

# Postgraduate Research



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# An Overview of the University of Limerick



Postgraduate Research

**The University of Limerick (UL) with over 17,500 students and 1,800 staff is an energetic and enterprising institution with a proud record of innovation and excellence in education, research and scholarship.**

UL is renowned for providing an outstanding student experience and employability and conducting leading edge research. UL is committed to the development and implementation of a holistic approach to sustainable development, in partnership with the communities we serve, locally and regionally and in our national and international alliances. Our aim is to enable our students, graduates and staff as 'active citizens' who contribute to the well-being and future of our planet.

Programmes are offered across a wide range of disciplines, including arts, business, engineering and construction, health and medicine, information and communication technology, law, mathematics, and natural sciences. UL has many Market leading programmes and several which are unique in Ireland. The Kemmy Business School is recognised as one of the top 1% of business schools in the world, placing a premium on creating an effective learning environment that encourages students to acquire management skills, whilst also instilling a sense of global responsibility.

UL pioneered the concept of Cooperative Education in Ireland, placing more than 2,000 students in paid and semi-paid work placements annually, with 30% of undergraduates placed on international placements. UL has one of the highest graduate employability rates at 97% and offers an array (over 50) of continuous professional education programmes.

Our responsive research community are taking on global challenges including affordable and clean energy, sustainable cities and communities, climate action and public health while also responding to the challenge associated with the pandemic. Our research focus is characterised by the convergence of discrete disciplines working together to achieve fundamental breakthroughs whilst ensuring research is rapidly translated into economic and social impacts for Ireland and beyond. Our research addresses areas of importance to our society such as education, languages, creativity, healthcare, complexity in contemporary and historical contexts, and social inclusion. This has significant impact on sectors that are vital to our economy, such as pharmaceuticals, med-tech, software, food, communications, energy, finance, and the public sector.

UL is home to the Nexus Innovation Centre which supports spin-out activity in the region, and is central to the UL Enterprise Corridor which hosts leading R&D companies such as Johnson & Johnson. Adjacent to the University is the National

Technology Park (NTP), Ireland's first science/technology park (263 hectares), which is home to over 80 organisations employing more than 3,000 people.

UL offers a wide range of research opportunities at Masters by research and PhD levels, thereby contributing to the advancement of our rapidly evolving knowledge society. Over 980 postgraduate research students are pursuing either doctoral programmes or research Master's and over 3,500 postgraduate students pursuing taught postgraduate diplomas and degrees. The University offers a range of traditional and structured PhD programmes, supported by generic and transferable skills programmes. Many of the structured programmes have links with other Universities, thus offering a wide range of options for the taught elements of the awards.

UL has strong links with industry from undergraduate to postdoctoral level. The employment rate of our graduates has always been exceptional. Our figures show that over 87% of UL Research Masters graduates and 96% of PhD graduates are engaged in employment or further study following graduation. The University of Limerick is at the heart of Ireland's mission to nurture and attract talent and generate new knowledge. We are renowned for providing an outstanding student experience, employability and conducting leading edge research. Our commitment is to make a difference by shaping the future through educating and empowering our postgraduate students.

UL is situated on a superb riverside campus of over 130 hectares with the River Shannon as a unifying focal point. Outstanding recreational, cultural and sporting facilities further enhance this exceptional learning and research environment. UL offers over 70 undergraduate programmes and over 150 taught postgraduate and professional programmes across four faculties. Our postgraduate research students benefit from the experience of international researchers and the availability of state-of-the-art equipment at our research institutes and centres.



**Faculty of Arts,  
Humanities & Social  
Sciences**



**Faculty of  
Education & Health  
Sciences**



**Kemmy Business  
School**



**Faculty of  
Science & Engineering**

## Research

The University is home to the two research institutes, the Bernal Institute and the Health Research Institute (HRI) and we host national centres of excellence that are tackling real world issues. These include three SFI funded research centres in the areas of advanced manufacturing, digital/software and pharmaceutical processing, as well as one SFI Centre for Research Training in Foundations of Data Science and two Enterprise Ireland centres focusing on dairy processing and pharmaceutical manufacturing. While in the area of education we host, EPI\*STEM the National Centre for Excellence in STEM Education.

To complement this the University also has strengths across areas such as; social psychology, biological sciences, sports science, applied mathematics, financial risk, aviation, allied health, social justice. These strengths coupled the increasing focus on interdisciplinary research in areas such as digital health, cancer, advanced manufacturing, and biopharma.



### Bernal Institute

hosts a multidisciplinary team of world-leading materials scientists and engineers at UL. The Institute represents a €100m+ investment in world-class characterisation, modelling and manufacturing facilities. Examples of these strengths include internationally leading research in crystallisation and crystal engineering. The Institute has utilised its research expertise to lead large, inter-institutional research centres in pharmaceutical materials, pharmaceutical processing, and dairy processing. Its mission is to use structured materials research to develop disruptive technologies related to Health, Energy and Environment that will create a legacy of scientific achievement that benefits future generations. Bernal research is organised across biomaterials, composite materials, molecular, Nano materials and process engineering.



### Health Research Institute (HRI)

is a multidisciplinary research institute that brings together researchers from across UL and partner organisations to conduct research that has a meaningful impact on people's health. The work of the HRI focuses on the underlying themes of Lifestyle and Health, Health Service Delivery and Technologies supporting Health and Wellbeing. A commitment to public and patient involvement (PPI) in health research has been a major feature of HRI.

# Overview



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Located on the Atlantic edge of Western Europe, the University of Limerick has research collaborations with over 1,900 partners across 107 countries.



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Hosts 7 externally funded research centres in the areas of pharmaceutical and biopharmaceutical manufacturing, dairy processing, advanced manufacturing, software research, data science and STEM education & research.



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Over 980 Research, Masters and PhD students from over 60 different countries.



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Currently hosting 6 European Research Council Awardees.



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We have forged over 200+ research collaborations with industry.



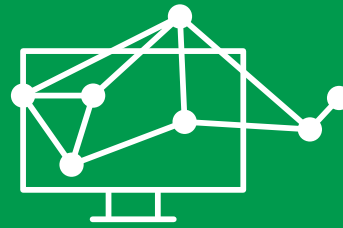
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Home to Ireland's first UNESCO Knowledge for Change Hub.



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**Host to doctoral training programmes in data science<sup>1</sup>, artificial intelligence<sup>2</sup>, dairy processing<sup>3</sup>, fertilizer production and phosphorous recycling.**



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**Host to post-doctoral fellowship programmes in smart manufacturing<sup>4</sup>, process engineering<sup>5</sup>, advanced learning in evolving critical systems<sup>6</sup>.**



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**In the Times Higher Education (THE) Impact Rankings 2021, UL is ranked 50th out of 1,115 universities this year – moving up from a 101-200 ranking out of 768 universities in previous year.**

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- 1 University of Limerick in partnership with University College Dublin and Maynooth University lead a new €21million SFI Centre for Research Training in Foundations of Data Science, with industry partners coordinated by Skillnet Ireland.
  - 2 UL is a partner in the SFI CRT for Artificial Intelligence
  - 3 REFLOW, MSCA Innovative Training Network (ITN) <https://cordis.europa.eu/project/id/81425>
  - 4 Confirm SMART 4.0 postdoctoral fellowship programme funded by the European Commission (MSCA and SFI).
  - 5 Process Fellowship <https://www.process-cofund.eu/> 6 A
  - 6 ALECS Fellowship Programme funded through the European Commission - MSCA and SFI. <https://alecs.lero.ie/what-is-the-alecs-programme/>





**Our postgraduate research students benefit from the experience of international researchers and the availability of state-of-the-art equipment at our research institutes and centres.**



# Faculty of Arts, Humanities & Social Sciences

Postgraduate Research



**With more than 265 postgraduate research students, a lively postgraduate community enriches the Faculty of Arts, Humanities & Social Sciences (AHSS). Over the last few years, a number of structured PhD programmes have developed, providing opportunities for students to hone their research skills through a combination of coursework and thesis in thematic areas such as Arts Practice, literary criticism, historical or political analysis, legal studies, and sociological and cultural studies.**

Research students have opportunities to acquire scholarly expertise as well as valuable transferrable skills through a number of available modules, intensive courses, seminars, workshops, and other supports offered by the university. Research students are encouraged to participate in national and international conferences, and funding is available on an annual basis to enable them to travel to conferences and to undertake their research.

The Faculty is home to a number of research centres, including **the Centre for Applied Language Studies, the Centre for Early Modern Studies, the Centre for Peace and Development, the Centre for Crime, Justice and Victim Studies, the Centre for Irish-German Studies, and the Ralahine Centre for Utopian Studies**. It is also home to the interdisciplinary European Centre for the Study of Hate. The Faculty is also home to the REPPP project (Research Evidence into Policy Programmes and Practice Project), which is an innovative partnership between the UL School of Law and the Department of Justice. A full list of the AHSS research centres, clusters, and groups is available [here](#).

## History Department

The History Department is home to a culture of research excellence which is expressed in the scholarship of individual faculty, in ambitious collaborative ventures, and in the vibrancy of postgraduate research. The range of expertise within the Department is considerable. The research interests of the faculty span the late medieval period to the twentieth century; incorporate Irish, European, Middle Eastern, American, and Australian history; and extend across the fields of political, social, and cultural history. Particular strengths include urban history, public history, historical geography, Irish republicanism, diplomatic history, oral history, the history of family, the history of poverty, and early modern studies. Research clusters cover the early modern to modern periods around the themes of diaspora, diplomacy, republicanism, medical history, and cultural history.

## School of English, Irish, and Communication

The School of English, Irish, and Communication is dedicated to research excellence and creativity across our disciplines, which are concerned with communication and culture. The School's research is interdisciplinary, inclusive, and internationally focussed. Our faculty in Irish and English share interests in language, literature, culture, history, and society from the medieval and early modern periods to contemporary culture and the creative writing of the present day. Our English faculty specifically publish widely on topics from eighteenth-century poetry to contemporary North American fiction; Irish gothic literature to the occult life of Yeats; the nineteenth-century New Woman to human rights discourse and affect theory; medieval recipes and instructional books to trauma in contemporary women's fiction.

In Léann na Gaeilge (Irish Language and Literature) particular strengths include early modern Irish (1200-1650), manuscript studies and textual editing, placenames and family names, folklore and ethnography, in addition to contemporary language and literature. Researchers in Technical Communication and Instructional Design (TCID) explore various aspects of specialised communication such as e-learning, instructional design, assessment design, open educational resources, policy and practice in online learning, virtual teams, health communication, and pedagogy and practice in technical communication. Our Journalism faculty is highly respected for its work on media discourse; the role of communications systems in market crises; business and financial journalism; journalism and ideology; journalistic ethics; sports journalism; comparative models of journalism practices; and developments in digital media and implications for journalism practice.

## School of Law

The School of Law hosts two primary research centres: the International Commercial and Economic Law Group (ICEL) and the Centre for Crime, Justice and Victim Studies (CCJVS). The Director of the Centre for Understanding Emotions in Society (CUES) and the Co-Director of the Hate and Hostility Research Group are members of the School of Law. Faculty members have further research interests in a number of areas including criminology, criminal law, contract, tort, competition, property and land law, penology, sport law (including animals in sport), and victim studies together with hate crimes.

## Department of Politics & Public Administration

Within the Department of Politics & Public Administration, researchers embrace a diverse range of fields both empirically and methodologically. The department boasts a strong combination of nationally and internationally renowned specialists in post-Soviet politics, Southern African politics, international political economy, contemporary European and EU politics, Irish politics and public policy, international relations theory, critical theory, public administration and local government, and security studies. The department retains a strong national and international focus in political studies and accommodates the Centre for Peace and Development Studies, which has a focus on peacekeeping, peace-making, and foreign aid. In terms of postgraduate research, the department emphasises methodological training in comparative politics, qualitative research, and quantitative analysis.

## Department of Sociology

The Department of Sociology is committed to a critical engagement around what broadly constitutes the basis of our social membership, whether gendered, classed or linked to core issues of health, the media, migration, education or globalisation. The department has a strong commitment to and expertise in quantitative and qualitative research methods. **The Advanced Research Consortium on Gender**, a joint initiative with NUI Galway, based in the Department of Sociology, works closely with a range of disciplines.

## School of Modern Languages and Applied Linguistics

The School of Modern Languages and Applied Linguistics is home to a vibrant research culture, including the Ralahine Centre for Utopian Studies, the Centre for Irish-German Studies, and the Centre for Applied Linguistics. **The Centre for Applied Language Studies (CALS)** is the largest research centre in the Faculty and one of the largest and most active in the University with about 60 members and 20 postgraduate students. CALS has three main research clusters: New Learning Environments; Discourse, Society and Identity; and Plurilingualism and Language Policy. CALS is a multilingual centre with members carrying out research in a variety of languages and contexts, including English (Irish-English and ESOL), Gaeilge, French, German, Spanish, and Japanese. Particular strengths in applied and sociolinguistics include: ICT and language learning, corpus linguistics, language policy, bi- and multilingualism, Gaeilge and minority language sociolinguistics, and media discourse.

## Irish World Academy of Music and Dance

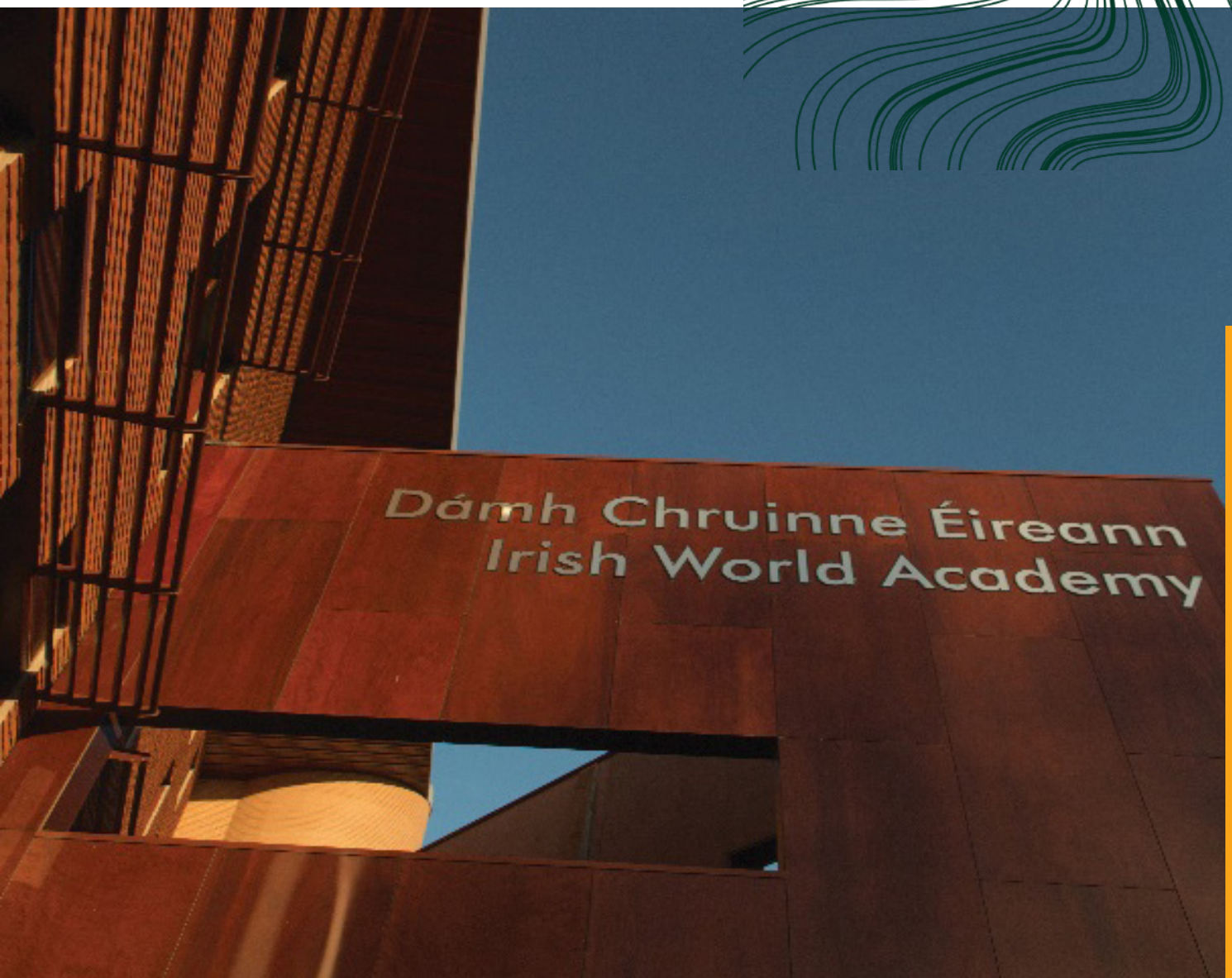
The Irish World Academy of Music and Dance (IWAMD) is the centre of academic and performance excellence housed at the University of Limerick, Ireland. The Academy honours the energies of performance and academic reflection across a wide range of genres and disciplines. These, in turn, are informed by innovative community engagement and artist-in-residence initiatives that take the Academy to the wider community, while attracting a wealth of international performance and scholarly expertise. Founded in 1994 by the late Professor Mícheál Ó Súilleabháin, the Academy has found its home on the beautiful banks of the River Shannon in a state of the art building, which includes two theatres, recording studios, individual practice rooms, and dance studios. It provides an inspiring creative space for all those who study and work there.

The Academy has a strong international presence, with over 45 countries represented by its current student body and alumni. The Academy also has a faculty of excellent performers, academics, and industry professionals. It offers a suite of programmes in music, dance, and related subject areas, and its research is at the forefront of these fields of enquiry worldwide. The Irish World Academy has a vibrant doctoral research community and offers PhD (Thesis) and PhD Arts Practice programmes.

Many Artists-in-Residence and visiting artists and scholars enhance the rich creative environment within which both traditional and practice-based research occurs. The Academy hosts numerous performance events, interdisciplinary seminars, symposia, and conferences throughout the academic year. Faculty, doctoral, post-doctoral candidates and artists-in-residence conduct research within the Academy.

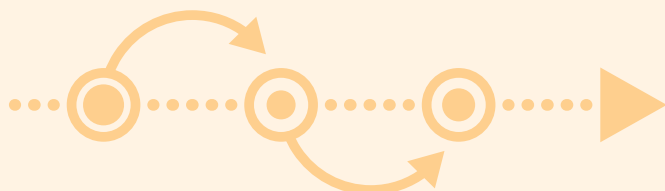
Faculty at the Academy lead and contribute to a number of interdisciplinary research

clusters including the following: Arts and Health Research Network, IMBAS (Arts Practice Research), Irish Traditional Dance Research Cluster, Migration & Integration Research Cluster, Popular Music and Popular Culture Research Cluster, Power, Discourse and Society Research Cluster, Traditional Song as Cultural Heritage Research Cluster, Singing and Social Inclusion Research Cluster, Ionad na Cruite (Harp Research Cluster), and Taighde Dámh Chruinne Éireann (TDCE) PhD Forum. The IWAMD hosts the National Dance Archive of Ireland, as well as Dance Research Forum Ireland, a non-profit, international, inclusive and interdisciplinary society for the promotion, support, and development of dance research and practice in Ireland and further afield.

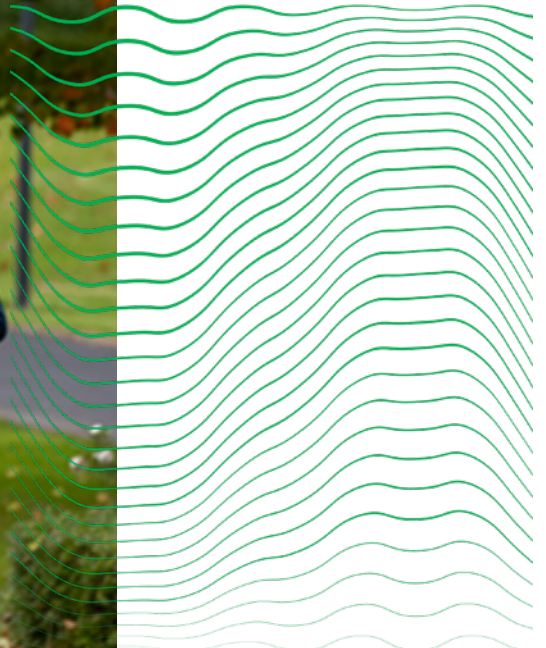


# Structured PhD programmes within the Faculty of Arts, Humanities and Social Sciences

- In 2009, a **Structured PhD in Arts Practice Research** was established in the Irish World Academy of Music and Dance. This is the first structured PhD programme of its kind in Ireland, providing research opportunities for professional artists wishing to reflect on their own practice. The Academy has also become a national leader in advocating for the mainstreaming of arts practice research in higher education in Ireland and has established national and international platforms for promoting policy development, shared practices of evaluation, and the development of repositories for arts practice research artefacts. The programme caters for a wider variety of performance specialisations and to date has attracted students in Irish traditional music and dance, contemporary dance, medieval song, Western art music performance, African music and dance, music education, and community music.
- In 2020, the Faculty of Arts, Humanities and Social Sciences at UL launched its innovative **International Structured PhD (ISPHD) Programme**. This programme enables students to develop skills in teaching through the medium of English as well as developing an individual research project. The initial cohort of students come from Algeria and have access to a wide range of supports throughout the university, such as the ISPhD AHSS Winter School.
- A further two Structured PhD programmes are in the final stages of development, including the Structured PhD in Public Humanities and the AHSS Structured PhD. Faculty are engaged in a wide range of research areas, and a current list of their research interests is available.







## A Postgraduate's Experience:

# — Mark Ryan



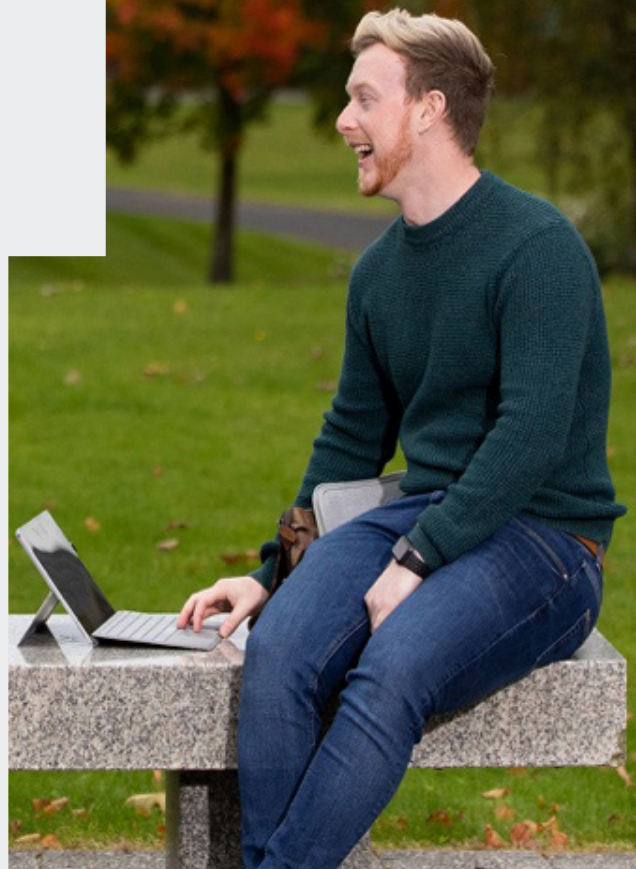
I am a PhD student in my penultimate year of studies in the School of Modern Languages and Applied Linguistics here at UL. I am completing my PhD by Publication, and my research aims to highlight the role of language in the representation of queer people in Ireland. This involves analysing the discursive construction of queer people and stereotypes which reproduce harmful heteronormative ideologies affecting LGBTQ+ people nationwide.

Over the course of my BA in Applied Languages and MA in Applied Linguistics, both of which I completed at UL, I developed an encouraging network, comprised of academic faculty and fellow students. UL affords me the opportunity to preserve and foster the relationships that have been enriching thus far. My supervisors and teachers have always encouraged me and equipped me with the tools to engage with my particular research interests in a meaningful way – this is invaluable in my opinion.

The University of Limerick also boasts an excellent postgraduate research community. Many colleagues have become good friends, and with all the courses and training programmes on offer, someone new to the world of academia will soon feel at home. A further reason for choosing the University of Limerick is the campus, which offers many opportunities for PhD students to maintain a healthy work-life balance – something I have learned is an absolute must when undertaking a PhD! Whether you want to join a club or society, just take a stroll by the river, or go for a quick swim, UL has you covered. This holistic aspect gave UL the edge for me.

I was lucky enough to receive a Tuition Fee Award from the Faculty of Arts, Humanities and Social Sciences for my MA in Applied Linguistics, as well as a 3-year PhD Fellowship, granted to me by the School of Modern Languages and Applied Linguistics. These have allowed me to continue studying what I love and I am beyond grateful for the opportunity.

I have attended generic and transferable skills workshop within UL aimed at acquainting researchers with specific software such as Nvivo (textual analysis software) and Sketch Engine (corpus linguistics software). Both of these are central to my research, so it was fortunate I was able to get some hands-on experience with them. Also, I took a Professional Development module which



has enabled me to be more articulate when speaking about my research, skills, and attributes. The Graduate and Professional Studies seminars further equip students with tools and skills to thrive in the postgraduate environment.

During my Masters, I presented my thesis at the Annual UL-MIC Applied Linguistics Conference, and I have since had abstracts accepted at a number of conferences, both national and international. These provide an opportunity to get feedback on my work from lecturers, leading scholars in my field, and other students. I have just submitted my first article to an international peer reviewed journal for publication – a milestone that seemed so distant a year ago.

If you are thinking of doing a PhD, make it a reflection of who you are and your interests. Research is so much easier when you enjoy reading (and there is a lot of reading) about your specific topic. If you have any questions about the day-to-day of doing a PhD, talk to current students and get them to share their experiences. Finally, do not be scared of it – you are able!”



## A Postgraduate's Experience:

# — Michelle Daly



I am a PhD Research Student at the School of Modern Languages and Applied Linguistics (MLAL) at UL. I have gained a wide range of professional teaching experience both nationally and internationally, namely in the UAE, China, the UK, and Ireland. After teaching in Dubai for five years, I returned to Ireland to complete my Masters and subsequently, my PhD in TESOL/Applied Linguistics.

What attracted me to UL? Multiple opportunities are offered in terms of academic standards and support for students. The university offers high-quality teaching through face-to-face and blended learning programmes. My primary department, the School of MLAL is renowned for its faculty expertise and academic reputation. Since commencing my PhD, I have benefitted immensely from the support and encouragement offered by my supervisors at the School of MLAL. It is from their range of research, teaching, and community-engaged experience that I continue to gain.

UL is a prime institution to study this PhD theme of intercultural awareness due to the vibrant interdisciplinary network of researchers committed to this field. Collaboration within UL's research clusters allows opportunities to increase my research visibility as well as develop networks with like-minded people.

Reflecting on the student supports, numerous resources exist for the acquisition of expert knowledge and transferable skills to enhance professional development. The Graduate & Professional Studies (GPS) Generic and Transferable Skills workshops are of great value to develop analytical skills, scholarly communication, and project management skills. The Regional Writing Centre offers students the opportunity to address any aspect of their writing through individual consultations and part of a writing group.

My membership of the Centre for Applied Language Studies Research Centre, which is a focal point for national and international links, permits paper presentations to faculty and leading scholars in the TESOL and Applied Linguistics field. As part of the structured component of my PhD, I have undertaken core modules related to this research area and subsequently, I was presented with the UL President's 'Outstanding Academic Achievement' Award based on the results achieved. I have also represented my peers as an elected PhD Council Member of the UL Postgraduate Students' Union by fellow PhD students. To achieve all of the above and more, time management is key. Such perseverance and endurance will be well worth it in the end."



## A Research Postgraduate's Experience:

# — Milena Callegari Cosentino



I am a PhD Teaching Fellow in History and Psychology. I started my PhD in 2017, after completing my Bachelor and Master degrees in Psychology at the University of São Paulo in Brazil, and having been working as a psychologist for four years. Returning to the university's environment was challenging and exciting at the same time. The University of Limerick provides innumerable opportunities to students to develop knowledge and experience. Besides working on my project 'Rhodes and the Holocaust: repercussions and legacies for later generations', I could teach and participate in other academic practices which were very enriching.

The experience of teaching tutorials to undergraduate students in both departments is challenging and of great learning. Working as editor of the History Studies Journal within the Department of History also has been very gratifying, since it is the only history journal in Ireland that is edited and managed by postgraduate students and provides a publishing platform for both undergraduate and postgraduate scholars. Participating and receiving a prize in the 'Thesis in Three' competition was very satisfying and significant. Verbal communication is an important aspect to develop, especially when English is not my first language.

My research explores the transmission of experiences related to the Holocaust and Diaspora of Jews from Rhodes to their descendants. It involves tackling the themes of trauma, loss, migration, recovery, relationships, nostalgia, and identity through family narratives and memory. I am comparing interviews recorded with twenty-two survivors in the 1990s (available at the Shoah Foundation Visual History Archive) with interviews I collected with twenty-three descendants in 2019.

To collect interviews around the world was a challenge, and I am deeply grateful to all the support and funding I received for the completion of this research: from the Departments of History and Psychology; Faculty of Arts, Humanities and Social Sciences; ERASMUS +; and Irish Research Council. I really appreciate all the support received from the faculty, lecturers, staff, fellow students, and specially of both of my supervisors (Emeritus Professor Anthony McElligott and Professor Patrick Ryan), which is essential in this process of learning, and developing new knowledge and skills."

# Faculty of Education & Health Sciences

Postgraduate Research



**Research, alongside teaching, is a core activity of the Faculty. EHS boasts a vibrant research community. Research in EHS includes education, health and wellbeing and has identified four key areas of research strength and specialisation - social inclusion; optimising health; physical activity and human performance; and professional practice.**

We have a strong focus on providing excellent support for researchers and excellent postgraduate opportunities. We support 'pure', 'applied' and translational research in education, health, psychology and sports science and we offer a range of full-time and part-time research programmes leading to both Masters and Doctoral qualifications. There are over 200 research students in the Faculty of EHS. EHS provides high-quality postgraduate programmes. These include traditional PhD, structured PhD, Professional Doctorates and Research Masters. Our postgraduate students are members of a wider research community – involving research-active academic staff and research specialists – within the faculty. Research interests and productivity are reflected in the number of EHS-housed research centres, units and groups that are national and international research leaders in their field:

- **Biomechanics Research Unit**
- **EPISTEM**
- **HRI - Health Research Institute**
- **Limerick Digital Cancer Research Centre**
- **PEPAYS Ireland - Physical Education, Physical Activity and Youth Sport**
- **Public and Patient Involvement (PPI)**
- **Sport and Human Performance Research Centre**
- **4i Centre for Interventions in Infection, Inflammation and Immunity**

We support excellent, innovative and impactful research. Our aim is to advance the wellbeing of people by graduating effective and critically reflective scientists, education and healthcare professionals. We also strive to create and disseminate knowledge, through research and scholarship that impacts on the social, educational and healthcare needs of people locally, nationally and globally. The multidisciplinary structure and expertise of the faculty provide research agendas around prevention and treatment of illness, biomedical sciences, clinical therapies, education, food & health, health sciences, physical activity, sport and sport sciences, professional preparation and development, social identity and trauma, social issues and political identity – all areas of national challenge.

## Department of Nursing and Midwifery

The Department of Nursing & Midwifery offers a range of research opportunities to prospective postgraduate students. Our research activity aims to inform the care and support of families throughout the life and illness trajectory and the educational preparation of health care professionals. We support and contribute to the goals of the Health Research Institute, through our leadership of the Health Implementation Science and Technology Research Cluster and collaborations with researchers and research centres across the University.

The Department organises its research into three clusters that reflect our current research activity and education provision; Women Child and Family Health; Ageing Mental Health and Intellectual Disabilities; Supportive and Palliative Care. We offer a Professional Doctorate in Healthcare Practice which is a taught level 10 programme open to all Health Professionals and focused on facilitating students who wish to remain in clinical practice to develop advanced skills in designing and conducting research and practice based enquiry relevant to their own area of practice. We welcome applications for Research Master's and PhD through research and students can expect to join a vibrant research environment and receive excellent supervision.

## Department of Physical Education & Sport Sciences

The Department of Physical Education & Sport Sciences (PESS) has growing and diverse programmes of research with priorities in the following broad disciplines: Food and Health; Physical Activity and Health; Sport and Human Performance and Sport Pedagogy. The department currently hosts the Exercise is Medicine National Centre; the Biomechanics Research Unit; the Physical Activity for Health (PAfH) research cluster within the Health Research Institute (HRI); the Physical Education, Physical Activity and Youth Sport Research Centre (PEPAYS) and the recently established priority research centre in Sport and Human Performance.

The refurbished Physical Education and Sport Sciences building provides many well-equipped laboratories and practical areas for biomechanics, coaching, exercise physiology, pedagogical, physical activity, psychology and strength & conditioning research and the Department has a rapidly developing applied and translational research ethos focused on quality and impact. There are opportunities to conduct multidisciplinary research across the translational science spectrum, from understanding the biological basis of health and disease to delivering interventions that improve the health and performance of specific populations.



## Department of Psychology

The Department of Psychology at the University of Limerick is a vibrant and engaged department with a focus on contemporary social issues and a mission to foster curiosity, critical thinking and compassion in students and graduates. Complementing and underpinning these offerings is a research agenda focusing on exploring and understanding the key social issues of our times by understanding the workings of the human mind. Key and emerging research themes include social psychology, clinical, health psychology, and experimental psychology.

The Department hosts the following research centre and laboratories:

- **Centre for Social Issues Research**
- **I-TEACH - Teaching for Inclusion Research Lab**
- **PathLab - Personality, Individual Differences, and Biobehavioural Health Laboratory**
- **Social Psychology and Cognition Lab (SOCO-UL) Lab**
- **Study of Anxiety and Health (SASH) Lab**

Social psychology is the study of people in their context; in other words, how other people influence their thoughts, feelings and behaviours. Key topics include social inclusion, homelessness, marginalisation, global mobility and diversity. Clinical psychologists apply psychological theories and research to a wide range of mental, emotional, developmental and behavioural disorders. Our key areas of work and research include learning disabilities, depression and brain injuries.

Health psychologists undertake research in health and illness, how psychological, social and behavioural factors influence physical health. Key areas of work in our department include the damaging effects of stress on health on particular groups of people. Using experimental methods to explore theory and test hypotheses, experimental psychologists study the relationship between the mind and human behaviour. Key areas of our work include studying judgements and decision-making, perception, memory and learning and understanding how changes in these basic human abilities impact on wellbeing and mental health.

The psychology department is a 'hub' for local and international interdisciplinary collaboration, with active collaborations with applied mathematics, network science, medicine and healthcare, social service providers and community groups. These global collaborations are helping us to advance psychological theory with clear social applications.

## School of Allied Health

The School of Allied Health includes the Disciplines of Occupational Therapy, Physiotherapy, Speech and Language Therapy and Human Nutrition and Dietetics. For qualified health professionals, postgraduate Certificates in Advanced Clinical Practice and Posture, Seating and Wheelchair Mobility Provision across the Life Course, as well as an MSc in Advanced Healthcare Practice are available. The MSc supports healthcare practitioners to evaluate their practice and extend, or refocus, their skills and knowledge to meet contemporary challenges in healthcare.

The School organises its research activities under two broad themes – Health Services Research (HSR) and Population Health Research (PHR). Within these themes, our research groups include the Ageing Research Centre, Health Implementation Science and Technology, Musculoskeletal Health, Acquired Neurological Conditions Integrated Research, and Speech, Language and Communication Needs. All of our research groups adopt a patient and public involvement approach and collaborate with stakeholders across a wide range of disciplines including the health and social care sectors.

Staff within the School have a strong record of accomplishment in securing research funding from national and international funding bodies including the Health Research Board, Irish Research Council and EU funders. There are several postgraduate MSc and PhD students registered in the School and together with a growing number of postdoctoral and research staff, the School offers excellent support for future postgraduate researchers in healthcare.

## School of Education

The School of Education welcomes applications for research in a wide range of fields within education at primary, second and tertiary level. Current research interests include initial and continuing teacher education, action research in education, information and communication technology (ICT) in education, teacher education for sustainable development, school leadership and school effectiveness, curriculum and assessment in second-level education. As well as gender issues in education, curriculum renewal and implementation, moral and emotional development, health promotion, guidance and counselling in second-level education.

Through an established research base, ongoing collaborations, and suite of programmes, the EPI\*STEM National Centre for Science Technology Engineering and Mathematics (STEM) Education continues to play an impressive role in national priorities in STEM teaching and learning. In terms of educational leadership, our various programmes are designed to empower participants to position themselves within contemporary leadership discourses towards the development of enhanced leadership identity and career development.

## School of Medicine

Research at UL's School of Medicine spans biomedical sciences, medicine, surgery, primary and pre-hospital care. With a focus on exploring the fundamentals of health and illness, School of Medicine researchers contribute new knowledge that is relevant and translatable to real-world challenges. Research is a cornerstone of the School's strategy. Through their expertise and leadership, the School's faculty members and support staff enable the next generation of researchers as they aspire and strive to improve lives by preventing and treating disease.

Many of the School of Medicine's researchers are members of the Health Research Institute (HRI) at UL. Through this and other initiatives the School's staff contribute to numerous collaborations in healthcare research across the University.

The School hosts and supports our staff in researching important research questions. Two examples are described briefly below. UL's Centre for Interventions in Infection, Inflammation & Immunity (4i) was formed to bring together like-minded researchers from across the University and distributed clinical campuses. The Centre provides the vision, sense of identity, support and guidance that has enabled existing and new researchers as they continue to link research and innovation activity with clinical practice and improvements in patient care. The School also hosts a World Health Organisation (WHO) Collaborating Centre focused on Migrants' Involvement in Health Research.

This Centre has a four-year work programme that includes developing guidance for those that would like to use a more participatory approach in their research, and the piloting of a training programme to build capacity for meaningful involvement of migrants and other stakeholders.

In addition, the school has adopted an innovative approach to Medical Educational, and is actively involved in educational research.



# Scholars' Experiences:

## – Professor Mike Quayle

Department of Psychology



I am an Associate Professor at the University of Limerick, honorary senior lecturer at the University of KwaZulu-Natal, South Africa and an ERC starter grant holder. I lead an interdisciplinary team developing a Network Theory of Attitudes, allowing us to understand how people are linked into groups by the attitudes we share; how similarities and differences in attitudes become the basis for group identity; and how these processes unfold through social interaction. We think this group-based approach will help us understand how misinformation shapes public opinion, how political processes unfold over the course of elections, how people respond to vaccination information, how people decide what to believe about epidemics, and many other pressing social issues.

Our work links us to Social Psychologists via the Centre for Social Issues Research; mathematicians, statisticians and data scientists via MACSI (the Mathematics Applications Consortium for Science and Industry); and computer scientists via LERO (the Irish Centre for Software Research). We have the good fortune to be in a department and faculty hosting several national and international research projects (including an ERC Advanced Grant led by Prof. Orla Muldoon) and benefit greatly from the supportive and synergistic research environment.

Our group is firmly grounded in social psychology as well as being committed to extending our methodological and theoretical horizons through interdisciplinary research. We are always excited to welcome creative students willing to tackle big problems with new methods.”



# – Dr. Orla McCormack

School of Education



I am a Lecturer in the School of Education, University of Limerick. After qualifying as a science teacher, I pursued a PhD within the School of Education. My PhD, funded by the Gender Equality Unit of the Department of Education, explored a particular curriculum initiative, titled 'The Exploring Masculinities Programme'; launched in the late 1990s and received a significant amount of media coverage and debate. My PhD, which consisted of a national study of parents and journalist, raised questions regarding the accommodation of differing parental views in curricular programmes as well as the process of curriculum development adopted in this instance.

The specific focus of my PhD led to numerous teaching and research opportunities. Since completing my PhD, I have led an undergraduate (250+ students) and postgraduate (100 students) module Curriculum Policy and Reform. This core module encourages pre-service teachers to explore the concept of curriculum, the values that inform curriculum selection and the various factors that impact on curriculum change. I am also the programme director for the Professional Masters of Education (PME) at UL and work with a range of course directors to provide a coherent educational experience to post-graduate pre-service teachers.

Aligned with my teaching interests and expertise, my research focuses on teacher agency, particularly from the perspective of curriculum change and reflective practice. Schools are fascinating places and through my research and work I have engaged with schools at international, national, and local level.

I was Principal Investigator on a number of international EU funded projects that focused on supporting and evaluating change in schools and third level institutions. A TEMPUS funded project, Education for Sustainable Development beyond the Campus, focused on developing and implementing ESD curriculum into primary schools in Egypt. While an ERASMUS+ funded project, School University Partnership for Professional Learning Communities, aimed to develop collaborative reflective relationships both within and between schools and teacher education providers in Egypt.

I am currently collaborating with teachers and lecturers in Sweden, Estonia, and Denmark on a project to support teacher and student voice in curriculum.



At National Level, I have worked with Education and Training Board Ireland (ETBI) since 2012 to both explore and support the development of the core values (characteristic spirit) underpinning the sector. This work has directly influenced sector wide policies. I am also currently one of the Project Co-Directors for a national four-year study, funded by the National Council for Curriculum and Assessment (NCCA), which explores the implementation and impact of the Junior Cycle Framework. The project, led by Professor Merrilyn Goos, will draw on a national sample of principals, teachers, and stakeholders and will involve interviews, surveys and in-depth case studies. I am currently working with a group of academics throughout Ireland to design an Open Course on Reflective Practice for the National Forum for the Enhancement of Teaching and Learning in Higher Education. I have also worked with local schools to support them in evaluating school based curriculum initiatives.

I also review for a number of international journals including Teaching and Teacher Education, Reflective Practice and Irish Educational Studies and supervise a range of PhD, Master and Final Year Project students in the areas of reflective practice and curriculum change.

As is hopefully evident from above, my job is varied and diverse. It enables me to pursue various areas of interest and to work with a range of different people across a variety of contexts. It is a privilege to be able to do so.”

## – Professor Ann MacFarlane

School of Medicine



Anne MacFarlane, PhD is Foundation Professor of Primary Healthcare in the School of Medicine, University of Limerick. Anne is academic lead for, the interdisciplinary Public and Patient Involvement (PPI) Research Unit. Professor MacFarlane is a social scientist with degrees in psychology, sociology and health promotion. Her main interest is in giving individuals and communities a voice in health decision-making. She focuses on ‘Public and Patient Involvement’ in health and draws on the tradition of participatory health research to design research that is conducted in partnership with people, rather than research ‘for’ or ‘on’ them. Noted for her work in the field of implementation science, translating research findings into practice and policy. She has particular expertise in migrants’ involvement in health decision-making and has

a strong record of accomplishment of national and international research and policy work to improve communication between migrants and their primary care providers.

Professor MacFarlane has a number of significant international collaborations and roles. The Public and Patient Involvement Research Unit is designated as World Health Organisation Collaborating Centre for Migrants' Involvement in Health Research. She is an invited member of the UCL-Lancet Commission for Migrant Health in the European Region. She is co-founder and co-lead of the Participatory Health Research with Migrants group in the International Collaboration for Participatory Health Research. Anne is co-chair of the North American Primary Care Research Group's Committee for Science in Family Medicine's Participatory Research Group. She has an extensive network of European colleagues in primary care arising from her co-ordination of the FP7 EU RESTORE project 2011-2015. These roles can provide exciting international research opportunities for PhD students. Professor MacFarlane is very committed to postgraduate education, has supervised numerous PhDs to completion, while also examining theses in Ireland, the UK and the Netherlands. Her Unit is a national leader for graduate education in PPI.

Professor MacFarlane attends academic conferences and publishes regularly in high ranked international journals. She is very experienced at mentoring graduate students' conference activity and academic writing. She has extensive experience of disseminating research to policy makers using policy briefs and to community and health professionals using lay summaries. Most recently, she is involved in the use of arts based methods to design and disseminate research.

Professor MacFarlane had significant success with research grants from national and international agencies and is committed to supporting graduate students to develop skills to write successful grant applications for events, visiting fellowships and post-doctoral positions.

Graduate students working with Professor MacFarlane will enjoy an interdisciplinary, innovative and supportive research environment. They will work alongside post-docs and Faculty members as well as experience research support colleagues. They will gain insight about and opportunities for national and international collaborations to strengthen their research and its dissemination.



## Postgraduate Researcher's Experience:

# — Dr Clodagh Toomey

Research Fellow



I am a Health Research Board Emerging Investigator and Research Fellow in the School of Allied Health at the University of Limerick. It is now over a decade since I graduated with a B.Sc. Physiotherapy from UL and delved into my PhD training that researched the body composition changes in healthy Irish adults between the School of Allied Health and the Department of Physical Education and Sport Sciences at UL. The training I received here provided me with a unique skill set that attracted an offer to undertake a Postdoctoral Fellowship at the Sport Injury Prevention Research Centre in the University of Calgary in Canada, one of 11 International Olympic Committee (IOC) Research Centres for Prevention of Injury and Protection of Athlete Health. I saw this as a perfect opportunity to combine my clinical and research experiences into a project that was looking at risk factors for post-traumatic knee osteoarthritis in youth with a sport-related knee injury.

My learnings and experiences have now brought me full-circle as I returned to the University of Limerick in October 2020 to lead a project that will research how to implement exercise and education programmes as the first line of treatment for hip knee osteoarthritis in the Irish healthcare system. This is with the backing of a strong collaborative and inter-disciplinary team in the Faculty of Education and Health Sciences (EHS), which was critical to securing an Emerging Investigator Award of over €700,000 to complement the task. The IMPACT (Implementation of osteoarthritis clinical guidelines together) project will use the experience and knowledge of clinicians, researchers and patients together to bring evidence-based programmes for osteoarthritis into practice for the benefit of everyone. It will also allow me to mentor early career EHS researchers on their own journeys through their PhD and Postdoctoral Fellowships, which is a very rewarding process.”



## Postgraduate Researcher's Experience:

# — Cora Lunn

Irish Research Council PhD Candidate,  
Department of Nursing and Midwifery



Nursing has been my life now for many years and it has been a long-standing ambition to achieve a Ph.D. in this field. I have a MSc in Health and Social Policy, a Higher Diploma in Cardio Respiratory Nursing and I am fellow of Faculty of Nursing and Midwifery, Royal College of Surgeons.

I have worked in a variety of clinical management and practice development roles in Ireland and the UK. I have led nursing projects at regional and national level in the Health Service Executive (HSE). I was responsible for establishing National Clinical Leadership and Innovation Centre, in the HSE Office for the Nursing and Midwifery Service in 2011. I am passionate that nurses and midwives have the resources to maximise their leadership capacity. During this time, I became very interested in developing leadership strategies to support Directors of Nursing and Midwifery. This has been an important stimulus for conducting my research: Getting a picture: a grounded theory study of the role of Chief Directors of Nursing and Midwifery in acute hospitals in Ireland.

I was privileged to be awarded an Irish Research Council (IRC) Scholarship for this study. I commenced as the first (IRC) PhD candidate within the Department of Nursing and Midwifery in 2019. I received superb advice and support from faculty staff during my IRC application process and when I commenced as PhD Candidate. I have been encouraged and supported within the Department, to develop my research capacity, enhance my teaching capabilities and build peer networks.

“You have to see it, to be it”. I have gained so much from the learning shared by my supervision team, Department colleagues and the wider research community of the University of Limerick. I would encourage more nurse and midwife practitioners to train at PhD level, to develop your skills as independent researchers, show-case in-depth understanding of your subject, in leading the delivery of patient care.”

## Postgraduate Researcher's Experience:

# – Brendan O’Keeffe

Department of Physical Education and Sport Sciences  
in the Faculty of Education and Health Sciences



I completed my PhD at the Department of Physical Education and Sport Sciences in the Faculty of Education and Health Sciences.

My doctoral studies focused on developing a pedagogically sound and scientifically rigorous approach to monitoring health-related fitness in secondary schools. I enrolled on the EHS structured doctorate programme. This afforded me the opportunity to engage in a variety of specialist and research elective modules specific to my research area. Furthermore, the opportunity to collaborate with other postgraduate students across a range of disciplines in the Faculty of Education and Health Sciences developed a sense of community amongst our sPhD cohort. My supervisors and the PESS Department more broadly, were incredibly supportive in my research journey. I received multiple teaching opportunities, support funding for travel and research publications, as well as opportunities to collaborate with leading international experts in my field of research.

Upon graduating, I started a new role as a lecturer in the School of Health and Human Performance, DCU, and currently serve as an executive officer on the board of the Physical Education Association of Ireland. I maintained strong links with the PESS Department and UL community more broadly, and would highly recommend UL and the PESS Department as a destination to pursue your postgraduate research study.”



# Kemmy Business School



**Postgraduate Research**

**The Kemmy Business School (KBS) is a dynamic and innovative business school with the mission to deliver an outstanding educational experience, is research led, internationalised and socially engaged, with an international reputation for specialist areas of expertise. Excellence in research is vital to the delivery of this mission, in order to ensure that the positive impact of KBS on our stakeholders and the economy is maximised.**

KBS hosts over one hundred faculty and staff and almost 3,000 students, of whom more than 500 are postgraduates. Most of these are studying on our range of taught postgraduate programmes. Established in 1993, the Graduate Centre of Business provides a dedicated home to our postgraduate research students and ensures they are able to access all the services and supports needed for their work. The Graduate Centre currently hosts more than 80 postgraduate students pursuing MBS and PhD degrees across a range of business disciplines.

KBS was recently accredited by the European Foundation for Management Development (EFMD) Global Quality system (EQUIS). This prestigious award along with international accreditations by the Association to Advance Collegiate Schools of Business (AACSB) and the Association of MBAs (AMBA), means that KBS has achieved triple accreditation status and is recognised as one of the top 1% of business schools in the world.

KBS research is funded through competitive funding sources, both domestic and international, as well as industry-funded programmes. The Irish Research Council, Horizon 2020 and Horizon Europe, Marie Curie IRSES, Erasmus+, European Commission (Progress Framework), Economic and Social Research Council (UK) and the European Foundation for Entrepreneurship Research (EFER) have all been significant in recent years.

KBS faculty collaborate internationally in a range of successful research networks, and are increasingly involved in inter-disciplinary work. We have a focus where possible on translating our research to make it accessible to as wide a range of non-academic stakeholders as possible. The KBS Research Bulletin series enhances the impact of excellent, evidence-based research on the society and economy in which we live and work, available online at [\*\*Research Bulletins | Kemmy Business School\*\*](#).

## What we research

Research at KBS is organised and reported in a number of ways. The four academic departments (Accounting & Finance, Economics, Management & Marketing, and Work & Employment Studies) all have active research strategies. There are several broad thematic groupings including Work, Knowledge and Employment, and Public policy, Enterprise, Governance and Sustainability.

The KBS has a number of active research clusters that encourage collaborative work with PhD students and cross-departmental and inter-faculty research. Embedding our research culture across departments, themes and clusters effectively supports an interdisciplinary approach that leads to innovation and a positive impact on our wide range of stakeholders. Seminars featuring visiting guest speakers enrich the research culture of the KBS. KBS faculty are engaged in a wide range of research areas and a current list of their research interests is available [here](#).

## The Department of Accounting & Finance

Faculty in the Department of Accounting and Finance are engaged in a wide range of research areas involving diverse disciplinary frameworks and spanning a breadth of research methodologies. Research areas include capital markets research, utilising the Bloomberg trading floor as a key element of research infrastructure, emerging technological risk, ethics, accountability and the common good, critical accounting research, professional expertise, executive remuneration, accounting history, green finance, social sustainability, tax policy making, tax compliance, risk management, risk pricing, and innovative pedagogy. This research has been published in journals such as Nature Nanotechnology; Nanotoxicology; AI and Society; Accounting Organisations and Society; Journal of Business Ethics; Critical Perspectives on Accounting; Journal of Empirical Finance; Computers and Education; Interactive Learning Environments, Qualitative Research and Employee Relations.

Two research clusters are affiliated to the department:

- **The Accountability Research Cluster**
- **The Emerging Risk Assessment and Underwriting Cluster**

## The Department of Economics

The Department of Economics is known for applied economics and public policy research. Faculty research specialisms span major areas of economics and include economic integration, ecological economics, economics of tourism, technical efficiency in health care, smart cities, economics of higher education, enterprise growth, development and policy, macroeconomics, economics of innovation, empirical microeconomics, public sector economics, infrastructure and regulation, economics of the tourism industry, applied microeconomics and micro econometrics.

Research in the department is organised into a number of centres and research groups. We are home to two research centres, the **Euro-Asia Research Centre** and the **National Centre for Tourism Policy Studies**. With active research groups in diverse areas of applied economics, from **Privatisation and PPPs** to **Efficiency and Productivity Analysis** and the **Economics of Innovation and Policy**.

## The Department of Management & Marketing

Faculty in the Department of Management and Marketing are engaged in a variety of research projects involving diverse disciplinary frameworks. Work has appeared in journals such as the Journal of Product Innovation Management, Journal of the Academy of Marketing Science, Industrial Marketing Management, Journal of Marketing Management, Marketing Theory, Journal of World Business, Consumption, Markets and Culture, Journal of Brand Management, and Journal of Consumer Behaviour.

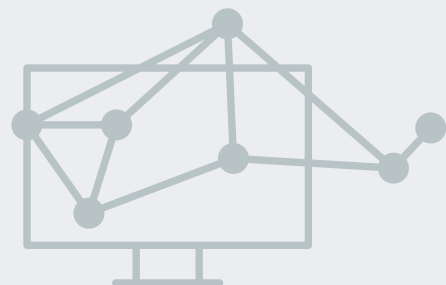
Editorial Board Memberships include Marketing Theory, European Journal of Marketing, Journal of Marketing Management, Journal of Consumer Behaviour and the Journal of Product Innovation Management. With active research clusters in the areas of **Consumers in Society** and **Human Rights and Development Practice**.

## The Department of Work & Employment Studies

The Department comprises a team of leading academics working in the allied fields of human resource management, organisational behaviour, work psychology and employment relations. The department enjoys a reputation, nationally and internationally, for excellence in research with an established record of publishing high-impact and translational research. Departmental faculty are actively engaged in collaborative research projects with leading universities, professional bodies, and public, private and not for profit organisations. Many faculty hold roles as editor and member of editorial boards of high-ranking journals. The department has established international networks and linkages and many faculty have held Visiting Professorships and secured Fulbright scholarships and research sabbaticals at leading universities worldwide. With active research groups in **Quality of Work** and the **KBS Work Futures Lab**.

# Research Programmes

- The KBS offers research degrees at both Masters and PhD levels. Students can apply and register at any stage of the academic year for a research degree, both part-time and full-time, as applications are considered monthly during the academic year.
- A Master's degree by thesis involves in-depth research on a topic leading to a thesis of 60,000 words over the course of one to two years. A PhD involves in-depth research on a topic and an original contribution to knowledge, leading to a thesis of 100,000 words, examined by a viva voce exam. The PhD thesis generally takes 4 years to complete.
- KBS offers a structured and traditional PhD and PhD by publication. The traditional model centres on the research thesis with no requirement to attend taught modules. The structured PhD adds a layer of taught modules in relevant disciplinary and specialist areas. The PhD by publication is based on research publications. The structured PhD is most suited to full-time study, while the traditional and publication models suit either part-time or full-time scholars.
- All our PhD students work with two or more supervisors, students also work closely in peer-based research groups and themes. This creates a supportive and intellectually rich environment in which to work.
- PhD and Research Masters Scholars have access to a range of personal development courses, research seminars featuring international speakers, peer colloquia and other workshops which offer the opportunity to develop presentation skills. Supports are also in place for students to develop specific skills in academic writing or qualitative and quantitative research methods and to attend conferences to present their work. The mix of such supports is individually designed for each student in collaboration with their supervisors.



# Scholars' Experiences:



People may think undertaking a PhD to be a lonely process, but I am in an open plan research space that accommodates up to 45 PhD students. We all have our own desks and computers and more importantly each other to talk to and bounce ideas off. We have a monthly colloquium for PhDs chaired by PhD's".

**Brendan McCarthy (Irish), PhD Scholar.**



KBS has a vibrant and supportive research environment, the research themes and clusters are great for exchanging ideas and obtaining feedback from other researchers and peers. An important part of doing a PhD is building networks and long-lasting relationships. At the KBS I found a highly motivated and multicultural group of people that have really enhanced my PhD experience."

**Mauricio Perez Alaniz (Argentinian), PhD Scholar.**

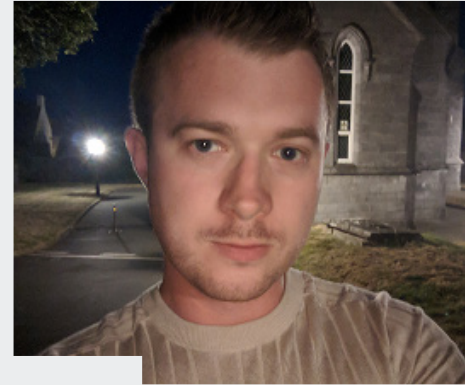
More information on research within KBS is available at [www.ul.ie/business](http://www.ul.ie/business)



## Postgraduate Researcher's Experience:



I completed my PhD at the Department of Work and Employment Studies, Kemmy Business School (KBS). My research introduces a novel way of doing science, namely Creative Destruction in Science, and my thesis applied this approach to Work and Employment topics, such as culture and work morality and gender discrimination in hiring decisions.



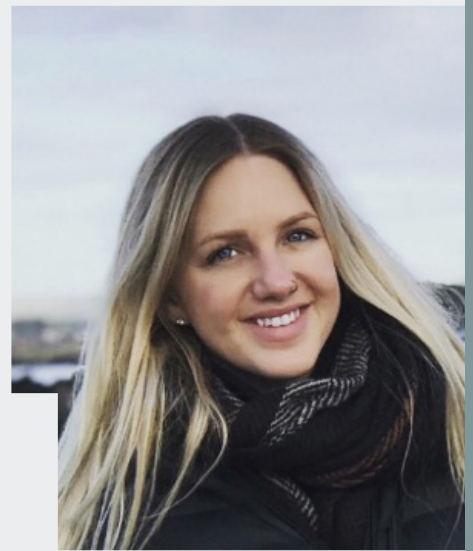
During my time at UL, I was lucky to receive a fee waiver grant from KBS. All the staff (Rebecca Gachet, Dr. Deirdre O'Shea, Dr. Deirdre O'Loughlin) were always very flexible and considerate towards my unique situation. This made my PhD process much easier and it allowed me to focus on research. My PhD supervisor, Professor Kevin R Murphy, has a wealth of knowledge of the publishing process and the area of my research enquiry. This assisted immensely in two publications emerging from my thesis. My time at KBS helped prepare me for a profession both in academia and the industry.

## Dr Warren Tierney



I am a recent PhD graduate from the Department of Work and Employment Studies. I completed my B.S. degree in Industrial and Organisational Psychology from Colorado State University, USA in 2015. From 2015 to 2016, I pursued a Master's degree in Work and Organisational Behaviour in the Department of Work and Employment Studies at the University of Limerick. Using a mixed-method approach, my research explored U.S. Military personnel's satisfaction with the implementation of three high performance work system (HPWS) bundles as a means to understand the "black box" problem, or the factors that influence the relationship between strategic human resource management practices and HPWS bundles. Following completion of my Master's degree, I received a funded PhD scholarship in 2017 from the Department of Work and Employment Studies. My PhD empirically explored the existence of generational differences in work values.

I acquired an expertise on generational differences, work values, and age-diversity and successfully defended my thesis in the early midst of the pandemic. Since the completion of my PhD, I have lectured B.A. courses in the Department of Work and Employment Studies at UL and am a postdoctoral researcher for the Department of Management at UCC.



## Dr Ashley Bamberg



I graduated from my PhD course in 2020. My research area was EU-China trade relations specialising in agricultural trade. While completing this research project, I gained many new skills and knowledge such as international trade theories, econometrics, and data analysis. My PhD supervisor along with KBS faculty were very helpful and approachable, the UL facilities are excellent. Without these supports, I could not finish my research. During my four-year PhD journey, I went to Italy and France to attend international research conferences and I have published two papers.



After completing my PhD, apart from strong research skills and deep knowledge of EU-China trade relations, I have also gained many generic skills which will be really useful for whichever path I take in life. While it was highly challenging, it was also very rewarding, I would highly recommend UL to help you fulfil your academic goals with friendly faces and a beautiful campus in picturesque surroundings.

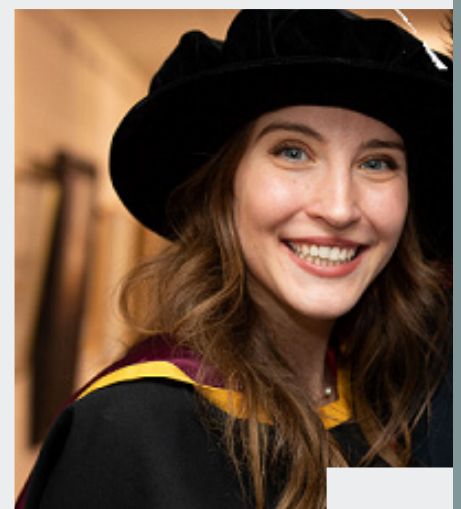
## Dr Junshi Li



I received my PhD in 2020 from the Kemmy Business School where my dissertation explored the framing of sustainable development narratives by businesses and business schools. Research centred around the Sustainable Development Goals (SDGs), ratified by the UN in September 2015. During the PhD, I served in residence at the UN Global Compact's Principles for Responsible Management Education (PRME) initiative.

Upon completion of the PhD, I took a position with the United Nations Sustainable Development Solutions Network (SDSN) - SDG Academy. In this capacity, I create and curate online teaching materials focused on the pressing global issues of economy, environment, and society. I serve on the Advisory Council for the Association for the Advancement of Sustainability in Higher Education (AASHE); as an advisor to the Sustainability Literacy Test; and as the lead organizer for the UN-centric Higher Education for Sustainability Initiative (HESI). I actively publish in the area of business education for sustainable development.

## Dr Meredith Storey





Prof. Sheila Killian is section co-editor of the Journal of Business Ethics, associate editor of Accounting Forum, and serves on the editorial boards of Accounting, Auditing & Accountability Journal; Accounting, Finance & Governance Review and Critical Perspectives on Accounting. Her research addresses issues of social sustainability, accountability and the common good, with a focus on professional expertise, tax policy the Sustainable Development Goals and business school education. She co-founded the ARC Accountability Research Cluster: <http://www.ul.ie/business/arc>. Her work is published in such journals as Accounting, Organizations & Society; Critical Perspectives on Accounting; Regulation & Governance; Journal of Social Entrepreneurship and International Journal of Management education.



She is currently Director, Principles for Responsible Management Education at KBS. Previously, she worked as a tax advisor with Arthur Andersen, KPMG and Ernst & Young. Her primary degree is in Mathematics, and she holds a Masters in Business Studies, and a PhD in Taxation. She is a Chartered Accountant and Associate of the Institute of Taxation of Ireland She also has qualifications in international teaching from IMD, and in CSR from the ILO and Boston College. She has held visiting positions at Luiss University, Italy; Aalto University, Finland and at University of the Witwatersrand and Rhodes University in South Africa.

## **Professor Shelia Killian**



Helena Lenihan, PhD, is a Professor at the Department of Economics, Kemmy Business School, University of Limerick. She is an applied economist whose research interests include the economics of innovation, innovation and innovation policy, drivers of firm performance and growth, innovation, science and industrial policy evaluation, innovation and human capital, and industrial/enterprise development and policy.

Helena was an invited Visiting Fellow at Judge Business School, University of Cambridge, UK. She was also a Visiting Fellow at Wolfson College, University of Cambridge, where she is now a lifetime member. Helena is a Research Associate at the UK's Enterprise Research Centre.

Helena has supervised numerous PhD students to completion, and has also examined doctoral theses in countries including the UK, Finland, Ireland, Spain and Denmark.

Professor Lenihan regularly publishes articles in highly ranked international journals. These include: Research Policy; Small Business Economics; Regional Studies; Environment and Planning C-Government and Policy; Applied Economics; Evaluation and Program Planning; Industry and Innovation; and Entrepreneurship and Regional Development.

Helena is currently Principal Investigator on a five year (2018-2023) project funded by Science Foundation Ireland (SFI) under its Science Policy Research programme. This research project evaluates the impact of innovation and science policy instruments on firm performance, from national and international perspectives. She leads a team of PhD students, Postdoctoral Researchers and Research Assistants based at the University of Limerick. Prof. Lenihan has generated significant research funding from both academic (e.g. EU's Framework 7 programme and Royal Irish Academy) and policy-making (e.g. Enterprise Ireland) sources. She also plays a very active role in helping PhD students and postdoctoral researchers to secure research funding from numerous funding sources, including the Irish Research Council and SFI.



## **Professor Helena Lenihan**



Professor Michael Morley holds the Chair in Management in the Kemmy Business School. His research, which focuses on international human resource management, global leadership, psychological contracts, and new forms of organising has been variously funded by the Irish Research Council, the Chartered Institute of Personnel & Development and the European Commission.

He has produced 20 books published by, among others, Routledge, Palgrave Macmillan and Butterworth-Heinemann. His most recent co-edited volume is *The Oxford Handbook of Contextual Approaches to Human Resource Management* (OUP, 2021). His more than 100 published articles have appeared in various journals including *Journal of International Business Studies*, *Journal of World Business*, *Journal of Business Research*, *European Management Review*, *European Management Journal*, *Human Relations*, *Personnel Psychology*, *European Journal of Work & Organizational Psychology*, *Group & Organization Management*, and *Human Resource Management*.

He has graduated 16 PhDs, many of whom were scholarship holders and he is currently mentoring an additional 6. He has also served as External Examiner on more than 30 PhD theses at universities in Australia, Denmark, France, India, Ireland, New Zealand, Norway, South Africa, Spain and the United Kingdom.

He is currently Editor-in-Chief of *European Management Review*. In addition, he is a Member of the Editorial board of several other journals including *Journal of International Business Studies*, *British Journal of Management*, *Group & Organization Management*, *Human Resource Management Review*, and the *International Journal of Human Resource Management*.

He was elected to serve as the 2012-2014 President of the International Federation of Scholarly Associations of Management (IFSAM) and the 2007-2010 President of the Irish Academy of Management. He is a Fellow of the Irish Academy.

## **Professor Michael Morley**





Professor Christine Cross lectures in Organisational Behaviour and Human Resource Management at the Department of Work & Employment Studies, Kemmy Business School. Prior to joining UL she worked for a number of multinational organizations in both management and human resource management roles, in the IT, Banking and Retail sectors. Her research, consultancy and publication interests include the broad area of diversity, including women's labour force participation, the gender pay gap and the workforce experiences of immigrants. Her work is published in leading international journals including Human Resource Management, Human Resource Management Journal, Journal of Managerial Psychology, Economic and Industrial Democracy and the International Journal of Human Resource Management. She has also edited four textbooks which are very successful internationally.



In 2019 Christine successfully led the Kemmy Business School to becoming the first Business School in Ireland to achieve the Athena SWAN award, and one of only 6 across the UK and Ireland. She is also Co-chair of the KBS Equality, Diversity and Inclusion Committee.

Christine has been a PI or CI on internationally funded projects which have secured over €1 million from European funding bodies. Her work has both policy and practice impact and she has worked with a number of MNCs to increase the number of women in their senior management teams. Christine is also a regular contributor to the media on the topic of women in the workplace. She was an elected member of the Irish Academy of Management the leading professional association for management studies, research and education on the island of Ireland from 2007-2019 (re-elected twice) and was elected as Vice-Chair of the Academy from 2017-2019.

## **Professor Christine Cross**

# Faculty of Science & Engineering

Postgraduate Research



## **The Faculty of Science & Engineering is the largest faculty in UL, comprising the following schools and departments:**

- **School of Natural Sciences**
  - **Biological Sciences**
  - **Chemical Sciences**
  - **Physics**
- **School of Engineering**
- **School of Design**
  - **SAUL (School of Architecture)**
- **Computer Science & Information Systems**
- **Electronic & Computer Engineering**
- **Mathematics & Statistics**

The faculty currently hosts to well over 400 postgraduate research students, the overwhelming majority (85%) of whom are pursuing doctoral studies. The primary focus is to increase the quality and quantity of postgraduate research students and research outputs, including PhD graduations and publications.

Our main research objective is to provide an academic environment conducive for students undertaking either fundamental or applied research. Therefore, we continually strive to promote the publication of findings and results, to attract national and international researchers, and to strengthen our collaborative links with industry and academia.

The research interests of the faculty encompass a wide spectrum of disciplines, offering opportunities for postgraduate research study in many areas. In this regard, Science & Engineering hosts significant research organisations such as the Bernal Institute, and three of Science Foundation Ireland's flagship centres – Lero (software), SSPC (pharmaceuticals) and Confirm (smart manufacturing). In addition, the faculty is active in cohort-based PhD training centres, for example, the Science Foundation Ireland (SFI)-funded Centres for Research Training (CRTs) and the prestigious Marie Skłodowska-Curie Training Networks. The faculty also offers programmes for working professionals to undertake postgraduate research, such as the Principal Engineer Doctoral Apprenticeship.



## Centre for Research Training (CRT) in Foundations of Data Science

The Centre for Research Training (CRT) in Foundations of Data Science is a cohort-based doctoral training programme funded by Science Foundation Ireland and Skillnet Ireland (the national training body funded by the Irish government). The CRT, is a large-scale collaborative initiative between the University of Limerick, University College Dublin, and Maynooth University, currently develops well over 100 PhD students with a world-class foundational understanding in the themes of Applied Mathematics, Statistics, and Machine Learning. These three fundamental themes are fused together by applying them to real-world challenges in five vertical themes: Data Analytics, Privacy and Security, Smart Manufacturing, Networks, and Health and Wellbeing, which are key priority areas for Ireland's growth.

The CRT launched in September 2019 and over 60 PhD students have registered to date. Almost half of the cohort is female, and the postgraduate research student population has a wide diversity of nationalities, with students from multiple countries.

The CRT formed an Enterprise Alliance (EA) to help realise a mission to create a cluster of PhD graduates with the technical and transversal skillset needed to meet the demands of industry. The EA is a group of 16 public and private industry partners that actively shape the design and delivery of the doctoral training programme, strengthen their employee's technical capabilities by partaking in training alongside the CRT's students, provide 12-week internship opportunities, and host events for CRT students and EA members alike. To date, 25 students from the first cohort have completed 12-week internships with our EA partners.

During their PhD journey, postgraduate research students undertake vibrant and cohort-building training in Applied Mathematics, Statistics, and Machine Learning in block sessions across all three institutes. The cohort undertake bespoke modules delivered by the Kemmy Business School on Research Impact, Entrepreneurship, and Creative & Innovative Thinking for Researchers in order to gain an understanding of how their research can impact on the economy, and society. The CRT is strongly supported by a diverse collection of over 100 supervisors with expertise which spans the domains at all three institutions which creates synergies between the institutions and internally through cross-collaboration.

## Postgraduate Student:

# – Aoife Hurley



I am a second year PhD research student in the Department of Mathematics & Statistics in UL. I am one of the students in the first intake to SFI's Centre for Research Training (CRT) in the Foundations of Data Science (CRT). The CRT caters for students with varying academic backgrounds (including, Applied Mathematics, Statistics, Engineering, Physics, Actuarial Science), this is evident in both the cohort make-ups and training we receive.

From the outset we are encouraged to partake in cross-disciplinary projects, which exposes us to different areas of research, the applications and impacts research can have as well as showing the importance of cross-disciplinary research. Partaking in the cross-disciplinary projects has been challenging, enlightening and rewarding – but more importantly has allowed me to establish friendships with those who are in my cohort. Since we have been working from home owing to the Covid-19 pandemic, the support network the cohort has offered has been invaluable. The cohort-based aspect of the programme was a big attraction for me. I like meeting and interacting with people as I may have struggled with the academic isolation on a more traditional PhD route.

As there is such a diverse set of backgrounds, we initially entered the programme without a specific supervisor. Some people knew whom they would like as their supervisor, others (like me) are afforded the flexibility and time to engage with potential supervisors and discuss various research areas to identify a supervisor that best fits our research goals. I chose to undertake my PhD in the Department of Mathematics and Statistics for numerous reasons, including the positive experiences I had during my undergraduate degree, the inspirational expertise and friendly demeanour of the lecturers and academic staff.

As part of the CRT program in year 1, we complete a 12-week placement with one of the industry partners. This placement allows the cohort develop the knowledge and skills we have gained throughout the year, while also gaining the hands-on experience of working in industry and meeting people in industry who have completed their PhD. While my PhD is in the area of statistics, I completed my placement project in an unrelated field. During my internship with Renaissance Re, I used Natural Language Processing to extract



specific, un-formatted data from reinsurance contracts in order to reduce both the time an underwriter spends on inputting this data into the underwriting process and subsequent human errors that can occur. Having the opportunity to do an industry placement while still a PhD student is invaluable and a truly unique learning experience.

I highly recommend the CRT model, and it is certainly the best decision for me. If you enjoy the research process and are willing to put in hard work, it is undoubtedly a fulfilling career choice.”



## Bernal Institute

The Bernal Institute hosts a multidisciplinary team of world-leading materials scientists and engineers at UL. Bernal represents a €100m+ investment in world-class characterisation, modelling and manufacturing facilities concentrated in 20,000 m<sup>2</sup> of high quality research space.

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### Our Vision

is to become the leading international research institute for the scientific design and manufacture of structured materials to meet global challenges, particularly in the areas of health, energy and the environment.

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### Our Mission

is to develop disruptive technologies related to Health, Energy and Environment that will create a legacy of scientific achievement in structured materials research that benefits future generations.

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### What we do

Bernal research focusses on the syntheses (making) characterisation (measuring) and design (inventing) of nano, meso and macro structured materials across four research clusters: Bio Materials, Composite Materials, Molecular Nano Materials and Process Engineering.

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## Impact

Our research addresses global grand challenges in the areas of health, energy and the environment. Bernal contributes to each area in the following ways:

- **Good health and wellbeing:** Delivering affordable and safe medicine and nutritional materials, effective and robust medical devices and therapies with minimal invasiveness and enhanced patient comfort
- **Affordable and clean energy:** Advancing technologies for generation and storage of power, for heat and transport domestically and industrially, preferably from renewable resources, with optimised production and use efficiencies
- **Environment and sustainability:** Developing new cost-effective, low-carbon manufacturing technologies of and with structured materials from renewable resources and improved options for recycling.

Further details relation to the Bernal institute are available from <https://bernalinstitute.com/>



**Our research  
addresses global  
grand challenges  
in the areas of  
health, energy and  
the environment.**

**PhD Student:**

## – Aileen Bowen Perez



I'm a PhD candidate in the School of Engineering, conducting my research at the Bernal Institute. My research is focused on morphing structures: basically, a step forward to structures which can adapt to external responses in a way closer to what nature does. Specifically, I'm working with folding structures which need no mechanical hinges for folding! After completing my studies in Mechanical and Aeronautical Engineering and working for a while in the aeronautical and wind energy industry, I'm very grateful for this opportunity since I don't only have the chance to work in something exciting, but I'm given freedom and trust to work using my own approach.

I am quite fortunate to work under the supervision of Professor. Paul Weaver who is not only an undisputable world leader in my research area, but also a leader from whom I have lots to learn not only technically but also as a person. I encourage anyone to work in a vibrant research institute, such as the Bernal Institute, with people from all over the world and from diverse backgrounds. Coming from Panama, a developing country, and being a woman in technology, it is a pleasure to see women and other minorities treated with dignity and respect inside our Institute. Regarding the PhD journey, it is of course not all roses and rainbows but it has been all well worth it!"



## A Postgraduate's Experience:

# – Dr. Sarah Markham



The unknown and the chance to discover or create something new triggered my interest in research. For me, doing a PhD at the University of Limerick meant a chance to be at the forefront of science. I began my journey in UL with a BSc in Mathematics and Physics followed by an MSc in Biomedical Device Materials, so when I heard of a PhD in physics but with a medical focus I jumped at the opportunity. My research, funded by CURAM, investigated endoscopic ultrasound imaging using finite element modelling and was supervised by Prof. Tofail Syed and Dr. Christophe Silien from the University of Limerick, and Prof. Joanna Bauer of Wroclaw University of Science and Technology.

There are a number of inherent difficulties when carrying out research. You have to develop many new skills, and by its very nature you are often trying things that haven't been done before. While this is challenging, it is also incredibly rewarding. During my PhD, I developed a lot more than just the technical skills and area knowledge. Trainings such as resilience-building, networking, filing patents, and working with industry amongst many others not only improved my ability to carry out research within academia or industry but also gave me the skills and confidence to take on new challenges.

A lot of current research is happening at the interstices between the sciences, combining physics, chemistry and biology. I found that the Bernal Institute had a great environment, acting as a melting pot where people with different areas of expertise were able to collaborate. The weekly coffee mornings were a great way to get to know researchers in other fields and regular research presentations provided a more formal opportunity to share research and get feedback. It is a fantastic place to carry out a PhD and I highly recommend it to anyone considering research in a scientific field."



## A Postdoctoral Researcher's Story:

# – Dr. Soumya Mukherjee



The appropriate mentorship is critically important to success. My PhD training at the Indian Institute of Science Education and Research Pune gave me my first appreciation of the power of cross-disciplinary collaborations and the potential importance of my research area, “porous materials”. My three years’ postdoctoral stay (2017 January to 2019 December) at the Bernal Institute UL with Professor Mike Zaworotko, a thought leader in the field of crystal engineering, expanded my scientific horizons towards structure-function relationships and, importantly, allowed me to hone my leadership skills.

Indeed, by the end of my three-year tenure at UL, I played a leadership role in an international team of >20 researchers. Also, I have seen first-hand how supportive Professor Tewfik Soulimane (Department Head) and Professor Luuk van der Wielen (Director of Bernal Institute) are of early career researchers like me. I will always cherish my work experience at Bernal Institute not only because it immensely contributed to my growth as an experienced researcher, it also offered the best supportive ecosystem one could possibly imagine thanks to warm, welcoming people who became friends.

I found Bernal’s all-embracing culture unique, this culture instilled self-confidence even when the times were tough. Currently as an Alexander von Humboldt foundation funded Postdoctoral Researcher at the Technical University of Munich (Germany), my publication record (>55 international peer-reviewed publications, 26 first-author, >3500 citations, h-index of 21) has enabled me to build a competitive independent research programme. My research focusses on materials for energy and environmental sustainability that can address global challenges of the current times, particularly aligned with the UN Sustainable Development Goals SDG3: ‘Good Health and Well-being’ and SDG6: ‘Clean Water and Sanitation.’”





## Lero, the Science Foundation Ireland Research Centre for Software

Lero, the Science Foundation Ireland Research Centre for Software, brings together expert software teams from universities and institutes of technology across Ireland in a co-ordinated centre of research excellence with a strong industry focus. Lero's research spans a wide range of application domains from driverless cars to fintech, govtech, smart communities, agtech and healthtech.

Hosted by University of Limerick, Lero's academic partners include Dublin City University, Trinity College Dublin, University College Dublin, Maynooth University, National University of Ireland Galway, University College Cork, Dundalk Institute of Technology, Munster Technological University (Cork Institute of Technology and Institute of Technology Tralee), Waterford Institute of Technology and Technological University of the Shannon (TUS) ( Limerick Institute of Technology).

Lero's overall vision is to establish Ireland as a location synonymous with high-quality software research and development, to the extent that 'Irish software' can enter the lexicon in the same way as 'German automotive' or 'Scandinavian design'.

As the world's second largest software exporter, Ireland is recognised internationally as a leading location for companies in the software sector and Lero is a key pillar of that. Fifteen out of the top 20 global technology firms have strategic operations in Ireland. Established in 2005, Lero has become one of the best-known, and most highly regarded, software research centres in the world.

Lero enhances the quality and competitiveness of the Irish software industry through shared projects, knowledge transfer and education. Lero's researchers deliver internationally recognised scientific outputs, publish in leading journals and present at international conferences. In addition, Lero is ranked second among software research centres worldwide for citations.

Further details available from <https://lero.ie/>

**PhD Student:**

## — Ashish Sai



I am in the final year of my PhD within in the Department of Computer Science & Information Systems, conducting my research at Lero, the SFI Research Centre for Software at University of Limerick. I came to UL as an international taught postgraduate student in 2017 for a Masters in Information and Network Security. As a taught postgraduate student, I had the opportunity to explore the ongoing research in various computing research centres in UL. This is when I came across the research opportunities in Lero.

The research group of Dr Jim Buckley in Lero was working on the reverse engineering aspects of Blockchain. The research done by the group was of significant relevance to my masters' thesis. So, upon successful graduation from my masters, I decided to pursue doctoral studies with Dr Buckley's research group at UL.

My research critically examines the multi-faceted nature of decentralisation in distributed systems such as Blockchain and cryptocurrencies. My doctoral research allowed me to combine my information security knowledge from the taught masters with the cutting-edge information systems and software engineering research in Lero.

While working on my dissertation, I have had the opportunity to publish in both international conferences and renowned academic journals. I have also been fortunate to get the opportunity to visit the Singapore University of Technology and Design in 2019 as a visiting scholar. I was then offered a visiting researcher fellowship at the University of California, Berkeley.

My experience as both a taught and a research student in UL has been enjoyable and rewarding. The taught postgraduate education equipped me with the technical and logical skillsets required to pursue doctoral education. Since starting the Ph.D., I have constantly had the support of my supervisors and Lero. Being a part of a large research centre has been immensely valuable as I have gotten the opportunity to interact with colleagues at all levels of their academic career for both career and research advice.

The research centre and other UL facilities are well equipped and tailored for research students. This includes sufficient computing resources available at Lero and study spaces, printable resources in Library. Both Lero and the library continued to support my research throughout the 2020 lockdown period which proved to be very helpful. Apart from the research support and opportunities provided by Lero and UL, I was also fortunate to get teaching experiences in a number of modules. I believe these opportunities to be fundamental to my career in academia."



**Research Fellow:**

## – Dr Michelle Norris



I am a Marie Skłodowska-Curie COFUND Research Fellow (ALECS Programme) in Lero at University of Limerick. I received my BSc in Sport and Exercise Science and PhD in Sports Biomechanics from University of Limerick.

My research interest is primarily in health technologies, focusing on how technology and software can get people active, the analysis methods utilised within these technologies, and the assessment of activity patterns and activity amounts. I am interested in building both valid and reliable technologies which can impact population health, and also how these technologies can be adapted to impact chronic illness and sporting performance. Within my current Research Fellow position, I am investigating how we can utilise technology and software to increase physical activity levels in breast cancer patients.

I am currently undertaking a project titled “BREASTech: Increasing physical activity in breast cancer patients through technology enabled care”. Within this project, I am investigating barriers to physical activity, which breast cancer patients and survivors have, and developing novel technology-based solutions to address these barriers.”

## From Postdoctoral Researcher to Industry:

# – Dr Fayola Peters



I was a post-doctoral researcher at Lero and part of a group that focusses on security and privacy issues in software engineering. I now work in the EMEA Software Development Centre at Johnson and Johnson.

My research focused on exploring adaptive data privacy, data sharing and data mining for users of software applications, specifically allowing users to consider the trade-off between the benefits of data sharing and potential privacy breaches. While part of Lero I presented at top software engineering conferences like the International Conference on Software Engineering and the International Symposium on Empirical Software Engineering and Measurement. I also co-authored the book 'Sharing Data and Models in Software Engineering'.

The relationship between Lero and the researcher is a supportive one; there are people to talk to who are not even in your industry, for example mobile communications or healthcare, so you have support from all areas and backgrounds. Lero encourages you to avail of this supportive network.

At Lero, I worked within a group of colleagues, so I had numerous people to bounce ideas off, and we were encouraged to share work with a community of researchers. We are funded to go on trips to conferences abroad and present our work.

Lero's emphasis on collaboration very much aligns with my own values. Lero opens you up to hearing other people's voices and making connections with other researchers, and you get the opportunity to work with someone whose skills are completely different from yours. This is something that is very important to me.

A particular challenge I encountered at Lero was struggling with the thought that everything had already been done. But through my group in Lero, I had links to The Open University in the UK, and people there were doing similar work to me but in a different area. This made me realise I could apply some of my work to what they were doing. These links to other universities open doors to realising what you can do with your research and help with coming up with new ideas.

A large amount of Lero funding comes from industry, which offers researchers the advantage of working toward solving real problems faced in industry. This can give insight into how one can contribute in an industrial setting. Lero showed me possible routes into industry, and gave me the courage to follow them. I now work at Johnson and Johnson as a software developer with a focus in data engineering."



**Lero opens you up to hearing other people's voices and making connections with other researchers, and you get the opportunity to work with someone whose skills are completely different from yours.**



## SSPC – the SFI Research Centre for Pharmaceuticals

SSPC, the Science Foundation Ireland (SFI) Research Centre for Pharmaceuticals, is a globally recognised research centre for API crystallisation, manufacturing research, modelling and biopharma expertise.

Founded in 2007, SSPC's success is defined through its strong collaboration abilities and building R&D excellence in one of Ireland's largest industries. Industry members guide SSPC to both respond to current needs of the sector and anticipate the skills and training necessary to mentor future research leaders. SSPC has 70 investigators and 113 researchers based across Ireland in University of Limerick, the host institution, University College Cork, National University of Galway, Trinity College Dublin, Royal College of Surgeons, Dublin City University, University College Dublin, Waterford I.T. and Maynooth University.

SSPC's culture of collaboration is helping the global pharmaceutical and biopharmaceutical industry to develop more environmentally sustainable methods for drug manufacturing; to increase the range of medicines available to the public and to reduce drugs manufacturing costs. SSPC's advanced research programme extends from Molecule, Materials and Medicine into two new additions, Manufacturing and Modelling space.

A key achievement of SSPC to-date is the presence of graduates and trainees in development positions within top Pharma companies globally. SSPC produces PhD graduates and post-doctoral researchers with specific disciplinary expertise, coupled with a broad understanding of cognate disciplines across pharmaceutical science and manufacturing. Building on our industry placement programme, the transition rate of SSPC researchers to industry currently stands at 80% in a global context, the highest of any research centre in Ireland.

Further details available from <https://sspc.ie/>

**PhD Student:**

## – Hannah McTigue

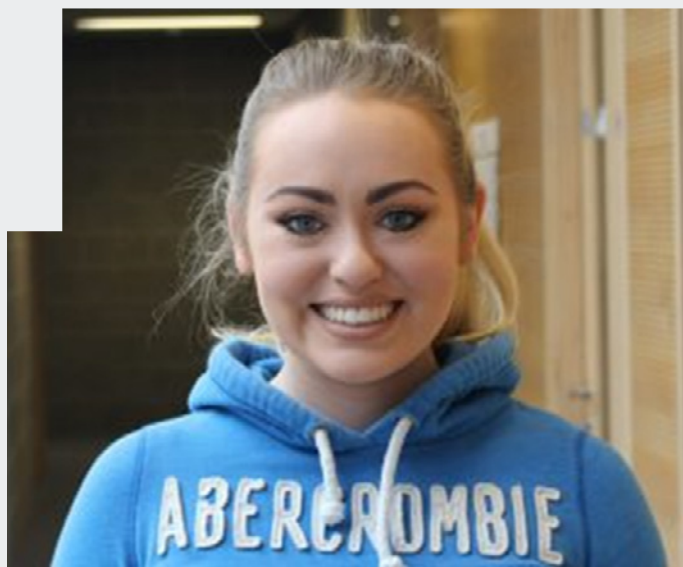


Hannah McTigue is a PhD student in the Department of Chemical Sciences, carrying out her research at SSPC. She received a BSc. In Industrial Biochemistry from the University of Limerick.

In order to produce pharmaceutical cocrystals the pharmaceutical industry requires a better understanding of the underlying mechanisms of cocrystallisation. As well as thermodynamics, the kinetics of cocrystal nucleation and growth plays a pivotal role. My research involves analysis of the nucleation kinetics of pharmaceutical cocrystals using induction time experiments and application of classical nucleation theory.

I worked for three months in Janssen Pharmaceutical Cork in a technical operations laboratory where I participated in process investigations including considerations for future plant scale reworks. I carried out lab scale trials on an API crystallization to increase the particle size distribution (PSD), in a bid to improve centrifugation time. I also had the opportunity to participate in HAZOPs and received cGMP and GDocP training.

The platform created by SSPC for the interaction and collaboration between academia and industry has proved to be a major advantage to me as I hope to pursue a career in industry. The industry placement offered through SSPC has given me the invaluable experience to work in a multi-national pharmaceutical company. Being a member of SSPC has enabled me to attend numerous networking events and conferences, providing the platform to engage with both academic and industry experts in the area; this has also improved my communication skills and ability to disseminate results.”



## Postdoctoral Student Experience:

# – Ahmed Ziaee



On completion of my PhD at the University of Limerick, I joined a multidisciplinary team of researchers working the MOMENTUM project, a collaboration between SSPC and Janssen (Johnson and Johnson pharmaceutical companies) on spray drying of biopharmaceuticals. During this project, I worked in close contact with Janssen sites in Puerto Rico, Belgium and Switzerland. Spray drying of biologicals has gained momentum as an alternative to freeze-drying, however, there are numerous challenges on the way to develop stable formulations. In this project, experimental and materials dependent modelling were employed to prove the concept of spray drying enzymes and monoclonal antibodies in lab scale.

Currently, I am working on a commercialization fund to develop in-line NMR system for biopharmaceutical applications. My research interest is in small and large molecule formulation, spray drying, pulmonary drug delivery, process optimization, materials characterization

SSPC provides a fantastic opportunity for PhD students and postdocs to work as part of an excellent research centre with state of the art facilities. The amount of expertise available in centre and the strong connection between academics and industrial partners is the main advantage of being part of SSPC. Providing industrial placement opportunities, supporting and taking part in conferences and the sense of being part of a big community are all advantages of SSPC.”





## Confirm – Smart Manufacturing

CONFIRM is the Science Foundation Ireland funded Research Centre for Smart Manufacturing. Based at the University of Limerick, CONFIRM's academic network facilitates collaboration across our partner institutes nationwide; Technological University of the Shannon and Midwest (comprising of Limerick and Athlone Institutes of Technology), University College Cork, Tyndall National Institute, Maynooth University, National University of Ireland Galway, Athlone Institute of Technology and Munster Technological University (comprising of Cork Institute of Technology and Institute of Technology Tralee).

CONFIRM's basic research programme spans four "Hubs"; Virtual Industrialisation, Cyber-physical Manufacturing Systems, Self-Aware Manufacturing Systems and Testbeds & Prototype Layers. The Centre also has an extensive portfolio of applied research projects with industry.

Smart manufacturing employs computer integrated production, high levels of adaptability and rapid design changes, digital information technology, and more flexible technical workforce training. It includes fast changes in production levels based on demand, optimisation of the supply chain, efficient production and high levels of digital technology. The future smart factory will employ interoperable systems, multiscale dynamic modelling and simulation, intelligent automation, strong cybersecurity, and networked sensors. CONFIRM's research remit covers all of the different key enabling technologies associated with Smart Manufacturing including big data processing capabilities, industrial connectivity devices and services, and advanced robotics, from supply chain to production and deployment.

As Ireland's research centre for cyber-physical, intelligent, networked manufacturing systems and digital supply chains, CONFIRM enables high impact business transformations, fundamentally transforming industry to a Smart Manufacturing ecosystem.

Further Details available at <https://confirm.ie/>

**PhD Student:**

# – Jason Curran



## **Tell us a bit about your research...**

Currently I am working on improving imaging technology. I am attempting to construct equations that can take a set of measurements from the surface of an object and use them to image the inside of the object, without having to damage the object in any way.

An example would be taking measurements on a person's head and then reconstructing an image of their brain. This type of technology can be adapted to the industrial world as it is used to test products for internal cracks and defects, without having to break open the product. The applications include also ancient bones and fossils, breast tissue and seismology.

## **Could your research be of benefit to society in any way?**

The main benefit of the research is in the detection of cracks and defects inside of objects. This has the potential to improve the quality of products and is used to detect medical issues such as cancer and brain tumours while also being non-invasive.

## **What did you study as an Undergraduate?**

I completed a Bachelor of Science in Maths and Physics in the University of Limerick. This course meant that I spent approximately 50% of my time studying maths and 50% studying physics. We covered many topics, many of which I use today in my research such as Electromagnetism, the study of Partial Differential Equations and Optics. As part of the course, I had to complete a final year project in fourth year, which I did on volcano formation and how to model what happens after a volcanic eruption. This project taught me about volcanoes as well as conducting research, namely, collecting relevant information, writing in a scientific/mathematical way and presentation skills are all things I developed during my time completing this project.

## **What made you decide to go into research?**

Partly, due to the research I did as part of my final year project and partly due to my work placement, which I did in Seagate in Derry. I worked in the Research and Development Department in Seagate and this meant that I spent my time coming up with and testing new ideas. This really appealed to me and it was great to see how big an impact research has on our world and how it drives innovation and change. Research is of course all about solving problems and this is something I thoroughly enjoy. Moreover, in order to solve such problems, research allows you to cover a large number of fields and disciplines and I find this an excellent part of undertaking research.

**What do you enjoy most about being a PhD Student?**

The research itself is definitely a very enjoyable aspect of being a PhD student. Also, getting to take part in activities such as teaching and doing workshops is a great benefit. However, the most enjoyable part is being able to show your research off to others and see that your research can make a difference to the world. The feeling you get when you finally crack a problem that you have been working on in months is amazing.

**Do you have any advice for someone who is thinking about a career or research in STEM?**

If you were thinking about studying STEM at undergraduate level, I would absolutely recommend it. There are courses that are both very interesting and rewarding to do as well as have strong career prospects afterwards. STEM is becoming more relevant as time progresses. To prospect PhD students I would say that make sure you are interested in research and willing to put in a lot of work. However, if you are, you will have an amazing journey!



# UL offering world's first Principal Engineer Doctoral Apprenticeship Programme

The University of Limerick is offering a novel way for experienced engineers to gain a Professional doctorate (PDEng) by utilising the innovative and creative skills they already use in their day-to-day roles. Participation is 90% funded under the SOLAS Generation Apprenticeship scheme.

The PDEng taught programme is a level 10 award (equivalent to PhD) focused on skills development. Rather than traditional PhD research project which makes a contribution to the 'body of knowledge', the PDEng will focus on applying industry focused research to practical problems, formulating solutions to complex issues and designing effective professional practices within a particular field. It will comprise of one or more commercially relevant projects, typically based on the candidate's work environment and will require company sponsorship and an industry mentor to secure apprenticeship funding.

Unlike the majority of apprenticeships, the Principal Engineer Doctoral apprenticeship is aimed at existing staff with experience of solving problems and delivering innovative solutions. The value proposition for employers is that existing staff with expertise in key areas now have an opportunity to earn a doctoral qualification in the workplace without going back to university full time. Staff recognition, loyalty and retention are enhanced through the process.

The programme will also leverage the expertise and knowledge from Ireland's best and forward-thinking SFI supported research centres, including Lero – the Irish Software Research Centre and Confirm, the Smart Manufacturing Centre which are based in UL. This will allow candidates to gain valuable experience and insight into leading-edge technologies and processes.



## How does it work?

The programme was devised by industry and developed by the University of Limerick. Candidates who wish to enter the programme must first pass attend a Qualifier Module. As part of this module, candidates are required to submit a mini-thesis outlining their proposed research areas.

Candidates' host organisations must also go through a vetting process that ensures that they have the scope of work required for the candidates to succeed in their studies and they are prepared to support the candidate through provision of an in-company mentor. Successful candidates and their host organisations are invited to join the programme.

The programme itself consists of a combination of 12 taught modules along with the completion of a thesis based on a practical industry based problem. Candidates are supported both by their academic supervisor and by an industry mentor throughout the doctorate. The PDEng will target and develop the skills of the relevant personnel in key sectors of the Irish economy.

The Principal Engineer Apprenticeship is a four-year blended doctoral programme which means; the research is directly related to activities in the company, focused on developing practice based knowledge; will bring academic rigour to product and process development projects.

It will enable candidates to do the following depending on the type of sector they are working in:

- Theoretical analysis, functional design and prototyping of capabilities which transform industry practice.
- Research new algorithms and techniques to improve automatic, self-aware, evolutionary systems.
- Design, develop, and execute research experiments/ Proof of Concept and prototypes in an individual or collaborative team-based environment.
- Implement industry best practices and address gaps in state-of-the-art methodologies.
- Develop approaches for self-managing, learning and adaption at scale.
- Contribute to company intellectual property, evaluate patents for specific technology areas and participate in patent filings.
- Form strong relationships with internal and external stakeholders.

Further details on the Professional Doctorate in Engineering are available [here](#).



**Professor Brian Fitzgerald, Director of Lero –  
the Irish Software Research Centre states:**

*“Practitioners in Irish industry are often very advanced and to the forefront in implementing innovation in their companies nationally and globally. In many cases, this practice is capable of contributing to the state-of-the-art to such an extent that a Doctorate could be awarded.”*

*“The traditional PhD, which is more academic focused and intended to produce researchers and academics, is not as suitable a path for industry-based candidates. Often these entry requirements of a 2.1 honours degree is not something that was available to all practitioners who may have less academic qualification but have more than made up for it in professional expertise. As a result, we created the PDEng programme which allows credit for this learning and is a very appropriate path to a Doctorate that is far more relevant to today’s environment of continuous professional development.”*

## A Graduate Perspective:

# — Dr. Ajay Singh

Principle Engineer, STMicroelectronics



I am currently working as Principle Engineer at STMicroelectronics in Santa Clara, California, USA within the Imaging Division. Prior to this, I was Hardware Engineer in the Camera Sensing Division at Apple, Cupertino. I completed my Ph.D. degree in UL's faculty of Science & Engineering under the supervision of Dr. Kevin M. Ryan in 2013. My doctoral thesis funded by Science Foundation Ireland (SFI) focused on nanomaterials for energy application and was

After finishing my Ph.D., I went on to join Lawrence Berkeley National Laboratory, Berkeley, California as a postdoctoral fellow and later joined Los Alamos National Lab with Director's Fellowship that gave me the independence to conduct my research. I worked as a co-Principal Investigator (PI) for my project and collaborated with universities and other national labs.

Undertaking a PhD in UL was a very valuable experience and shaped my entire professional career. The state-of-the-art materials facility, instrument handling, data analysis, and interaction with other researchers was a key component in successfully driving the various projects. The accessibility of various microscopes, lab equipment, and the trust of my supervisor prepared me to undertake future responsibilities. Another great opportunity that came my way was a SFI travel grant; this enabled me to further my research experience in another international institute. During my time at Helmholtz-Zentrum Berlin for Materials and Energy, Germany I forged long-term collaborations, and gained exposure to new expertise such as Synchrotron techniques. Now working in an industrial setting, I get to see the practical application of my research and technical experience. To lead a team and product development at a worldwide level is what the Ph.D. program at UL has prepared me for!

As a Ph.D. student, I presented my work at various conferences (MRS, ACS, Gordon research conference, etc.). The opportunity to present my work to the leading scientists and receive constructive feedback, as well as networking opportunities was always a highlight. I was co-winner of the Society of Chemistry, Wesley Cocker Award, 2011 for research accomplishments. I published my research in various peer-reviewed high impact factor academic journals and my supervisor encouraged and trained me to write my academic papers, which allowed me to transform the scientific argument into an exciting story.

As we navigate the pandemic that has shaped us to look for new avenues in science & technology development, UL plays an important role in innovation and preparing the next generation of scientists in various fields.

# Postgraduate Research Students: Training and Professional Development

Postgraduate Research





**Graduate & Professional Studies (GPS) provide workshops and facilitate postgraduate research (PGR) students with postgraduate research induction, training and professional development.**

Postgraduate research students (PGRs) at the University of Limerick can avail of extensive training and professional development opportunities to boost their research skills and enhance their employability after graduation. Throughout each academic year, PGRs can participate in the various workshops provided by Graduate and Professional Studies (GPS) in areas such as statistics, quantitative and qualitative research, the use of specialist software in research, and formatting your thesis.

GPS also runs the Summer School in Generic and Transferable Skills from May to August each year and provides a weekly webinar series on all aspects of research for PhD candidates and Research Masters students.

Full details of all training and professional development activities run by GPS can be found [here](#).



# How to Apply



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## Undertaking a PhD at the University of Limerick

PhD programmes (both structured and traditional) at the University of Limerick (UL) are designed to support you in achieving your academic and professional objectives. Typically taking four years to complete, a PhD provides you with a range of skills, such as networking and communications, leadership, and the ability to publish your research findings. The outcome of your research is a thesis, on which you will be examined orally (a viva voce examination). The summary information to follow tells you how to apply for a PhD programme.

## Applying for Postgraduate Research Degree

The first step in applying for a graduate research position is to identify a potential supervisor and project. If you have difficulty in identifying a potential supervisor, you should complete an expression of interest form available from [how to apply](#) under research degree programmes.

Once you have identified a supervisor and project, you should complete a research application form and submit it to the Graduate & Professional Studies Office. Application forms are available from [how to apply](#) (under research degree programme) UL accepts research applications throughout the year.

The minimum entry requirement to a postgraduate research degree is an honours primary degree (level 8 – as defined by the National Qualifications Authority of Ireland) with a minimum classification of a 2:1 or 2:2. Individual faculties or research centres may have specific entry requirements.

Up-to-date information on research activities in faculties, departments and research centres is available from [www.ul.ie](http://www.ul.ie). At this stage, you should try to identify possible sources of funding for your studies.

## Preliminary Discussion with a Potential Supervisor

When a potential supervisor agrees to have a preliminary discussion with you, be sure to discuss the following items:

- Why you want to register for the PhD programme
- Your academic background, academic awards or highlights
- The match between your academic background and that of the supervisor
- Your research experience and proposed research project

## International Student Applicants

In addition to the minimum entry requirements specified above, international student applicants are required to meet the following standard English language requirements:

IELTS score of 6–6.5 and not less than 6 in any one component for entry to the Faculty of Science & Engineering and a composite score in the range of 6.5–7 and not less than 6 in any one component for entry to the Faculties of Arts, Humanities & Social Sciences, Education & Health Sciences and the Kemmy Business School.

Information on visas, immigration, accommodation and insurance is available from the **UL Global International Office**.

## Fees

An up-to-date schedule of fees is available to download **here**.

## Funding

Funding for postgraduate research is available from a variety of sources. Individual faculties at UL may offer scholarships or funded positions while external funding is available from Irish and international research councils, other public bodies and the private sector. The main research council in Ireland is the Irish Research Council, which funds postgraduate scholarships for Science, Engineering and Technology and Humanities and Social Sciences. Local authority funding may also be available to research students.

## For further information contact

Graduate & Professional Studies,  
Level 2,  
Engineering Research Building,  
University of Limerick.

Email: **GPSResearch@ul.ie**

**[www.ul.ie/gps/postgraduate-research-programmes](http://www.ul.ie/gps/postgraduate-research-programmes)**



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