Professor Karen McCreesh** (School of Allied Health, UL) is the project mentor, and collaborators on the project are **Dr Katie Robinson** (School of Allied Health, UL), **Professor Liam Glynn** (School of Medicine, UL), **Dr Clodagh Toomey** (School of Allied Health, UL), **Professor Ewa Roos** (University of Southern Denmark), **Ms Gráinne O’Leary** (CEO, Arthritis Ireland), **Mr Liam Ryan** (Physiotherapy Manager, University Hospital Kerry) and **Dr Helen French** (Royal College of Surgeons, Dublin).

The aim of the Clinician Scientist Postdoctoral Fellowship scheme is to support health practitioners at postdoctoral research stage to conduct and apply research through a mentored postdoctoral period in a cross-sectoral and cross-disciplinary environment.



- 1 Professor Ewa Roos
- 2 Dr Helen French
- 3 Professor Liam Glynn
- 4 Dr Clodagh Toomey
- 5 Professor Karen McCreesh
- 6 Dr Helen O’Leary
- 7 Dr Katie Robinson



## Antithrombotic activities of a novel yoghurt drink

**Funder:** Enterprise Ireland (IP20210972)

**Principal Investigator:** **Dr Ioannis Zabetakis**, Head of Department of Biological Sciences, UL

**Research Team:** **Ms Sakshi Hans**, PhD student, UL and **Dr Harishkumar Rajendran**, Research Assistant, UL

Today in Ireland, the number of people suffering from cardiovascular diseases (CVDs) is trending upwards. According to the latest data from the Irish Heart Foundation (2018), "Overall there was a total of 31,116 deaths registered in 2018, of which 15,967 were male and 15,149 were female. The 2018 total is 2.1 per cent higher than in 2017 when 30,484 deaths were registered".

CVDs are the most common cause of death in Ireland, accounting for 28.7% of all deaths. Similar worrying trends exist in the UK and worldwide. The project addresses this universal problem by creating a novel health dairy drink with strong activities against platelet reactivity and thus with preventative properties that work against the onset of CVDs. For this project, our team collaborates with a leading ovine dairy company in Co. Mayo (Rockfield Ltd, producers of the "Velvet Cloud"© yoghurt).

The objectives of the project are to:

- Formulate a novel yoghurt drink with enhanced antithrombotic properties. This step takes a unique approach and will involve strong collaboration between the company and the research team in UL
- Screen different starter cultures for their ability to generate a yoghurt drink with optimum antithrombotic properties
- Screen the postprandial and ex vivo cardioprotective properties of the novel yoghurt drink produced from sheep milk in relation to their capacity to reduce platelet aggregation and hence cardiovascular risk in healthy humans

Dr Zabetakis's research focuses on how to develop more sustainable animal and fish feed production and to identify novel functional lipids in feeds, dairy products and farmed fish with anti-inflammatory activities. In close collaboration with industry, his overall aim is to develop:

- (i) novel and sustainable feeds and
- (ii) novel functional food and supplements with enriched cardioprotective properties.

His previous work in this field has established a strong scientific basis from which to develop new food and supplements that contribute to cardiovascular health.

### Key Publications

1. Sioriki E, Smith TK, Demopoulos CA, Zabetakis I (2016) Structure and cardioprotective activities of polar lipids of olive pomace, olive pomace-enriched fish feed and olive pomace fed gilthead sea bream (*Sparus aurata*). **Food Res Int** **83** 143-151.
2. Lordan R, Zabetakis I (2017) Invited Review: The anti-inflammatory properties of dairy lipids. **J Dairy Sci** **100** 4197-4212.
3. Lordan R, Tsoupras A, Mitra B, Zabetakis I (2018) Dairy fats and cardiovascular disease: do we really need to be concerned? **Foods** **7** 29.
4. Tsoupras A, Lordan R, Zabetakis I (2019) Platelet aggregometry assay for evaluating the effects of platelet agonists and antiplatelet compounds on platelet function *in vitro*. **MethodsX** **6** 63-70.
5. Lordan R, Walsh AM, Crispie F, Finnegan L, Cotter PD, Zabetakis I (2019) The effect of ovine milk fermentation on the antithrombotic properties of polar lipids. **J. Funct Foods** **54** 289-300.
6. Lordan R, Walsh A, Crispie F, Finnegan L, Demuru M, Tsoupras A, Cotter PD, Zabetakis I (2019) Caprine milk fermentation enhances the antithrombotic properties of cheese polar lipids. **J. Funct Foods** **61** 103507.
7. Lordan R, Vidal N, Huong Pham T, Tsoupras A, Thomas RH, Zabetakis I (2020) Yoghurt fermentation alters the composition and antiplatelet properties of milk polar lipids. **Food Chem** **332** 127384.



**L to R:** **Dr Ioannis Zabetakis**, Head of the Department of Biological Sciences, UL; **Ms Sakshi Hans**, PhD student, UL; and **Dr Harishkumar Rajendran**, Research Assistant, UL

## Exploring diet quality in Cystic Fibrosis: enablers and barriers to eating a healthy diet

**Funder:** Health Research Charities Ireland/HRB Joint Funding Scheme 2020 (HRCI-HRB-2020-025)

**Principal Investigator:** **Professor Audrey Tierney**, Associate Professor in Human Nutrition & Dietetics, UL; Chair of the Irish Nutrition and Dietetic Cystic Fibrosis Interest Group

**Research Team:** **Dr Katie Robinson**, School of Allied Health, UL; **Dr Sarah Tecklenborg**, Cystic Fibrosis Ireland; **Dr Brian Casserly**, Respiratory consultant, UHL; **Dr James Green**, School of Allied Health, UL; **Dr Pepijn Van de Ven**, Department of Electronic & Computer Engineering, UL; **Cian Greaney**, Research Assistant in Diet and Cystic Fibrosis, UL; and **Katie Bohan**, School of Allied Health, UL

A diet high in energy and fat has been advised for people with cystic fibrosis (CF) for many decades to help them reach or maintain necessary weight or body mass index (BMI) goals due to the relationship between a better BMI and improvements in lung function. We know that in the general population, these diets are linked with diet-related chronic diseases.

Various studies have documented nutrient intakes in people with CF but have lacked data on overall diet quality, particularly in adults with CF. Furthermore, no documented study has assessed the enablers and barriers to consuming a healthy diet in people with CF. With the advancement of gene modulator therapies, there has been a resultant increase in the rates of overweight and obesity among people with CF, highlighting the need to reassess the dietary recommendations for this population.

The aim of this project is to explore habitual dietary intakes in people with CF. The project will (i) assess adherence to CF dietary guidelines and population-specific healthy eating guidelines; (ii) derive a diet quality score and assess the inflammatory potential for the average diet consumed by people with CF and associations with patient-reported outcome measures; and (iii) assess drivers for current consumption patterns and enablers and barriers to eating a healthy diet.

With compliance to the current dietary recommendations being generally poor, this research will help to clarify nutrition priorities and simplify the dietary approaches of CF treatment. The baseline information collected will then inform future interventions to assess the effects of an alternative type of diet (e.g., Mediterranean/Dietary Approaches to Stop Hypertension (DASH) diets). There is also potential for this research to change dietary practice worldwide by influencing models of care for dietetic services and future interventions to improve the quality of life of people with CF.

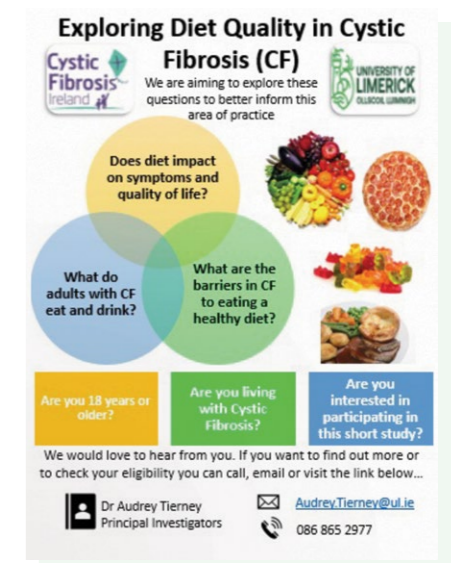
To date, two papers have been submitted for publication to scientific journals:

1. Exploring diet quality in cystic fibrosis – enablers and barriers to eating a healthy diet: A study protocol
2. What do people with cystic fibrosis eat? Diet quality, macronutrient and micronutrient intakes compared to recommended guidelines in adults with cystic fibrosis: a systematic literature review

## Improving the quality of life of people with Cystic Fibrosis

Furthermore, members of the research team have contributed project-related presentations and posters to conferences and seminars:

1. Invited speaker: Cystic Fibrosis Ireland Annual Conference 2021 – ‘Diet and CF, the need to focus on quality as well as quantity’
2. ePoster: Irish Nutrition and Dietetics Annual Research Symposium 2021 – ‘What do people with cystic fibrosis eat? Diet quality, macronutrient and micronutrient intakes compared to recommended guidelines in adults with cystic fibrosis: a systematic literature review’
3. Oral presentation – ePoster session presentation: 44th European Cystic Fibrosis Conference 2021 – ‘What do people with cystic fibrosis eat? Diet quality, macronutrient and micronutrient intakes compared to recommended guidelines in adults with cystic fibrosis: a systematic literature review’



Although recruitment has been slow-moving, ethical approval has been received for recruiting participants through CF clinics in University Hospital Limerick, University Hospital Galway and Cork University Hospital. We hope to see improvements in the coming months through recruitment through these CF centres.



- 1 **Professor Audrey Tierney**, Associate Professor in Human Nutrition & Dietetics, UL and Chair of the Irish Nutrition and Dietetic Cystic Fibrosis Interest Group
- 2 **Mr Cian Greaney**, Research Assistant in Diet and Cystic Fibrosis, School of Allied Health, UL

# Internationally Funded Awards

## Co-construction of the health-promoting sports clubs' policy audit tool (HSPC PAT)

**Funder:** Marie Skłodowska-Curie Actions of the European Union under the Horizon 2020 programme

**Duration:** 20 September 2021 to 20 September 2023

**Principal Investigator:** **Assistant Professor Aurélie Van Hoye** (awarded fellow), Associate Professor at the University of Lorraine, France and Marie Curie Fellow with the PafH Cluster, HRI and **Professor Catherine Woods** (supervisor), Chair of Physical Activity for Health in the Department of Physical Education and Sport Sciences, UL

The Marie Curie Research Fellowships offer a unique opportunity for a university to host talented postdoctoral fellows for a period of 12 to 24 months to help them enhance their research independence and gain valuable experience within a supportive environment. Focusing on research, knowledge, method and skill exchanges, these grants are based on a win-win relationship between the fellow and the university.



The co-creation of the health-promoting sports clubs' policy audit tool (HPSC PAT) addresses the challenge of engaging sports clubs in health promotion beyond their traditional provision of physical activity opportunities. The HPSC PAT project extends the state of the art in two research fields (physical activity policy implementation and health-promoting sports clubs) in several important areas. This two-year research project aims to develop a toolkit for sports clubs to further develop and implement their health promotion policies. It is anticipated that three studies will achieve this objective:

### 1. Investigation of GAA clubs' implementation of the healthy club project

This study will recruit 16 sports clubs that joined the GAA Healthy Club project in 2013 and examine the implementation, dissemination and sustainability of this project. In each club, the health committee, coaches, senior team members and participants who engaged in healthy club activities will be interviewed through focus groups to understand the facilitators and barriers of HPSC implementation and sustainability.

### 2. Identification of sports clubs' needs in order to develop health promotion policies

The second study will use an online survey administered to Irish sports clubs through local sports partnerships to identify sports clubs' priorities, activities and needs in terms of health promotion and health topics (sustainable development, anti-doping, harassment) implementation. By helping to frame answers to sports clubs' expressed needs, this study will be the foundation of the tool.

### 3. Co-construction of the HPSC PAT tool

The aim of this third, iterative qualitative study is to support the development of the toolkit based on the results of studies 1 and 2. It will include two different groups, one comprising academics and experts in health promotion in sport and the second comprising sports clubs' members (managers, coaches, participants).

The three studies will run in collaboration with the Community and Health Department of the GAA and Sport Ireland. Expected results are the dissemination of a toolkit for sports clubs to use across Europe to develop and implement their own health promotion policies, which will be presented at Irish and European conferences as well as through the different partners of the project.



**L to R:**  
**Professor Catherine Woods**, Chair of Physical Activity for Health in the Department of Physical Education and Sport Sciences, UL and **Professor Aurélie Van Hoye**, Associate Professor at the University of Lorraine, France and Marie Curie Fellow with the PafH (Physical Activity for Health) Cluster, HRI

## HRI Events/Training 2021

HRI events remained online in 2021. During this period, it was very gratifying and fulfilling to see steady growth in member and partner engagement as we continued to offer a wide variety of activities, including monthly talks by guest speakers, both internal and external, and a series of training sessions and seminars, which generated interaction with over 750 attendees throughout the year.

### HRI Conversations

The monthly HRI Conversations were, as always, well supported. The subjects were varied, and we were delighted that some of our experienced researchers and some distinguished external speakers agreed to share their knowledge in this forum. The following are examples of presentations made at the Conversations:

- **Dr Katie Robinson**, School of Allied Health, UL and PI of the Ageing Research Centre: **Ageing Research Centre: Current Activities and Future Plans**
- **Dr Maura Hiney**, Head of Post-Award and Evaluation, HRB: **HRB Strategy 2021–2025: Objectives and Implementation**
- **Professor Nick Titov**, Department of Psychology, Macquarie University: **Psychological Interventions Can Be Effectively Delivered via the Internet**
- **Professor Norma Bargary**, Department of Mathematics & Statistics, UL: **Statistical Modelling of High Dimensional Data**

### Fundamentals of Health Research Series

In 2021, in partnership with the University of Limerick Hospitals Group (ULHG), the HRI launched the Fundamentals of Health Research Series. This monthly forum provides a positive space for discussion and interaction with shared learning across a broad spectrum of topics and is open to HRI members and our valued partners in ULHG and the Mid-West Community Healthcare Organisation.

We have had the pleasure of welcoming HRI members to present as well as external speakers, all of whom were willing to generously share their knowledge and skills through this platform. As the series progressed, we worked with the RCSI (Royal College of Surgeons Ireland) to offer our attendees CPD (continuing professional development) points to acknowledge their attendance. The series included (among others) the following speakers and topics:

- **Dr Owen Doody**, Department of Nursing and Midwifery, UL: **Research, How to Get Started: The Academic and Practical Considerations**
- **Dr Eimear Spain**, Faculty of Education and Health Sciences and School of Law, UL: **Informed Consent in Research: Legal and Ethical issues**
- **Ms Isabelle Delaunois**, Medical Librarian, University Hospital Limerick: **Literature and Systematic Reviews Searching**

### PPI Summer School 2021

The 6<sup>th</sup> Annual Public and Patient Involvement (PPI) Summer School took place on 24 and 25 June, 2021. The Summer School has become a key event for the HRI and the School of Medicine's PPI Research Unit and an important anticipated annual event for the broader Irish PPI Network. For the second consecutive year, the school was held online due to the Covid-19 pandemic – content was shared and interaction took place via pre-recorded webinars, discussion forums and live online sessions. At the workshops:

- **Dr Anne Cody** of the HRB shared advice on writing a good PPI section for grant applications.
- **Ms Zoe Hughes** from Care Alliance Ireland introduced a guide for not-for-profit organisations that wish to engage in research.
- **Professor Helen Phelan** and **Dr Fran Garry** from the Irish World Academy and the HRI's PART-IM Cluster led a session on arts-based research methods.
- Researchers, GPs and PPI contributors from the UK gave an account of working together with a view to improving service in general practice.

Over 150 people registered for the PPI Summer School 2021, and the level of engagement and discussion was outstanding throughout.



### Statistics Workshops

A series of statistical workshops was delivered in 2021 by **Dr Ali Sheikhi**, Biostatistician, for researchers from UL, ULHG and the Mid-West Community Healthcare Organisation. The workshops covered a broad range of statistical methods and techniques used in research, such as an introduction to SPSS, confidence intervals and descriptive statistics.

In addition, the HRI ran Introduction to Statistics workshops for all staff in ULHG.

### Funding/Grant Writing

The HRI Research Funding Officer hosted several information sessions for HRI members in 2021. The sessions included one relating to Horizon Europe Cluster 1 Health, at which the Officer presented an overview of Horizon Europe followed by a Q & A session for the Cluster 1 work programme. Another example was a session focussed on HRB secondary data analysis projects.

### Good Clinical Practice (GCP) Training

The Clinical Research Support Unit (CRSU) conducted several GCP training courses in 2021. The virtual platform enabled an increased number of attendees from our partner organisations to attend. Participants received a Certificate of Attendance, which is valid for two years and provides evidence of the GCP training received – a requirement for the conduct of regulated research studies.

In 2021, the CRSU team developed a bespoke **Good Clinical Practice for Medical Devices (ISO14155)** course for students on the UL MSc in Design for Health and Wellbeing programme.

### Critical Appraisal Skills Programme Training

**Critical Appraisal Skills Programme (CASPIR)** workshops were conducted in 2021, with participation from both UL and ULHG. The workshops covered the mechanisms for best critical appraisal of research, including systematic reviews and randomised controlled trials. The theory part was pre-recorded, and participants could view and learn key aspects of critical appraisal in their own time before joining a two-hour interactive workshop where they had an opportunity to appraise a published paper as part of a team. All workshops were organised and led by Clinical Research Nurse Manager **Siobhan Egan** with the help of **Ms Isabelle Delaunois**, Medical Librarian, UHL, **Dr Sara Hayes**, Department of Nursing and Midwifery, UL and **Professor Deirdre O'Shea**, Associate Professor of Work and Organisational Psychology at the Kemmy Business School, UL.

### Other Training

In March 2021, in partnership with UL's Learning and Development section and in response to members' feedback, the HRI organised a **Project Management Course** for HRI members. The course was held over two half days, during which the participants were introduced to the fundamentals of project management. The aim was to provide the attendees with an appreciation of how the project management paradigm can focus work. It was intended that the insights gained from the course would enable learners to understand generally accepted project management practices and be able to determine where they need to pursue deeper knowledge to become more effective in performing project work. The course was run to promote an awareness of project management and how certain core practices can be applied to projects in all application areas. Attendees gained insights into project governance, planning, execution and control, all of which our members could then apply to their respective areas of study.

In October 2021, the HRI facilitated a **Data Management Workshop** with **Mr Armin Straube**, Research Data Manager for UL. The aim of the workshop was to explain the FAIR data principles, look at data management plans and the topics covered in them, feature a hands-on planning exercise based on the research projects of the participants, demonstrate how data sets published by others can be found, walk the attendees through the steps for publishing their own data and discuss the data support services available at UL. The course operated at full capacity.





# Research Impact

## Academic Achievements

HRI members supervised a considerable number of PhDs during 2021

**5** Masters Degrees Awarded

**77** Doctoral Degrees Awarded

### Research Programme Update: PPI Ignite

*The PPI Ignite Network: Building Capacity for Public & Patient Involvement in Health Research*



Following the success of the **PPI Ignite programme** (2018–2021), the HRB and IRC funded a national PPI Ignite Network (2021–2026) that includes seven universities, 10 national and international partners and more than 40 local partners across Ireland. Under the guidance of Site Lead Applicant **Dr Jon Salsberg** and Project Manager **Una McInerney**, UL is leading the network in relation to embedding PPI in undergraduate and postgraduate education.

Within UL, the PPI Ignite team continues to build capacity along the three axes of *training, networking* and *policy development*.

Informed by the tradition of participatory health research, our PPI Ignite@UL efforts have been co-designed and governed by a community/academic/health services partnership that includes:

- Care Alliance Ireland
- Shannon Family Resource Centre
- Health Research Charities Ireland
- Health Sciences Academy (UL-UHL-CHO3)

Together, we continue to focus on:

- **Training** in PPI and participatory health research for the UL research community
- **Networking** to share expertise and experiences and collaboratively set research priorities
- Progressing **policies and procedures** to further strengthen the culture of PPI

## What Have We Achieved?

- We provided regular **'PPI Tasters'** at **HRI members' lunches** to ensure that members are aware of PPI research, activities, events and capacity-building opportunities.
- We continue to deliver **six training workshops** per annum, which are now embedded into UL's Human Resources (HR) Training and Development scheme and are part of the **Research Development Programme** Badge. The workshops are:
  - **Introduction to PPI and Participatory Health Research**
  - **Finding Research Partners**
  - **Ethics, Governance and Research Agreements in PPI**
  - **Collaborative Grant Development**
  - **Collaborative Data Analysis and Interpretation**
  - **Collaborative Dissemination Planning**
- Our **Annual PPI Summer School** transitioned to an online format in 2020 and 2021 in response to the Covid-19 pandemic. This allowed us to extend our reach – the school attracted over 150 national and international participants both years.
- We run a monthly informal **'PPI Club'** designed to create a 'PPI community of practice' for all UL students and staff.
- We fund **networking bursaries**, which enable HRI members to have dedicated resources to work with patient and community organisations to establish new partnerships or develop existing ones.
- In relation to policy, we examine how **current UL policies** support PPI and what changes could be made to strengthen that support. We are hosting a Fulbright Specialist, Professor **Anne L. Drabczyk**, Indian River State College, Florida, USA to support this analysis.
- We continue to co-develop and disseminate tools to help researchers and partners undertake meaningful PPI in health research. One example of such a tool is the **Care Alliance Ireland** guide for small-sized patient and community organisations wishing to engage in research.
- We disseminate our work at multiple national and international conferences. Our members play key leadership roles within the **North American Primary Care Research Group (NAPCRG)**, including co-chairing the Participatory Health Research Working Group, co-chairing the Trainee Committee, membership on the Board Governance Committee, and leading conference and pre-conference training in PPI and participatory health research.



## What's Next?

As we move into Year 2 of this five-year effort, UL's PPI Ignite team is developing and delivering new PPI-focused graduate courses, including updated online modules and professional certificate programmes. We also look forward to returning to face-to-face delivery of our signature **PPI Summer School** in 2022.

For more details, visit: <https://www.ul.ie/hri/themes/public-and-patient-involvement-ppi>

For more information regarding training or bursaries, please contact: [PPI-Ignite@ul.ie](mailto:PPI-Ignite@ul.ie)

Visit the **National PPI Ignite Network Hub** at: <https://ppinetwork.ie>

# Strengthening PPI Support



# People

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## Strategic Collaborations

### The Limerick Digital Cancer Research Centre (LDCRC)

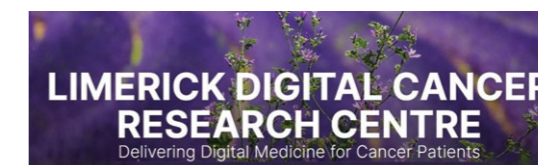
The **Limerick Digital Cancer Research Centre (LDCRC)** was officially launched in September 2021 and represents a partnership between the HRI and University Hospital Limerick, the aim of which is to promote a better understanding of cancer for the benefit of cancer sufferers and their relatives.

The LDCRC includes academic and clinical members across the spectrum of cancer research, such as colleagues not just from the School of Medicine but also from other sciences, including mathematics, physics, computer sciences and materials sciences. The genuinely multidisciplinary nature of the LDCRC, which distinguishes it from other, more traditional, cancer centres, will enable it to make fast progress towards tackling cancer in ways that had not been envisaged before.

Despite being in its infancy, the LDCRC has already made a significant impact nationally. It has established the Limerick Living Lab, a HSE-funded research programme that aims to discover biomarkers of treatment response in people with Hodgkin's lymphoma. This programme is supported by Dell Technologies, which has made substantial investments in terms of hardware and computing expertise. Together with ongoing support from UL and from Becton Dickinson and other partners, the LDCRC has established a digital pathology infrastructure that includes unrivalled capabilities for spatial biomarker discovery in complex tissues, including cancers. Supported by additional investment from the HRI, the LDCRC was recently awarded a Science Foundation Ireland Research Infrastructure award that will see it become part of a National Spatial Profiling Centre (NaSPro) involving three other universities (University College Dublin, Royal College of Surgeons Ireland and Technological University Dublin).

The LDCRC is a founding member of the All-Island Cancer Research Institute (AICRI). Led by **Professor Liam Gallagher** (UCD), the AICRI is a network that brings together cancer researchers from across the island of Ireland. The AICRI recently applied for €2.5M of initial funding from the North-South HEA call. This will enable collaborative projects spanning the breadth of clinical and basic research to begin within the LDCRC with the central objective of training the next generation of cancer researchers in Ireland.

Cancer researchers within UL/UHL applied for two further North-South awards. **Professor Aedin Culhane**, Professor of Cancer Genomics, School of Medicine, UL and **Professor Ruth Clifford**, Consultant Haematologist, UHL, in partnership with **Professor Mark Lawler**, Queens University Belfast, applied for €4M for eHealth-Hub: All Island Research Hub for Federated Analysis of Cancer Data. This project will seek to harmonise cancer data on the island of Ireland to a global health standard. **Professor Elfed Lewis**, Department of Electronics & Computer Engineering, UL applied in Strand I for his project entitled OXI-SMART: Novel and Smart Optical Catheters for the Early Assessment of Hypoxic Tumours in Clinical Oncology.







# HRI Membership

Showing a net increase of 9% in membership from 2020, HRI membership continued to grow in 2021, which reflects our collaborative, inclusive and supportive ethos.

HRI membership comprises three categories:

- **Full membership:**  
Full-time, permanent, academic members of UL staff
- **Postgraduate/Postdoctoral membership:**  
Postgraduate and postdoctoral colleagues and research assistants whose supervisors are full HRI members
- **Affiliate membership:**  
Health researchers who are members of UL-affiliated health organisations

The Full and Postgraduate/Postdoctoral membership categories showed increases in membership of 5% and 18% respectively. The Affiliate category remained static for the year.



## Selected Member Profiles



### Professor Norma Bargary

Professor of Data Science & Statistical Learning,  
Department of Mathematics and Statistics, UL

Membership Type: Full

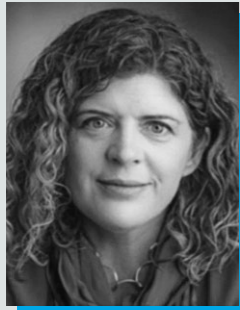
I joined the Department of Mathematics and Statistics, UL in 2013 as a Lecturer in Statistics and currently hold the Chair in Data Science and Statistical Learning. I am a Funded or Principal Investigator (PI) in Science Foundation Ireland National Centres of Excellence: The Mathematics Applications Consortium for Science and Industry (MACSI), the Solid-State Pharmaceutical Centre (SSPC), Insight Centre for Data Analytics, and Confirm Centre for Smart Manufacturing. I am the UL Vice-Director of the Centre for Research Training in Foundations of Data Science, which will train approximately 120 PhD students in applied mathematics, statistics and machine learning that underpin modern data science. I am the Course Director of the **BSc in Mathematical Sciences** and the **UL@Work Professional Diploma in Data Analytics** (aimed at upskilling work-based learners). In addition, I have led the development of a new **MSc in Data Science and Statistical Learning** in the Department.

My research focuses on the development of new statistical approaches for high-dimensional, complex data that are measured over time (e.g., data measured using sensors). This type of data arises in many settings, including medicine, climatology, agriculture, sports science, pharmaceuticals and manufacturing. For example, I developed a new way of modelling human movement data that identified previously unknown mechanisms for injury and treatment and a new method for finding clusters of curves. Clustering is an extremely important tool for finding patterns in very large datasets and identifying groups of individuals who respond similarly to a particular stimulus. **Dr Andrew Simpkin** at NUI Galway and I supervise a team of interdisciplinary researchers currently developing a new statistical framework for multivariate sensor data that we will use to understand the relationships between joint angles during running to identify movement patterns that may be predictive of injury. I also work extensively with industry partners such as Johnson & Johnson and Becton Dickinson on the use of statistics to solve real-world problems in an industrial setting.

**As a member of the HRI and an applied statistician, I collaborate extensively with researchers across the Institute, nationally and internationally.**

My team and I apply statistical methods to answer research questions in a wide variety of areas, including health analytics, biomechanics, physiotherapy, psychology and cancer research. Addressing key research challenges arising in these areas, this work is extremely diverse and rewarding. As a Pillar 4 Lead in the University of Limerick Cancer Network (ULCaN) HRI research cluster, we aim to harness the power of patient support and advocacy groups to influence cancer information and care in the mid-west region.

I am passionate about making statistics accessible to all and about how numbers are communicated in the media. Our team, **Eleanor Fallon** (PhD student), **Professor Ailish Hannigan** (School of Medicine, UL), **Dr Fergal Quinn** (School of English, Irish and Communication, UL) and I, carried out a study to understand both journalists' and the public's perception of, and preferences for, health risk communication in the media. Using the results, we developed a bespoke training programme for journalists to enhance their data communication skills and promote best practice for communicating numbers associated with health risk to the public.



## Professor Aedin Culhane

Professor of Cancer Genomics, School of Medicine, UL

Membership Type: Full

I am a computational oncologist, which means I use bioinformatics and biostatistics to study cancer. I recently returned to Limerick to take up the position of SALI Professor in Cancer Genomics.

I have 20 years' experience in cancer genomics and clinical cancer research, of which over 15 years were spent in the Dana-Farber Cancer Institute and Harvard TH Chan School of Public Health in Boston, USA. I am the new director of the recently launched Limerick Digital Cancer Research Centre (LDCRC).

When I received my undergraduate degree in Industrial Biochemistry from UL in the mid 1990s, the degree involved a little biology, a lot of chemistry, computer programming (FORTRAN77!), mathematical modelling, biomaterials and engineering. Little did I know how useful those statistical and computational foundations would be in my career. In the mid 1990s, the human genome was not yet sequenced and university degrees in bioinformatics did not exist. However, it was in America rather than Ireland that I had my seminal undergraduate experiences, specifically in a small biotech company, Applied Biosystem Inc, based outside of San Francisco. In the 1990s, the Bay Area was bursting with excitement about the emerging fields of computer science and molecular biology. Inspired by these experiences, I resolved to pursue cancer genomics.

It's difficult to overstate the incredible advances during the past 30 years. Computer science has produced artificial intelligence, federated machine learning, autonomous vehicles and Alexa. In parallel, millions of human genomes have been sequenced, and genomics assays are now routine in cancer care. Driven by the growing amount of genomics data and incredible advances in computer science, an entire bioinformatics industry has developed, and these advances are contributing to the emerging discipline of digital health.

Cancer occurs when a genetic change or damage to a cell leads to the abnormal growth of cells, which, in turn, leads to a lump. If contained, the initial lump is rarely fatal. However, if that lump grows and starts to spread to other organs, then our immune systems and bodies are overwhelmed. Unfortunately, few successful treatments exist, and metastatic cancer is often fatal. New ultra-high resolution molecular technology can measure the individual molecules in single cells in cancer, and these high-resolution maps offer great hope for discovering new therapies.

Five years ago, we could measure only the average molecule level across many cells. Today, using advanced microscopy and nanotechnology, we can measure spatial and temporal patterns of molecules in individual cells. It's the difference between navigating the west coast of Ireland with only a co-ordinate of 53' North, 7' West and having a GPS and detailed maritime map. The LDCRC Murray digital pathology lab and McGourty single cell biology lab are leading efforts to generate high resolution molecular maps of cancer. My lab is developing algorithms and statistical methods to analyse single cell molecular data in cancer and in the Human Cell Atlas (HCA).

### The HCA aims to catalogue and map all 47 trillion cells in the human body.

We are making a "google earth" map of human cells, which will 'chart a new course' in cancer research. With high resolution maps and better tools, cancer advances in the next 10 years will far exceed everything we have done in the past 100 years.

The LDCRC will be at the forefront of this research and will become a European flagship for digital cancer research. The pandemic taught us that data and open science are critical to health care. When we share our knowledge and use team science, we can develop better medicines faster. My lab has funding to develop a global community outreach centre for Bioconductor, an open-source genomics software in R that is used by over 800,000 researchers worldwide. I am also a member of the Observational Health Data Sciences and Informatics project, which is developing open-source tools to use real-world data and the lived experiences of millions of patients worldwide in clinical research. With vast datasets, medicine is becoming a data science, and groups such as ours and the LDCRC, which can develop tools to extract knowledge from data, are essential in modern cancer research.

# Collaborative, inclusive & supportive



## Professor Margaret O'Connor

Consultant Geriatrician & Physician, Associate Clinical Director, ULHG

**Membership Type:** Affiliate

I have served as a Consultant in Geriatric and General Internal Medicine in the UL Hospitals Group (ULHG) since 2010 and am an adjunct Professor in the School of Medicine, UL. I graduated from TCD in 2000 as Trinity Scholar and completed postgraduate training in Ireland and King's College London before returning to the ULHG as a consultant. I am currently the Mid-West Intern Coordinator Medicine, co-chair of the national Intern Network Executive, board member on the Institute of Medicine RCPI and Medical Intern Board and leading out through RCPI on an Irish Clinician Educator Programme, which received development funding from the National Doctors Training and Planning (NDTP) unit.

I have served as an accreditor with the Irish Medical Council (participating in professional training body accreditation), as RCPI Regional Specialty Director for Geriatric Medicine Specialist Registrar Training (2013–2019) and as ULHG Clinical Director and Associate Clinical Director in Medicine. I am a member of the Irish National Audit of Stroke Governance Committee, Clinical Advisory Group for Stroke and Joint Stroke lead for ULHG.

I initiated an interdisciplinary research collaboration through the Ageing Research Centre, HRI; I have collaborated on clinical trials including OPTIMEND (NCT03739515), SOLAR (NCT04629690) and SOLAR PLus and have received support for my role as ULHG PI for the Stroke CONVINCENCE and AVERT trials.

**I am an active supervisor and mentor for doctors undertaking PhD and master's degrees through UL. My research interests include integrated care for older people, frailty, stroke, autonomic function, delirium and medical education.**



## Dr Niamh Cummins

Lecturer in Public Health, School of Medicine, UL

**Membership Type:** Full

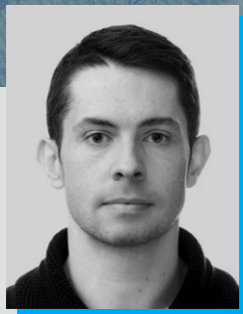
I am a Lecturer in Public Health, and my research is in health services improvement in the emergency care setting. My work focuses on the integration of health services, mental health, clinical screening tools, health behaviour, and the social determinants of health. I'm also interested in collaboratively fostering a research culture and building research capacity through networking, mentorship and peer support.

I am a founding member of the EMerge Network and the Founder and Chair of the Irish Paramedicine Education and Research Network (IPERN) – an inter-professional team of scientists, paramedics, nurses, doctors and allied health professionals working together to build research capacity in out-of-hospital care. Established in 2021, IPERN has since hosted 10 educational events featuring 49 speakers (31% international, 65% female), launched five special interest groups, presented at three international conferences and secured three grants so it's been quite a year!

**As an early-mid career academic, I cannot speak highly enough of the support I've received from the HRI. Our research wouldn't be possible without the skilled assistance of the HRI operational staff and the research nurses in the Clinical Research Support Unit, who are responsible for data collection in our clinical trials.**

Additionally, I've received support with funding applications from the excellent HRI funding officers. Finally, I'd like to pay tribute to my senior colleagues in the HRI and particularly in the Ageing Research Centre (ARC) and Health Implementation Science and Technology (HIST) clusters, who have always been tremendously generous with their time and advice. Their mentorship has been invaluable throughout my career.

*Míle buíochas libh go léir.*



## Dr Eoin White

Lecturer, School of Design, UL

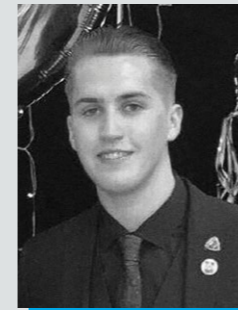
**Membership Type:** Full

I am a lecturer in Design for Health & Wellbeing in the School of Design and teach on the undergraduate and postgraduate design courses. My research focuses on patient-centred design, user experience and medical device development. My research primarily involves design and validation of medical devices spanning multiple different risk classifications, and I frequently liaise with University Hospital Limerick. Currently, I am actively engaged in medical device research, design and validation and am monitoring a clinical evaluation of a medical device in UHL.

I am an active collaborator with the Product Design & Performing Arts research cluster, which is funded directly by the HRI. In 2021, we worked with domain experts to promote cross-pollination of disciplines to drive design projects further, resulting in enhanced, metric-based product outputs to improve performance, training and quality of life. One of our projects related to Semi-Occluded Vocal Tract (SOVT) therapy received feasibility funding from Enterprise Ireland to develop the project further and put it in a good position to attract more commercialisation funding.

The HRI has made me aware of **the vast amount of multidisciplinary research that exists in UL** and is very helpful in terms of sourcing expertise, potential funding sources and continuing professional development opportunities.

The seminar series is very informative; most of the seminars are recorded so they can be revisited asynchronously if required. I am grateful for the continued opportunities that the HRI offers, and I am looking forward to the non-virtual coffee mornings!



## Mr Aidan Buffey

PhD Researcher,  
Department of Physical Education and Sport Sciences, UL

**Membership Type:** Postgraduate/Postdoctoral

I am a third-year Structured PhD student within the Faculty of Education and Health Sciences and am based in the Department of Physical Education and Sport Sciences (PESS). Under the supervision of **Professor Alan Donnelly**, HRI Director and PESS, and **Dr Brian Carson**, PESS, my PhD project focuses on the development, implementation and evaluation of a participatory co-developed workplace health promotion intervention. The intervention is designed to reduce sedentary behaviour, increase light-intensity physical activity and improve cardiometabolic health markers in adults.

Since joining the HRI and the Physical Activity for Health Research Cluster (PAfH), I have been able to attend many in-person seminars, online webinars and workshops as well as having the opportunity to present at such webinars, all of which collectively has enabled me to upskill and develop important research skills. Through my membership of the HRI, I have also had the opportunity to collaborate with two HRI full members, **Dr Matthew Herring**, PESS and **Dr Jon Salsberg**, School of Medicine, UL. Dr Herring assisted with the meta-analytical component of a systematic review and meta-analysis I carried out as part of my PhD and submitted for publication to Sports Medicine (predicted publication 2022). Dr Salsberg, both through the HRI and modules at UL, helped strengthen my PhD project with the incorporation of public and patient involvement research practices. Furthermore, we published the protocol for a scoping review, which will look at previous physical activity workplace health promotion interventions that have taken a participatory approach (Buffey et al., 2021).

**As part of my membership with the HRI, I have had the opportunity to put myself forward and take on responsibilities in organising and facilitating various webinars and workshops.**

I have taken roles such as Deputy Chair of the HRI Postgraduate/Postdoctoral Hub and Interim Organiser of the PAfH lunchtime meetings and webinars. Both roles place a strong emphasis on the promotion of peer support and informative webinars and workshops for early-career postgraduate/postdoctoral researchers. Through these roles, I have had opportunities to network, gain experience and develop skills in academic and public service, such as hosting webinars, which involves arranging speakers, designing promotional material and facilitating the workshop.

# Talent Pipeline

## HRI Postgraduate and Postdoctoral (PG/PD) Hub

The HRI PG/PD Hub was launched in 2021 as a HRI member-derived and driven platform that strives to provide a safe and accessible environment for HRI PG/PD members to:

1. Explore important areas of interest with emphasis on best practice and sharing of opportunities to develop skills that are essential for building research capacity and career success
2. Network with other HRI members, both within and outside the Hub
3. Support fellow emerging health researchers in the Hub, academically and personally, by sharing successes, challenges and important learning experiences and outcomes

The committee members of the peer-led PG/PD Hub have devoted significant time and energy to developing and sustaining this initiative.

In collaboration with the HRI, a series of PG/PD student-led presentations were conceptualised and implemented in 2021. Students presented their research in five slides in five minutes (5-in-5) during each **HRI Conversation**. The highly successful presentations provided Hub members with the opportunity to gain experience in presenting their research to HRI full members, affiliates and the wider international academic community.



Hub networking event (ice breakers), September 2021



Some members of the Hub Committee  
**(L-R):** Abigail Browne, Aidan Buffey, Avantika Bhardwaj and Meghan Guilfoyle

In addition, the Hub committee organised and conducted online events on topics of interest to Hub members. These events were delivered in conjunction with senior HRI members, thereby reinforcing cross-membership collaboration. Examples of these events include:

- **Career and Progression in Academia;** Speakers: **Dr Brian Carson** and **Dr Sara Hayes**
- **The Impact of Social Media on Academic Networking (The Power of Hashtags);** Speaker: **Dr Niamh Cummins**
- **Insights on the Funding Application Process and Important Considerations for When Applying for Funding;** Speaker: **Dr Clodagh Toomey**
- **New Semester Networking** – HRI Hub Committee Member facilitation
- **Vitae Review and Workshop 1.0;** Speakers: **Professor Ita Richardson, Dr Brian Carson** and **Dr Katie Robinson**
- **Christmas Networking** – HRI Hub Committee Member facilitation

Looking forward with a view to ensuring the sustainability and progression of the Hub, we plan to continue this upward trajectory by delivering bespoke events and networking opportunities for Hub members. The hope is to increase the level of engagement year on year and to ensure the Hub continues to be a useful resource for this cohort of the HRI membership and ultimately remains a student-led initiative.

We would like to extend a big thank you to all our speakers and to members of the HRI Executive Committee and Operational Team, who have volunteered their time, expertise and ongoing support to the HRI Hub. We would also like to thank our current members, without whom this network would not be possible.

# Investing in Our Members

## HRI-Funded Research Clusters Update 2021

### Developing Research Capacity

In 2018, following a competitive process and with a view to focusing on specific areas of research, employing a cross-disciplinary approach and aligning with the needs of societal grand challenges, the HRI made a significant and strategic three-year investment in several research groupings/clusters.

While Year 3 of the programme was completed in 2021, the programme was extended to four years due to the effects of the Covid-19 pandemic.



# Physical Activity for Health (PAfH)

# PHYSICAL ACTIVITY

Principal Investigator: **Professor Catherine Woods**, Department of Physical Education and Sport Sciences, UL

[www.ul.ie/hri/physical-activity-health-pafh](http://www.ul.ie/hri/physical-activity-health-pafh)

## Summary

PAfH aims to build a national and international hub of research excellence in physical activity and health research. Led by **Professor Catherine Woods**, the cluster's core members are **Professor Alan Donnelly, Dr Matthew Herring, Dr Brian Carson, Dr Ciarán MacDonncha** and **Dr Elaine Murtagh**, all from the Department of Physical Education and Sport Sciences, UL; **Professor Susan Coote, Dr James Green** and **Dr Róisín Cahalan**, all from the School of Allied Health, UL; and Project Manager **Dr Bláthín Casey**.

## Research Impact

With income of over €1M generated from national and international grant success, PAfH's success in research funding and publication was evident yet again in the last 12 months. In addition, PAfH core members published 84 peer-reviewed publications with over 2,500 citations in 2021 alone.

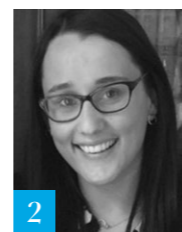
The following projects were funded in 2021:

- Funder:** HORIZON 2020  
**Project Title:** RIA Marie Curie Fellowship (HPSC-PAT #101028401)  
**Principal Investigator:** Prof. Catherine Woods  
**PAfH Fellow:** Dr Aurelie Van Hoyer Funding: 197,000 euro.
- Funder:** HRB DIFA  
**Project Title:** MinDful: Music & Dance for older adults.  
**PAfH Co-App:** Prof. Catherine Woods  
**Funding:** 378,131 euro.
- Funder:** ERASMUS+ Sport  
**Project Title:** Promoting PA in secondary schools  
**PAfH Co-Apps:** Prof. Catherine Woods, Dr Elaine Murtagh  
**Funding:** 399,900 euro (57k to UL).

In addition, both **Dr Matthew Herring** and **Dr Bláthín Casey** (PAfH Project Manager), were awarded **EHS Research Recognition awards** under the categories of 'Research Paper' and 'Research Support', respectively.

1 **Dr Matthew Herring**, Lecturer in Sport, Exercise and Performance Psychology, UL

2 **Dr Bláthín Casey**, PAfH Project Manager



## Capacity Building

PAfH's online seminar series returned in 2021 after its successful kick-off in 2020. A total of **eight international and collaborative webinars**, which attracted registrations ranging from **100 to 400+ people online**. The success of the webinars has raised the profile and increased the visibility of the PAfH research cluster and the HRI, as evidenced by a growing number of Twitter followers and interest in joining our mailing list.

PAfH webinars in 2021 had a clear **focus on collaboration** with the following groups joining forces to run these events:

- Exercise Is Medicine National Centre Ireland (EIM Ireland)
- European Network for Health Enhancing Physical Activity (HEPA)
- International Society for Physical Activity and Health (ISPAH)

In addition to the webinar series, PAfH supported the organisation and delivery of the **Irish Physical Activity Research Collaboration (I-PARC) Conference, January 2021**. A total of 407 people registered to attend the conference, for which more information can be found at <https://i-parc.ie/>

## PAfH Webinars 2021

- January 20: **Dr Mark Stoutenberg**, Exercise is Medicine – A Global Health Initiative, in collaboration with EIM Ireland **Director Dr Matthew Herring** and Co-director **Dr Brian Carson**
- February 17: **Professor Kathryn H. Schmitz**, Exercise Is Medicine in Advanced Cancer Patients: Very Much Alive (Results from the ENACT Trial), in collaboration with EIM Ireland **Director Dr Matthew Herring** and Co-director **Dr Brian Carson**
- March 23: **Dr Noel McCaffrey**, ExWell Medical: Community-Based Chronic Illness Rehabilitation in Practice: Challenges and Opportunities, in collaboration with EIM Ireland **Director Dr Matthew Herring** and Co-director **Dr Brian Carson**
- April 7: **Professor Lauren Sherar** and **Professor Borge Herman-Hansen**, Using the International Children's Accelerometry Database (ICAD) to better understand physical activity and health in young people, moderated by PAfH member **Dr Elaine Murtagh** in collaboration with HEPA and ISPAH
- October 18: **Associate Professor Aurélie Van Hoyer**, Health Promoting Sports Clubs: From Theory to Real World Application, moderated by PAfH member **Professor Catherine Woods**
- November 8: **Associate Professor Lykke Sylow**, Exercise: A Panacea of Metabolic Dysregulation in Cancer: Physiological and Molecular Insights, moderated by PAfH member **Dr Brian Carson**
- December 6: **Dr Kieran O'Sullivan**, Back pain: what activities are safe and helpful?, moderated by PAfH member **Dr Róisín Cahalan**
- December 10: **Benny Cullen**, **Professor Simon Shibli** and **Professor Girish Ramchandaniis**, Researching the Health and Economic Value of Sport in Ireland, in collaboration with EIM Ireland Director **Dr Matthew Herring** and Co-director **Dr Brian Carson**

# Ageing Research Centre (ARC)

# AGEING

Principal Investigator: **Dr Katie Robinson**, School of Allied Health, UL

[www.ul.ie/hri/ageing-research-centre-arc](http://www.ul.ie/hri/ageing-research-centre-arc)

## Summary

The Ageing Research Centre (ARC) aims to:

- Conduct excellent research that leads to improvement in the health, wellbeing and the social inclusion of older people
- Work across disciplinary boundaries to address research priorities that reflect older adults' priorities
- Develop capacity in ageing research and build collaborations with researchers, clinicians, industry partners, older people and their representative organisations

## Research Impact

Members of the ARC and colleagues in University Hospital Limerick (UHL) joined a pan-European study of 60 healthcare centres from 10 European countries on the care and recovery of post-Covid-19 patients in geriatric rehabilitation (EU-COGER) in 2021.

PhD candidates **Kathryn Fahy** (supervisors from School of Allied Health: **Professor Karen McCreesh**, **Professor Rose Galvin** and **Professor Jeremy Lewis**) and **Rachel Moore** (supervisors from School of Allied Health: **Professor Karen McCreesh** and **Dr Kieran O'Sullivan**) were awarded **Government of Ireland Postgraduate Scholarships**.

**Professor Ita Richardson**, Department of Computer Science and Information Systems and **Dr Bilal Ahmad**, Postdoctoral Researcher at Lero, UL published usability recommendations for designers of smartphone applications for older adults in the edited collection *Software Usability*.

Together with her PhD supervisors, **Dr Molly Manning** of the School of Allied Health launched a policy brief entitled *Optimising stroke care for living well with aphasia*, which was hosted on the HRB-funded SPHeRE programme website.

**Dr Dympna Tuohy**, **Dr Pauline Meskell** and **Dr Owen Doody** from UL's Department of Nursing and Midwifery published in the *International Journal of Older People Nursing* the findings of a pilot study identifying the components of transfer documentation that is necessary for transferring older people from residential to acute care safely and effectively.

In collaboration with UHL colleagues, **Professor Rose Galvin** and **Dr Marica Cassarino** (School of Allied Health) published findings from the OPTIMEND trial in *PLOS Medicine*. The trial findings have had a direct impact on service delivery in the mid-west region. For example, an interdisciplinary team was established in the Emergency Department at UHL following the study.

**Professor Amanda Clifford**, School of Allied Health and **Dr Hilary Moss**, Irish World Academy of Music and Dance published in *Complementary Therapies in Medicine* an early-stage development mixed-methods study to determine the feasibility and acceptability of a randomised crossover trial design and two arts-based interventions tailored for older adults recently discharged from hospital.



(L-R from top): (all from the School of Allied Health unless otherwise stated): **Dr Aoife O'Neill**, **Professor Ita Richardson** (Department of Computer Science and Information Systems), **Professor Hilary Moss** (Irish World Academy of Music and Dance), **Dr Sara Hayes**, **Professor Pauline Meskell** (Department of Nursing and Midwifery), **Professor Amanda Clifford**, **Professor Karen McCreesh**, **Dr Pauline Boland**, **Dr Kieran O'Sullivan**, **Dr Katie Robinson**, **Professor Rose Galvin**, **Dr Helen Purtil** (Department of Mathematics and Statistics)

**Dr Ann-Marie Morrissey**, **Dr Aoife O'Neill**, **Dr Kieran O'Sullivan** and **Dr Katie Robinson** (School of Allied Health) published in the *British Journal of Pain* findings on the use of complementary and alternative medicine among older Europeans with musculoskeletal pain.

## Capacity Building

The ARC's Scientific Advisory Committee is chaired by **Professor Lynette MacKenzie** from the University of Sydney. Professor MacKenzie generously gave her time in 2021 to support our programme of research and mentor researchers in the ARC.

ARC members, PhD students and collaborators continued to meet fortnightly throughout 2021. Workshops/presentations included:

- **Professor Ita Richardson**, Department of Computer Science and Information Systems, and **Dr Sara Hayes**, School of Allied Health, presented an online workshop on strategies to obtain research grant funding.
- **Dr Hope Davidson**, School of Law, presented on the Assisted Decision Making (Capacity) Act.
- **Dr Niamh Cummins**, School of Allied Health, presented a research update on the emergency care of older adults.
- **Dr Hilary Moss**, Irish World Academy of Music and Dance, presented on her experience of negotiating a book contract with a prestigious publisher for her book *Music and Creativity in Healthcare Settings: Does Music Matter?*
- **Dr Pauline Boland**, School of Allied Health, presented on national standard development and dementia-inclusive communities.

In the CERC building on September 10, **Professor Rose Galvin**, School of Allied Health, commenced her HRB Research Leader Award with a very well-attended kick-off event for the project **Towards an integrated model of care for older adults transitioning from the Emergency Department to the community**.



# University of Limerick Cancer Network (ULCaN)

# CANCER

Principal Investigator: **Professor Pat Kiely**, School of Medicine, UL

[www.ul.ie/hri/university-limerick-cancer-network-ulcan](http://www.ul.ie/hri/university-limerick-cancer-network-ulcan)

## Summary

ULCaN focuses on developing a research network to facilitate project design and development between multidisciplinary teams working along the ‘cancer journey’. The cluster has four component pillars:

- Patient Perspectives in Cancer
- Biomedical Science
- Clinical Trials
- Interventions and Processes and Workflows

## Research Impact

ULCaN has facilitated the coming together of cancer researchers across UL and UHL in a way that we have not done before. This has given the cancer research community here a voice and has allowed us to interact with external stakeholders in a meaningful way. As a result, our UL-based cancer researchers are working with our clinical colleagues in new groups and are involved in several pilot projects. Throughout 2021, our members published extensively and secured several research grants, and many more are pending and planned for 2022.

We have positioned ULCaN as a stakeholder within the recently launched Limerick Digital Cancer Research Centre, and we are using this close affiliation to highlight our activities and objectives across UL and to several regional and national healthcare-focused industries. ULCaN cluster members are at the centre of emerging cancer research projects and novel cancer research collaborations at UL.

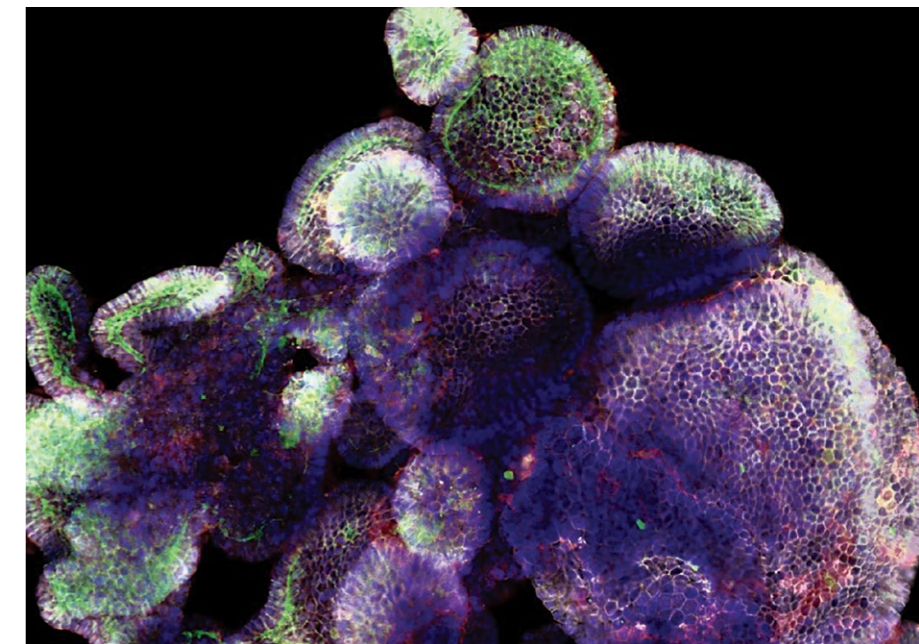
To help showcase our research and build our national and international profile, we established a very successful seminar series that ran throughout 2021, during which we enjoyed online presentations from researchers based in Ireland and abroad. The seminar series gives our UL-based members a platform and an opportunity to showcase their own research.

## Capacity Building

Although our activities were significantly disrupted by the Covid-19 pandemic, we responded to our members’ needs to support activities that will enhance our capacity and nurture interactions and research activities throughout 2022. ULCaN is currently supporting projects with the following aims and objectives:

- To grow the PPI network for the benefit of all ULCaN pillars by developing PPI in cancer research across UL. This is being done by collaborating with PPI Ignite, local organisations and cancer support centres
- To link clinicians and researchers across UL and UHL by increasing our capacity in the biobanking of cancer samples for the benefit of current and future projects while working with existing supports in the HRI CRSU and with the Cancer Trials Team at UHL
- To develop a network-wide IT platform using collaborative prototypes representative of projects across ULCaN for the specific application domain of cancer research and treatment

We will continue the seminar series in 2022 with national and internationally based speakers while continuing to showcase our members’ own research at UL. Calendar highlights and planned sessions include speakers from the **Dana Farber/Harvard Cancer Institute; the Barts Cancer Research Centre, London; the National Cancer Institute in Bethesda;** and researchers based locally and nationally. The seminar series is advertised widely across UL.



Confocal microscope image of an intestinal organoid at day 8, stained for nuclei (DAPI, blue), differentiated villus region (anti-Villin, green), and tight junction proteins, e-cadherin (red) and claudin-3 (white). Imaged by PhD student **Sigita Malijauskaite\*** (supervised by **Dr Kieran McGourty** and **Dr Andreas Grabrucker**, HRI and Bernal). This was one of the winning images of “Take a Cell-fie” – the 2021 Irish Immunology Society image competition.

\* Sauer AK, Malijauskaite S, Meleady P, Boeckers TM, McGourty K, Grabrucker AM. Zinc is a key regulator of gastrointestinal development, microbiota composition and inflammation with relevance for autism spectrum disorders. *Cell Mol Life Sci.* 2021 Dec 22;79(1):46. doi: 10.1007/s00018-021-04052-w. PMID: 34936034

# Health Implementation Science and Technology (HIST) Cluster

# IMPLEMENTATION SCIENCE

Principal Investigator: **Professor Alice Coffey**, Department of Nursing and Midwifery, UL

[www.ul.ie/hri/health-implementation-science-and-technology-hist](http://www.ul.ie/hri/health-implementation-science-and-technology-hist)

## Summary

The HIST cluster leads an interdisciplinary programme of capacity building, research collaboration and networking that strengthens academic and researcher engagement with implementation science and encourages the integration, application and sustainability of implementation science methods in future research within UL and beyond.

## Research Impact

HIST cluster members achieved research funding success in 2021 – over €1.5M was awarded from funders such as the HRB, Health Service Executive, National Council for Special Education, National Disability Authority, Human Rights Commission and IRC.

HIST cluster publication outputs in 2021 included 72 peer-reviewed papers, a book chapter and over 40 national and international conference presentations.

Supported by the HRB Covid-19 Rapid Response Award, the HIST cluster delivered an online rapid resource repository to support nursing and allied health professionals during the Covid-19 pandemic. The repository provided evidence summaries and government and professional guidance and addressed individual clinical questions. An evaluation of this work was completed using implementation science methodology.

In spring 2021, the cluster hosted online ‘water cooler’ panel-based webinars with frontline health professionals from nursing, speech and language therapy, occupational therapy, dietetics and physiotherapy to share experiences of providing care during the pandemic. It is planned to conduct a qualitative study to explore and generate further knowledge in this area in 2022.

The cluster collaborated with the **Centre for Effectiveness Services** to provide multidisciplinary training that raised awareness and knowledge of the fundamental methodologies for implementation research. Training was delivered in eight online sessions with participants drawn from a range of disciplines across UL, including health sciences, engineering, psychology, education, law, and politics and public policy. Through a participatory approach, guiding principles that characterise the HIST cluster approach to implementation research were identified during these sessions.

HIST cluster members in the Research Evidence into Policy Programmes and Practice (REPPP) group continue to support the advancement of implementation science in youth crime policy through the evidence-based development of programmes and interventions and, specifically, by monitoring the effectiveness of the new Youth Justice Strategy 2021–2027 launched by the Minister for Justice in April 2021.

## Capacity Building

The HIST cluster undertook the following activities in 2021 to build capacity in implementation research:

- Collaborated with the **Centre for Effectiveness Services** to provide a training programme (eight 3-hour sessions) on the fundamentals of implementation research. Participants represented several disciplines and faculties across UL.
- Hosted a seminar entitled *Implementation Research and Hybrid Designs* on January 12 delivered by **Professor Geoff Curran**, Implementation Scientist, University of Arkansas, USA.
- Applied to the Fulbright Commission for a Fulbright Specialist award to support **Professor Geoff Curran's** visit to UL/HIST as a Fulbright Specialist in Implementation Science. This was awarded in October 2021, and Professor Curran will deliver a HIST summer school in June 2022 and provide capacity-building support to the HIST cluster over the visiting specialist period of June to August 2022.
- **Professor Alice Coffey** (Department of Nursing and Midwifery) and **Jacqueline Dwane** (HIST) delivered a seminar entitled *Embedding Implementation Science into Health Research* on 24 November for the HRI Fundamentals of Health Research Series.
- **Dr Sheena McHugh** (University College Cork) delivered a HIST cluster lunchtime seminar entitled *Tailoring Implementation Strategies: An Example from Diabetes Management in Primary Care* in December.
- HIST cluster members submitted 34 applications for research funding.



Some participants of HIST cluster training, May 2021

# Product Design and the Performing Arts (PD+PA)

# DESIGN & THE ARTS

Principal Investigator: **Dr Louise Kiernan**, School of Design, UL

[www.ul.ie/hri/product-design-and-performing-arts-pdpa](http://www.ul.ie/hri/product-design-and-performing-arts-pdpa)

## Summary

The focus of the Product Design and the Performing Arts (PD+PA) cluster is to innovate and commercialise products to improve performance and health among performing artists and related stakeholders. The cluster has five active members: **Dr Louise Kiernan**, School of Design; **Dr Orfhlaith Ní Bhriain**, Irish World Academy of Music and Dance; **Mr Bernard Hartigan**, **Dr Eoin White** and **Megan O'Mahony**, School of Design; and several collaborators.

## Research Impact

PD+PA outputs for 2021 are as follows:

- Awarded Enterprise Ireland Commercialisation Fund Programme, €15,000
- Filed four invention disclosures (see details below)
- Won best conference presentation award
- Published two journal articles and delivered three conference presentations (see details below)
- Had two journal publications in press



Vocal Health Device testing



## Invention Disclosures

Kiernan, L., Ní Bhriain, O., White, O., Hartigan, B. (2021) **Closure mechanism for an elasticated lace system for the light Irish dancing shoe.** 2006516

O'Mahony M., Kiernan, L., White, O., Ní Bhriain, O., Hartigan, B., (2021) **Development of a vocal health device for the purpose of Semi Occluded Vocal Tract (SOVT) exercises.** 2006513

Hartigan, B, Kiernan, L., Ni Bhriain, O., White, E., (2022), IDF 2006520 **"Laminar Protective Liner \_Shoe Upper"**. 2006520

Hartigan, B, Kiernan, L., Ni Bhriain, O., White, E., (2022) **External Casing\_ Upper for Hard Irish Dancing Shoe.** 2006521

## Publications and Presentations

Hartigan, B., Ní Bhriain, O., Kiernan, L. (2021) A biomechanical analysis of the kinetics and kinematics for eight elite Irish dancers forcefully performing loud high-impact steps. *International Association for Dance Medicine and Science, IADMS.*

Hartigan, B., Ní Bhriain O., Kiernan, L. (2021) How the hard Irish dancing shoe may be contributing to lower limb Injury in elite Irish dancers. *International Association for Dance Medicine and Science, IADMS.*

O'Mahony M., Kiernan L., White E. (2021) Developing a health care product for commercialization: A case study of a vocal health device, *World Congress on Primary Healthcare and Medicare Summit*, Vienna, Austria, 8–9 November.

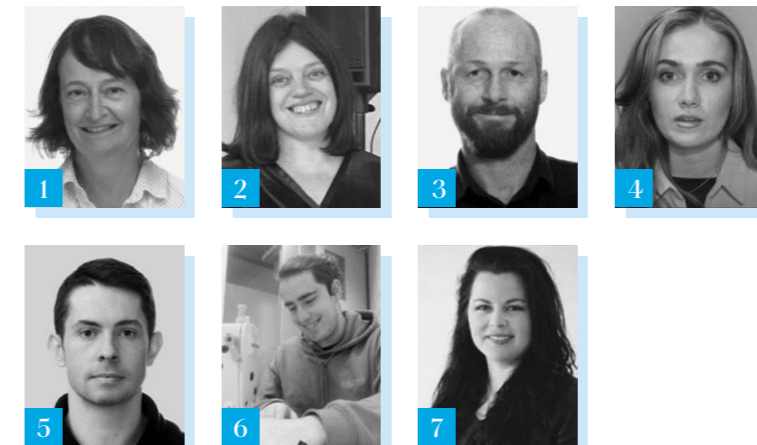
O'Mahony M., Kiernan, L., Fahey, H., Ní Bhriain, O., Hartigan, B. (2021) The development of a device to support the semi-occluded Vocal Tract (SOVT) technique to prevent injury amongst singers. *'Design in Health' Seminar*, RCSI, Dublin, June 28.

O'Mahony M., Kiernan, L., White, E., Ní Bhriain O., Hartigan, B. (2021) An analysis of the design process: a case study of the development of a vocal health tool, ICAEMUE 2021: 15. *International Conference on Advances in Ergonomics Modelling and Usability Evaluation*, Tokyo, Japan, July 22–23.

## Capacity Building

In 2021, we achieved the first stage of a commercialisation grant to support the development of our vocal health project. We intend to apply for a second-stage, full commercialisation grant to implement this product solution. We also hired two researchers to support the development of our projects.

We recently brought another external expert on board to support the development of the Irish dance projects and intend to apply for local enterprise funding to develop one of these solutions.



- 1 **Dr Louise Kiernan**  
School of Design
- 2 **Dr Orfhlaith Ní Bhriain**  
Irish World Academy of Music and Dance
- 3 **Mr Bernard Hartigan**  
School of Design
- 4 **Ms Megan O'Mahony**  
Research Assistant – vocal health device, UL
- 5 **Dr Eoin White**  
School of Design
- 6 **Mr Christy Tuck**  
Summer bursary student – light Irish dancing shoe, UL
- 7 **Dr Hannah Fahy**  
Lecturer vocal pedagogy, UL.

# Participatory and Arts-Based Methods Involving Migrants in Health Research (PART-IM)

# MIGRANTS IN HEALTH RESEARCH

Principal Investigator: **Professor Helen Phelan**, Irish World Academy of Music and Dance, UL

[ul.ie/hri/participatory-and-arts-based-methods-involving-migrants-health-research-part-im](http://ul.ie/hri/participatory-and-arts-based-methods-involving-migrants-health-research-part-im)

## Summary

The PART-IM cluster brings together arts-based and participatory scholars from medicine, nursing and midwifery, and the performing arts as well as a leading NGO for migrants. Our vision is to improve understanding of **the role of arts-based methods as participatory strategies for involving migrants in health research.**

## Research Impact

Cluster publications in 2021 included two books with Routledge (*Music and Creativity in Healthcare Settings* and *The Artist and Academia*) and several journal articles, including a position paper on participatory health research with migrants and the relevance of arts-based methods (*Health Expectations*); a review of the impact of Covid-19 on community-based music projects (*International Journal of Community Music*); the potential role of group songwriting (*Nordic Journal of Music Therapy*) and visual arts (*The Arts in Psychotherapy*) in mental health and wellbeing; and approaches to community-based music services (*Approaches: An Interdisciplinary Journal of Music Therapy*). Members presented an arts-based workshop and two oral presentations on the work of the cluster at the North American Primary Care Research Group conference in November. A joint report with the migrant NGO Doras on research priorities for migrant health in Ireland was published and launched on 10 December 2021 with representatives from WHO Europe in attendance.

## Capacity Building

In partnership with Musicians Without Borders, PART-IM ran an online, capacity-building training programme on intercultural music facilitation from 5 February to 2 April. The programme was attended by 42 international participants. A second, intensive training programme on music in arts-based participatory research was conducted at UL from 12 to 14 November. Cluster sustainability was enhanced in 2021 through a successful IRC New Foundations award and a Government of Ireland postdoctoral fellowship. This funding has supported the cluster's work in co-developing a research priority plan for migrant health and developing a training module in trauma-informed participatory arts-based research methods.

## Migrant Health Research Prioritisation in Ireland: A Participatory Arts-Based Action Plan

A joint report from Doras and the Health Research Institute PART-IM Research Cluster, University of Limerick



Joint report from HRI PART-IM cluster and migrant NGO Doras  
View online: <https://www.irishworldacademy.ie/part-im/>



## HRI Seed-Funded Projects Update 2021

In 2018, the HRI launched a multi-purpose seed-funding call, which included the provision of funding to:

- Pump-prime developing multidisciplinary research projects
- Enable innovative research to progress to the stage where it would be competitive for external research funding
- Provide research opportunities for emerging researchers to enhance their experience of grant applications and project management

Funds of up to €60K were available for groups of three or more researchers for projects of 12 to 18 months' duration. There follows an update on the success of a selection of these HRI seed-funded projects.

# Enabling innovative research

## The development of a psychological intervention for patients with Stevens-Johnson syndrome (SJS) and Toxic Epidermal Necrolysis (TEN)

Principal Investigator: **Dr Pauline O'Reilly**, Department of Nursing and Midwifery, UL

Research team: **Ms Sheila Ryan**, UHL, **Professor Bart Ramsay**, UHL, **Dr Barbara Whelan**, UL, **Dr Pauline Meskell**, UL, **Professor Donal Fortune**, UL, **Professor Alice Coffey**, UL, **Professor Catriona Kennedy**, RGU Scotland, and **Professor Donna Wilson**, UoA, Canada.

### Project Description

SJS/TEN are severe immune mediated mucocutaneous reactions, usually occurring as a result of medications. Both conditions are on the same disease continuum, with the latter being a more extensive and severe version of the former. Many long-term sequelae have been identified with cutaneous and ocular problems being amongst the most common. However, a search of existing literature identified a dearth of research relating to the psychological impact of SJS and TEN on patients.

Consequently, this project aimed to, firstly, identify the priorities for psychological support relevant to these patients and, secondly, co-design a psychological intervention that may be used with SJS/TEN patients.

### Research Impact and Capacity Building

From the onset of the research project, Dr O'Reilly worked with her colleagues to advance the research knowledge on how SJS/TEN impacts, psychologically, on patients' lives. Notwithstanding the rarity of the condition, there are devastating outcomes for those affected. Due to the severity of the conditions, the focus of care is to ensure patient survival. Much research has been published on the physiological sequelae of SJS/TEN. However, very little research focuses on psychological sequelae. With this in mind, the team completed a systematic review on the psychological impact that SJS/TEN has had on patients' lives. The review was published in the British Journal of Dermatology. <http://dx.doi.org/10.1111/bjd.18746>

Furthermore, we investigated the important components of psychological care for such patients by using a qualitative interpretative descriptive study. The findings from the study were published in the Journal of European Academy of Dermatology and Venerology (JEADV). <http://dx.doi.org/10.1111/jdv.16958> This paper was designated, by JEADV, as 'Paper of the Month' in April 2021 and resulted in the lead author being interviewed for a podcast. [https://open.spotify.com/episode/3wtcDxQebURXG8cybAHFK?si=EqP0ovECS6eF11qQ9ZDXoA&utm\\_source=copy-link](https://open.spotify.com/episode/3wtcDxQebURXG8cybAHFK?si=EqP0ovECS6eF11qQ9ZDXoA&utm_source=copy-link)

A second systematic review on the psychotherapeutic interventions, used with SJS/TEN and burns patients, was completed and was published in PLOS ONE. <https://doi.org/10.1371/journal.pone.0270424>

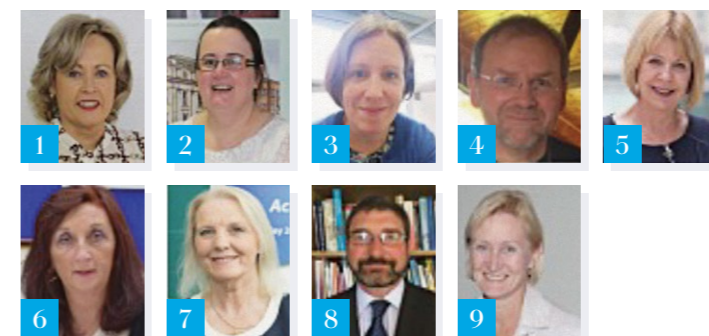
This review revealed a dearth of evidence on specific psychotherapeutic interventions for patients with SJS/TEN. However, following further research, some of the interventions deployed in burns patients may be applicable to SJS/TEN patients. Arising from our research findings to date, a decision was made to develop and test a bespoke SJS/TEN quality of life (QoL) outcome measure to assess the nuanced QoL experiences of this group viz. QoLTEN. Currently, we are working with leading international SJS/TEN



clinicians and researchers from London, France and Israel to advance the development of the outcome measure. With this team, Dr O'Reilly has led an HRB-IILP funding application. The project was accepted for funding and this will allow for the development of a bespoke SJS/TEN QoL outcome measure which could be a practical step to address, in part, the psychological needs of patients and survivors of SJS/TEN.

### How the HRI Supported the PI's Research Work

The research outputs to date have contributed to the international body of knowledge on the psychological impacts that SJS/TEN has on different aspects of patients/survivors' lives. The support received from the HRI has helped facilitate this study which has led to the collaboration with internationally renowned clinicians and researchers in this area of dermatology. Drawing on the findings of the original study and having submitted a successful funding application to the HRB, it is envisaged that working, as the PI, with this group will advance the development of the QoLTEN which could potentially have a positive impact on the care of patients and survivors of SJS/TEN.



Members of the SJS/TEN research team

- 1 Dr. Pauline O'Reilly
- 2 Ms Sheila Ryan
- 3 Dr Barbara Whelan
- 4 Professor Bart Ramsay
- 5 Professor Catriona Kennedy
- 6 Dr Pauline Meskell
- 7 Professor Alice Coffey
- 8 Professor Donal Fortune
- 9 Professor Donna Wilson



## Is social dance feasible for older adults after discharge from hospital?

Principal Investigator: **Professor Amanda Clifford**, School of Allied Health, UL

### Project Description

Using a mixed-methods approach, this study investigated the feasibility of a modified social dance and music programme being followed by older adults after discharge from hospital. The key aims were to design and examine the feasibility of a safe and acceptable adapted dance and singing programme for older adults recently discharged from hospital. We examined the feasibility of the recruitment pathways, randomisation procedure and resources required. We also examined the perspectives and opinions of all stakeholders involved in the study and potential future studies in this area. Interviews explored the concept, study design, recruitment and intervention. The interviews ascertained pertinent information on the barriers and facilitators to recruitment and opinions on the study within the service/clinical and research community and from older populations.

The arts-based programme was found to be acceptable and safe for the participants of the study. It is recommended that longer-duration programmes be designed and evaluated using the evidence-based recommendations provided. Difficulties in recruitment and attrition were explained by the barriers encountered when targeting an incident cohort of vulnerable individuals post hospitalisation. Randomisation was completed per protocol, and no implementation issues were identified for future studies.

This information supplemented and supported the original study and helps determine wider issues related to the feasibility and acceptability of these dance and music interventions for older adults who have been discharged from hospital. The study is now complete and published:

— Clifford AM, Shanahan J, Moss H, et al. (2021) Insights from an early-stage development mixed methods study on arts-based interventions for older adults following hospitalisation. **Complementary Therapies in Medicine**, 2021; 60: 102745.

### Research Impact and Capacity Building

Ireland has an ageing population, many of whom experience low levels of physical activity, loneliness, social isolation and falls. Secondary consequences of the Covid-19 pandemic include higher levels of sedentary behaviour and limited social contact, leading to deconditioning, balance deficits, a higher risk of falling and mental health problems. Emerging research found that arts-based health programmes can enhance the physical and psychosocial health and wellbeing of older people. However, there is a dearth of community-based activities for older people that are tailored and fun, support social connectedness, provide achievable physical benefit and have a positive impact on health and wellbeing. The consequences of the pandemic amplified the need for age-friendly physical and social opportunities. However, the feasibility and usefulness of such programmes in Ireland warranted further investigation. By undertaking this research, the research team connected with and developed a critical mass of national and international stakeholders, including researchers, methodologists, community groups and clinicians in arts for health.



Our Music and Movement for Health research team includes **Dr Orfhlaith Ní Bhriain** and **Professor Hilary Moss**, Irish World Academy of Music and Dance; **Dr Steven Byrne**, **Pui-Sze Cheung** and **Dr Rosie Gowran**, School of Allied Health, Ageing Research Centre, HRI; **Professor Quinette Louw**, Division of Physiotherapy, Department of Health and Rehabilitation Sciences, Stellenbosch University, South Africa; **Professor Liam Glynn** and **Dr Jon Salsberg**, School of Medicine, UL; **Professor Catherine Woods**, Department of Physical Education and Sport Sciences, Physical Activity for Health Research Cluster, HRI; **Dr Ali Sheikhi**, HRI; **Professor Desmond O'Neill**, Centre for Ageing, Neuroscience and the Humanities, Trinity College Dublin; **Catherine Maher**, Community Hospital of the Assumption, Thurles; **Brendan Kennelly**, Cairnes School of Business and Economics, NUIG; and **Professor Lehana Thabane**, Institute for Research in Ageing, McMaster University, Hamilton, Canada; a PPI panel (i.e. representatives of the general public); and representatives from ALONE, the charity for older persons.



Additionally, learning gained from the seed-funded precursor study was vital to inform aspects of a feasibility study proposed in our successful application to the HRB Definitive Interventions and Feasibility Awards (DIFA) scheme. The Music and Movement for Health study is currently underway to examine the feasibility of an evidence-informed, arts-based programme for the health and wellbeing of older adults. The primary aim of the study is to examine the feasibility of the study design, its application to the music and movement for health programme and associated costs. The secondary aim is to obtain preliminary effect estimates of an arts-based health programme on health and wellbeing in older adults. ISRCTN registry ISRCTN35313497 <https://doi.org/10.1186/ISRCTN35313497>

### How the HRI Supported the PI's Research Work

The team is grateful for the support and expertise of **Dr Imelda Doolan**, HRI Research Funding Officer and **Marie-Thérèse Hayes**, Clinical Operations Manager, UL for their continuing support during the study. All research team members from UL are members of the HRI, which is instrumental in supporting researchers at various points in their research career through relevant talks and training opportunities.



## Physical Activity for the Secondary Prevention of Younger Stroke (PAYS)

Principal Investigator: **Dr Sara Hayes**, School of Allied Health, UL

### Project Description

Physical activity (PA) is a dominant predictor of secondary stroke. A mixed-method study was used to:

1. Explore stakeholder perspectives on the design of an online physical activity intervention post-stroke
2. Examine the association between walking pace and stroke risk

Twenty-eight stakeholders were interviewed, and main themes were identified. There was agreement across groups that an adaptive online intervention post-stroke would be beneficial.

Results from a prospective population-based study demonstrated that among 377,268 participants, 2,158 (0.6%) developed stroke. A slow walking pace was associated with a 45% higher hazard for stroke incidence (HR 1.45, 95% CI: 1.26 to 1.66,  $p < 0.0001$ ).

### Research Impact and Capacity Building

The research team of this ongoing HRI seed-funded project brings invaluable clinical, methodological and content expertise to the project. The team includes **Ms Nora Cunningham**, Advanced Nurse Practitioner, Ageing and Therapeutics, UHL; **Ms Edel Hennessy**, Senior Physiotherapist, UHL (Early Supported Discharge); **Dr John McManus**, Medical Consultant, UHL; **Professor Cathal Walsh**, MACSI and Department of Mathematics and Statistics, UL; **Professor Liam Glynn**, School of Medicine, UL; **Professor Ita Richardson**, Department of Computer Science and Information Systems, UL; **Professor John Forbes**, School of Medicine, UL; **Dr Siobhan Leahy**, Galway-Mayo Institute of Technology; **Professor Rose Galvin**, School of Allied Health, UL; **Dr Pauline Boland**, School of Allied Health, UL; **Dr Jon Salsberg**, School of Medicine, UL; **Professor Jane Walsh**, School of Psychology, NUIG; **Dr Andrew Hunter**, School of Nursing and Midwifery, NUIG; **Mr Chris Macey**, Director of Advocacy and Patient Support, Irish Heart Foundation; and **Ms Edina O'Driscoll**, VHI.

The HRI seed fund (€48,247) is directly associated with a successful HRB-DIFA award, wherein we are currently examining the feasibility of an online PA programme post-stroke (€375,148). The HRI seed fund acted as 'starter funding' for our successful DIFA proposal. Feedback from the Stage 1 HRB DIFA reviewers highlighted our ambitious recruitment plan for a feasibility randomised trial. To further strengthen the Stage 2 HRB DIFA application, we used this HRI seed funding as co-funding to complete a work package and therefore optimise the potential and feasibility of the subsequent DIFA-funded trial.

In terms of traditional academic outputs, to date, we have two papers in press and one paper published from the HRI seed-funded project. We will also present the results at national and international conferences in 2022 (IHF Stroke Conference and European Stroke Organisation Conference).

As one objective of the seed fund was to develop meaningful clinical and interdisciplinary partnerships, its acquisition has promoted the development and nurturing of real and long-standing partnerships among interdisciplinary academic and clinical colleagues in UL and UHL. The collaborative work across academic and clinical boundaries proved to be very valuable, both in terms of delivering on the HRI seed fund objectives and forming an established, high-functioning research team for the successful HRB DIFA award application and, subsequently, a HRB ILP funding application (awaiting outcome). The forging of these partnerships has resulted in other research projects between UL, NUIG and UHL being completed, such as the ongoing cognitive rehabilitation post-stroke project, led by PhD student **Mairead O'Donoghue** at UHL, for which a feasibility trial is currently underway. One of the work packages in the HRI seed fund enabled a working relationship to be forged with the Glasgow Cardiovascular Research Centre – the fund covered a research trip and open access publication. This partnership has continued to flourish, and work is ongoing.

The seed-funding call emphasised the use of existing research networks, which has resulted in successful and continued collaboration with HRB-funded groups such as the Trial Methodology Research Network and Qualitative Research in Trials Centre (QUESTS), NUI Galway.

In terms of capacity building, the acquisition of this seed funding at an early-career stage has allowed me to lead on the acquisition and management of an internationally peer-reviewed grant. The process has given me the experience needed to demonstrate ability when applying for larger grants. It has enabled me to acquire and improve management skills around recruitment, resources, finance, meeting research deliverables, report writing and the supervision of research assistants and postdoctoral researchers. In turn, the seed fund enabled a small research team of early-career researchers to be employed, wherein their research skills were developed.

### How the HRI Supported the PI's Research Work

As an early-career researcher, I have received excellent support from the HRI. I have been provided with access to relevant content and methodological research expertise, excellent administrative and technical support (grant writing) and individualised guidance on potentially suitable international and national grant funding calls. The collaborative focus of the HRI has raised my awareness of the importance of interdisciplinary research that gives rise to actionable evidence. To this end, membership of the HRI has enabled me to strengthen existing collaborations and develop new networks with clinical and academic colleagues. Specific to the HRI seed fund, our team received support in aligning the seed fund application with a subsequent HRB funding application, which was very fruitful. In terms of post-award grant management, the support of the HRI has been very helpful.



## Can matrix Gla protein (MGP) determine arterial plaque phenotype in ‘at risk’ cardiovascular patients?

Principal Investigator: **Dr Eibhlís O’Connor**, Department of Biological Sciences, UL

Co-investigators: **Ms Rachel Cahalane**, PhD candidate, UL; **Dr Hilary Barrett**, Senior Mechanical Design Engineer, Palliare; **Dr Aisling Ross**, Postdoctoral Researcher, UL; **Dr John Mulvihill**, School of Engineering, UL; **Dr Helen Purtill**, Department of Mathematics and Statistics, UL; **Dr Logeswaran Selvarajah**, Radiology Specialist Registrar, UHL; **Dr Julie O’Brien**, Consultant Radiologist, UHL; **Dr Eamon Kavanagh**, Consultant Vascular Surgeon, UHL; **Dr Tony Moloney**, Vascular/Endovascular Surgeon, UHL; **Ms Siobhan Egan**, Clinical Research Nurse Manager, CRSU; **Ms Fiona Leahy**, Clinical Research Nurse Manager, CRSU; **Dr Tomás Griffin**, Clinical Consultant in Diabetes, Communication Technology University of Dundee, Clinical Fellow, Diabetes Technology, Leicester General Hospital, **M Islam** Department of Biochemistry, NUIG and UHG; **Dr Paula O’Shea**, Consultant Clinical Biochemist, Galway University Hospital; and **Professor Michael Walsh**, School of Engineering, UL.

### Project Description

The rupture of vulnerable atherosclerotic lesions results in the formation of a thrombus, which has the potential to dislodge and migrate downstream and cause a heart attack or stroke. These major adverse cardiovascular events are the leading cause of death worldwide. Calcification morphology plays a critical role in plaque stability, with large calcifications having a protective effect, while microcalcifications promote rupture of the fibrous caps. Additionally, culprit lesions often contain less calcification than unruptured stable plaques. Collectively, these reports indicate that calcification morphology, particularly calcified particle distributions, could be crucial in the process of identifying high-risk lesions and, subsequently, at-risk patients.

The current gold standard for identifying atherosclerotic calcification is non-contrast computed tomography. However, clinical resolution is currently limited, meaning it cannot distinguish between critical calcification morphologies. In this regard, blood tests are routinely performed as part of patient care. Calcification has a highly regulated formation process similar to osteogenesis. Consequently, the purpose of this project is to investigate whether the circulating levels of these osteogenic regulators could be indicative of atherosclerotic calcification phenotype.

### Research Impact and Capacity Building

Outcomes from this research provide new insights into the role of a novel biomarker of vascular calcification in arterial disease. Further validation of these findings could prove to be of clinical relevance for determining vascular disease using a novel blood-based biomarker.

Forty consenting cardiovascular disease patients undergoing standard endarterectomy procedures were recruited. Fasting venous blood was collected pre-operatively, and plaque samples were acquired after surgical removal. The plaque samples underwent high-resolution micro-computed tomography, and the calcification phenotype was determined using ImageJ image-processing software. Levels of circulating OC, hs-CRP, Fetuin-A, TNF- $\alpha$ , IL-46/8/10/18, OPG, OPN, FGF-23 and BMP-2 were quantified using commercially available ELISA and multiplex kits.



Principal Investigator **Dr Eibhlís O’Connor** (left) and PhD candidate **Rachel Cahalane** using the BioPoint facilities in the Bernal Institute, UL

Our findings revealed that undercarboxylated osteocalcin (which is non-functional because of its ‘undercarboxylated’ status due to insufficient vitamin K intake/availability) was negatively associated with coronary calcium scores while Fetuin-A, a protein that contributes to systemic calcification inhibitory capacity of circulating blood, was negatively correlated with the volume of carotid plaque calcification. Coronary and extra coronary calcium measures were also significantly different between carotid/lower extremity endarterectomy groups assessed. However, of the biomarkers assessed, levels were not significantly different between both groups.

A fruitful collaboration with the pathology laboratory at University Hospital Galway was forged as a result of this research, which resulted in the quantification of the circulating levels of dephosphorylated matrix Gla protein (dp-ucMGP), a vitamin-K dependent, vascular calcium regulator using an Automated Chemiluminescence Sandwich Immunoassay system. Our findings revealed that dp-ucMGP was negatively correlated with coronary calcium density in our carotid endarterectomy group. This additional analysis enabled the predictive capacity of osteogenic biomarkers relative to atherosclerotic plaque calcification phenotype to be determined.

In summary, correlations identified between circulating biomarkers and measures of coronary and extra coronary calcium were not consistent among participant subgroups. Further research is required to determine the association between circulating biomarkers and coronary and extra coronary calcium. The manuscript was published in **Nutrition, Metabolism and Cardiovascular Diseases**: <http://dx.doi.org/10.1016/j.numecd.2021.02.005>

### How the HRI Supported the PI’s Research Work

The invaluable support received from the CRSU enabled this study to happen. Without the support of dedicated research nurses (**Ms Siobhan Egan** and **Ms Fiona Leahy**, Clinical Research Nurse Managers, CRSU) to recruit patients and take, process and store blood and coronary plaque samples, the study would not have been a success. This support was vital to enabling the fruitful collaboration that resulted between the UL PIs and UHL clinicians. The CRSU staff were instrumental in supporting every phase of this research, from drafting and editing the ethical applications to running the trial at clinics, to recruiting patients and collecting and storing precious samples in a safe, controlled and regulated manner.

## Development of a process to study concussion recovery using blood-based biomarkers

Principal Investigator: **Dr John Mulvihill**, School of Engineering, UL

### Project Description

Sports-related concussion remains the most frequent match-related time-loss injury in professional rugby. Blood-based biomarkers have been shown to be good indicators in the diagnosis of concussion. However, to date, there are no studies that assess the ability of blood biomarkers to indicate recovery from concussion, which could help determine a player-specific timeframe to safely return to play.

Our study aims to address this by assessing the specificity and capability of current biomarkers to measure or indicate recovery. Furthermore, we aim to identify novel biomarkers for concussion that could potentially overcome some of the specificity and prognostic shortcomings of current biomarkers.

### Research Impact and Capacity Building

Currently, we are in the fourth year of the study, and we have fully developed the process to collect, store and assess the blood samples. In conjunction with the UL IRIS (Irish Rugby Injury Surveillance) group and Munster Rugby, we published the study design in the *British Medical Journal Open Sport & Exercise Medicine* to demonstrate the feasibility and nuances of such a complex study (<http://dx.doi.org/10.1136/bmjsem-2020-000948>). We are now preparing subsequent publications in conjunction with IRIS, Munster Rugby and the CRSU (Clinical Research Support Unit) based on the first results from the initial seasons.

Ultimately, we will identify and confirm the potential for these blood biomarkers to indicate recovery from concussion and infer a safe return to play. The study has helped build capacity for blood processing and analysis in UL as well as the methodologies involved from a clinical, logistical and analytical perspective.

Finally, this work has allowed our team to engage with industry on the commercial aspects of developing the study design on a larger scale and potentially examining these blood biomarkers outside of the professional setting.

### How the HRI Supported the PI's Research Work

It is important to ensure that high-profile studies are run securely and professionally, and the HRI seed fund enabled us to do that with this study. The fund helped the initiation of the study in the first year, which included setting up the consenting and sample collection in collaboration with the CRSU. Clinical Research Nurse Managers **Elaine Conway** and **Rita Hinchion** and Quality and Regulatory Clinical Research Associate **Maria Ryan** from the CRSU were instrumental in designing the study, the consenting process and the sample collection. All of this was possible thanks to the HRI seed fund.



Building capacity  
for blood processing  
and analysis in UL

# Ecosystem

## HRI Executive Committee and Operations Team

Name	Role	Institute/School/Department	Faculty
<b>Prof. Alan Donnelly*</b>	HRI Director	Dept. of Physical Education and Sport Sciences	EHS
<b>Prof. Ann MacPhail*</b>	Assistant Dean Research	Dept. of Physical Education and Sport Sciences	EHS
<b>THEME LEADS</b>			
<b>Prof. Alan Donnelly*</b>	Theme Lead in Lifestyle & Health	Dept. of Physical Education and Sport Sciences	EHS
<b>Prof. Rose Galvin*</b>	Theme Lead in Health Service Delivery	School of Allied Health	EHS
<b>Dr Pepijn Van de Ven*</b>	Theme Lead in Health Technologies	Dept. of Electronic & Computer Engineering	S&E
<b>OPERATIONS TEAM</b>			
<b>Ms Goretti Brady*</b>	Operations Manager	HRI	
<b>Dr Imelda Doolan*</b>	Research Funding Officer	HRI/Research Office	
<b>Dr Ali Sheikhi</b>	Senior Biostatistician	HRI	
<b>Ms Justyna Lis</b>	Senior Administrator (Clusters)	HRI	
<b>Ms Gene O'Sullivan</b>	Projects Coordinator	HRI	
<b>Ms Sarah Redfern</b>	Administrator	HRI	
<b>CLINICAL RESEARCH SUPPORT UNIT</b>			
<b>Ms Marie-Thérèse Hayes*</b>	Clinical Operations Manager	HRI/CRSU	
<b>Ms Maria Ryan</b>	Quality and Regulatory CRA	HRI/CRSU	
<b>Ms Elaine Conway</b>	Clinical Research Nurse Manager	HRI/CRSU	
<b>Ms Siobhán Egan</b>	Clinical Research Nurse Manager	HSE/CRU	
<b>Ms Fiona Leahy</b>	Clinical Research Nurse Manager	HSE/CRU	
<b>Ms Grainne Higgins O'Keeffe</b>	Clinical Research Nurse Manager - WHO Solidarity research study	HRI/CRSU	
<b>Ms Sravya Pudota</b>	Clinical Research Assistant- WHO Solidarity research study	HRI/CRSU	

\* Member of Executive Committee

**Note:** The HRI Director chairs the UL Clinical Research Board (CRB) and the CRSU Clinical Operations Manager is a member of this Board. The CRB reports to the Vice President Research, UL and is responsible for the oversight of clinical trial governance on behalf of UL, and for ensuring that UL fulfils all sponsorship requirements.

## HRI Clinical Research Support Unit (CRSU)

Based in the Clinical Education Research Centre (CERC) on the grounds of UHL, the HRI-CRSU is a dedicated research facility. The CRSU team comprises a Clinical Operations Manager, a Quality and Regulatory Clinical Research Associate and Clinical Research Nurse Managers. The unit itself is a state-of-the-art space featuring clinic rooms for research participant interaction, board and meeting rooms and bookable 'hot desk' space for researchers. The CRSU provides a dedicated infrastructure and has experienced research staff who work to international quality standards that are critical to the conduct of regulated and other forms of complex patient-focused research.

In 2021, the CRSU supported clinical studies and trials in such areas as, for example; cardiology, geriatric medicine, haematology, nephrology, infectious disease and vascular surgery.

### What we Provide

- Industry Clinical Research Services
- Facilities
- Academic Clinical Research Services
- Education
- Quality and Regulatory Affairs
- Statistics and Data Analytics (provided by HRI Biostatistician)

The Clinical Research Unit (CRU) is a jointly governed and resourced unit of UL and UHL. The CRU supports UL and ULHG-based investigators who conduct clinical research involving patients of the hospital. The collaborative CRU is managed by its Management Board, which meets monthly.

### CRU Management Board 2021

**Professor Paul Burke**, Chief Academic Officer (ULHG); Vice Dean Health Sciences, UL (Chair)  
**Professor Alan Donnelly**, HRI Director  
**Professor Ruth Clifford**, Consultant Haematologist, UHL  
**Ms Marie-Thérèse Hayes**, Clinical Operations Manager, UL  
**Ms Joanne O'Connor**, Clinical Trials Coordinator, UHL

### CRSU Team 2021

**Marie-Thérèse Hayes**, Clinical Operations Manager  
**Maria Ryan**, Quality and Regulatory Clinical Research Associate  
**Siobhan Egan**, Clinical Research Nurse Manager (ULHG)  
**Elaine Conway**, Clinical Research Nurse Manager  
**Fiona Leahy**, Clinical Research Nurse Manager (ULHG)  
**Grainne Higgins O'Keeffe**, Clinical Research Nurse Manager  
**Sravya Pudota**, Clinical Research Assistant

# HRI-CRSU/CRU Studies 2021

STUDY	PI/CLINICAL LEAD	FUNDER	SUPPORT
<b>HighLow Study:</b> Low molecular weight heparin to prevent recurrent venous thrombosis in pregnancy: a randomised trial of two doses	<b>Dr Denis O’Keeffe,</b> UHL	AMC Medical Research/HRB Mother & Baby Network	Research nursing support, follow-up calls, site file management, data entry and reporting
<b>TILLIRI:</b> Thrombosis in patients with lower limb injuries requiring immobilisation to identify a group with high predictive VTE risk	<b>Dr Denis O’Keeffe,</b> UHL	Industry	Study coordination: research nursing support, including training, data entry and data reporting, patient follow-up
<b>Concussion Study:</b> Blood biomarkers for diagnosis of and prognosis for concussion	<b>Dr John Mulvihill,</b> UL	HRI Seed Funding	Clinical study coordination
<b>Convince Study:</b> Colchicine prevention of vascular inflammation in non-cardio embolic stroke: a randomised clinical trial of low-dose colchicine for secondary prevention after stroke	<b>Professor Margaret O’Connor,</b> UHL	HRB Stroke Clinical Trials Network	Data entry, advisory
<b>PIPRA:</b> Physiotherapist-led intervention to promote physical activity in rheumatoid arthritis	<b>Professor Norelee Kennedy,</b> UL	HRB	Study coordination
<b>SOAED:</b> Screening of older adults in the emergency department	<b>Professor Rose Galvin,</b> UL	HRB	Clinical research governance
<b>SOLAR:</b> Frailty screening and multidisciplinary assessment of older adults in the emergency department	<b>Professor Rose Galvin,</b> UL	HRB	Clinical research governance

STUDY	PI/CLINICAL LEAD	FUNDER	SUPPORT
<b>SPRINT-SARI:</b> An international, multi-centre, prospective, short-period incidence observational study of patients in participating hospitals and intensive care units (ICUs) with severe acute respiratory infection (SARI)	<b>Dr Catherine Motherway,</b> UHL	ISARIC (International Severe Acute Respiratory and Emerging Infection Consortium)	Study coordination, data collection and data entry
<b>Solidarity:</b> An international randomised trial of additional treatments for Covid-19 in hospitalised patients who receive local standards of care	<b>Dr Sarah O’Connell,</b> UHL	HRB & Department of Health/WHO	Study coordination, data collection, data entry, data monitoring, site file management (not active)
<b>EMERGE II:</b> A randomized placebo-controlled trial of the effectiveness of metformin in addition to usual care in the reduction of gestational diabetes mellitus effects	<b>Dr Eoin Noctor,</b> UHL	HRB	Study coordination, data collection, data entry, data monitoring, site file management (not active)
<b>IDEA-FAST:</b> Identifying Digital Endpoints to Assess Fatigue, Sleep and Activities of Daily Living in neurodegenerative disorders and immune mediated inflammatory diseases	<b>Professor Norelee Kennedy,</b> UL	EU	Study coordination, data monitoring
<b>Multivessel Talent:</b> A randomized, multi-centre study implementing best practice interventional cardiology to compare clinical outcomes between two CE-mark approved contemporary coronary devices – SUPRAFLEX Cruz and SYNERGY drug eluting stents	<b>Dr Samer Arnous,</b> UHL	Industry	Study start-up



# Appendices

## Appendix 1: HRI Full Members List (31<sup>st</sup> December 2021)

NAME	DEPARTMENT/SCHOOL
<b>Dr Joanna Allardyce</b>	School of Allied Health
<b>Dr Ross Anderson</b>	Dept. of Physical Education and Sport Sciences
<b>Dr Sandra Atkinson</b>	Dept. of Nursing and Midwifery
<b>Prof. Norma Bargary</b>	Dept. of Mathematics and Statistics
<b>Dr George Barreto</b>	Dept. of Biological Sciences
<b>Dr Pauline Boland</b>	School of Allied Health
<b>Dr Lydia Bracken</b>	School of Law
<b>Dr Carmel Bradshaw</b>	Dept. of Nursing and Midwifery
<b>Dr Ciara Breathnach</b>	Dept. of History
<b>Mrs Ann Marie Bright</b>	Dept. of Nursing and Midwifery
<b>Dr James Brown</b>	Dept. of Biological Sciences
<b>Prof. Paul Burke</b>	University of Limerick Hospital Group Faculty of Education and Health Sciences
<b>Dr Roisin Cahalan</b>	School of Allied Health
<b>Dr Mark Campbell</b>	Dept. of Physical Education and Sport Sciences
<b>Dr Eileen Carey</b>	Dept. of Nursing and Midwifery
<b>Dr James Carr</b>	Dept. of Biological Sciences
<b>Dr Brian Carson</b>	Dept. of Physical Education and Sport Sciences
<b>Dr Irene Cassidy</b>	Dept. of Nursing and Midwifery
<b>Prof. Amanda Clifford</b>	School of Allied Health
<b>Prof. Alice Coffey</b>	Dept. of Nursing and Midwifery
<b>Prof. Calvin Coffey</b>	School of Medicine
<b>Dr Maurice Collins</b>	School of Engineering and Bernal Institute
<b>Dr Tom Comyns</b>	Dept. of Physical Education and Sport Sciences
<b>Prof. Susan Coote</b>	School of Allied Health
<b>Dr Barry Coughlan</b>	Dept. of Psychology
<b>Dr Ann-Marie Creaven</b>	Dept. of Psychology
<b>Dr Alexandra Cremona</b>	School of Allied Health

NAME	DEPARTMENT/SCHOOL
<b>Prof. Aedín Culhane</b>	School of Medicine
<b>Dr Niamh Cummins</b>	School of Allied Health
<b>Dr Diane Daly</b>	Irish World Academy of Music and Dance
<b>Dr Hope Davidson</b>	School of Law
<b>Dr Tabea de Wille</b>	Dept. of Computer Science and Information Systems
<b>Prof. Alan Donnelly</b>	Dept. of Physical Education and Sport Sciences
<b>Dr Owen Doody</b>	Dept. of Nursing and Midwifery
<b>Dr Catriona Dowling</b>	School of Medicine
<b>Prof. Colum Dunne</b>	School of Medicine
<b>Dr Khalifa Elmusharaf</b>	School of Medicine
<b>Dr Mohamed Elhassan Elsayed</b>	School of Medicine
<b>Ms Anne Fahy</b>	Dept. of Nursing and Midwifery
<b>Prof. Dick Fitzgerald</b>	Dept. of Biological Sciences
<b>Dr Darragh Flannery</b>	Department of Economics
<b>Prof. John Forbes</b>	School of Medicine
<b>Prof. Donal Fortune</b>	Dept. of Psychology
<b>Dr Romina Gaburro</b>	Dept. of Mathematics and Statistics
<b>Prof. Stephen Gallagher</b>	Dept. of Psychology
<b>Prof. Rose Galvin</b>	School of Allied Health
<b>Prof. Liam Glynn</b>	School of Medicine
<b>Dr Rosie Gowran</b>	School of Allied Health
<b>Dr Andreas Grabrucker</b>	Dept. of Biological Sciences
<b>Dr Margaret Graham</b>	Dept. of Nursing and Midwifery
<b>Prof. Daniel Granato</b>	Dept. of Biological Sciences
<b>Dr Annmarie Grealish</b>	Dept. of Nursing and Midwifery
<b>Dr James Green</b>	School of Allied Health
<b>Dr Ronni Greenwood</b>	Dept. of Psychology

NAME	DEPARTMENT/SCHOOL
<b>Dr Anne Griffin</b>	School of Allied Health
<b>Prof. Ailish Hannigan</b>	School of Medicine
<b>Mr Bernard Hartigan</b>	School of Design
<b>Dr Sara Hayes</b>	School of Allied Health
<b>Dr Amanda Haynes</b>	Dept. of Sociology
<b>Ms Therese Hennessy</b>	Dept. of Nursing and Midwifery
<b>Dr Matthew P. Herring</b>	Dept. of Physical Education and Sport Sciences
<b>Dr Fabianna Hoffmann Sarda</b>	Dept. of Biological Sciences
<b>Dr Sharon Houghton</b>	Dept. of Psychology
<b>Dr Siobhan Howard</b>	Dept. of Psychology
<b>Dr Sarah Hyde</b>	School of Medicine
<b>Dr Eric Igou</b>	Dept. of Psychology
<b>Prof. Phil Jakeman</b>	Dept. of Physical Education and Sport Sciences
<b>Dr Philip Kearney</b>	Dept. of Physical Education and Sport Sciences
<b>Dr Aine Kearns</b>	School of Allied Health
<b>Dr Dervla Kelly</b>	School of Medicine
<b>Prof. Norelee Kennedy</b>	School of Allied Health
<b>Dr Ian Kenny</b>	Dept. of Physical Education and Sport Sciences
<b>Prof. Patrick Kiely</b>	School of Medicine
<b>Dr Louise Kiernan</b>	School of Design
<b>Dr Liz Kingston</b>	Dept. of Nursing and Midwifery
<b>Dr Elaine Kinsella</b>	Dept. of Psychology
<b>Prof. Stephen Kinsella</b>	Dept. of Economics
<b>Dr Louise Larkin</b>	School of Allied Health
<b>Dr Yianna Liatsos</b>	School of English, Irish, and Communication
<b>Dr John Lombard</b>	School of Law
<b>Dr Mark Lyons</b>	Dept. of Physical Education and Sport Sciences

NAME	DEPARTMENT/SCHOOL
<b>Dr Ciarán MacDonncha</b>	Dept. of Physical Education and Sport Sciences
<b>Prof. Anne MacFarlane</b>	School of Medicine
<b>Prof. Hussain Mahdi</b>	Dept. of Electronic & Computer Engineering
<b>Dr Molly Manning</b>	School of Allied Health
<b>Prof. Tiziana Margaria</b>	Dept. of Computer Science and Information Systems
<b>Dr Kathleen Markey</b>	Dept. of Nursing and Midwifery
<b>Dr Tríona McCaffrey</b>	Irish World Academy of Music and Dance
<b>Prof. Karen McCreesh</b>	School of Allied Health
<b>Dr Arlene McCurtin</b>	School of Allied Health
<b>Prof. Kieran McDermott</b>	School of Medicine
<b>Dr Kieran McGourty</b>	Dept. of Chemical Sciences
<b>Dr Muireann McMahan</b>	School of Design
<b>Dr Jennifer McMahan</b>	School of Education
<b>Dr Pauline Meskell</b>	Dept. of Nursing and Midwifery
<b>Prof. Lee Monaghan</b>	Dept. of Sociology
<b>Dr Lisa Moran</b>	School of Medicine
<b>Dr Kellie Morrissey</b>	School of Design
<b>Dr Ann-Marie Morrissey</b>	School of Allied Health
<b>Dr Hilary Moss</b>	Irish World Academy of Music and Dance
<b>Prof. Rachel Msetfi</b>	Dept. of Psychology
<b>Dr John Mulvihill</b>	School of Engineering
<b>Dr Carol-Anne Murphy</b>	School of Allied Health
<b>Ms Jill Murphy</b>	Dept. of Nursing and Midwifery
<b>Dr Louise Murphy</b>	Dept. of Nursing and Midwifery
<b>Dr Sylvia Murphy Tighe</b>	Dept. of Nursing and Midwifery
<b>Prof. Paul Murray</b>	Health Research Institute
<b>Dr Elaine Murtagh</b>	Dept. of Physical Education and Sport Sciences

NAME	DEPARTMENT/SCHOOL
<b>Dr Siobhan Neville</b>	School of Medicine
<b>Dr David Newport</b>	School of Engineering
<b>Dr Orfhlaith NiBhriain</b>	Irish World Academy of Music and Dance
<b>Dr Clifford Nolan</b>	Dept. of Mathematics and Statistics
<b>Ms Maria Noonan</b>	Dept. of Nursing and Midwifery
<b>Dr Catherine Norton</b>	Dept. of Physical Education and Sport Sciences
<b>Dr Frank Nugent</b>	Department of Physical Education and Sport Sciences
<b>Dr Brid O'Brien</b>	Dept. of Nursing and Midwifery
<b>Dr Eibhlis O'Connor</b>	Dept. of Biological Sciences
<b>Ms Anne O'Connor</b>	School of Allied Health
<b>Dr Claire O'Donnell</b>	Dept. of Nursing and Midwifery
<b>Prof Clodagh O'Gorman</b>	School of Medicine
<b>Dr Sinead O'Keefe</b>	Electronic and Computer Engineering
<b>Dr Deirdre O'Loughlin</b>	Kemmy Business School
<b>Dr Bernadette O'Regan</b>	Dept. of Chemical Sciences
<b>Dr Andrew O'Regan</b>	School of Medicine
<b>Dr Pauline O'Reilly</b>	Dept. of Nursing and Midwifery
<b>Dr Cliona O'Riordan</b>	School of Allied Health
<b>Prof. Deirdre O'Shea</b>	Dept. of Work and Employment Studies
<b>Dr Paraic O'Suilleabhain</b>	Dept. of Psychology
<b>Dr Kieran O'Sullivan</b>	School of Allied Health
<b>Prof. Leonard O'Sullivan</b>	School of Design
<b>Prof. Judi Pettigrew</b>	School of Allied Health
<b>Prof. Helen Phelan</b>	Irish World Academy of Music and Dance
<b>Dr Helen Purtill</b>	Dept. of Mathematics and Statistics
<b>Prof. Ita Richardson</b>	Dept. of Computer Science and Information Systems
<b>Dr Katie Robinson</b>	School of Allied Health

NAME	DEPARTMENT/SCHOOL
Dr Patrick Ryan	Dept. of Psychology
Prof. Conor Ryan	Dept. of Computer Science and Information Systems
Dr Elizabeth Ryan	Dept. of Biological Sciences
Dr Nuala Ryan	Dept. of Management and Marketing
Dr Ruth Ryan	Dept. of Nursing and Midwifery
Dr Nancy Salmon	School of Allied Health
Dr Jon Salsberg	School of Medicine
Dr. Jennifer Schweppe	School of Law
Dr Ali Sheikhi	Health Research Institute / Dept. of Mathematics and Statistics
Dr Eimear Spain	School of Law
Prof. Austin Stack	School of Medicine
Dr Cristiano Storni	Dept. of Computer Science and Information Systems
Prof. Audrey Tierney	School of Allied Health
Dr Elaine Toomey	School of Allied Health
Dr Clodagh Toomey	School of Allied Health
Dr Alexandros Tsoupras	Dept. of Biological Sciences
Dr Dympna Tuohy	Dept. of Nursing and Midwifery
Dr Pepijn Van de Ven	Dept. of Electronic & Computer Engineering
Prof. Cathal Walsh	MACSI and Dept. of Mathematics and Statistics
Prof. Michael Walsh	School of Engineering
Prof. Giles Warrington	Dept. of Physical Education and Sport Sciences
Dr Eoin White	School of Design
Prof. Catherine Woods	Dept. of Physical Education and Sport Sciences
Dr Aileen Wright	School of Allied Health
Dr Ioannis Zabetakis	Dept. of Biological Sciences



**Strengthening links**  
 with our clinical and  
 industry partners



## Appendix 2: HRI-Affiliated Papers 2021 (Decile 1)

- Amiri, A., Barreto, G., Sathyapalan, T. and Sahebkar, A. (2021) 'siRNA Therapeutics: Future Promise for Neurodegenerative Diseases', *Current Neuropharmacology*, 19(11), 1896-1911, available: <http://dx.doi.org/10.2174/1570159x19666210402104054>.
- Barrett, E., Larkin, L., Caulfield, S., De Burca, N., Flanagan, A., et al. (2021) 'Physical Therapy Management of Nontraumatic Shoulder Problems Lacks High-Quality Clinical Practice Guidelines: A Systematic Review With Quality Assessment Using the AGREE II Checklist', *Journal of Orthopaedic & Sports Physical Therapy*, 51(2), 63-71, available: <http://dx.doi.org/10.2519/jospt.2021.9397>.
- Berditchevski, F., Fennell, E. and Murray, P.G. (2021) 'Calcium-dependent signalling in B-cell lymphomas', *Oncogene*, 40(45), 6321-6328, available: <http://dx.doi.org/10.1038/s41388-021-02025-8>.
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## Appendix 3:

### Research Grants Awarded 2020/2021 (>€50K in Value)

Funding Body	Description	Budget €	Project Leader
Health Research Board	HRB- Towards an integrated model of care for older adults transitioning from the Emergency Department to the community	1,480,169	Rose Galvin
European Union	EU VIBES Improving recyclability of thermoset composite materials through a greener recycling technology based on reversible biobased bonding material	659,291	Maurice Collins
Health Research Board	HRB- PPI Ignite Network	406,095	Jonathan Salsberg
Health Research Board	HRB Mindful music and dance for older adults The Feasibility of an Arts based health intervention for health and wellbeing	378,131	Amanda Clifford
Science Foundation Ireland	SFI- DISECT	310,083	Paul Murray
Industry	Industry- Supplementation of Zinc-AA Complexes in women during pregnancy	294,513	Andreas Grabrucker
European Union	EU- Nethate	274,684	Jennifer Schweppe
Science Foundation Ireland	SFI Fully sustainable PET derived from terephthalic acid produced from lignocellulosic waste	252,491	Maurice Collins
Health Research Board	HRB-Using Knowledge Translation to Enhance the Use of Evidence in Public Health Decisionmaking by Policymakers and Healthcare Managers in Ireland	249,519	Elaine Toomey
Enterprise Ireland	EI Bio efficacy and impact of plant based supplements for bone health	243,450	Phil Jakeman
Department of Agriculture, Food and the Marine	DAFM- NXTGENWOOD	231,173	Maurice Collins
European Union	EU Co Construction of the health promoting sports clubs policy audit tool HSPC PAT	196,591	Catherine Woods
Health Research Board	HRB- Excercise therapy for degenerative meniscal tears in the primary care- a feasibility cluster randomised control trial	194,037	Karen McCreesh
Enterprise Ireland	EI- Stage 2 Cothrom-Semi Automated Mammography (CSAM)	173,011	Conor Ryan

Funding Body	Description	Budget €	Project Leader
Cystic Fibrosis Foundation (CFF) in the USA in collaboration with RCSI (Dublin)	RECOVER	160,145	Colum Dunne
Industry	Industry Fully sustainable PET derived from terephthalic acid produced from lignocellulosic waste	148,288	Maurice Collins
Department of Agriculture, Food and the Marine	DAFM- Blue whiting protein hydrolysates for management of sarcopenia	140,483	Brian Carson
Industry	Industry Design and development plan for urinary tract infection diagnostic	130,783	John Mulvihill
Enterprise Ireland	EI- Evaluation of alternative conductive materials for INNOVO's wearable technology using novel methods to measure the mechanical and electrical properties concurrently	111,439	John Mulvihill
Irish Research Council	IRC GOIPG Aisling Greaney	110,000	John Mulvihill
Irish Research Council	IRC EPSPG Emma Jude Lyons	110,000	Leonard O'Sullivan
Irish Research Council	IRC GOIPG Niall Donlon	110,000	Romina Gaburro
Irish Research Council	IRC GOIPG Fiona Neylon	110,000	Paul Murray
Enterprise Ireland	EI- Antithrombotic Activities of Novel Yoghurt Drink	109,503	Ioannis Zabetakis
Irish Research Council	IRC GOIPG Rachel Moore	106,912	Karen McCreesh
Irish Research Council	IRC GOIPD Fernanda Zamboni	96,417	Maurice Collins
Irish Research Council	IRC GOIPD Hala Jaber	96,417	Helen Phelan
Health Research Board	HRB- Exploring diet quality in Cystic Fibrosis - enablers and barriers to eating a healthy diet in CF	96,265	Audrey Tierney
European Union	EU- BRAVA	94,737	Ciaran MacDonncha
Department of Agriculture, Food and the Marine	DAFM- Unlocking Protein Resource Opportunities To Evolve Ireland's Nutrition	91,000	Dick Fitzgerald

Funding Body	Description	Budget €	Project Leader
Irish Research Council	IRC EBPPG Alfredo Rodriguez	82,500	Maurice Collins
Irish Research Council	IRC GOIPG Emma Kirwan	80,184	Ann-Marie Creaven
Irish Research Council	IRC- GOIPG Ciara Leahy	72,000	Paul Murray
European Union	EU- DE-PASS	67,000	Ciaran MacDonncha
European Union	EU- Promoting Physical Activity in Secondary Schools for Health	58,750	Catherine Woods
Irish Research Council	IRC GOIPG Kathryn Fahy	53,456	Karen McCreesh
Science Foundation Ireland	SFI- Elucidating microvacuole formation mechanisms in intraocular lens polymers via process and material characterisation	53,145	Maurice Collins



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