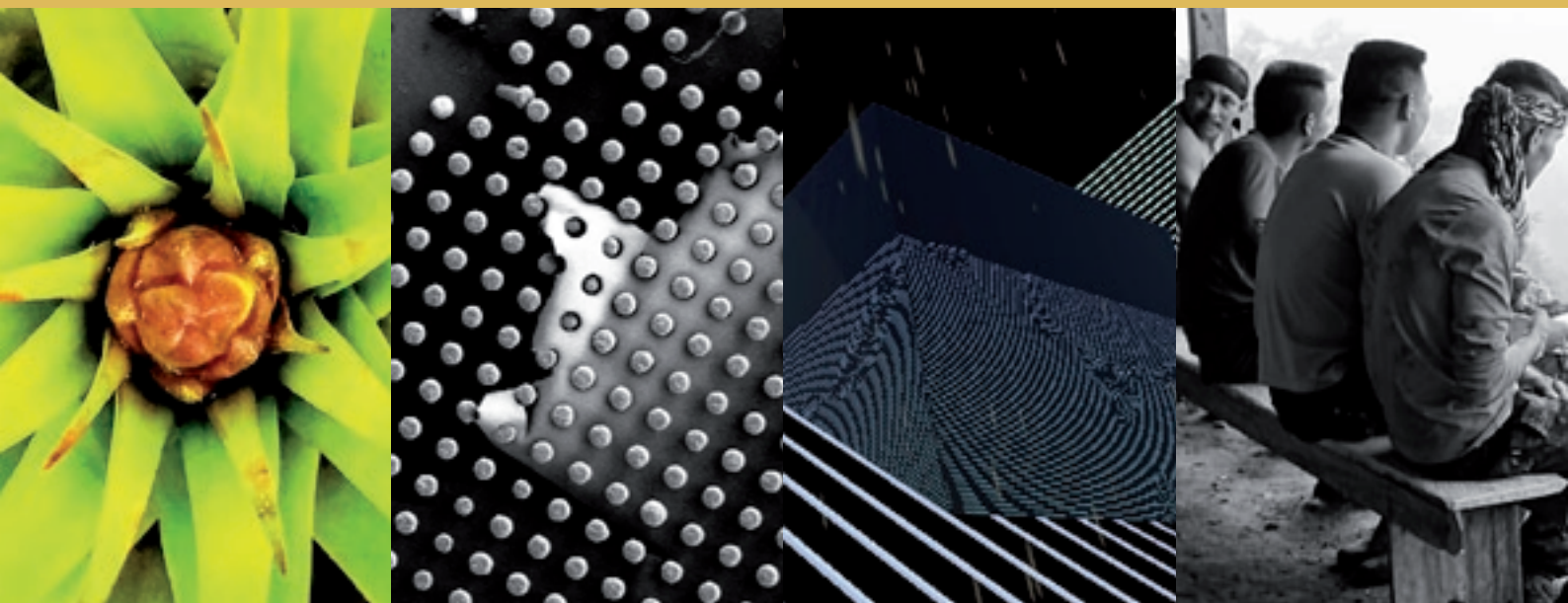


# IRISH RESEARCH COUNCIL

## ANNUAL REPORT 2017



IRISH RESEARCH COUNCIL  
An Chomhairle um Thaighde in Éirinn

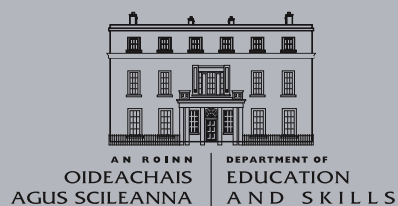


#LoveIrish  
Research

# THE IRISH RESEARCH COUNCIL

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The Irish Research Council is an associated agency of the Department of Education and Skills and operates under the aegis of the Higher Education Authority. Our mission is to enable and sustain a vibrant research community in Ireland. To address the broad skills and research needs within society, we support excellent researchers in all disciplines from arts to zoology.



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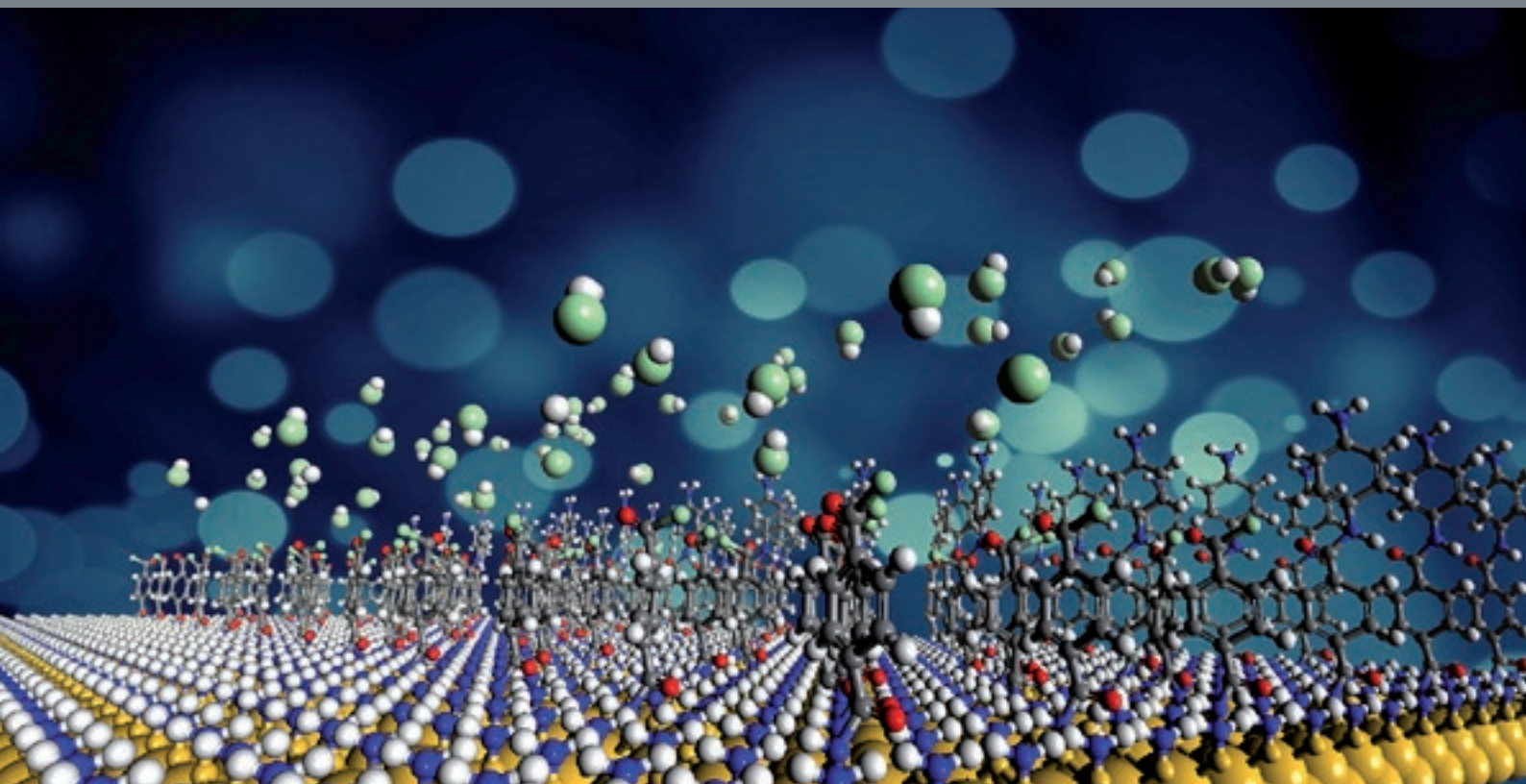
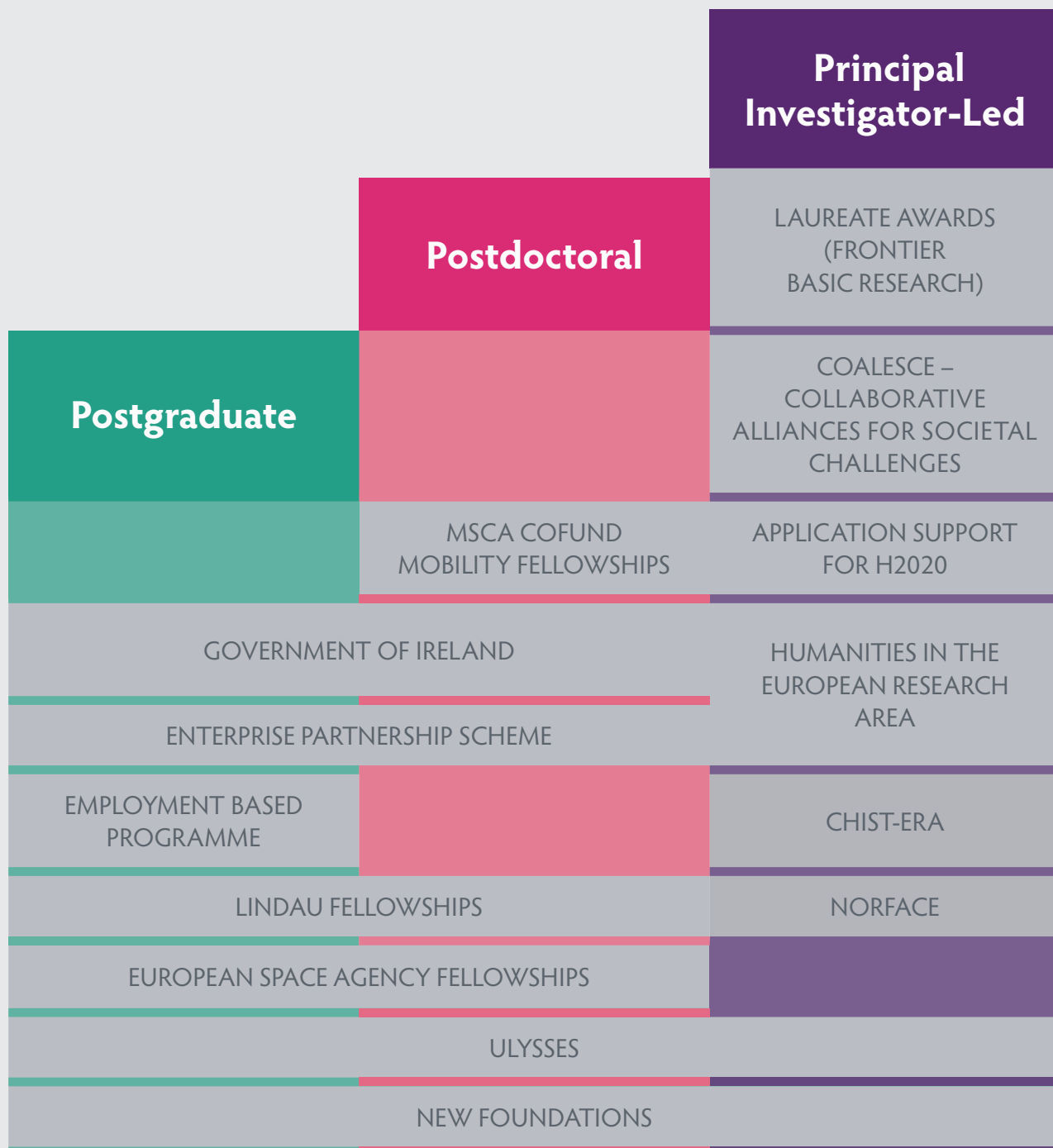


Image by Abulaiti Hairisha, Irish Research Council Scholar, *Simulating the controlled growth of polymer thin films by molecular layer deposition.*

# 1

## OVERVIEW

# HOW WE FUND



# MINISTER'S FOREWORD



Mr John Halligan TD  
**Minister of State for Training, Skills, Innovation, Research and Development**

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In 2017, like in previous years, the Irish Research Council (the Council) supported excellent, world-class research which is essential for us as a country to tackle and overcome fundamental challenges.

One of the Council's most memorable highlights of 2017 was celebrating 15 years of supporting the brightest research talent across all disciplines and career stages. During this period, the Council funded almost 8,000 researchers, supporting the participation of Ireland as a member of the global research community, and cultivating talent that contributes to Irish science, culture, economy and society at large.

During the celebrations in December, the Council announced the winners of its inaugural Researcher of the Year and Early-Career Researcher of the Year awards and Medals of Excellence. These exceptional researchers are a testament to the quality of Ireland's research environment and I would like to commend them on their hard work and dedication to their chosen fields.

Some other notable highlights included the Council's workshop on Ireland's implementation of the Bratislava Declaration for Young Researchers, the celebration of 20 years of Franco-Irish research partnerships with the Embassy of France and the Council's Champion of EU Research award from Enterprise Ireland.

The Council funded a total of 1,179 postgraduate scholars and 349 postdoctoral fellows in 2017. In this annual report, we will hear more about their fascinating work. We will also get an insight into the Council's broader mission, including cultivating the success of its researchers both in Ireland and internationally.

Of the new awards in 2017, 19 researchers received funding under the Marie Skłodowska-Curie COFUND programme entitled CAROLINE. The aim of this programme is to support research relevant to the themes of the United Nations 2030 Agenda for shared economic prosperity, social development and environmental protection.

Looking to the future, the Government announced its commitment to research at the forefront of new knowledge through the new Irish Research Council Laureate Awards programme (see page 44). This will provide opportunities for exceptional researchers to conduct frontier basic research across all disciplines. It is anticipated that these awards will enhance the potential for further success in the international arena, including in the European Research Council, and lead to exciting new discoveries across diverse disciplines.

I congratulate the Council on its achievements in 2017.

# 17 PARTNERSHIPS WITH GOVERNMENT DEPARTMENTS AND AGENCIES



An Roinn Ealaíon, Eoidreachta,  
Gnóthaí Réigiúnacha, Taidhle agus Gaeltachta  
Department of Arts, Heritage,  
Regional, Rural and Gaeltacht Affairs



**Geological Survey**  
Suirbhéireacht Gheolaíochta  
Ireland | Éireann



An Ghníomhaireacht um  
Leanaí agus an Teaghlach  
Child and Family Agency



Coimisiún na hÉireann um Chearta  
an Duine agus Comhionannas  
Irish Human Rights and Equality Commission



An Roinn Lúthál  
agus Gnóthaí Óige  
Department of  
Children and Youth Affairs



An Roinn Gnóthaí Eachtaracha agus Trádála  
Department of Foreign Affairs and Trade



**NATIONAL FORUM**  
FOR THE ENHANCEMENT OF TEACHING  
AND LEARNING THROUGH EDUCATION

An Roinn Coimirce Sóisialaí  
Department of Social Protection  
[www.welfare.ie](http://www.welfare.ie)



**HEA** | HIGHER EDUCATION AUTHORITY  
AN tUdaráis um Ard-Oideachas



**HE** Sláinte Ghréis &  
Clár um Thoirchis Ghéarchéime  
Sexual Health &  
Crisis Pregnancy Programme



# INTRODUCTION



Peter Brown  
**Director of the Irish Research Council**

Professor Jane Ohlmeyer  
**Chair of the Irish Research Council**

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In 2017, we continued to support excellent frontier research across all disciplines and career levels by funding 1,528 researchers across a portfolio of awards worth in excess of €100 million. Our approach recognises that supporting exceptional individuals with creative and novel ideas is critical for fuelling Ireland's pipeline of future research leaders and independent thinkers. A hallmark of our mission over the years has been the cultivation of individual research excellence that is internationally competitive and which enables success in securing European and international research awards.

The year 2017 was a milestone for the Council and its forebears as we celebrated 15 years of supporting almost 8,000 excellent researchers across all disciplines. Having a vibrant research community – and strong public support for research – is more important now than ever before.

Our track record on gender equality and the gender dimension in research is something we pay particular attention to. Steps such as the gender-blinding of applications and the requirement of all applicants to explain the gender dimension of their research are innovative and forward-thinking not just nationally, but internationally.

The introduction of our Irish Research Council Laureate Awards programme represents an important new strand of funding in the Irish system, redressing the long-standing dearth of opportunities to conduct frontier research across all disciplines and career stages. It is a programme that, with investment and support, we want to grow to ensure that Ireland is an innovation leader, not a follower, and that our drawdown of European funding is as strong as comparably sized countries who currently outperform us because of their willingness to invest in frontier research.

In order to future-proof Ireland, we need to ensure that our own brightest early-career researchers with exceptional ideas are supported. Otherwise they will simply go elsewhere, and with them the potential for new discoveries, new technologies and new understandings. Our researchers – working within and across all disciplines – address many of the global societal challenges, be they around water, health, the environment, housing, migration or security.

Finally, we consider it our priority to promote the excellent research conducted by our awardees to the wider public. Through our #LovelishResearch campaign, we are seeking to communicate how the research we support helps to make the world a place that we want to live in.

The following report provides a brief overview of our activities in 2017. We thank you for taking time to read it and invite you to contact us at [info@research.ie](mailto:info@research.ie) or visit our website, [research.ie](http://research.ie), if you require further information.

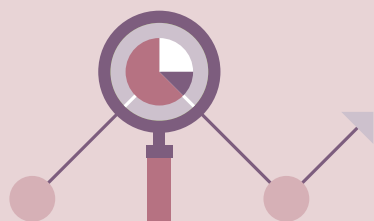


🌐 [research.ie](http://research.ie)  
✉ [info@research.ie](mailto:info@research.ie)  
🐦 @IrishResearch, #LovelishResearch  
📘 [facebook.com/irishresearch/](https://facebook.com/irishresearch/)

# OVERVIEW OF ACTIVE AWARDS IN 2017

**1,528**

directly funded  
researchers



=

**349**

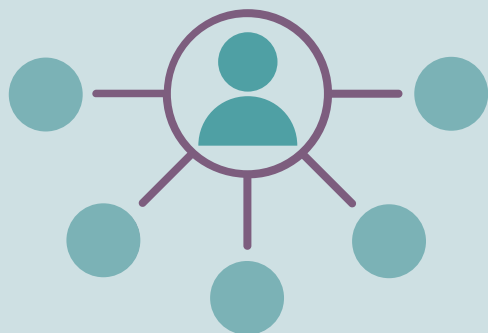
postdoctoral fellows



+

**1,179**

postgraduate scholars

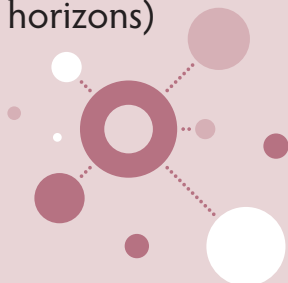


**76**

principal investigator-led  
projects

**38**

interdisciplinary projects  
(new horizons)



+

**27**

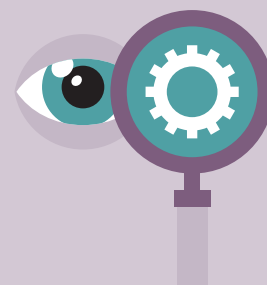
research for policy  
& society

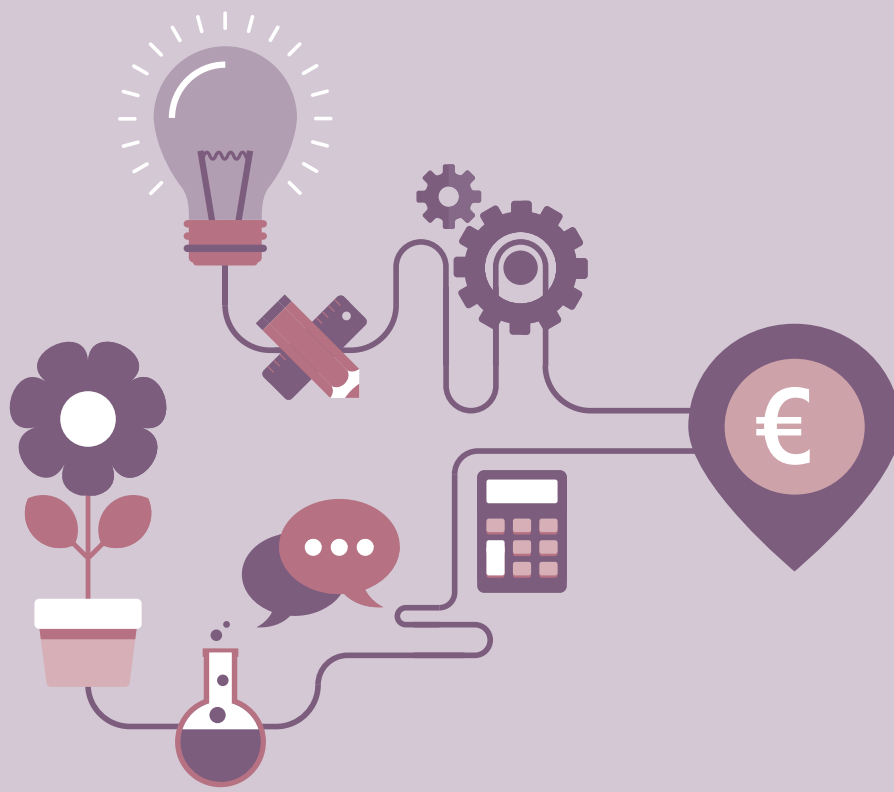


+

**11**

other research projects





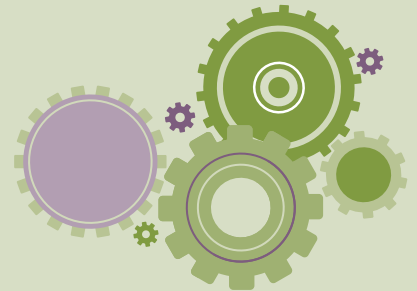
**€34.15m**  
exchequer budget

**€4.5m**  
leveraged funding  
from other sources

**76**  
knowledge exchange and  
networking awards



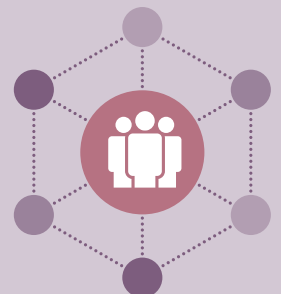
**236**  
enterprise partners



**17**  
partnerships with  
government departments  
and agencies



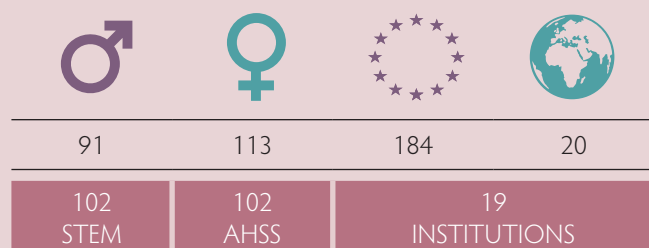
**28**  
projects with civic  
society groups



# OVERVIEW OF NEW AWARDS IN 2017

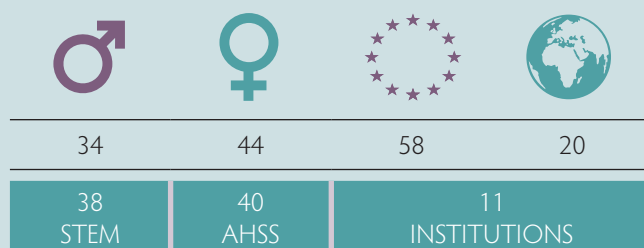
**204 / €14.9m**

## GOI Postgraduate Scholarship Programme



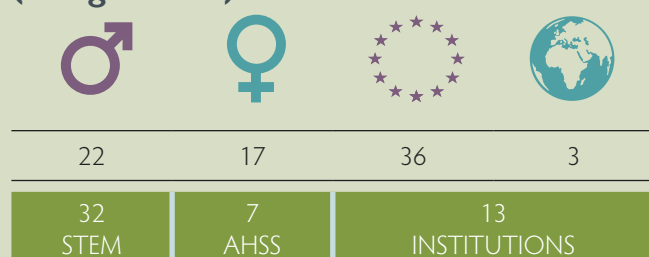
**78 / €6.5m**

## GOI Postdoctoral Fellowship Programme



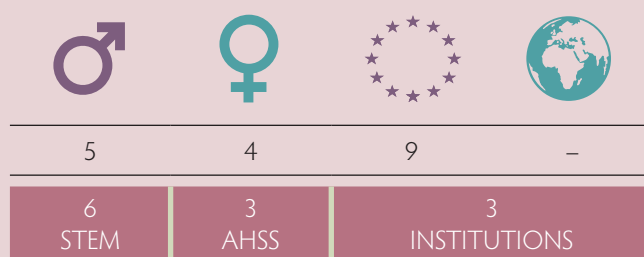
**39 / €3.1m**

## Enterprise Partnership Scheme (Postgraduate)



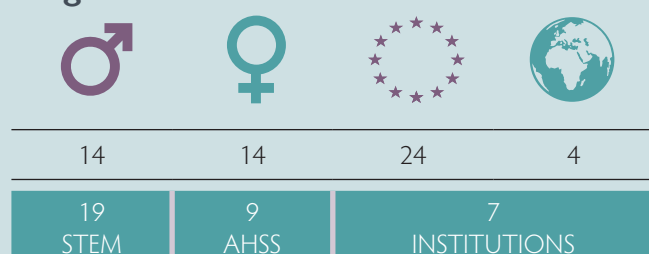
**9 / €826k**

## Enterprise Partnership Scheme (Postdoctoral)



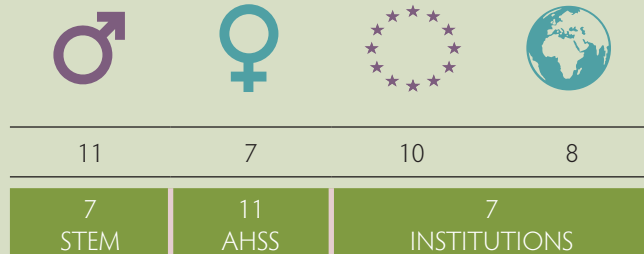
**28 / €1.9m**

## Employment-Based Postgraduate Programme



**18 / €4.4m\***

## CAROLINE MSCA COFUND Programme



**GOI:** Government of Ireland

**AHSS:** Arts, Humanities and Social Sciences

**STEM:** Science, Technology, Engineering and Mathematics

**MSCA:** Marie Skłodowska-Curie Actions

\* The project received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 713279

# RESEARCH HAS NO BORDERS

**Ireland is an open and innovative centre of excellence in research in all disciplines**

Information on a range of funding programmes for individual researchers is available on the Irish Research Council website:

**[www.research.ie](http://www.research.ie)**



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



# YEAR IN THE LIFE OF THE IRISH RESEARCH COUNCIL



Report on Engaged Research launched by Campus Engage with our support



Irish Research Council Special Award at the BT Young Scientist & Technology Exhibition presented to Jennifer McCarthy for her project on self-medication



We renewed our partnership with the Irish Universities Association to deliver EU funding success for Ireland



International Women's Day marked by highlighting research improving women's lives

Minister Halligan joined the research community in a workshop to support young researchers

JANUARY

FEBRUARY

MARCH

JULY

AUGUST

SEPTEMBER



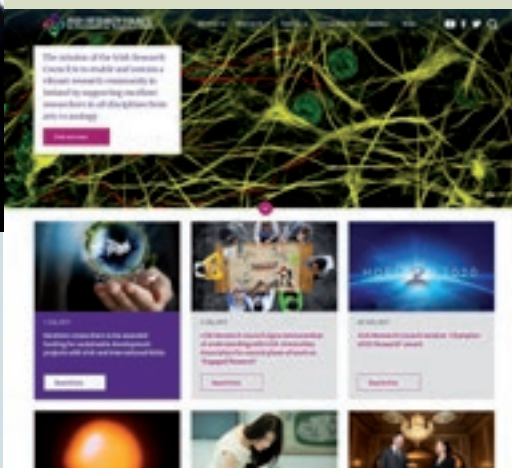
We signed a memorandum of understanding with the Irish Universities Association for a second phase of work on Engaged Research

We delivered a high-level briefing at the European Parliament on Brexit's implications for research



18 researchers were awarded funding for sustainable development projects with Irish and international non-governmental organisations under the Marie Skłodowska-Curie Actions COFUND CAROLINE programme

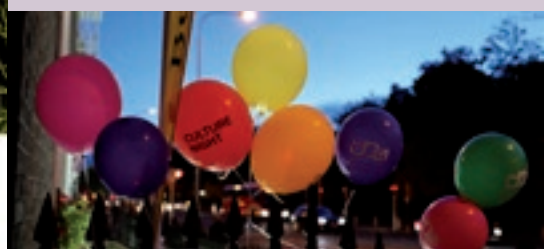
We launched our new website



We showcased agribusiness research at the National Ploughing Championships



10 striking images of Irish research revealed following an open competition for our funded awardees



14 researchers we support showcased their work at Boston College Ireland as part of Culture Night



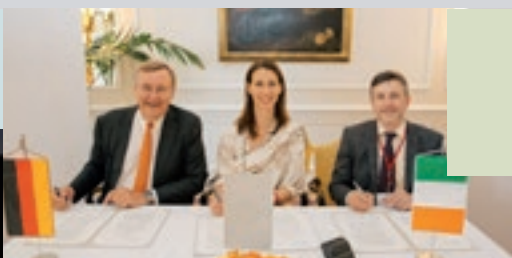
We launched our annual report highlighting our support of 1,629 researchers across a portfolio of awards worth over €100 million



Fund of €2.5 million announced to support frontier research through new Irish Research Council Laureate Awards



Minister Halligan announced that we will invest €5 million in research tackling societal challenges

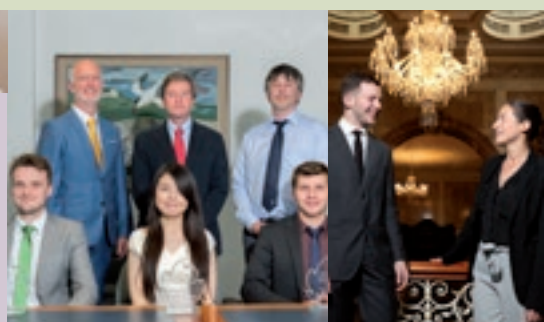


PPI Ignite was announced by the Health Research Board with co-funding from us. This new €1.75 million initiative focuses on the integration of patient and public perspectives in the planning and implementation of health research

We marked 20 years of Franco-Irish research partnerships with the Embassy of France in Ireland



We signed a memorandum of understanding with the Lindau Nobel Laureate Council and Lindau Nobel Laureate Foundation in advance of the 67th Lindau Nobel Laureate Meeting



We recognised excellence at a special event to celebrate three exceptional early-stage career researchers selected to travel to the Lindau Nobel Laureate meetings

Recipients of the Andrew Grene Postgraduate Scholarships in Conflict Resolution celebrated at an award ceremony in the Department of Foreign Affairs and Trade

We received an 'excellent science, industrial leadership and tackling societal challenges' award at the Champion of EU Research ceremony organised by Enterprise Ireland, the national coordinator for Horizon 2020

APRIL

MAY

JUNE

OCTOBER

NOVEMBER

DECEMBER



We awarded €22 million to 284 early-career researchers under our Government of Ireland postgraduate and postdoctoral programmes

Our new partnership with the Arts Council to encourage collaboration between research and arts communities was announced



We highlighted a selection of topical questions that our funded researchers are finding answers to by lighting up the well-known Dublin City Council Building on Dame Street during Science Week



Peter Brown was appointed as the new Director to succeed Dr Eucharia Meehan

We announced two funded traineeships at the renowned European Space Agency following an open competition



Inaugural 'Researchers of the Year' announced as we celebrated 15 years

Medals of Excellence for our top-ranked early-stage researchers announced



Minister Halligan announced launch of €10.6 million international call for gender research

We partnered with Met Éireann to highlight the impact of research on weather forecasting



# SELECTION OF 2017 PUBLICATIONS

Our funded awardees are continuously publishing the outputs of their research, contributing to the development of Ireland's international standing in research, the knowledge base of their disciplines, as well as enhancing their track record. Below is a small snapshot of some of the articles and outputs that our current and former awardees have delivered in 2017.

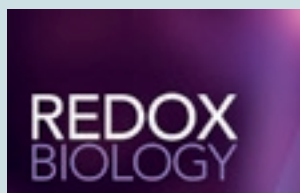


*'Experiments On Sublimating Carbon Dioxide Ice And Implications For Contemporary Surface Processes On Mars'*

Lauren E. McKeown, M. C. Bourke and J. N. McElwaine

*Nature Scientific Reports, Volume 7, 2017*

Lauren McKeown was awarded a Government of Ireland Postgraduate Scholarship in 2015



*'Triggering autophagic cell death with a di-manganese (II) developmental therapeutic'*

Creina Slator, Zara Molphy, Vickie McKee, Andrew Kellett

*Redox Biology, Volume 12, August 2017, 150–161*

Creina Slator was awarded a Government of Ireland Postgraduate Scholarship in 2014

Zara Molphy was awarded a Government of Ireland Postgraduate Scholarship in 2013

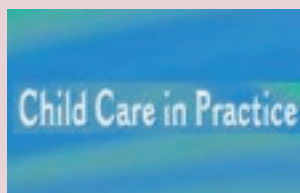


*'Sexualities of initial teacher education applicants in the Republic of Ireland: addressing the hidden dimension of diversity in teaching'*

Manuela Heinz, Elaine Keane and Kevin Davison

*Journal of Education for Teaching, Volume 43.1, 2017, 99–116*

Elaine Keane was awarded a Research Project grant in 2013



*'Spaces of connection and belonging: young people's perspectives on the role of youth cafés in their lives'*

Bernadine Brady, Cormac Forkan and Lisa Moran

*Child Care in Practice, 2017, 1–12.*

Cormac Forkan was awarded a Research Development Initiative Grant in 2012

Lisa Moran was awarded a Government of Ireland Postgraduate Scholarship in 2005



*'Molecular interactions and inhibition of the staphylococcal biofilm-forming protein SdrC'*

Cécile Feuillie, Cécile Formosa-Dague, Leanne M. C. Hays, Ophélie Vervaeck, Sylvie Derclaye, Marian P. Brennan, Timothy J. Foster, Joan A. Geoghegan and Yves F. Dufrêne

*Proceedings of the National Academy of Sciences, April 2017, 114.14, 3738–3743*

Leanne Hays was awarded a Government of Ireland Postgraduate Scholarship in 2013



*'Walk1916: Exploring non-research user access to and use of digital surrogates via a mobile walking tour app'*

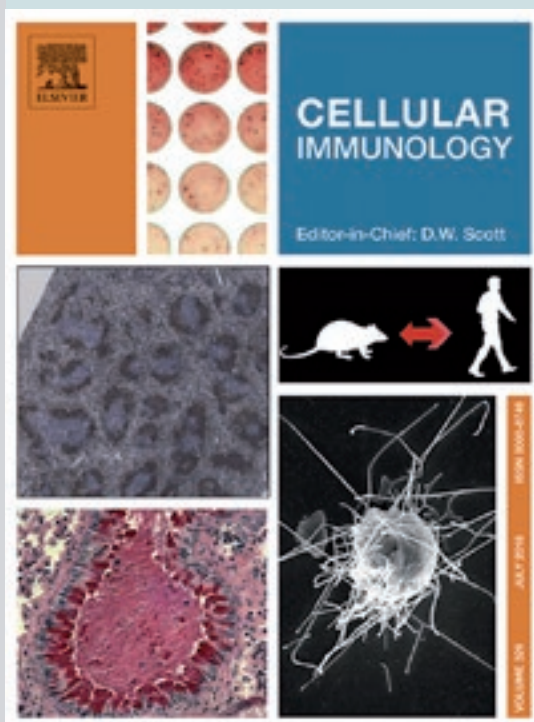
Amber L. Cushing and Benjamin R. Cowan

*Journal of Documentation, Volume 73.5, 2017, 917–933*

Amber Cushing was awarded New Foundations Awards in 2014 and 2015

Benjamin Cowan was awarded a New Horizons grant in 2016





*'Tyrosine kinase inhibitors as modulators of trastuzumab-mediated antibody-dependent cell-mediated cytotoxicity in breast cancer cell lines'*

Denis M. Collins, Kathy Gately, Clare Hughes, Connla Edwards, Anthony Davies, Stephen F. Madden, Kenneth J. O'Byrne, Norma O'Donovan and John Crown

*Cellular Immunology, Volume 319, September 2017, 35–42*

Denis Collins was awarded an Enterprise Partnership Scheme Postdoctoral Fellowship in 2010

John Crown was awarded a New Foundations grant in 2012

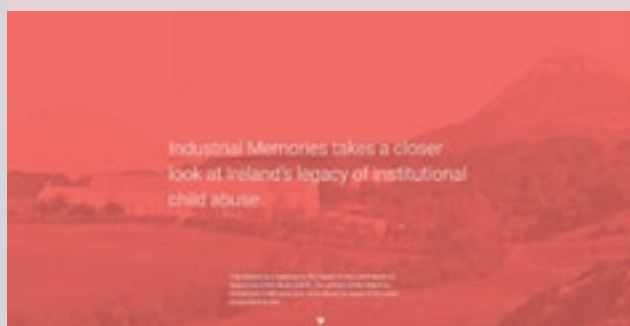
## WEBSITES



<https://beyond2022.ie/>

Beyond 2022 – reconstructing seven centuries of Ireland's lost history

Peter Crooks was awarded a New Horizons grant in 2016

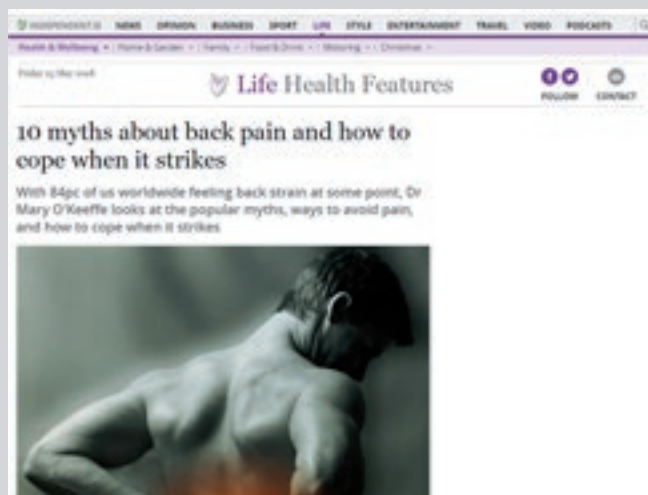


<https://industrialmemories.ucd.ie/>

Industrial Memories – a closer look at Ireland's legacy of institutional abuse

Emilie Pine and Mark Keane were awarded a New Horizons grant in 2016

# OUR AWARDEES IN THE NEWS



Mary O'Keeffe, 2012 Government of Ireland Postgraduate Scholarship

'10 myths about back pain and how to cope when it strikes', *Irish Independent*, 3 January 2017



Charlotte Blease, 2013 Government of Ireland Postdoctoral Fellowship and 2017 CAROLINE Fellowship

'Philosophy can teach children what Google can't', *The Guardian*, 9 January 2017



Emilie Pine and Mark Keane, 2015 New Horizons

'Cover-ups of abuse to be traced online', *The Times*, 12 March 2017



Johnny Connolly, 2016 Enterprise Partnership Scheme Postdoctoral Fellowship

'Who are the team examining the future of Irish policing?', *The Irish Times*, 16 May 2017





Eamon O'Gorman, 2015 Government of Ireland Postdoctoral Fellowship

'Irish scientist captures groundbreaking image of star', *RTÉ*, 26 June 2017



Fiona Edwards-Murphy, 2014 Government of Ireland Postgraduate Scholarship

'Cork start-up that uses IoT to save bees scoops top prize', *The Irish Times*, 28 September 2017



Louisa Carroll, 2017 Government of Ireland Postgraduate Scholarship

'Something in the water: why striving artists seek solace by Dublin's canals', *The Irish Times*, 4 November 2017



Niamh Moriarty, 2014 Government of Ireland Postgraduate Scholarship

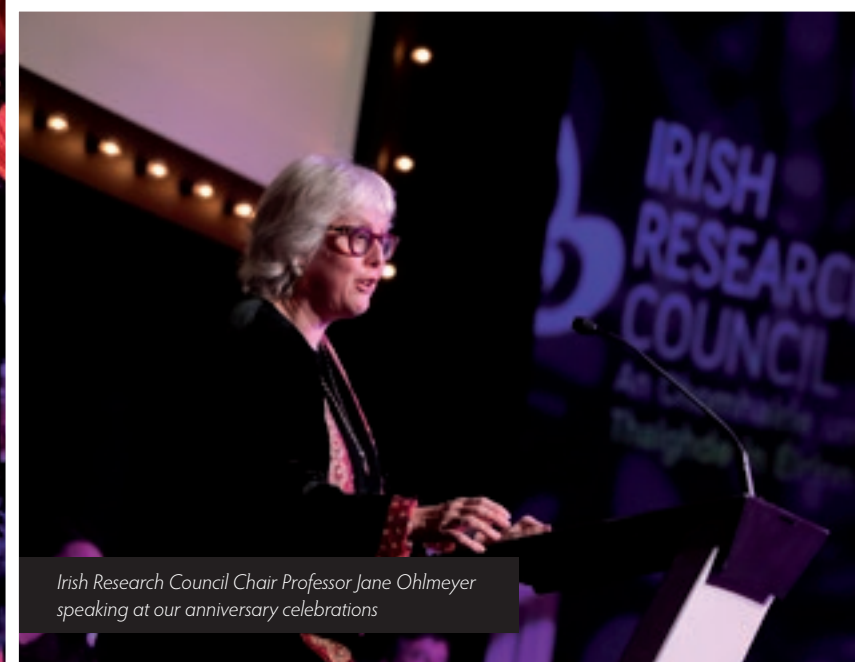
'Scientists reveal breakthrough in brain cell repair around Parkinson's disease', *Irish Examiner*, 22 November 2017



Image submitted by Shane Holohan, Irish Research Council Scholar, *Ben Collis & Elisabeth Künkele* (© Einar Kling-Odenkrants) performing as part of my PhD in arts practice.

# 2

15 YEARS OF  
FUNDING THE  
BRIGHTEST  
TALENT



*Irish Research Council Chair Professor Jane Ohlmeyer speaking at our anniversary celebrations*



*Irish Research Council Director Peter Brown speaking at our anniversary celebrations*

## 15 YEARS OF FUNDING THE BRIGHTEST TALENT

In December 2017, we celebrated 15 years of the Council and its forebears, the Irish Research Council for the Humanities and Social Sciences and the Irish Research Council for Science, Engineering and Technology, supporting excellent research across all disciplines. During this period, we funded almost 8,000 researchers, ensuring the participation of Ireland in world-class projects, and providing talent that contributes to Irish science, culture, economy and society at large.

The event was widely attended by our awardees and researchers from all around the country. The audience heard speeches by Peter Brown, our Director; Dr Eucharia Meehan, our former director; and Professor Jane Ohlmeyer, our Chair. Speakers and participants emphasised our vital role in funding basic and frontier research.

Dr Eucharia Meehan outlined:

“Today more than ever, the objective of enabling funding across all disciplines is important so as to future-proof our unpredictable economy and society, and enable us to engage as global citizens in the research endeavour.”





Pictured (left to right): Dr Martin O'Halloran and Dr Paola Rivetti



Dr Paola Rivetti speaking at our anniversary celebrations

During the anniversary celebrations, we announced the winners of our inaugural Researcher of the Year and Early-Career Researcher of the Year awards. Both Council-funded researchers received their awards for having made a highly significant and valuable contribution to research in Ireland over their career to date in their respective fields.

**Dr Martin O'Halloran, National University of Ireland, Galway**, was awarded Researcher of the Year for his work in medical electronics. Martin is a senior lecturer in the School of Engineering and Informatics and is founder-Director of the Translational Medical Device Lab in University Hospital Galway. Speaking to the audience, he said:

“Importantly, in February of next year, we are starting the first clinical trial in Ireland of our new breast imaging technology, finally delivering on the initial investment provided by the Irish Research Council in 2004. In each and every one of our research projects the Irish Research Council have played a crucial role. Through their funding programmes and their personnel, they provide that key scaffolding and support required for Irish researchers to succeed. Huge credit for the success of Irish researchers can be attributed to the dedication of the Irish Research Council and its staff, and I'd like to personally thank them for their continued support, encouragement and help.”

**Dr Paola Rivetti, Dublin City University**, was awarded Early-Career Researcher of the Year for her research in politics of the Middle East and international relations. Her research interests focus on the government of societies and politics in the Middle East and North Africa from a comparative perspective. Upon receiving the award, Paola commented:

“I came to Ireland as a Council-funded postdoctoral fellow six years ago. Good research is in fact about intuition and innovation, for sure, but also about time for reading, thinking, reflecting, getting bored, writing and re-writing. You need time for doing this, and many of my peers who work on short-term contracts and 'casual' appointments just do not have that time or find that time at a very high price in terms of personal sacrifice.”

Congratulating the awardees, Minister of State for Skills, Training, Innovation and Research, Mr John Halligan, TD said:

“I would like to warmly congratulate Dr Martin O'Halloran and Dr Paola Rivetti on receiving the inaugural Irish Research Council Researcher of the Year awards. Their exceptional careers are a testament to the quality of the people in Ireland's research environment and I would like to commend them on their hard work and dedication to their chosen fields. I would also like to congratulate the Irish Research Council and its forebears for 15 years of funding the brightest research talent across all disciplines. Supporting exceptional individual researchers from early-career stage is vital to the health of Ireland's research ecosystem. Ensuring that we have the pipeline for a broad range of expertise future-proofs our higher education and indeed Ireland in a globally connected world.”





Pictured (left to right): Professor Thomas Mitchell, Aisling Heeran, Dr Natalia Muñoz-Wolf, Professor Eda Sagarra, Dr Dan O'Brien, Miriam Cummins, Professor Jane Grimson and Professor Maurice J. Bric

“ Supporting exceptional individual researchers from early-career stage is vital to the health of Ireland's research ecosystem ”

Minister of State for Skills, Training, Innovation and Research, Mr John Halligan, TD

## MEDALS OF EXCELLENCE

In addition to the presentation of the Researcher of the Year awards, we awarded four early-stage researchers with Medals of Excellence.

The Medals of Excellence have been named after our previous chairs and recognise excellence in their 2017 postgraduate and postdoctoral funding calls. The medals recognise achievement in both science, technology, engineering and mathematics fields and the arts, humanities and social sciences. Going forward, we will award the medals annually.

### THE 2017 MEDAL-WINNERS WERE:

**Miriam Cummins, Trinity College Dublin**, was awarded the Eda Sagarra Medal of Excellence for being the top-ranked postgraduate researcher in the arts, humanities and social sciences category. Her research is in post-secularism, gender performativity and performance in the postcolonial world.

**Aisling Heeran, Trinity College Dublin**, was awarded the Jane Grimson Medal of Excellence for being the top-ranked postgraduate researcher in the science, technology, engineering and mathematics category. Her research is investigating the clinical relevance of the radiation-induced bystander effect in rectal cancer patients.

**Dr Dan O'Brien, University College Dublin**, was awarded the Maurice J. Bric Medal of Excellence for being the top-ranked postdoctoral researcher in the arts, humanities and social sciences category. His research considers the intertwining fiction of Philip Roth and Edna O'Brien.

**Dr Natalia Muñoz-Wolf, Trinity College Dublin**, was awarded the Thomas Mitchell Medal of Excellence for being the top-ranked postdoctoral researcher in the science, technology, engineering and mathematics category. Her research is in investigating genetic determinants of morbidity and mortality in pneumococcal disease.



*Pictured (left to right): Professor Eda Sagarra and Miriam Cummins*



*Pictured (left to right): Dr Dan O'Brien and Professor Maurice J. Bric*

## 15 YEARS OF THE COUNCIL IN NUMBERS

**7,776**  
awardees



**4,984**  
postgraduate  
scholars



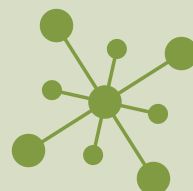
**1,287**  
postdoctoral  
fellows



**703**  
project  
awards



**802**  
networking  
awards



**€31,000,000**  
average per year

**€462,774,000**  
for groundbreaking research

**€85,000**  
average per day

## BEHIND THE SCENES

Over  
**78,000**  
peer reviews



Across  
**200**  
funding calls



**466**  
partnerships forged  
across government,  
enterprise and  
civic society





Image by Chiara Mizzoni, Andrew Grene Postgraduate Scholar in Conflict Resolution,  
*A group of FARC fighters watch a game of afternoon football at a demobilisation and transition camp in Icononzo.*

# 3

FUNDING  
EXCELLENT  
EARLY-CAREER  
RESEARCHERS





“€14.9 million  
committed to  
the next  
generation  
of Irish  
researchers”

## GOVERNMENT OF IRELAND POSTGRADUATE SCHOLARSHIP PROGRAMME

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The aim of our flagship Government of Ireland Postgraduate Scholarship programme is to support exceptional research master's and doctoral candidates pursuing, or intending to pursue, full-time research in any discipline.

In 2017, we awarded 204 new scholarships to researchers from 27 countries on the basis of the excellence of their projects, with an associated commitment of €14.9 million.

Housing exclusion, antibiotic resistance, the influence of Gaelic and Irish literary revivals, stellar explosions and tsunami prediction are just a sample of the new research topics selected for funding in 2017.

This brings the total number of active Government of Ireland Postgraduate Scholarship awards in 2017 to 878.

A number of other agencies support this programme by partnering with us as a mechanism to deliver on our shared national objectives. Our strategic funding partners in 2017 were the Department of Foreign Affairs and Trade, the Department of Children and Youth Affairs, the Environmental Protection Agency, the National Forum for the Enhancement of Teaching and Learning in Higher Education and Science Foundation Ireland.

# CASE STUDIES

**Awardee:** Kerstina Mortensen

**Project title:** Into the void: translating text and image in Nordic art 1890–1910

Kerstina is a postgraduate scholar based at Trinity College Dublin who is analysing how ideas are transferred between visual and written forms of representation in Scandinavian art at the turn of the twentieth century. Nervous exhaustion, depression and hysteria were common among artists and writers in urban centres. Spurred on by progress in psychoanalysis, Nordic artists looked inwardly at the psychological landscape, using symbols of the self and of inner emptiness. Artists such as Norwegian Edvard Munch and Dane Vilhelm Hammershøi explored themes of illness, death and the psychological self. The project will show that the period when Nordic symbolist artists gravitated to these darker depictions of modernity also marks a break with tradition in the social, cultural and political spheres.

**Awardee:** Darragh Walsh

**Project title:** Development of an *in vitro* lab-on-a-chip device to analyse the blood–brain barrier at a cellular level post-concussion

Darragh, a postgraduate scholar based at the University of Limerick, is working on a groundbreaking method to diagnose concussion. Concussion is one of the mildest forms of brain damage; however, it is this mildness of injury which makes it one of the most insidious, as repeated and undetected concussions can lead to permanently altered brain function. There is currently no scientifically accurate test for concussion. In normal conditions, the almost impermeable blood–brain barrier functions to stop brain-derived proteins from entering the systemic bloodstream. Darragh aims to build a lab-on-a-chip device to act as a platform for studying the malfunction of the blood–brain barrier, which is mediated by astrocytes, a cell type essential for regulating the brain homeostasis. This will be a crucial step in understanding how and why certain proteins cross the blood–brain barrier and a significant step in developing a device for real-time concussion diagnosis.



Kerstina Mortensen



Darragh Walsh





“ €6.5 million  
committed to  
encourage  
rigorous and  
independent  
researchers ”

## GOVERNMENT OF IRELAND POSTDOCTORAL FELLOWSHIP PROGRAMME

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The Government of Ireland Postdoctoral Fellowship programme supports early-stage researchers during the crucial first steps on their career paths. These fellowships are aimed at excellent researchers who want to undertake a period of guided research before going on to lead their own independent research.

By supporting the development of rigorous and independent researchers, we are priming the pipeline for future success.

In 2017, 78 new researchers from 23 countries were awarded these prestigious and highly competitive fellowships, with an associated commitment of €6.5 million.

Nanoparticles in cancer research, experimental replication of the fifth millennium BC axe technologies and intelligent recommender systems for data consumers are some examples of the new projects selected for funding in 2017.

This brings the total number of active Government of Ireland Postdoctoral Fellowship awards in 2017 to 215.

# CASE STUDIES

**Awardee:** Richard Howard

**Project title:** Estrange conflict: fragments of the Irish troubles in the science fiction of Bob Shaw and James White

Science fiction might not be the first thing that springs to mind when we think of Irish literature. Richard, a postdoctoral fellow at Maynooth University, has been exploring how in the post-war period in Belfast, two authors, Bob Shaw and James White, began producing science fiction stories, gaining the respect of science fiction luminaries such as Arthur C. Clarke, Brian Aldiss and Stanley Kubrick. Writing throughout the period of the Troubles and using science fiction to comment on the situation, Shaw and White produced 60 novels and numerous short stories, while working side by side at Shorts, an aerospace company in Belfast. Richard's research will map out the history of Belfast science fiction and explore the relationship of these texts against the society from which they came.

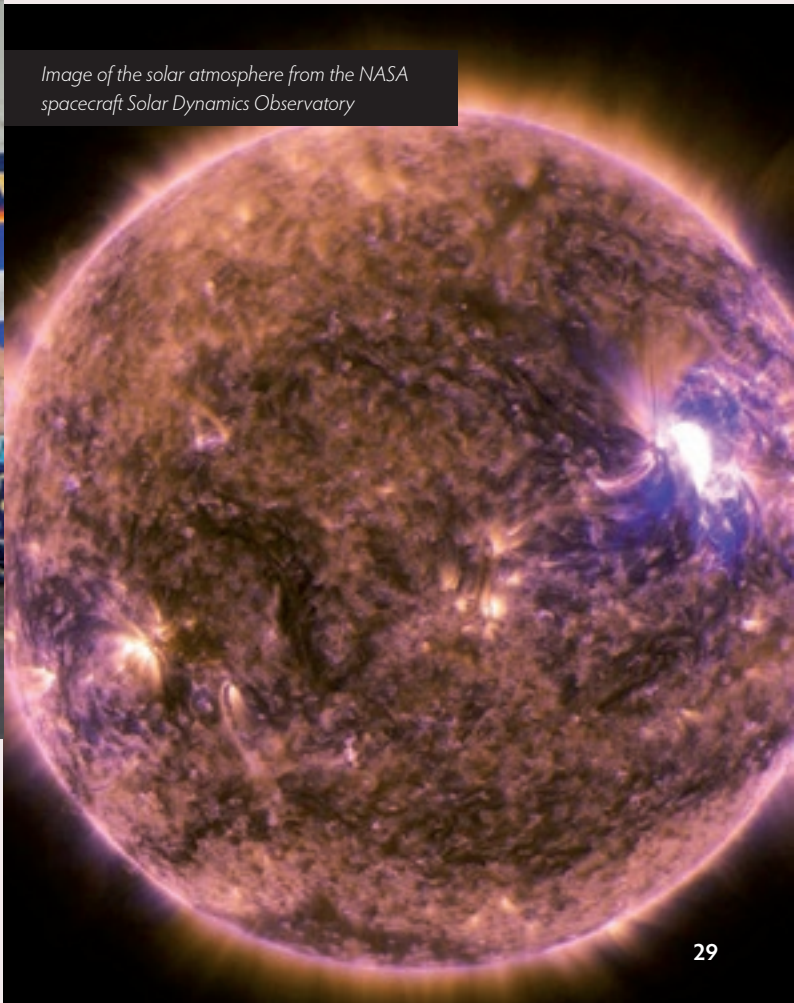
**Awardee:** Sophie Murray

**Project title:** Improving solar eruption forecasting using active region evolution

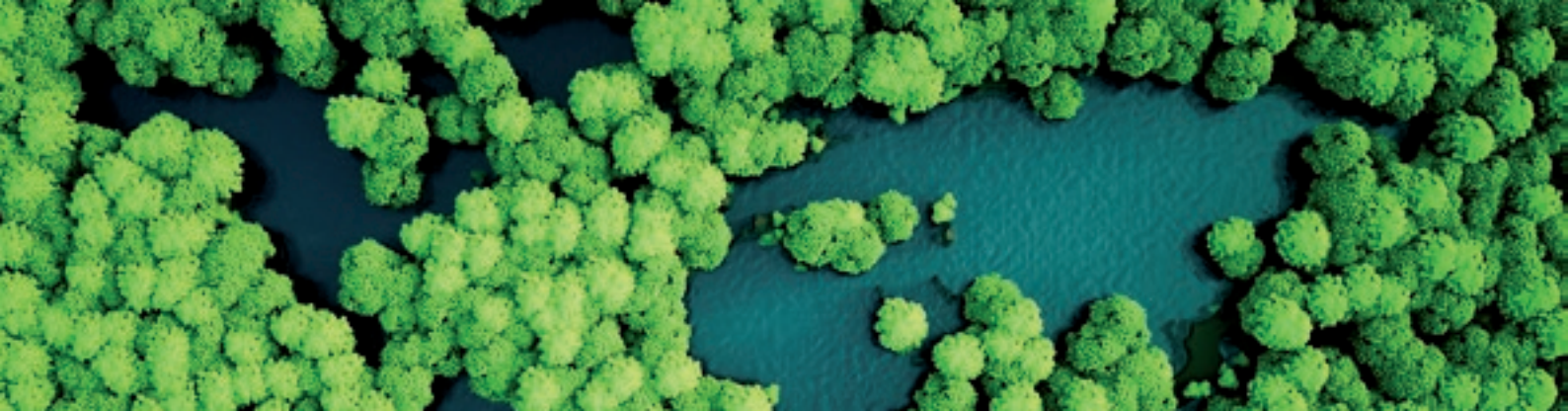
While everyday space weather will not be noticeable to most people, a severe space weather event can significantly impact a multitude of technologies on which we depend as part of our daily lives. Most space weather occurs due to solar eruptions which are released from areas of strong magnetic field on the solar surface known as active regions. Understanding how these magnetic fields evolve is crucial for developing accurate and reliable space weather monitoring and forecasting capabilities. Sophie's postdoctoral project at Trinity College Dublin seeks to develop an active region monitoring and solar eruption forecasting system in close collaboration with the weather prediction community to ensure a robust, well-validated system that is useful operationally as well as scientifically. The output of the system will also provide an extensive database of active region magnetic properties that can be studied to further advance our understanding of the conditions needed to produce solar eruptions.



Image of the solar atmosphere from the NASA spacecraft Solar Dynamics Observatory







“ €4.4 million  
committed  
to attract  
experienced  
researchers  
to work on  
economic  
prosperity, social  
development,  
and  
environmental  
protection ”

## COLLABORATIVE RESEARCH FELLOWSHIPS FOR A RESPONSIVE AND INNOVATIVE EUROPE (CAROLINE)

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The Irish Research Council Marie Skłodowska-Curie Actions COFUND Postdoctoral Fellowship programme entitled CAROLINE – Collaborative Research Fellowships for a Responsive and Innovative Europe – provides experienced researchers with an opportunity to obtain a prestigious research mobility and career development fellowship. Successful candidates will carry out research either in Ireland or abroad and gain intersectoral and interdisciplinary exposure.

The aim of CAROLINE is to attract experienced researchers from any discipline to conduct research relevant to the themes of the United Nations 2030 Agenda for shared economic prosperity, social development, and environmental protection, that is, the Sustainable Development Goals (SDGs). We were among the first research funders in Europe to secure funding in 2015 from Horizon 2020 for a project built around the SDGs, leading the way in an approach which will be a significant overarching framework for FP9.

In 2017, 18 new awardees were awarded these prestigious fellowships, with an associated commitment of €4.4 million.

Comparative studies on the peace processes in Northern Ireland and Korea, improving outcomes for lung cancer patients, and inclusion of women and girls with disabilities are some examples of the research selected for funding in 2017.

This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under the Marie Skłodowska-Curie grant agreement No 713279.



**CAROLINE**  
Collaborative Research Fellowships  
for a Responsive and Innovative Europe

# CASE STUDIES

**Awardee:** Andrea Ciribuco

**Project title:** Language integration and new communities in a multicultural society

**Partner:** TAMAT

Andrea's project will explore the experience of migrants from a linguistic and cultural point of view. The aim is that this knowledge can be used to create and promote language practices and policies that will ultimately result in more inclusive societies and peaceful coexistence. The initial two years of this project will involve work in Italy, with Andrea, a postdoctoral fellow from National University of Ireland, Galway, meeting groups of migrants and involving them in cultural activities. The knowledge gathered from these encounters will be used to find answers to questions such as: How much is a person's cultural identity shaped by the languages that he or she speaks? What does this mean in terms of integration when new speakers join a community and need to learn how to use a new language? Do their stories of suffering and displacement get lost, or is there a way to preserve them? In addition to researching these questions, Andrea will work with partner organisations to create events based on encounters between old and new members of different communities in Italy, where they will have a chance to share stories across languages.

**Awardee:** Bing Wu

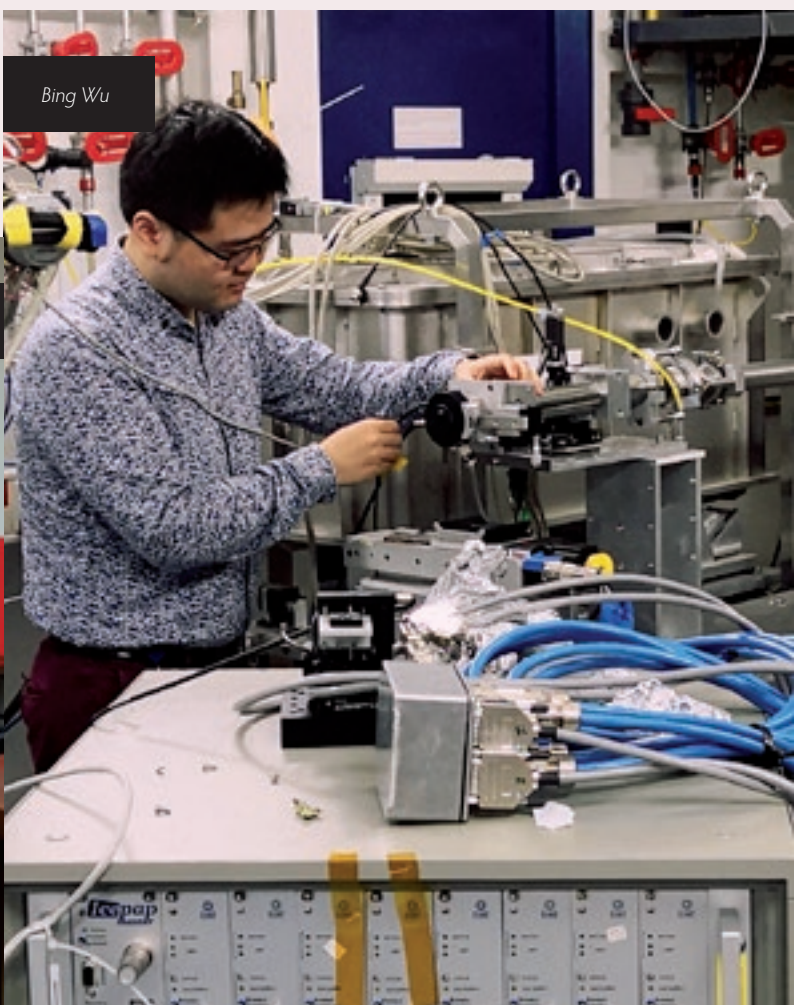
**Project title:** Novel polymeric materials designed for drug delivery systems

**Partner:** European Synchrotron Radiation Facility

One goal of the United Nations' Agenda for Sustainable Development is to ensure healthy lives and promote well-being for all at all ages. The development of new and better medical materials is a key requirement to achieve this goal. Next-generation researchers must be multidisciplinary and with a translational mindset to drive innovation in this field for the benefit of society. The aim of Bing's project at the Royal College of Surgeons in Ireland is the development of better drug delivery hydrogel materials through an understanding of the underlying scientific principles. It applies principles of polymer and material science, biomedical science and physics. This is possible through the unique collaboration of the Royal College of Surgeons in Ireland, the European Synchrotron Radiation Facility in Grenoble, the University of Halle and RWTH University Aachen.



Photo by Tamat ONG/NGO



Bing Wu



“ 34 researchers  
supported  
to foster new  
collaborations  
between in  
Ireland and  
France ”

## ULYSSES

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The Ulysses programme, named to celebrate the links between Ireland and France, is designed to support new collaborations between Irish and French researchers. In Ireland, we fund and administer the Ulysses programme, with support from the Health Research Board. In France, it is funded by the French Ministry of Foreign Affairs and administered by the Embassy of France in Ireland and Campus France, the leading French agency for international mobility.

The immediate aim of the Ulysses programme is to foster new collaborations between researchers in Ireland and France by funding reciprocal travel visits between the two research groups over the course of one year. The longer term goal is to establish lasting professional networks of researchers and institutes.

In 2017, funding was awarded to 17 new collaborations involving 34 researchers, each of which received a 'seed-funding' bursary to cover travel and living expenses.

Exploratory data analysis for poetry, manganese-enhanced MRI as an early-diagnostic technique for lung cancer, and how to reshape cities are examples of the new research topics selected for funding in 2017.



# CASE STUDIES

**Awardee:** Stephen Gordon

**Project title:** ONE-TB: The study of bovine tuberculosis through a 'One Health' approach

How do bacteria evolve to become pathogenic? How do animal pathogens differ from human pathogens? How do they manipulate the host immune response to establish infection? This project seeks to answer these questions by developing a new collaboration between the leading French group of Dr Nathalie Winter and Dr Aude Remot from INRA Centre Val de Loire, and Professor Stephen Gordon from University College Dublin along with Dr Bojan Stojkovic. The project will train two young researchers in the use of novel infection models, high throughput gene expression technology and data analysis techniques to explore how the bovine host responds to the pathogen that causes bovine tuberculosis. Through such a 'One Health' approach, combining veterinary and human medicine, Stephen and his colleagues will provide new insight into the functioning of the bovine immune system and how this knowledge can be translated into control tools such as vaccines and diagnostics.

**Awardee:** Dorothy Kenny

**Project title:** Dublin–Grenoble translation technology partnership

Professional translation has been profoundly affected by digital technologies and changing business practices, and there is a growing need to adjust translator training and prepare students for increasingly technologised workflows. This will provide them with appropriate technical skills and knowledge in addition to the intellectual tools to enable them face the ethical, legal and economic challenges ahead. This research involves working out how to integrate state-of-the-art neural machine translation into translation workflows, as well as understanding the factors that help professional translators accept translation technologies and work with them in ways that do not compromise their well-being, ergonomically or otherwise. Dorothy's collaborative project between Dublin City University and Université Grenoble Alpes will enable the design and evaluation of a prototype syllabus in customisable neural machine translation for translators.





# LINDAU NOBEL LAUREATE MEETING AWARDS

Once every year, 30–40 Nobel Laureates convene at Lindau to meet the next generation of postgraduate and postdoctoral researchers from all over the world to foster scientific exchange between different generations, cultures and disciplines.

In 2017, two Ireland-based researchers were chosen to take part in the 67th Lindau Meeting, dedicated to the field of chemistry, and one was selected to attend the 6th Lindau Meeting on Economic Sciences.

Following their nomination by the Council, the researchers went through a highly competitive multistage international application process, managed by the Lindau Nobel Meeting Foundation. These researchers then spent the week attending prestigious masterclasses with some of the best-known scientists in the world.

The nominees who represented Ireland at the 67th Lindau Meeting dedicated to the field of chemistry were:

- Eoin McCarney, a postgraduate scholar based at Trinity College Dublin, who is working in the field of supramolecular and nano-chemistry
- Dr David McNulty, a postdoctoral researcher in the Applied Nanoscience Group at University College Cork

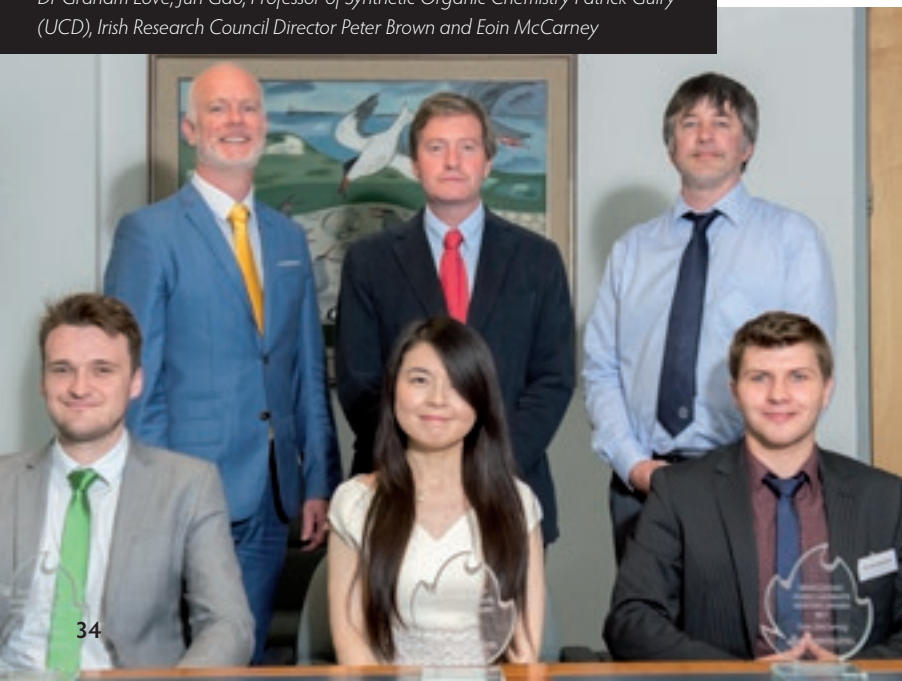
The nominee who represented Ireland at the 6th Lindau Meeting on Economic Sciences was:

- Jun Gao, a postgraduate student based at University College Cork, who is investigating the performance of the Chinese fund industry by looking at stock selection ability and market timing

In 2017, we signed a Memorandum of Understanding with the Council for the Lindau Nobel Laureate Meetings and the Foundation for the Lindau Nobel Laureate Meetings to continue sending exceptional Irish-based researchers to these meetings until 2019. The patron of the Irish Lindau Nobel Laureate Meeting Awards is the President of Ireland, Michael D. Higgins.



*Pictured (left to right): Dr David McNulty, Higher Education Authority CEO  
Dr Graham Love, Jun Gao, Professor of Synthetic Organic Chemistry Patrick Guiry  
(UCD), Irish Research Council Director Peter Brown and Eoin McCarney*



*Pictured (left to right): Dr Jürgen Kluge (Chair of the Foundation for  
the Lindau Nobel Laureate Meetings), Countess Bettina Bernadotte  
(President of the Council for the Lindau Nobel Laureate Meetings)  
and Irish Research Council Director Peter Brown*







“Funding exceptional graduates to undertake traineeships with the European Space Agency”

## IRISH RESEARCH COUNCIL–EUROPEAN SPACE AGENCY TRAINEESHIP SCHEME 2017

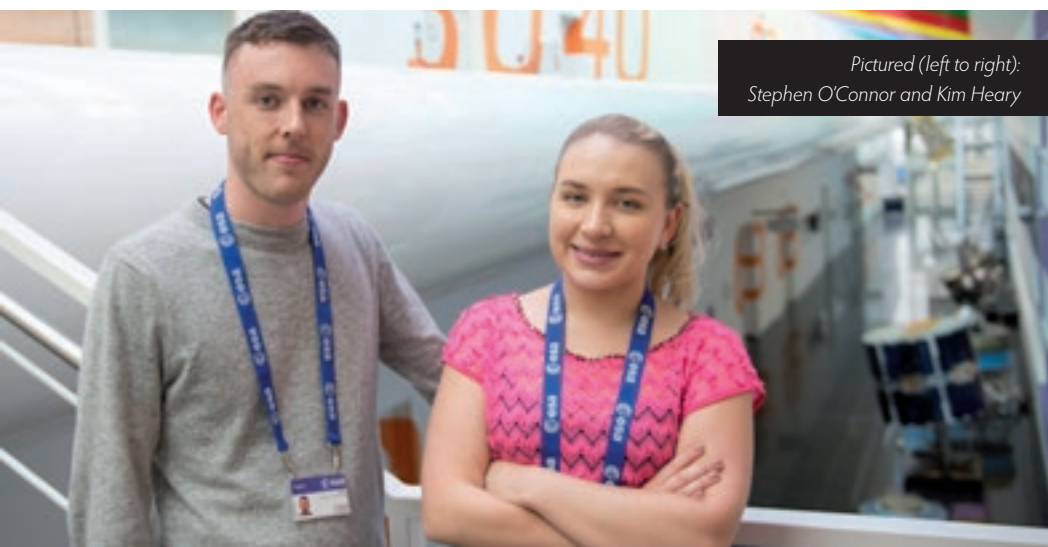
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We are committed to cultivating skills and expertise in space exploration and technologies, as well as developing the training of master's graduates in Ireland. As such, we engaged with Enterprise Ireland, who coordinate Ireland's industrial and research participation in the programmes of the European Space Agency, to establish training needs and strategic priorities for the country.

The Irish Research Council–European Space Agency (ESA) Traineeship Scheme fully funds graduates in any field to undertake traineeships in ESA stations across Europe. Trainees gain practical experience in high-tech space activities such as science operations, data analytics, artificial intelligence, telecommunications, navigation, mission operations and human spaceflight.

Following a three-stage competitive process, two candidates were selected for these traineeships in 2017:

- Kim Heary, of National University of Ireland, Galway, who is based at the European Space Research and Technology Centre in the Netherlands. The project that Kim will work on investigates the effects of atomic oxygen on external space optics. This will help to ensure that spacecraft can withstand the harsh conditions of space during their whole service life.
- Stephen O'Connor, of University College Dublin, is also based at the European Space Research and Technology Centre in the Netherlands. His research will investigate the relationship between molecular contamination and wavelength specific transmission loss for optical payloads. Stephen will perform environmental testing of materials in vacuum to better understand the synergistic effects of molecular contamination, ultraviolet radiation and temperature variation. His work will contribute significantly to future space missions like Plato and Euclid.



Pictured (left to right):  
Stephen O'Connor and Kim Heary



Image by Sven Batke, Irish Research Council Fellow, *A bromeliad plant from the same family as pineapples which grows on top of tall tropical trees.*



4

POWERING  
ENTERPRISE



“€5.8 million  
committed  
to support  
enterprise–  
academia  
collaborations”

Our suite of enterprise programmes is designed to support enterprise-academia engagement through exceptional individual researchers, while in parallel presenting options for diverse career paths. Both for-profit and social enterprises are catered for under the programme.

The programmes are aligned with our mission to fund researchers across all disciplines and promote engagement with enterprise. Employers benefit from working with researchers on innovative projects and engaging in research that is aligned with their needs.

In 2017, we awarded 67 new scholarships and 9 new fellowships across our suite of enterprise programmes, with an associated commitment of €5.8 million.

In collaboration with 236 partners, this brings the total number of active awardees in 2017 to 331.

## EMPLOYMENT-BASED POSTGRADUATE PROGRAMME

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The Employment-Based Postgraduate programme is a unique initiative that provides students from any discipline the opportunity to be employed in a partnering company or organisation while gaining a postgraduate research qualification. The Employment-Based Postgraduate programme will contribute to the achievement of targets set out in *Innovation 2020*, Ireland's five-year strategy on research and development, science and technology. The programme also contributes to the government's targets under the Action Plan for Jobs.

In 2017, we awarded 28 new scholarships to researchers from seven countries.

Pharmacological interventions in Parkinson's disease, stem cells for cartilage repair, social media influence in young adolescents, and experiences of the Irish deaf community in employment are examples of the new research topics selected for funding in 2017.

The programme has placed students with employers such as Kimmage Development Studies Centre, Enable Ireland, Bodywhys – Eating Disorders Association of Ireland, Leinster Rugby and SLR Environmental Consulting Ltd.

# CASE STUDIES

**Awardee:** Cormac Griffin

**Project title:** The application of microbial consortium constructed by functional microbiome technology for preventing absorption of cadmium by crop plants

**Partner:** MicroGen Biotech Ltd.

Metals do not undergo microbial degradation and tend to persist in soils long term, however, changes in their chemical form, and therefore bioavailability, are possible. Cadmium is one of the more mobile elements in soil, possessing high bioavailability. It is considered to be a significant environmental pollutant, based on prevalence and toxicity. Alterations in soil pH can significantly reduce the bioavailability of the metal, as can the introduction of cadmium-tolerant microorganisms. These are capable of chelating the metal externally or internally in conjunction with stimulating its precipitation. Zinc is an essential micronutrient metal but can be harmful at high concentrations. It occurs naturally in the soil, but concentrations are increasing as a result of human activity. Conversely, many parts of the globe are facing serious problems as a result of zinc deficiency. Cormac's collaborative project between Institute of Technology Carlow and MicroGen Biotech will examine cadmium and zinc levels in agricultural soil in Jiangsu province, Danyang and Ningbo City in China. The aim of his project is to formulate microbial inoculum and physico-chemical processes that exclude hazardous heavy metals from crop plants while stimulating their growth.

**Awardee:** Dylan Walshe

**Project title:** Integration of spatial big data for improved long-term forest resource planning

**Partner:** Coillte

Ireland's forestry sector delivers key economic, environmental, and social services to society. It is expected to play a key role in the transition to a carbon-free society. Achieving this requires the development of scientifically robust management tools to underpin tactical and strategic planning. Dylan's project at the University of Limerick will entail two principal objectives. Firstly, the project will compile available remote sensing data sets of satellite imagery, and develop models to estimate forest parameters such as tree height, tree diameters, standing volume and number of trees. Secondly, based on this information, the project will investigate the impact of increased storm frequency, the impact of biomass removal, and changes in silviculture due to encroachment of invasive species on sustainability. The results of the evaluation of models will be crucial in analysing timber supply, management decisions and future planning.

**Awardee:** Lucia Venturi

**Project title:** The development of peer support: a service for supporting Irish Sign Language/English interpreters

**Partner:** Bridge Interpreting Ltd

Irish Sign Language (ISL) is the first or preferred language of the majority of the Irish deaf community. There are an estimated 50,000 ISL users in Ireland, hearing and deaf. In order for the deaf community to have equal access to services, interpreters are usually provided across areas such as educational, medical, legal, vocational, rehabilitation and mental health. ISL/English interpreters have daily contact with their clients; nonetheless, they do not have the support that most people would encounter in their daily employment. Attrition appears to be a key issue where demand continues to outstrip supply, which is the case with ISL interpreters. There are therefore fewer interpreters available to meet the demands. In order to better understand the concerns of ISL interpreters, Lucia's project at Trinity College Dublin will identify what practicing interpreters believe will improve their job performance. The findings from the research will assist Lucia to design the appropriate peer support service to be offered to interpreters from a psychological, professional and emotional point of view.



*MicroGen Biotech's operations in China*







## ENTERPRISE PARTNERSHIP SCHEME

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The Enterprise Partnership Scheme is an innovative initiative whereby, in partnership with enterprise, we award co-funded postgraduate scholarships and postdoctoral fellowships. The programme supports the development of an expertise-driven higher education and research system so as to enhance Ireland's creative and innovation capacity and skills base.

In 2017, we awarded 39 new postgraduate scholarships and 9 new postdoctoral fellowships to researchers from 9 countries.

3D printing of novel 2D nanomaterials, biomarkers of Alzheimer's disease using augmented reality, and a mobile biofeedback device for stress management are examples of the new research topics selected for funding in 2017.

New enterprise partners in 2017 include Procter & Gamble, Focus Ireland, Western Digital Technologies and the Irish Museum of Modern Art.



# CASE STUDIES

**Awardee:** Aidan Brady

**Project title:** Officiating in Gaelic games: Application of sports science and technology

**Partner:** Gaelic Athletic Association (GAA)

In recent years, the preparation of elite Gaelic football and hurling players has become almost professional in nature leading to a dramatic increase in the standard and intensity of play. With this has come a dramatic increase in the physical and physiological demands on referees. In this regard, it is vitally important for referees to develop the requisite fitness components in order to optimally officiate. The existing methods of training are not reflective of the demands placed on them. Field-based testing has long been incorporated to assess fitness levels of Gaelic games referees and forms part of the selection criteria. This is despite there being no standardised, valid and reliable field-based fitness test specific to Gaelic games referees. Based at Dublin City University and in collaboration with the GAA, Aidan's research will assess and contextualise the physiological and metabolic responses of elite inter-county referees during competitive match play, develop a specific field-based fitness test and compare the effect of current training methods of elite referees to alternative sports-specific methods with particular reference to the intermittent nature of Gaelic games. The findings of this research will be directly implemented by the GAA to provide evidence-based recommendations for all referees.

**Awardee:** Clíodhna Bairéad

**Project title:** Homelessness as a form of statelessness among single homeless people in Dublin

**Partner:** Focus Ireland

Using a very recent five-year longitudinal data set comprised of the Pathway Accommodation & Support System homeless services data combined with local authority housing list data, this research addresses the question of how the concept of statelessness might help us to define and understand chronic, episodic and transitional patterns of single person homelessness in Ireland. Research highlights the overrepresentation of persons who spent all or part of their childhood in state care; have left mental health facilities, prisons and rehabilitation services; are drug users; or are of diverse ethnic origin including Irish Travellers. The interaction between these forms of statelessness will be examined in order to develop a concept of 'multiple statelessness'. The use of a longitudinal data set has enormous potential to illuminate the dynamic behaviour of the single homeless population. The findings of Clíodhna's project at University College Dublin will input both into Dublin City Council's strategy for developing homeless services and Focus Ireland's case management strategies.

**Awardee:** Eilís Ni Thuama

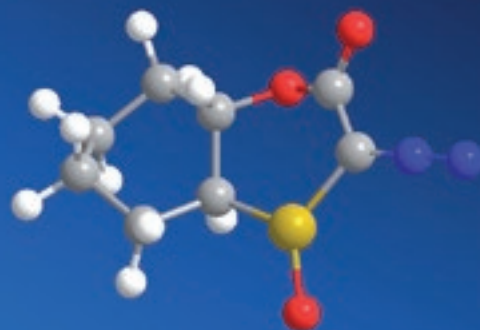
**Project title:** Exploiting the power of flow chemistry for the synthesis of active pharmaceutical ingredients (APIs)

**Partner:** GlaxoSmithKline

Production scale synthesis within the pharmaceutical sector in Ireland has traditionally focused on batch synthesis of small molecules via traditional organic synthesis. However, in the pharmaceutical industry the need to develop new methods for the manufacture of active pharmaceutical ingredients (APIs) in a safe, reliable, cost effective manner is key. The use of continuous flow to generate pharmaceutical compounds has major benefits in this regard. Undertaking chemistry in flow rather than in large batches has many advantages in terms of safety, flexibility and the ability to handle highly reactive compounds without difficulty. The favourable safety profile of flow processing is perhaps the most compelling reason for its popularity. Flow chemistry, as a new model for pharmaceutical process enables use of chemistry which would be unsuitable or inefficient for batch process for example due to hazard, with the benefits for industry of safer reactions and cleaner products, faster reactions, quick reaction optimisation and easy scale-up for large scale processes. Eilís' work at University College Cork, in collaboration with GlaxoSmithKline, investigates the considerable potential of linking various technologies through flow approach. Combining the benefits of continuous processing and photochemistry would be very attractive and powerful in a green chemistry approach to API manufacture.



3D model of 3-diazo-trans-hexahydro-benzo[1,4]oxathiin-2-one S-oxide molecule



Aidan Brady



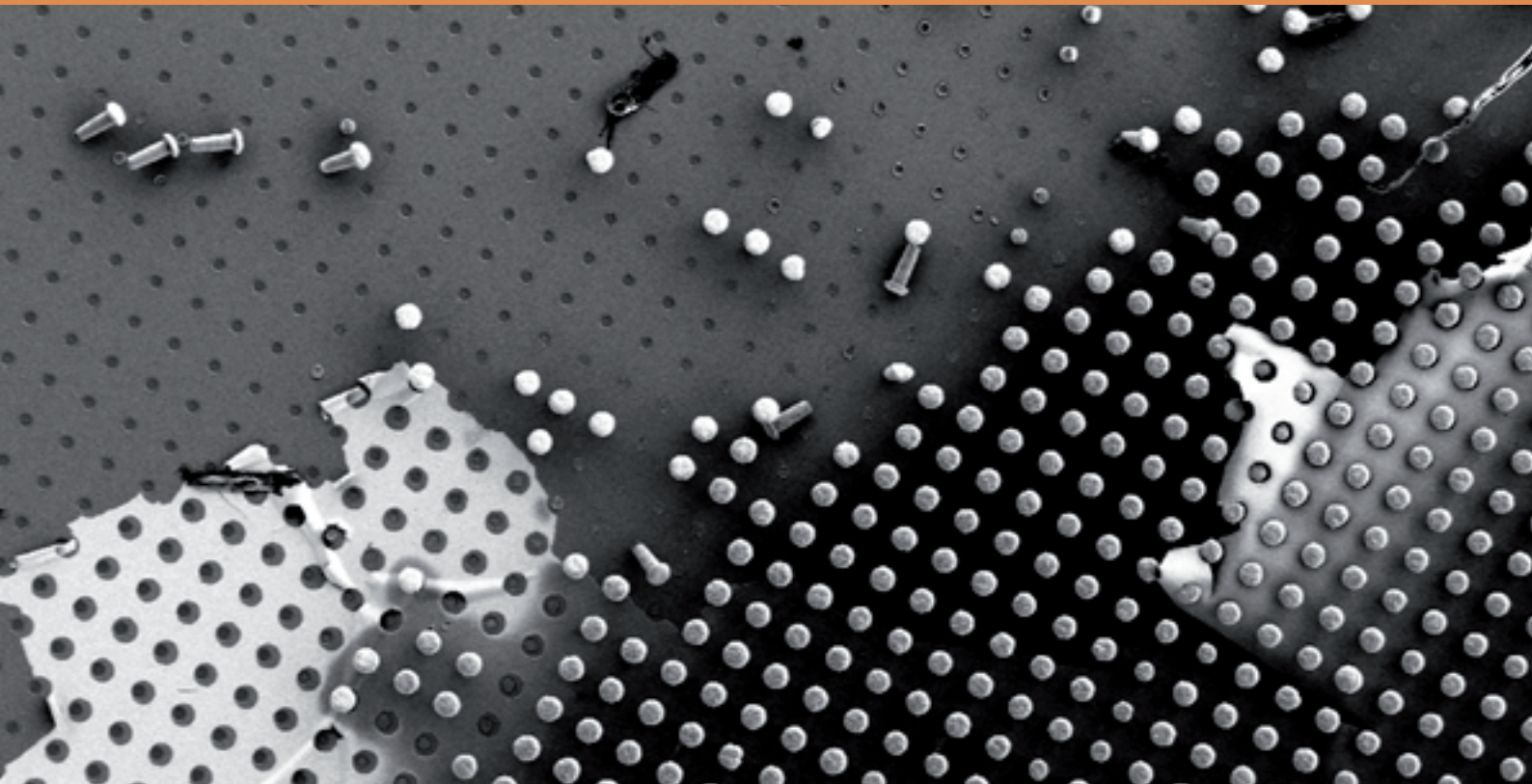


Image by Ross Lundy, Irish Research Council Scholar, *Deforest gold micro-mushrooms on copper meadow.*

# 5

## LAURATE AWARDS FOR FRONTIER BASIC RESEARCH



“ Multi-million  
euro investment  
committed to  
supporting  
ground-breaking  
research in  
any field ”

## LAUREATE AWARDS

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A consensus has emerged in recent years that Ireland's research and innovation framework contains a significant gap, namely opportunities for exceptional researchers to conduct frontier research across all disciplines beyond postdoctoral level. Frontier research is basic research at the forefront of creating new knowledge and is an intrinsically risky endeavour that involves the pursuit of questions without regard for established disciplinary boundaries. *Innovation 2020, Ireland's strategy for science, technology, research and development*, affirms the existence of the critical gap in the Irish landscape and recommends the establishment of a frontier research funding programme, which we will administer.

Accordingly, we established the Laureate Awards for frontier basic research. Closely modelled on the prestigious European Research Council grants, Laureate Awards will be available at each of the key career stages for exceptional researchers – Starting, Consolidator and Advanced.

The opening of the inaugural call was announced in April 2017 by the Minister for Education and Skills, Richard Bruton TD, and the Minister of State for Skills, Training, Innovation, Research and Development, John Halligan TD. A substantial budget of €18 million was made available to fund 36 awards.

Importantly, the Laureate Awards will fund ground-breaking research in any discipline across three domains — life sciences, physical sciences and engineering, and social sciences and humanities.

Funding will be awarded solely on the basis of excellence, assessed through a rigorous and independent international peer-review process. As well as the benefits for the Laureate awardee and their team, it is anticipated that the award will enhance the potential for subsequent European Research Council success as a further career milestone; indeed it will be a requirement of all Laureates awardees that they make a follow-on application to the European Research Council.



The aims and objectives of our Laureate Awards programme are to:

- enhance frontier research in Irish research-performing organisations, across all disciplines;
- support exceptional researchers to develop their track record, appropriate to their discipline and career stage;
- build the international competitiveness of awardees and Ireland as a whole;
- leverage greater success for the Irish research system in European Research Council awards; and
- retain excellent researchers in the Irish system and catalyse opportunities for talented researchers currently working outside Ireland to relocate here.

The implementation of the first call (for Starting and Consolidator awards) generated a huge response from the research community, across all disciplines. A total of 254 eligible proposals were received. A breakdown of applications by panel domain is set out below. The first awardees of this programme will be announced in March 2018. A second call, inviting proposals for research at the advanced career stage, will follow in 2018.

### Starting and Consolidator Laureate Awards – Eligible applications by panel

Total number of applications: 254

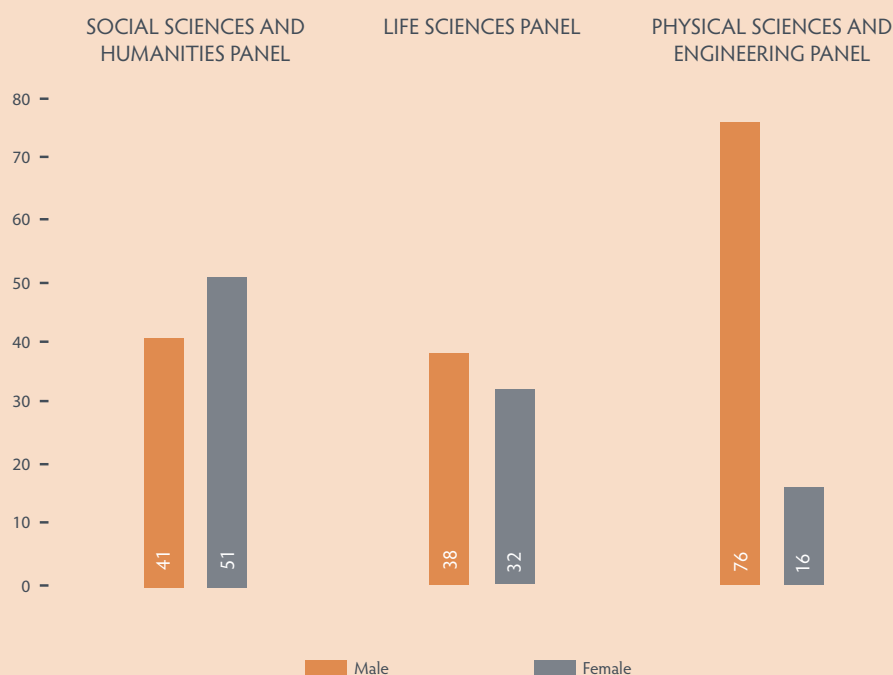




Image by David Cichon, Irish Research Council Scholar,  
*Garment workers in Phnom Penh marching for a living wage and collective bargaining rights on International Labour Day 2017.*

# 6

## ADDRESSING IRELAND'S CURRENT AND FUTURE NEEDS





“Excellent research and researchers enrich the pool of knowledge and expertise available for addressing Ireland’s current and future needs, whether societal, cultural or economic”

Launched in 2015, the Research for Policy and Society programme aims to build partnerships with government departments and agencies in order to enable peer-reviewed research to underpin policy decisions and contribute to societal development.

Since the launch of the Research for Policy and Society programme in 2015, a total commitment of €2.4 million has been made to 27 projects, working in partnership with 12 government departments and agencies.

The Research for Policy and Society programme contributes to the achievement of our objectives under *Innovation 2020*. This strategy has stressed the necessity of research to address societal challenges facing Ireland and the imperative to foster a broad-based research capacity to support national and international policy goals. We have been assigned a number of actions under *Innovation 2020* to increase the engagement of public entities and civic society with public policy and societal challenge-based research.

From 2018, the Research for Policy and Society programme will become part of a major new programme, COALESCE – Collaborative Alliances for Societal Challenges.



# CASE STUDIES

**Awardee:** Mary Gilmartin

**Project title:** Mapping processes of settlement and integration in contemporary Ireland

The settlement and integration of new migrant communities is a key societal challenge for contemporary Ireland. This research at Maynooth University will identify settlement and integration challenges for returning Irish, migrants from the 13 new EU countries and non-EU migrants in two geographical locations, recognising that experiences and indicators of integration are socially and spatially variable. Drawing from the example of Canada, recognised as demonstrating best practice in this area, the project will assess the role of settlement services in successful integration and identify settlement service provision and gaps. The project thus uses an innovative methodological approach in collaboration with community organisations, in order to arrive at evidence-based policy recommendations on integration, a key societal challenge in contemporary Ireland and across the EU.

**Awardee:** Damien Brennan

**Project title:** A participatory action research pilot study to enhance long-term care planning for older people with an intellectual disability in Ireland and their families

In Ireland, the majority of people with an intellectual disability now live in a home setting with family members. This is the preferred option for older people with an intellectual disability and their families, and it harmonises with public policy expectations that there will be less reliance on out-of-home care. The increased life expectancy of people with an intellectual disability and the reduced reliance on institutional residential settings is most welcome; however, there is now an unprecedented trend for people with an intellectual disability to outlive their family carers. Family carers have highlighted that intellectual disability social policy requires revision. Working alongside families, their local community, non-governmental organisations and formal service providers, this research initiative will develop and pilot a long-term care planning tool for older people with an intellectual disability. This research at Trinity College Dublin will identify gaps between family experiences and the aspirations of contemporary intellectual disability social policy to inform and shape future social policy planning.

**Awardee:** Shane Kilcommins

**Project title:** Improving the measurement of effectiveness in the Irish youth justice system

Administrative data held by youth justice systems are of variable quality and have mixed capacity to provide meaningful data for the most straightforward policy questions. This study will undertake an international systematic review to identify features of youth justice systems which are capable of providing data to indicate effectiveness. Features of well-functioning systems will be compared to arrangements in place individually and collectively by the multiple stakeholders in the Irish youth justice system. This analysis, undertaken at the University of Limerick, will highlight strengths and weaknesses which will form the basis of a deliberative discussion with stakeholders regarding feasibility. The study will provide practical recommendations intended to improve the overall architecture for data collection across and between stakeholding agencies in the Irish youth justice system.

**Awardee:** Javier Fulla

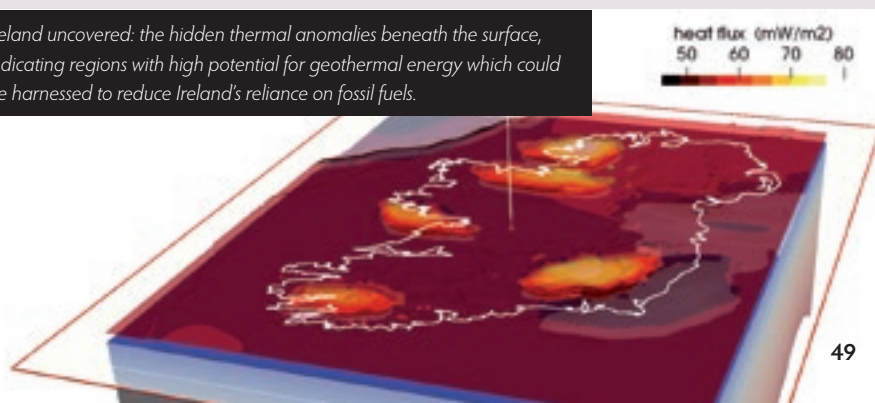
**Project title:** G.O.THERM.3D: providing a 3D atlas of temperature in Ireland's subsurface

**Partners:** Geological Survey of Ireland and the Sustainable Energy Authority of Ireland

With the backdrop of climate change and Ireland's reliance on fossil fuels, the need to exploit Ireland's potential for secure, reliable and diverse indigenous renewable energy supply is immediate. The contribution of geothermal energy to the required energy transformation of Ireland has fallen behind targets and is far from realising its full potential. The G.O.THERM.3D project at the Dublin Institute for Advanced Studies proposes a novel approach to quantify and map temperature in Ireland's crust in an integrated approach that simultaneously accounts for multiple geophysical and petrological data sets, where key rock properties are thermodynamically computed based on the temperature and bulk rock composition. Based on this integrative approach a new 3D temperature atlas for Ireland's crust will be built with the aim of making it publicly available on an interactive online platform. It is envisaged that an interactive 3D temperature model would increase public awareness of geothermal energy, focus and encourage geothermal resource exploration, and assist in the development of public policy on geothermal energy exploration, mapping, planning and exploitation.



*Ireland uncovered: the hidden thermal anomalies beneath the surface, indicating regions with high potential for geothermal energy which could be harnessed to reduce Ireland's reliance on fossil fuels.*





## NEW FOUNDATIONS

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Our New Foundations programme provides support for researchers to develop networks; organise, participate or attend conferences; and create workshops or activities designed to communicate the outcomes and values of academic research in Ireland and beyond.

In 2017, we continued to support 84 New Foundations awards under three distinct strands:

1. Enhancing civic society within a national or international context, run in partnership with The Wheel and Dóchas
2. Encouraging knowledge exchange and collaboration between research institutions north and south or supporting participation of Irish researchers in Council-supported socio-economic sciences and humanities European Research Area Networks
3. Knowledge exchange for impact





# CASE STUDIES

**Awardee:** Anne O'Connor

**Project title:** My story – my words: Language and migration

**Partner:** Immigrant Council Ireland

This project brought together language researchers and the Immigrant Council of Ireland in order to investigate the language experiences of migrants in Ireland. Through interviews, research and collaborations, it gathered information on the language journeys of displaced people and their linguistic needs. Anne's research at the National University of Ireland, Galway developed questions in linguistics and social sciences on the importance of language in a multicultural society and in the personal realities of migrants. At a time of global displacement and movement of people, the collaboration focused on migrant narratives with a view towards informing language policies and integration strategies.

**Awardee:** Susan Coote

**Project title:** Personalised coaching for falls prevention interventions in people with multiple sclerosis

**Partner:** Multiple Sclerosis Ireland

Multiple sclerosis is a chronic, progressive disease of the central nervous system that causes a range of disabling symptoms. Falls are experienced by 60% of people with multiple sclerosis. Half of these falls result in the need for medical attention. Reduced activity, fear of falling and social isolation are consequences of such falls. Susan's project at the University of Limerick builds on previous Council funding to host an International Multiple Sclerosis Falls Prevention Network meeting in Limerick in 2016. It aims to pilot tailored, individual coaching sessions and materials developed during that meeting and importantly involve people with multiple sclerosis and therapists in the final design and evaluation of this intervention.

**Awardee:** Maria Chernyakova

**Project title:** Ireland and the Cherenkov Telescope Array: a next-generation European-led global science endeavour

The Cherenkov Telescope Array is a next-generation European-led international facility for high-energy astrophysics currently under development. Its unprecedented sensitivity guarantees significant scientific breakthroughs. Maria's project, based at Dublin City University, aimed to engage scientists from the Republic of Ireland and Northern Ireland to work together in the Cherenkov Telescope Array's international scientific community. It is hoped that this will result in these scientists being ready to use the Cherenkov Telescope Array's data when it starts operation and ensure their involvement in resulting Horizon 2020 programmes. The result will be the leadership of Ireland-based scientists in cutting-edge research.

**Awardee:** Bradford Anderson

**Project title:** From scrolls to scrolling: sacred texts, materiality, and changing media cultures

Research exploring the materiality of sacred texts, along with the social and cultural implications of different material forms, is in its infancy. Bradford's project, based at Dublin City University, investigated the topic of sacred texts in diverse material forms – from scroll to codex, and from printed text to digital forms – and focused in particular on transitions between such media cultures. In exploring the cultural production and use of sacred texts, this project contributed to public understanding of religious traditions, while also situating Irish research at the forefront of innovative international research relating to sacred texts, materiality and media cultures.



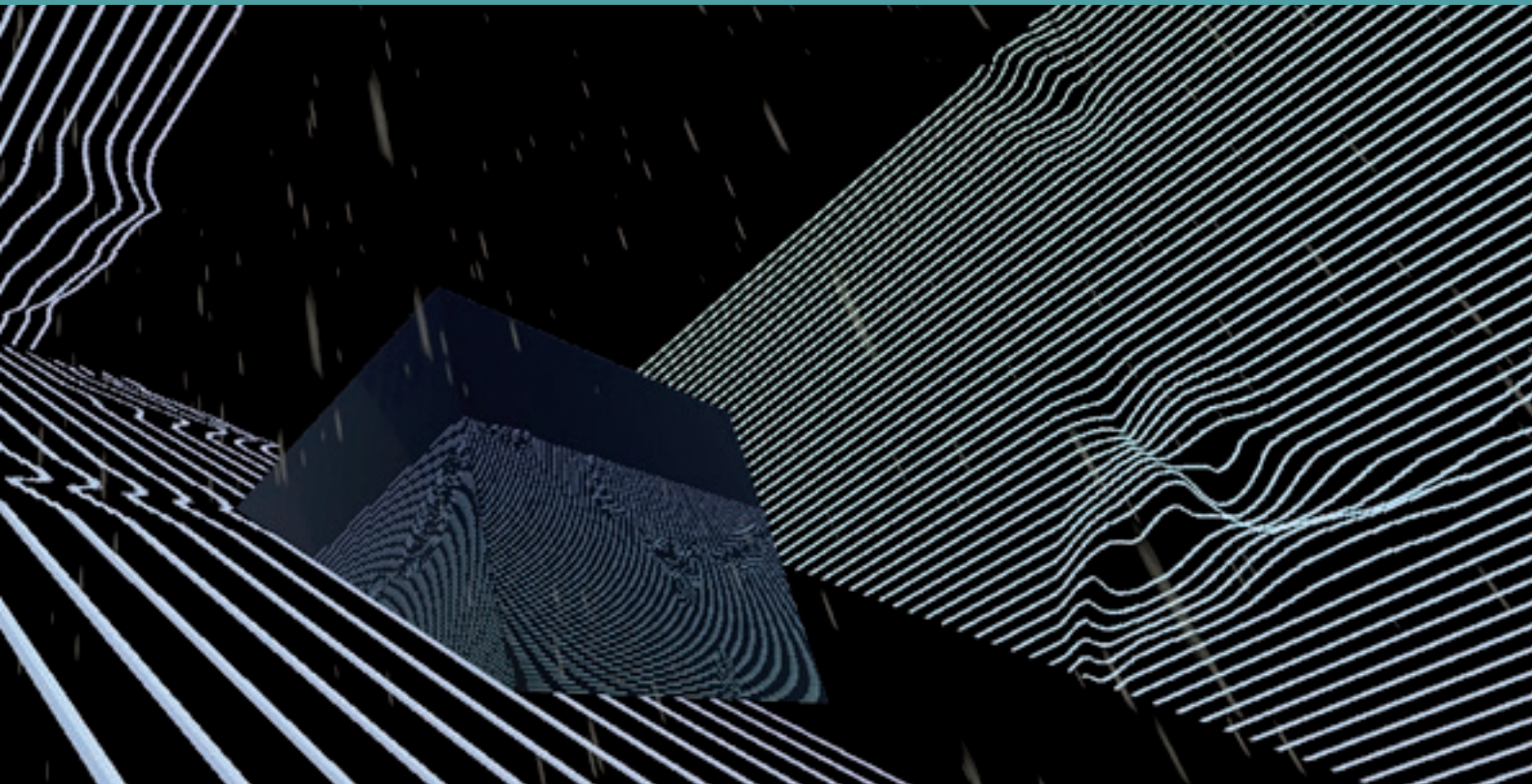


Image by Pierre Jolivet, Irish Research Council Scholar, *Visualisations from open sound control driven inputs to virtual reality environments.*

7

ENGAGING  
IN EUROPE





“Preparing  
the Irish research  
community for  
interdisciplinary  
engagement  
with the  
European societal  
challenges by  
fostering creative  
connections  
across all  
disciplines”

We are committed to working proactively to facilitate the integration of Irish researchers within the European Research Area. Through collaboration within a network of research councils across Europe, we aim to influence the development of research priorities at EU level that speak to the strengths and potential of the Irish research community.

The EU's Horizon 2020 research and innovation funding programme has been contributing to the enhancement of Irish research and innovation capacity since its launch in 2013. A national strategy for engagement with Horizon 2020 has set an overarching target for Ireland's drawdown of €1.25 billion. By coupling research and innovation, Horizon 2020 is helping to achieve smart, sustainable and inclusive growth and jobs by placing an emphasis on excellent science, industrial leadership and tackling societal challenges.

Horizon 2020's societal challenges pillar advocates collaboration between different fields and disciplines.

This section summarises the actions we are taking to enable the delivery of both national objectives and overarching European goals for Horizon 2020. By engaging with Horizon 2020, we seek to enhance opportunities for Irish researchers and the quality of Ireland's performance in and ecosystem for research and innovation.

Our specific actions to support Irish engagement with Horizon 2020 include:

- holding the role of joint national contact point (NCP) for the European Research Council (ERC) to raise awareness, inform and advise on ERC funding opportunities in addition to supporting in the preparation, submission and follow-up of an ERC grant application;
- instigation of a frontier research programme (Laureate awards) across all disciplines and all career stages to continue to support the next generation of researchers to compete effectively on the global stage;
- funding of the Irish Marie Skłodowska-Curie Office, which is operated in partnership with the Irish Universities Association, to support researchers at all stages of their careers, across all research disciplines and in all employment sectors;
- leading as national delegate and national contact point to support applications under Societal Challenge 6 'Innovative, Inclusive and Reflective Societies';
- developing and maintaining links, on behalf of the Irish research community, within European research networks and alliances, such as Humanities in the European Research Area, GENDER-NET Plus and NORFACE, and
- preparing the Irish research community for interdisciplinary engagement with the European societal challenges by fostering creative connections across all disciplines.

# HORIZON 2020

## NEW HORIZONS

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Launched in 2015, the New Horizons programme is a tailored initiative to help the Irish research community prepare excellent ideas for competition at European level.

The programme primes top-class Irish researchers to build towards seeking further investment in those ideas from Horizon 2020.

New Horizons represents one of a number of our measures that contribute towards enabling Ireland to be successful within the European research sphere, and ultimately to reach our national target of winning €1.25 billion in Horizon 2020 funding.

From 2018, the New Horizons programme will become part of a major new programme, COALESCE – Collaborative Alliances for Societal Challenges.



# CASE STUDIES

**Awardee:** Peter Crooks

**Project title:** Beyond 2022: Ireland's virtual record treasury

This project at Trinity College Dublin is working towards a digital reconstruction of the Public Record Office of Ireland and its collections as they existed prior to their destruction in 1922 at the outset of the Irish Civil War. By supporting enhanced access to, and analysis and interpretation of, lost records, the project increases citizen participation in, and wider societal dividends from, enhanced access to and interpretation of cultural heritage artefacts. The project builds an international consortium including academic, industry and archive partners. The flagship digital output will be a publicly accessible web environment – the Virtual Record Treasury – that will provide an inventory of loss and survival from the 1922 fire, prototype visualisations enabling researchers to search and explore the Public Record Office of Ireland record treasury, and guides to the significance of the collections from the thirteenth century to the foundation of the State. As many major European archival repositories were destroyed during the conflicts of the twentieth century, this project will serve as an exemplar for the European research community of the possibilities for archival reconstruction through enhanced digital technologies.

**Awardee:** Claire Hamilton

**Project title:** 'CONTAGION': counterterrorism, coercion and EU criminal justice policy

Since the creation of the area of 'security, justice and freedom' in 1999, justice has been the fastest-growing policy area in the EU and has now (with recent constitutional changes) come to constitute one of the largest areas of attention on the EU agenda. Counterterrorism efforts have played a significant role in this growth with enhanced security measures adopted since 9/11 acting as a booster for cooperative cross-border arrangements 'going far beyond terrorism'. The securitisation demands placed on EU Member States have led some commentators to describe the Union as 'poised somewhere on the brink' of a more punitive or harsh approach. This project, conducted at Maynooth University, will provide the first full empirical (and theoretically informed) exploration of the impact of counterterrorism measures on the penal trajectories of EU countries. The proposed research seeks, through a rich, multidisciplinary analysis of the criminal justice policies and practices of three key Member States in the critical area of counterterrorism, to map and evaluate the extent to which a dangerous process of 'contamination' has occurred from the counterterrorism to the 'ordinary' criminal justice spheres.

*Standing in the ruins of the Four Courts (July 1922).  
Image courtesy of UCD Library and Archive (Fitzgerald Collection)*





# CASE STUDIES

**Awardees:** Emilie Pine and Mark Keane

**Project title:** Industrial Memories: data and digiscapes: digital reflections on Ireland's institutional past

*Industrial Memories* is a collaboration between the School of English, Drama and Film and Insight Centre at University College Dublin. This digital memory project unlocks Ireland's institutional history, radically extending understanding of the 2009 Ryan Report on child abuse in a pioneering example of collaboration between the humanities and information and communication technologies, informed by a socially responsible and impactful innovative practice. Using state-of-the-art data text analytic techniques, framed by key humanities-driven research questions, the project mines, abstracts and reflects the content of the Ryan Report to reveal new insights which will be made publicly and easily accessible through data visualisation and open-access publications. The project will simultaneously develop 'Digiscapes', a digital arts response to the Ryan Report, creating a mobile app (*Echoes from the Past*) and a virtual reality tour (*I.S. Complex*) of two institutions. This project is driven by public need for access to the findings of the Ryan Report, and the potential for digital humanities and digital arts to generate new research from publicly available data, fusing the two needs into a single, dynamic and multivalent project.

**Awardee:** John Danaher

**Project title:** The threat of algocracy and the transhumanist project: understanding and addressing the socio-legal impact of algorithmic governance in light of the drive towards the technologisation of the human body and mind

The past decade has seen an explosion in big data analytics and the use of algorithm-based systems to assist, supplement or replace human decision-making, both in private industry and in public governance. Examples include the use of algorithms in healthcare policy and treatment decisions, in identifying potential tax cheats, and in stopping terrorist plotters. This trend can be referred to as the rise of algocracy. The past decade has also seen significant growth in the transhumanist movement, which aims to use technology to transcend the limitations of human biology. In its most extreme form, the transhumanist project wishes to inaugurate the total fusion of human and machine; in less extreme forms, it wishes to augment and enhance human abilities through a range of technological aids. The rise of algocracy poses a threat to the value-structure of the liberal-democratic state – a threat that the transhumanist project may help us to resolve or, more radically, embrace. This project at the National University of Ireland, Galway aims to examine the connection between these two movements.

Lawrence Collection, National Photographic Archive,  
Temple Bar, Dublin (taken between 1870 and 1914)





Birthplace of Marie Skłodowska-Curie in Warsaw, Poland.



“By the end of 2017, researchers in Ireland had accessed €89 million in funding through Marie Skłodowska-Curie Actions”

## IRISH MARIE SKŁODOWSKA-CURIE OFFICE

Marie Skłodowska-Curie Actions support researchers at all career stages, across all research disciplines and in both the academic and non-academic sectors. Excellent and innovative research training, career development, mobility, and knowledge exchange are key features. The actions include individual fellowships, funding networks for doctoral training, staff exchange programmes, and COFUND, a scheme aimed at stimulating regional, national or international research training programmes.

We fund the Irish Marie Skłodowska-Curie Office, which is operated in partnership with the Irish Universities Association.

By the end of 2017, researchers in Ireland had accessed €89 million in funding through Marie Skłodowska-Curie Actions since the beginning of the Horizon 2020 Framework programme.

The Irish Marie Skłodowska-Curie Office promotes these funding opportunities and supports researchers in the preparation of high quality applications. This support is provided in the form of individual meetings, presentations at various events, workshops, training webinars and handbooks.

Under Horizon 2020, Irish research-performing organisations have been awarded €27.8 million from the European Commission for COFUND Fellowship programmes, with an average success rate of 70% compared to the average EU success rate of 22%. In 2017, COFUND Fellowship programme applications from Ireland enjoyed a success rate of 100%. Results for individual fellowships were also very encouraging with a success rate of 20.3% compared to the average EU success rate of 15%.



# MARIE SKŁODOWSKA-CURIE ACTIONS

## Supporting research success for Ireland in Marie Skłodowska-Curie Actions for over six years

The Irish Marie Skłodowska-Curie Actions (MSCA) Office is a partnership of the Irish Universities Association and the Irish Research Council.

The Irish Research Council is the key funder of the office, which was formally established in 2012.

The MSCA pillar has been one of the most successful areas of EU framework programme funding for Ireland since 2012 in terms of monetary drawdown. During this time, over €148 million has been awarded to Ireland under the MSCA programme.

MSCA supports researcher career development through funding 'bottom-up' research across all disciplines with integration of international mobility.

From 2014 (the starting year of Horizon2020) to 2017, over 220 separate projects have been funded across all disciplines, leading to the creation of over 300 fixed-term research jobs hosted by Irish institutions.

We look forward to continued partnership with the Irish Universities Association over the coming years.



“ Uses of the  
Past projects  
involve 18  
project leaders,  
62 principal  
investigators,  
106 postdoctoral  
fellows, 30  
postgraduate  
students and  
76 associated  
partners ”

## HUMANITIES IN THE EUROPEAN RESEARCH AREA

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We are the Handling Agency for Humanities in the European Research Area (HERA), a partnership between 26 humanities research councils across Europe and the European Commission. HERA's objective is the continued growth and development of collaborative and transnational humanities research across Europe.

The humanities are crucial to the understanding and conceptualising of fundamental changes in contemporary European society. Linking national programmes and launching joint research programmes dealing with all-encompassing social, cultural, political and ethical developments will generate new knowledge and enable policymakers, scientists and the public to interpret the challenges of a changing world.

The HERA network, along with the European Commission, has invested €21 million in 18 European research teams as part of its third joint research programme, Uses of the Past.

HERA Uses of the Past projects involve 18 project leaders, 62 principal investigators, 106 postdoctoral fellows, 30 postgraduate students and 76 associated partners. The projects will be funded for a maximum of three years from 2016 to 2019. The 18 projects examine which historically informed ideas and actions in society are promoted, mobilised and legitimised, and identify the mechanisms and motivations that lie behind the work of historical understanding.

In 2017, HERA announced that it will invest a further €20 million in its fourth joint research programme, Public Spaces, which is due to be launched in 2019. The HERA Public Spaces call wants to mobilise the wide range of multidisciplinary perspectives necessary to understanding the relationships between 'public space' culture and other phenomena such as European integration. The research is expected to give new insights that promote the full potential of citizens' engagement with European public and cultural spaces; to stimulate public and political and scholarly debate about the future prospects of European integration; and to study new modes of interactive and reciprocal engagement between academics and various types of stakeholders including those working in the media, creative industries, and heritage sectors, as they have proved to be the true vehicles of European integration. The challenge for researchers is to identify how the relations between culture and integration within the context of public space(s) have been modelled and how a more in-depth understanding can be achieved in order to contribute to a better world.





## DARIAH

The Digital Research Infrastructure for the Arts and Humanities (DARIAH) is a pan-European infrastructure for arts and humanities scholars working with computational methods. It supports digital research as well as the teaching of digital research methods.

DARIAH-ERIC is an international infrastructure formed in August 2014, with the mission of enhancing and supporting digitally enabled research across the humanities and arts. DARIAH-ERIC develops, maintains and operates an infrastructure in support of ICT-based research practices.

Dr Orla Murphy of University College Cork is the current DARIAH national coordinator.



## NORFACE

New Opportunities for Research Funding Agency Cooperation in Europe (NORFACE), a partnership between 14 social sciences research councils across Europe, was established in 2004, when the network successfully bid for an FP6 award to coordinate activities.

The 12 partners involved are the research councils for the social sciences from Estonia, Denmark, Finland, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Slovenia, Sweden and the United Kingdom. Canada and Austria participate in NORFACE as associate partners. NORFACE is an ambitious programme of communication, enquiry, sharing of experience and action, and we are the Irish representative in the consortium.

Dr Áine Ní Léime, Trinity College Dublin, was awarded NORFACE funding in 2017 as part of the Dynamics of Inequality Across the Lifecourse programme for her project, Dynamics of Accumulated Inequalities for Seniors in Employment. This is a cross-national project involving researchers from five countries, Ireland, Switzerland, Sweden, the United Kingdom and the Czech Republic, and will run from 2018 to 2021.



## CHIST-ERA

CHIST-ERA funds transformative and highly multidisciplinary research projects in information and communication sciences and technologies, exploring new ideas with the potential for significant scientific and technical impacts in the long term. Each year CHIST-ERA launches a call for research proposals.

The 2016 call addressed the topics of lifelong learning for intelligent systems and visual analytics for decision-making under uncertainty. Dr Jennifer Edmond, Trinity College Dublin, was awarded funding as part of this call for her project, Progressive Visual Decision-making in Digital Humanities (PROVIDEDH). This cross-national project involves researchers from four countries, Ireland, Austria, Poland and Spain, and will run from 2017 to 2020.

The 2017 call addressed the topics of object recognition and manipulation by robots, and big data and process modelling for smart industry. We are supporting Irish participation in this programme.



## EUROPEAN SOCIAL SURVEY

The European Social Survey is an academically driven social survey designed to chart and explain the interaction between Europe's changing institutions and the attitudes, beliefs and behaviour patterns of its diverse populations. To support the work of European Social Survey in Ireland, we appointed and fund a national coordinator to oversee and implement the survey.

In 2016, we published a national call for proposals and recommended that Mary Immaculate College be appointed to the role of national coordinator of ESS round 8, led by Dr Brendan O'Keeffe.



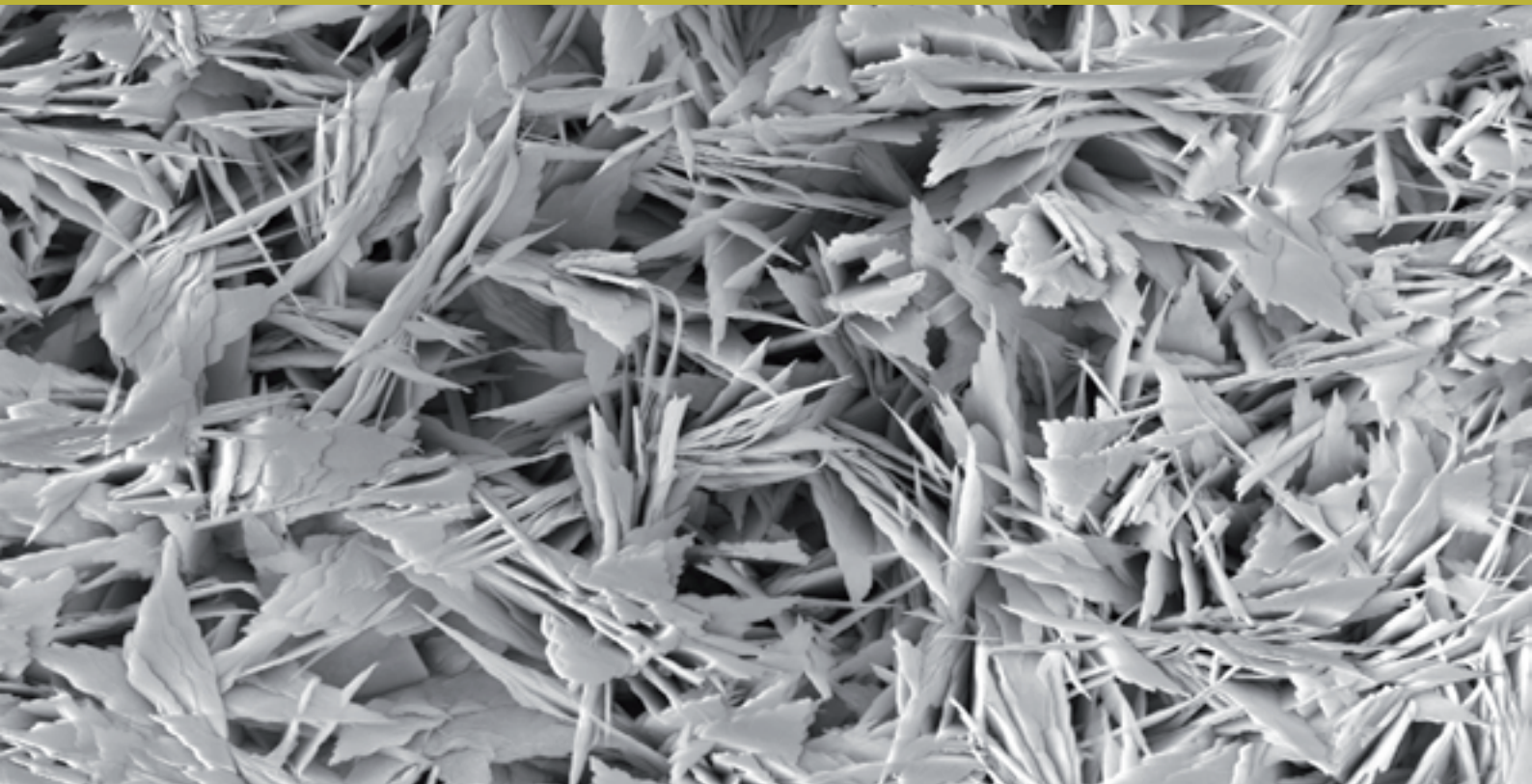


Image by Ross Lundy, Irish Research Council Scholar, *Copper oxide nanoblades*.

# 8

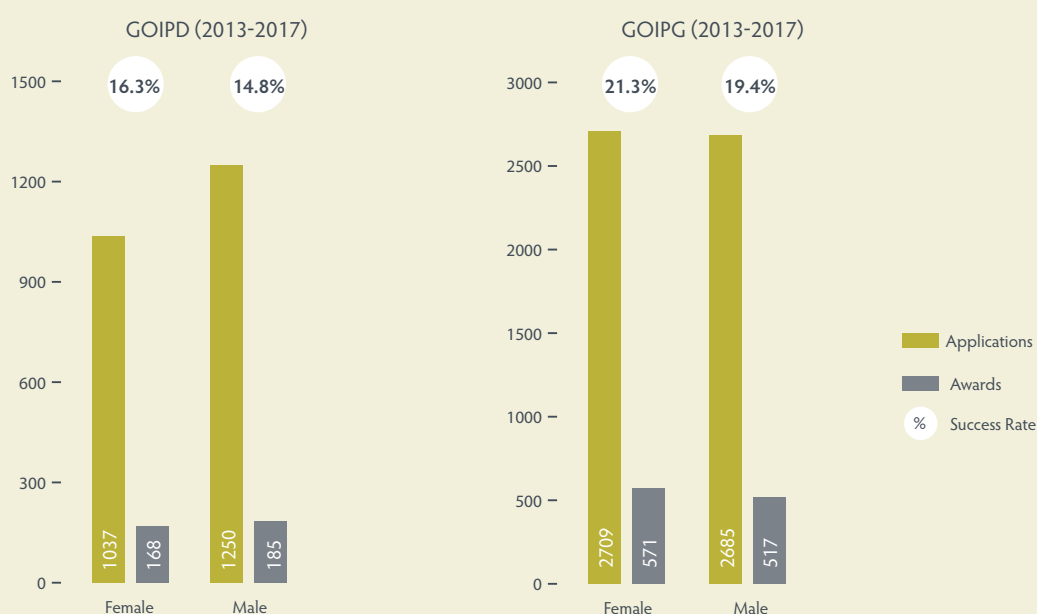
## PROGRESS ON GENDER EQUALITY



We remain committed to supporting the integration of sex and gender analysis into research content, and to promoting gender equality in research careers across all disciplines. Our Gender Strategy and Action Plan (2013-2020) set out a number of key objectives to further these aims. We continue to monitor the impact of these measures to ensure research excellence and equality of outcomes for researchers, regardless of gender. Furthermore, we maintain support for wider activities which cultivate an innovative and diverse research system.

During 2017, we supported the work of the Gender Equality Taskforce in Higher Education, which was launched by Minister of State with special responsibility for Higher Education, Mary Mitchell O'Connor TD, in November. Recent public discourse on the challenges faced by women across a range of sectors, both in Ireland and further afield, demonstrates the need to build on our work in this sphere. Key activities in 2017 included the following:

- We continue to require integration of the sex/gender dimension in applications for funding. We also continue to implement a 'gender-blind' approach to the assessment of applications across our early-career programmes.
- We maintained a gender balance requirement on assessment panels for our awards. In 2017, 46% of international experts on our panels were female.
- In November 2017, Mary Mitchell O'Connor TD announced that Ireland would host the 10th European Conference on Gender Equality in Higher Education in August 2018. This is the first occasion that this major biannual conference will be held in Ireland, which will bring together gender equality practitioners, researchers and administrators from Europe and beyond. We are co-sponsoring this conference with the Department of Education and Skills and the Higher Education Authority, and are participating on the National Conference Committee.
- We were a partner on GENDER-NET, a pilot transnational research policy initiative funded by the European Commission under the Science in Society work programme of FP7 from 2013-2016. Arising from this collaboration, we authored two key reports which were published in 2017:
  - Elevating promise and practice: Potential transnational actions for integrating gender analysis into research
  - Advancing the Integration of Gender/sex Analysis into Research contents (IGAR): Achieving high-level policy traction and national commitment to joint funding of research



Numbers of applications, awards and success rates broken down by gender for the Government of Ireland Postgraduate Scholarship (GOIPG) and Postdoctoral Fellowship (GOIPD) Programmes from 2013-2017.

## GENDER-NET PLUS

Following on from the successful GENDER-NET, a pilot transnational research policy initiative funded by the European Commission, the GENDER-NET Plus ERA-NET COFUND was launched on 15 September 2017. The key objective of the COFUND is to address many of the problems still facing the European Research Area in achieving gender equality and gender mainstreaming in research and innovation.

The COFUND is run by a consortium of 16 committed organisations from 13 countries which aim to strengthen transnational collaborations between research programme owners and managers and provide support to the promotion of gender equality through institutional change. Furthermore, the GENDER-NET Plus consortium aims to promote the integration of sex and gender analysis into research. This integration gives new knowledge and insights, which will ultimately benefit both women and men.

In order to further these objectives, the consortium launched a joint co-funded call for proposals in December 2017. This joint call invited research which integrated a gender dimension in addressing urgent societal challenges. GENDER-NET Plus chose to take the United Nations Sustainable Development Goals (SDGs) as a point of departure for this call.

In particular, the call invited applications that addressed interactions and interdependencies explicitly between SDG 5 (gender equality) and one or more of the following SDGs:

- SDG 3 Good health and well-being;
- SDG 9 Industry, innovation and infrastructure; or
- SDG 13 Climate action.

GENDER-NET Plus will run until September 2022 and successful applicants will be able to avail of funding of up to €1 million over a period of 36 months. The transnational research call will be a significant opportunity for gender experts in the Irish research system to coordinate, or join consortia, to formulate proposals that address these specific societal challenges.

We have committed €600,000 to support Irish coordinators/partners participating in transnational research teams, and this will be 'topped-up' by European Commission funding.



**GENDER-NET Plus**  
has launched a  
**joint co-funded call**

Inviting research integrating a gender dimension in projects relating to the UN Sustainable Development Goals (SDGs)

GENDER-NET Plus invites applications that address and explore interactions and interdependencies explicitly between SDG 5 GENDER EQUALITY and:

- SDG 3 GOOD HEALTH AND WELL-BEING**  
Topic 11: GENDER-BASED VIOLENCE  
Topic 12: SEX, GENDER AND AGEING  
Topic 13: SEX, GENDER AND HEALTH
- SDG 9 INFRASTRUCTURE, INDUSTRIALIZATION AND INNOVATION**  
Topic 21: GENDER AND NEW TECHNOLOGIES  
Topic 22: GENDER ENTREPRENEURSHIP AND IN THE INNOVATION SYSTEM
- SDG 13 CLIMATE ACTION**  
Topic 31: GENDER DIMENSION IN CLIMATE BEHAVIOUR AND DECISION-MAKING

**GENDER-NET Plus**  
Promoting gender equality in H2020 and the ERA

Submit your pre-proposal by  
Thursday, 1 March 2018, 17:00 (CET).

FURTHER INFORMATION ON  
[www.gender-net-plus.eu](http://www.gender-net-plus.eu) | @GENDER\_NET\_Plus

Logos of partner organizations: fms, FWF, etc.





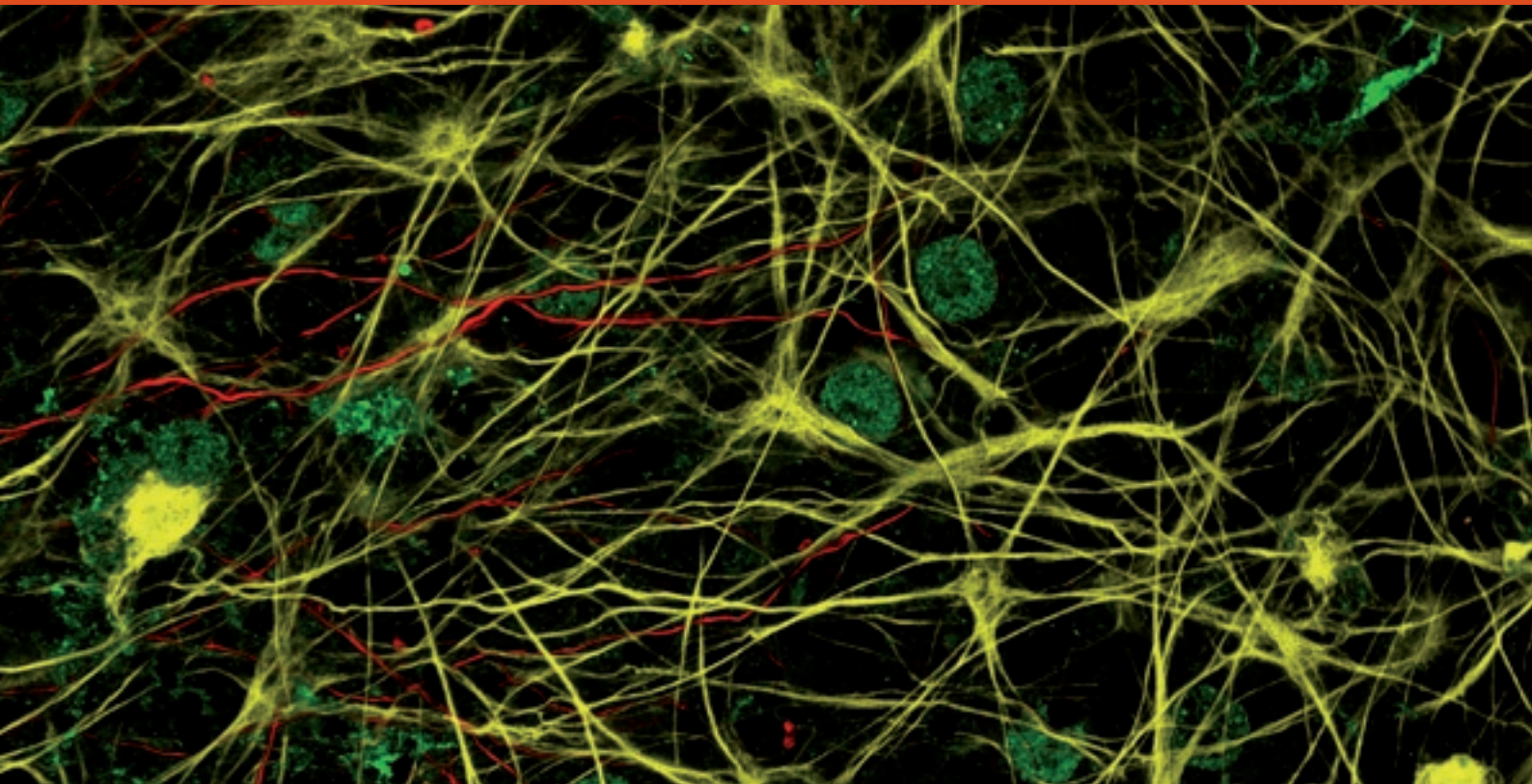


Image by Maria Velasco, Irish Research Council Scholar,  
*The cerebellar network between neurons (red), astrocytes (yellow) and microglia (green) in a mouse organotypic slice culture.*

9

#LOVEIRISHRESEARCH



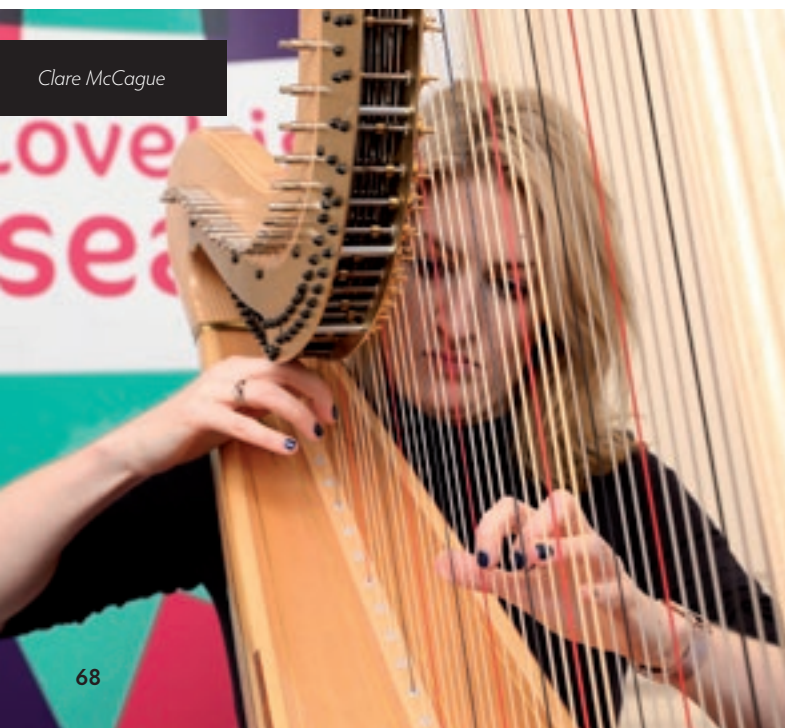
Ireland has a treasure trove of creative and innovative individuals whose research is powering progress, illuminating secrets of the past and transforming the way we think about the world. We launched our #LovelishResearch campaign in 2016 to develop greater public interest in, and knowledge of, what is happening in research in Ireland. Our initiative engages researchers at all career stages and across all disciplines, with a wide-ranging programme including regional and institutional showcase events, monthly research themes, blog series and competitions. With the #LovelishResearch campaign, we aim to ensure that the general public values the role that research plays in driving our country's success.

## CULTURE NIGHT

Culture Night is a programme of free late-night entertainment, with venues and public spaces across the island of Ireland opening their doors as part of an all-island celebration of arts, heritage and culture.

For the second year in a row, we offered a jam-packed schedule of activities in the historic surrounds of Boston College on Dublin's St Stephen's Green.

The invisible world of textiles, an examination of how bodily sounds are portrayed on screen, and an exploration of martial arts music formed just part of the exciting line-up of our Culture Night programme. The varied selection included a showcase of performances, demonstrations and interactive talks led by Council-funded researchers.



Clare McCague

## ELECTRIC PICNIC

Electric Picnic is a major cultural festival attracting a large audience of over 55,000 people.

As part of this festival, MindField is well-established as a place where people can share and debate ideas, challenge their own views, see fresh new theatre and exciting performances from poets and musicians, and experience science experiments.

In September, we sponsored a panel discussion on the science of online dating, which was hosted by London-based Irish comedian and podcaster Jarlath Regan. Contributors on the day included Council-funded researchers Dr Debbie Ging and Dr Pádraig MacNeela. Debbie's research is concerned with articulations of gender on social media, and addresses issues such as cyberbullying, online misogyny, men's rights politics, eating disorders and the sexualisation of children, while Pádraig's research focuses on risky behaviour, youth research, and health and well-being.



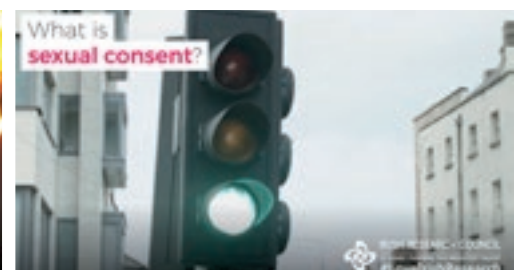
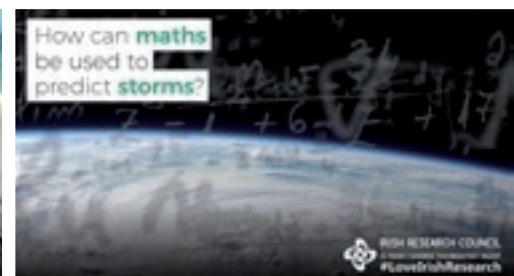
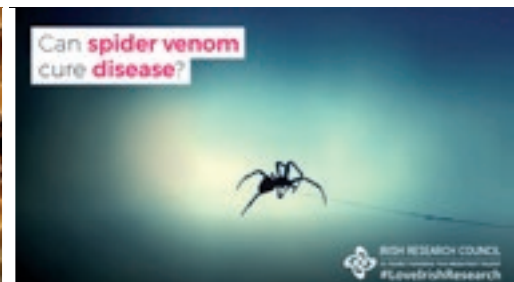
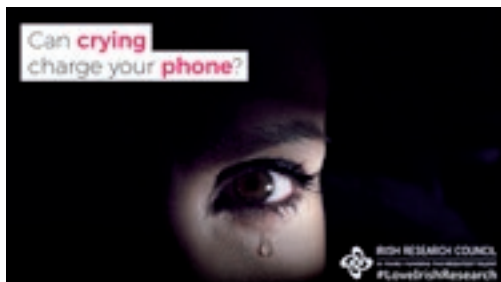


## SCIENCE WEEK

To mark Science Week in November 2017, we highlighted a selection of topical questions that our funded researchers are finding answers to by lighting up the well-known Dublin City Council building on Dame Street with a series of light projections. Projected from the adjacent Dublin City Hall, the light show was visible on the side of the Dublin City Council building on Barnardo Square.

We sought to inspire passers-by to think about the following topics, allowing them to gain additional insight through a corresponding blog entry available on our website:

- **Dr Aimee Stapleton:** Can crying charge your phone?
- **Fiona Edwards-Murphy:** Can the Internet of Things save our bees?
- **Dr Michel Dugon:** Can spider venom cure disease?
- **Annabel Higgins Hoare:** Can Irish seaweed be used to dress wounds?
- **Dr Giuliano Greco:** How do crabs keep their sensors clean?
- **Eoghan Harney:** How can maths be used to predict storms?
- **Dr Thomas Birkett:** Can crowdsourcing help us discover more about our Viking past?
- **Dr Nicholas Hughes:** Does the scale of the universe make human life meaningless?
- **Dr Valerie Heffernan:** Do we have unrealistic expectations of mothers?
- **Professor Luke Drury and Professor Maria Baghramian:** Who should we trust when experts disagree?
- **Dr Mark Maguire:** Is Ireland prepared for a terrorist attack?
- **Dr Pádraig MacNeela:** What is sexual consent?



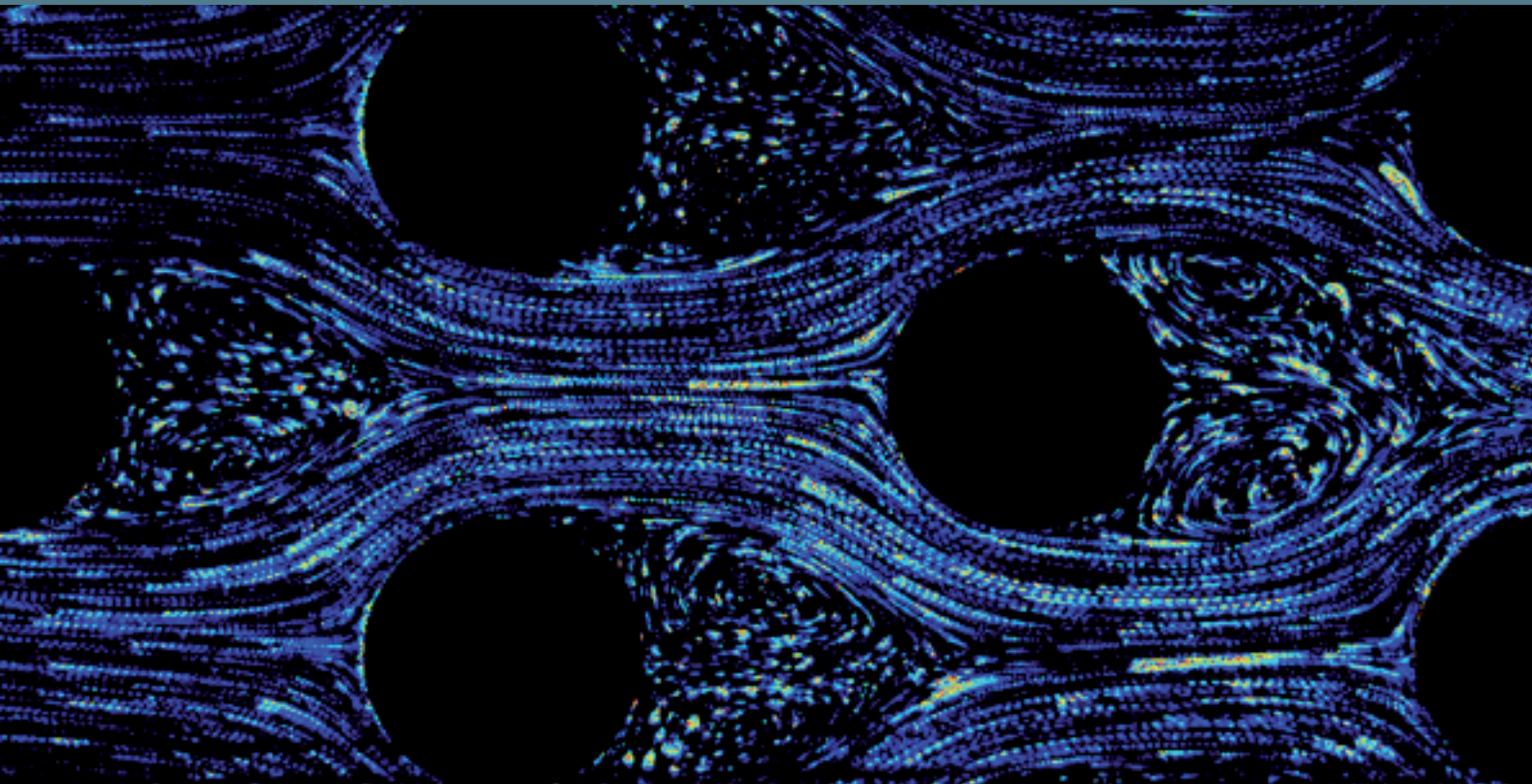


Image by Sajad Alimohammadi, Irish Research Council Fellow (with contribution from Tim Persoons & Jaakko McEvoy),  
*Refractive index matched PIV applications: Velocity profiles for flow around an array of cylinders.*

# 10

## APPENDICES



## APPENDIX 1 IRISH RESEARCH COUNCIL BOARD MEMBERS

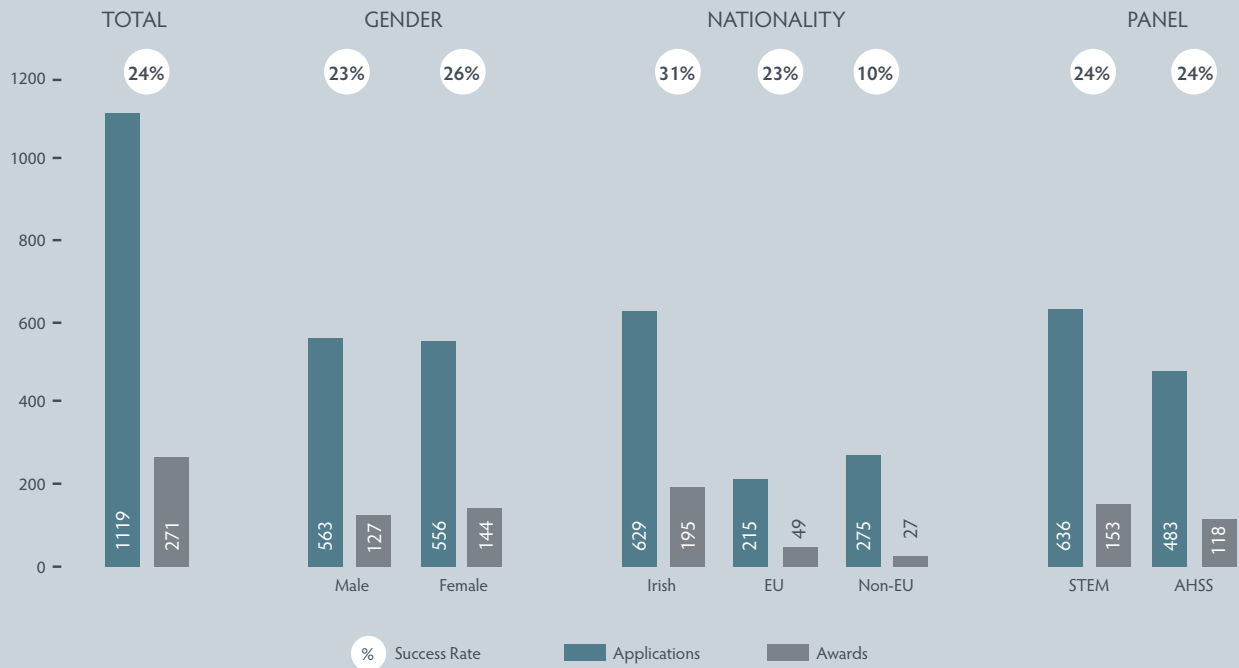
Board member	Position	Attendance at Board meetings		
		In person	Virtually	Total
Professor Jane Ohlmeyer (Chair)	Erasmus Smith's Professor of Modern History at Trinity College Dublin and Director of the Trinity Long Room Hub	6		6 (6)
Professor Daniel Carey	Professor and Director of the Moore Institute for Research in the Humanities and Social Studies at the National University of Ireland, Galway	6		6 (6)
Professor Kieran Conboy	Dean of the College of Business, Public Policy and Law at the National University of Ireland, Galway	4		4 (6)
Professor James Gleeson	Professor and Co-Director of the Mathematics Applications Consortium for Science and Industry at the University of Limerick	4		4 (6)
Dr Felicity Kelliher	Senior Lecturer and Co-Chair of the RIKON Research Group at the Waterford Institute of Technology	6		6 (6)
Professor Ursula Kilkelly	Dean of the School of Law at University College Cork	3	2	5 (6)
Professor Rob Kitchin	Professor in the National Institute of Regional and Spatial Analysis at Maynooth University	5		5 (6)
Professor Debra Laefer	Professor in the School of Civil, Structural and Environmental Engineering at University College Dublin	2	3	5 (6)
Professor Eithne McCabe	Fellow Emeritus in the School of Physics at Trinity College Dublin	5	1	6 (6)
Professor Alan Smeaton	Professor and Director of the Insight Centre for Data Analytics at Dublin City University	5	1	6 (6)
Professor Emma Teeling	Professor in the School of Biology and Environmental Science at University College Dublin	4		4 (6)
Dr Eucharía Meehan	Director until May 2017 ( <i>ex-officio</i> member)	3		3 (3)
Peter Brown	Director from June 2017 ( <i>ex-officio</i> member)	3		3 (3)

## APPENDIX 2 STAFF MEMBERS

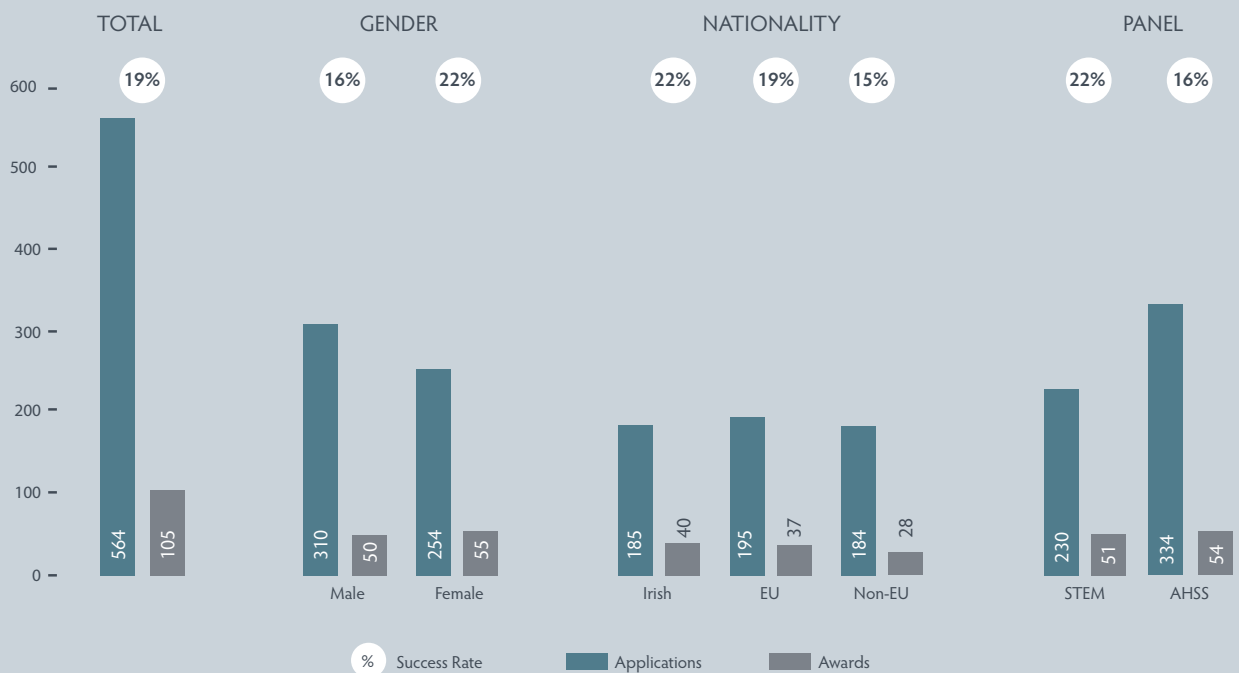
Peter Brown	Director
Fiona Davis	Acting Assistant Director
Emily Carroll	Research Support Officer Government of Ireland Postgraduate Scholarships, European Space Agency Traineeships and Lindau Nobel Laureate Meetings
Dr Ronan Fahey	Programme Manager Laureate Awards
Leonora Harty	Programme Manager Government of Ireland Postdoctoral Fellowships, GENDER-NET Plus ERA-NET and Ulysses
Dr Raasay Jones	Programme Manager Government of Ireland Postgraduate Scholarships and communications
Dr Aileen Marron	Research Support Officer European partnerships (including HERA and NORFACE)
Dr Sumona Mukherjee	Postdoctoral Intern
Dr Maeve O'Riordan	Programme Manager Enterprise programmes
Dr Deirdre Quinn	Research Support Officer Enterprise programmes
Liam Ryan	Programme Manager Finance and New Foundations
Neil Tynan	Research Support Officer Government of Ireland Postdoctoral Fellowships and Ulysses
Dr Andrea Valova	Programme Manager Marie Skłodowska-Curie Actions (COFUND programmes) and career development policy

## APPENDIX 3 CALL STATISTICS 2017

**Postgraduate Scholarships** – Government of Ireland Postgraduate Scholarship Programme, Employment-Based Postgraduate Programme and Enterprise Partnership Scheme



**Postdoctoral Fellowships** – Government of Ireland Postdoctoral Fellowship programme, Enterprise Partnership Scheme and CAROLINE MSCA COFUND programme






## NOTES

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