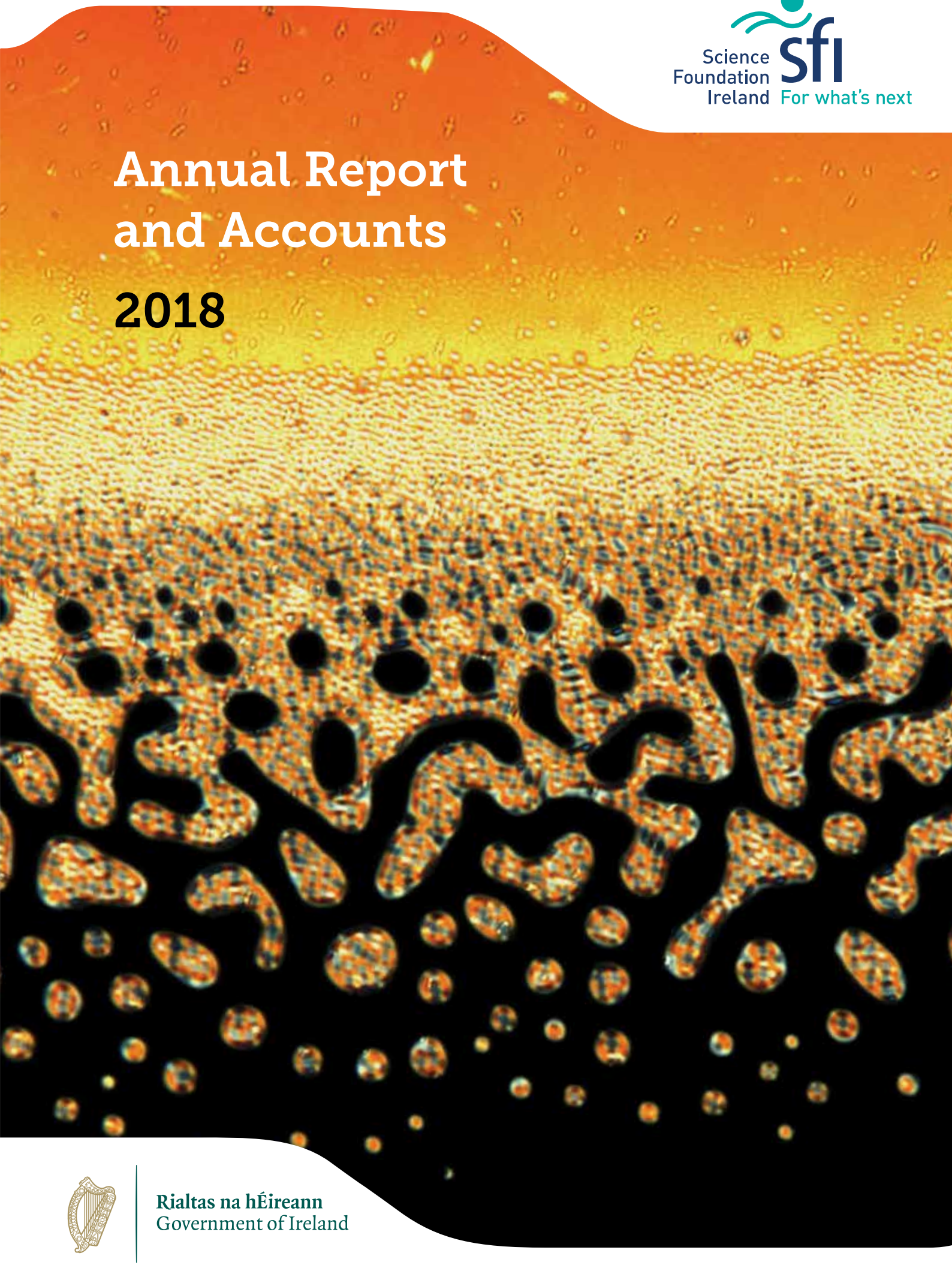
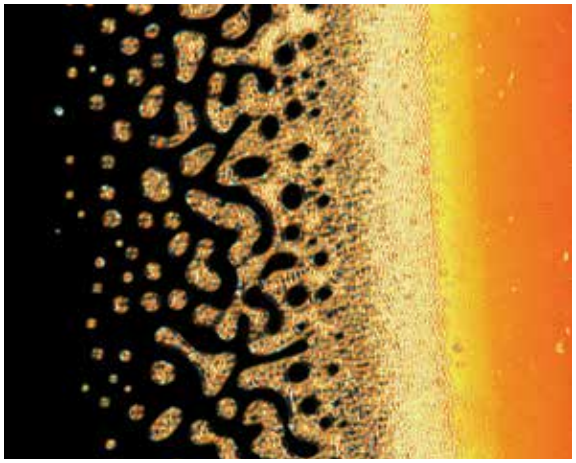
Science Foundation Ireland
sfi
For what's next

Annual Report and Accounts

2018



Rialtas na hÉireann
Government of Ireland



‘Liquid Crystal Seashore’

Cover image taken by the SFI Research Image of the Year 2018 winner, Dr Sithara Sreenilayam Pavithran, Coordinator with the Advanced Processing Technology Research Centre (APT) in the School of Mechanical and Manufacturing Engineering, Dublin City University (DCU).

“The microscopic image shows seashore like features in the liquid crystal (LC) material at the isotropic to nematic phase transition. This feature is developed in a temperature gradient LC cell made up of two glass substrates. In the region that looks like water bubbles near the shore, the threadlike defects that develop at the isotropic to anisotropic transition temperature can be seen. These defects are the proof of uniaxial nematic phase transition. The area in yellow, which looks like shallow water, is the pre-transitional region, just below the conditions for phase separation of anisotropic nematic, where molecules are slowly possessing orientational order. The orange area, which looks like deep water, is where the orientational order of molecules are spontaneously arising below isotropic to nematic phase transition. The colour of the image depends on the temperature, shape of LC molecule and sample thickness.”

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We believe that scientific knowledge and understanding benefit the whole of society and the economy – join the conversation online at

#BelieveInScience

@scienceirel

About Science Foundation Ireland

Science Foundation Ireland (SFI) is the national foundation for investment in research in the areas of science, technology, engineering, and mathematics (STEM), which assists in the development and competitiveness of industry, enterprise and employment in Ireland. It also promotes and supports STEM education and engagement to improve awareness and understanding of the value of STEM to society and to support the STEM careers pipeline.

See www.sfi.ie for more information.

Key Statistics 2018

Excellent Science

Ireland is 12th in global scientific ranking[1]

26 of the most highly cited researchers in the world are funded by SFI

Ireland ranks[1]...

- **1st** – Immunology
- **2nd** – Agricultural Sciences
- **3rd** – Nanotechnology
- **5th** – Material Sciences

Ireland is[2]...

1st in the world for knowledge diffusion

5th for knowledge impact

6th for knowledge absorption

10th most innovative country

4,881 publications reported. SFI-funded publications are 2.66 times more likely to be star publications than the global average[3]

Talent & Skills

SFI supports **39,823** jobs in Ireland (up by 28%)

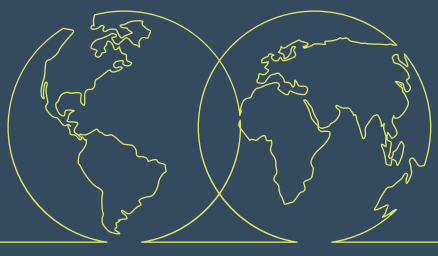
4,924 people working on SFI-supported projects

1,610 Postgraduate students supported

Education and public engagement activities up by **20%**

12 regional Science Week Festivals -1,400 events

#StopAndAsk social media campaign



Global Footprint

2,715 international collaborations in 74 countries

72% of academic-academic collaborations are international

SFI Conferences & Workshops Programme contributes **€9.3 million** to the economy

1 InCites by Clarivate Analytics

2 Global Innovation Index 2018

3 Star publications are publications in the top 1% of most cited publications, globally

Driving Competitiveness...

Funding from Industry **up by 43%** = **€46m**

1,715 industry collaborations

12 spin-out companies

51 patents awarded

174 invention disclosures

Value for Money

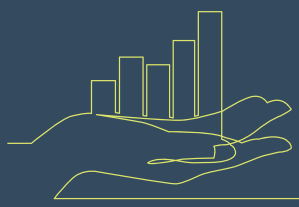
From €188 million, SFI investments leverage

Non-exchequer funding

€230 million (up by 31%)

€98 million won from the EU **(up by 40%)**

6 ERC awards won by SFI researchers



For every **€1** invested by the State in SFI Research Centres, approx. **€5** is leveraged back to the economy[4]

...and Regional Development

897 regional industry collaborations - **504** with MNCs and **393** with SMEs

Western Region
41 MNC
72 SME

Northern Region
8 MNC
11 SME

Eastern and Midlands Region
280 MNC
214 SME

Southern Region
175 MNC
96 SME

4 2018 independent impact assessment reports via Trinity College Dublin, University College Cork and University Limerick

Chairman's and Director General's Joint Statement:

Prof Mark Ferguson

Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland

Ms Bernie Cullinan

Acting Chairman of Science Foundation Ireland

Delivering Innovation and Impact for Ireland

2018 was a significant year for Science Foundation Ireland (SFI), as we continued to focus on supporting excellent scientific research that delivered transformative economic and societal impact for Ireland.

As part of delivering Science Foundation Ireland's strategy, Agenda 2020, and important Government strategies - Future Jobs Ireland, Project Ireland 2040 and Global Ireland 2025 - we grew investment in SFI Research Centres, provided support to early career researchers, developed a new comprehensive PhD programme and recruited star researchers to Ireland. We forged international partnerships and collaborations in the US, UK and China. Industry, both MNCs and SMEs, continued to benefit from the research taking place in Ireland, as demonstrated by a significant level of collaboration and a 43% increase in co-funding (to €46 million) from private enterprise to Science Foundation Ireland-supported research programmes.

In 2018, we increased our efforts to support significant research capacity in areas of national strategic importance, such as climate, marine and renewable energy, agri-tech, bio-economy and smart manufacturing. Science Foundation Ireland will continue to support key fields of national strategic importance going forward.

Science with impact

Science Foundation Ireland's overarching aim is to contribute to the betterment of society through the transformative research we fund, and to help foster an engaged and informed society that values research. In 2018, we hosted a 'Think-In' with industry and public sector organisations to help create a new challenge-based funding programme. This led to the creation of the SFI Future Innovator prize, with 12 teams competing for a €1 million prize, beginning in 2018 and continuing into 2019. The competition and the prize itself aim to harness Ireland's innovation capabilities, to develop disruptive and impactful solutions to key national societal and economic challenges.

Engagement with industry, through 1,715 collaborations, allows us to ensure that the excellent research we support can deliver tangible economic and societal benefits, supporting both current and future foreign direct investment, SMEs and our start-up environment.

The network of world-leading SFI Research Centres is the driving force behind our collaborative research environment, while other programmes such as the SFI Industry Fellowship boost skills and build enterprise capacity with regional engagement.

Increasing access to research, so that the societal and economic benefits go further, is a priority. 45% of Science Foundation Ireland-funded original and review articles published in 2018 were open access. We partnered with other international funding organisations to support Plan S, a project coordinated by Science Europe, which is a decisive step towards achieving full and immediate open access for all SFI-funded research publications by 2021.

Nurturing talent

A key objective for Science Foundation Ireland is supporting talented people with ideas to drive innovation, assisting Ireland in meeting the many challenges we face - technological changes, transitioning to a low carbon economy and developing a sustainable economy.

The number of jobs supported by Science Foundation Ireland, both directly and indirectly across the regions, increased by 28% with 4,924 people working on supported projects. 1,161 postgraduate students were supported by Science Foundation Ireland, with 31% going to industry as 1st destination employment.

We also launched the new SFI Centres for Research Training Programme with an investment of over €100 million from the Government of Ireland to realise Project 2040's objective of building a strong economy by expanding Ireland's research capacity to meet industry skills needs. The programme will provide training for over 700 postgraduate students in fields of nationally and internationally identified future skills needs (digital, data and ICT), with the first student intake commencing in September 2019.

Attracting international research talent is a core objective. In 2018, three world-leading researchers were recruited through the SFI Research Professorship Programme. Prof John Dalton was recruited from Queens University Belfast (QUB) to NUI Galway; Prof Murray Hitzman was recruited from the US Geological Survey to join University College Dublin (UCD), where he now leads iCRAG, the SFI Centre for Research in Applied Geosciences; and Prof Séamus Davis was recruited from Cornell University in the US, to a joint appointment between University College Cork (UCC) and the University of Oxford. He will lead a research programme in quantum physics supported by a prestigious European Research Council Award and SFI Research Professorship and Infrastructure Awards. We have also recently attracted four early career researchers back to Ireland via the SFI President of Ireland Future Research Leaders Programme.

Global footprint

In 2018, Science Foundation Ireland grew its global footprint, offsetting Brexit concerns and securing international recognition and presence, delivered via strong research collaborations and bilateral partnerships. 2,715 international research collaborations took place between Science Foundation Ireland-funded researchers and their collaborators in 74 countries, an increase of 10%.

We further increased the number of exciting international collaborations with innovative global companies, world-leading universities and international funding agencies; 72% of Science Foundation Ireland-funded academic-to-academic collaborations are with international partners.

A joint UK-Ireland funded investment (of approximately €39 million from SFI) will support the involvement of SFI Research Centres in seven new Centres for Doctoral Training with leading UK universities, allowing more than 200 Irish PhD students the benefit of a first-rate research and training programme. These awards have been made under a new partnership between Science Foundation Ireland and the Engineering and Physical Sciences Research Council (EPSRC), which is part of UK Research and Innovation (UKRI).

Our continued strong relationship with the USA, largely driven by our partnership with the National Science Foundation (NSF), is demonstrated by 454 US-Ireland research collaborations and €75 million invested across 45 successful partnerships to-date. In 2018, Science Foundation Ireland established its first overseas post in the USA to identify and facilitate research collaboration opportunities and to enable Irish researchers to connect more closely with US industry, philanthropy and academia. This post is located within IDA's Mountain View Offices, thus ensuring efficiency and coordination. We thank our colleagues in IDA for this help and support.

Further afield, we announced details of eight new research awards involving collaboration between Irish and Chinese researchers as part of a programme between Science Foundation Ireland and the National Natural Science Foundation of China (NSFC). These awards involve joint investment from Science Foundation Ireland of €8.6 million, and ¥31,920,000 (ca. €4,273,000) from the NSFC.

Science Foundation Ireland supports Ireland-based researchers to compete and win European research funding from the EU Horizon 2020 Programme, with researchers winning €98 million funding in 2018, an increase of 40% on the previous year.

Acknowledgments

We would like to thank An Taoiseach Leo Varadkar TD, Minister for Business, Enterprise and Innovation, Heather Humphreys TD and Minister of State for Training, Skills, Innovation, Research and Development, John Halligan TD, and the many elected representatives for supporting the vision and mission of Science Foundation Ireland in 2018.

We would like to recognise and thank all Science Foundation Ireland employees for their continued commitment and support in delivering our goals. The strides we have made in the past decade could not have been made without our employees. We thank the SFI Board for their support and time commitment to Science Foundation Ireland.

We thank the Department of Business, Enterprise and Innovation, and other Government Departments and Agencies, especially Enterprise Ireland, IDA Ireland, Higher Education Authority, Health Research Board, Teagasc, Marine Institute and many others for their continued support and collaboration.

We would like to thank the research community for their dedication, passion and vision, and acknowledge the valuable contribution of Ireland's Higher Education Institutions and innovative industries.

We also thank our collaborating international funders and industry partners for their engagement and support in co-funding our partnership programmes and awards.

Looking forward

Our ecosystem, which supports excellent research, outstanding talent, collaboration with industry, winning competitive international funding and a reputation for delivering impactful results, needs to be constantly nurtured and supported. Science Foundation Ireland will continue to innovate in designing and developing programmes that deliver excellent research results, producing outstanding researchers and engaging appropriate stakeholders. As other countries increase investment in research, we must remain agile, relevant and competitive. Science Foundation Ireland will continue to seek increased investment in Ireland's RD&I ecosystem by clearly demonstrating the value of this research to Ireland's economy and society. We must be ambitious and invest in areas of real potential, both to ensure our future economic competitiveness and to help solve the important challenges for Irish society.

In 2018, Science Foundation Ireland commenced a widespread consultation on our new strategy for the period 2020-2025. This strategy will aim to empower our research community, industry and the public, allowing us to focus on areas where we believe we can add the most value, and drive innovation and growth with improved efficiency and competitiveness. These consultations have influenced our planning for 2019. We have prioritised enhanced support, through the SFI Frontiers for the Future Programme, for individually-led excellent research at all career stages, including shorter, small-scale high-risk projects, and larger, longer-term programmes.

In 2019, Science Foundation Ireland will work with our stakeholders to finalise our new strategy and deliver programmes that produce excellent research and highly-trained researchers sought by employers, as well as translating research results to produce meaningful economic and policy impacts.

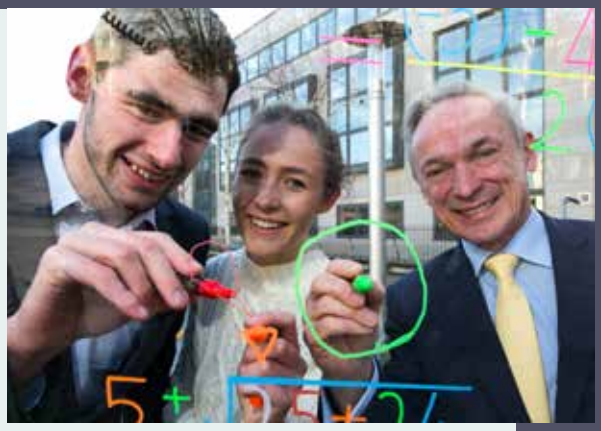
Prof Mark Ferguson
Director General, Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland

Ms Bernie Cullinan
Deputy Chairman, Science Foundation Ireland

2018: A Year in Review

January

- APC Microbiome Ireland SFI Research Centre, led by UCC, announced a significant contribution to the global health threat of antimicrobial resistance through broad spectrum antibiotics.
- Dr Shane Bergin, UCD, launched '101: The Ways We Learn' podcast series, exploring how people learn new things, supported by the SFI Discover Programme.
- A new €2 million R&D partnership was announced by Irish dairy equipment manufacturer Dairymaster, IT Tralee and Lero, the SFI Research Centre for Software, led by University of Limerick (UL), to develop artificial intelligence assistance for farmers.



Minister for Communications, Climate Action and Environment, Richard Bruton TD, launched SciFest on its ten-year anniversary and is supported by the SFI Discover Programme.

February

- The Insight Data Analytics SFI Research Centre developed a mobile phone app 'How Are You Ireland?' which was featured on the RTÉ Late Late Show, to launch a research study into the wellbeing of the Irish population.
- FutureNeuro, the SFI Research Centre for Chronic and Rare Neurological Diseases led by Royal College of Surgeons Ireland (RCSI), announced an industry partnership with Congenica, to deliver more accurate diagnoses for genetic epilepsy.
- Minister for Training, Skills, Innovation, Research and Development, John Halligan TD, launched 41 diverse initiatives supported by the SFI Discover Programme, with an investment of €4.4 million to promote STEM to the Irish public.
- AMBER, the SFI Research Centre for Advanced Materials and Bioengineering led by Trinity College Dublin (TCD), announced a partnership with Johnson & Johnson to create a global 3D bioprinting collaborative laboratory to transform healthcare delivery for patients and consumers.

Pictured (l-r): Dr Lorraine Byrne, Executive Director of the AMBER SFI Research Centre, Prof Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland with Minister for Business, Enterprise and Innovation, Heather Humphreys TD, and Dr Gráinne Cunniffe, J&J Project Manager.

March

- World-leading geologist, Prof Murray Hitzman, was awarded an SFI Research Professorship and appointed Director of iCRAG, the SFI Centre for Research in Applied Geosciences, led by UCD.
- An Taoiseach Leo Varadkar TD awarded the SFI St. Patrick's Day Science Medal to Prof Margaret Murnane, University of Colorado, and David McCourt, Granahan McCourt Capital, for their significant contribution to academia, industry and research.
- Science Foundation Ireland, in partnership with Fraunhofer Gesellschaft, hosted a visit by Minister Richard Bruton TD, to the Fraunhofer Institute for Applied Polymer (IAP) Research in Potsdam to demonstrate the extensive collaborative research already occurring between researchers in Ireland and the Fraunhofer Institutes.
- Engineers Week, supported by the SFI Discover Programme, saw a week-long festival celebrating the world of engineering take place across Ireland.

Pictured (l-r): Prof Eoin O'Reilly, interim CEO of the Tyndall National Institute, Cork, with Dr Sunit Rikhi, Non-Executive Director and Executive Consultant for Rockley Photonics, Prof Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland, An Taoiseach Leo Varadkar TD, and Dr Patrick Morrissey, Centre Manager of the IPIC SFI Research Centre.

April

- CÚRAM, the SFI Research Centre for Medical Devices led by NUI Galway, published research into a potential new treatment for lower back pain using hyaluronic acid in the journal *Science Advances*.
- Minister Halligan announced a €13.7 million investment in the next generation of research talent through the SFI Career Development Awards, supporting 22 early-stage researchers in a range of key strategic areas.
- Students from Marist College in Athlone won the national title at the SFI-funded ESERO Ireland CanSat Ireland National Finals, coordinated by CIT Blackrock Castle Observatory.
- The SFI-funded iMARL deep-ocean research project was launched by the Dublin Institute for Advanced Studies (DIAS), to place 18 state of-the-art seismometers off the west coast of Ireland.
- Lero, the SFI Research Centre for Software led by UL, won the 2018 global IEEE Computer Society Award for industry collaboration.

Pictured (l-r): Prof Mark Ferguson, Director General, Science Foundation Ireland; Minister for Training, Skills, Innovation, Research and Development, John Halligan TD and Prof Sheila McBreen (UCD) at the SFI CDA Awards launch.

May

- Minister for Business, Enterprise and Innovation, Heather Humphreys TD, launched CONFIRM, the SFI Research Centre for Smart Manufacturing, led by UL.
- A new national ICHEC supercomputer was installed at NUI Galway with funding of €5.4 million from SFI, to provide high performance computing power to address some of the toughest challenges in science and society.
- Science Foundation Ireland joined the ACT project consortium of 17 partners from 11 countries to enhance gender expertise and the implementation of gender equality plans in European research and innovation.
- Science Foundation Ireland partnered with the American Chamber of Commerce Ireland to host a 'Think-In' with senior opinion leaders in Ireland to help develop a new challenge-based funding programme.

Sharon Omiwole was named the national winner of the SFI-supported FameLab Ireland science communication competition.

Pictured at the SFI-American Chamber 'Think-In' (l-r): Helen McBreen, Investment Director, Atlantic Bridge; Yvonne Goff, Chief Clinical Information Officer, HSE, and Sheila Kelly, Director Commercial Affairs, ICON plc.

June

- Minister Humphreys announced €1.8 million investment in 21 new Science Foundation Ireland Industry Fellowships linking researchers with 20 MNC and SME industry partners to research renewable energy, cancer, medical devices, environmental sensors and materials science.
- Tánaiste Simon Coveney TD and Minister for Trade, Employment, Business, EU Digital Single Market and Data Protection, Pat Breen TD, announced over €12 million in joint research funding with the National Natural Science Foundation of China (NSFC), supporting eight new research collaborations in areas of strategic importance to both countries.

Minister Halligan announced the 641 primary schools nationwide that received an SFI Discover Primary Science and Maths Award – pictured at St Ursula's National School Waterford.

The first ever World Microbiome Day was developed by the APC Microbiome Ireland SFI Research Centre, led by UCC, to encourage public dialogue on the critical importance of microbes (bacteria, viruses, fungi) to human, animal and environmental health.

July

- EU Commissioner for Agriculture & Rural Development, Phil Hogan, launched the first of nine regional SmartAgriHubs at Waterford Institute of Technology (WIT), as part of a €20 million project.
- Science Foundation Ireland supported the first ever International Day for LGBTQ+ people in STEM, celebrating the achievements of members of the community.

Kostal, the Limerick-based manufacturer of automotive electronic systems, announced a major €800,000 R&D programme with Lero, the SFI Research Centre for Software led by UL, to develop a smart assembly line of the future.

August

- The SFI Research Centre for Marine and Renewable Energy Ireland (MaREI) led by UCC, announced an additional €4.4 million in funding from Science Foundation Ireland and industry partners under the Sustainable Energy and Fuel Efficiency (SEFE) SFI Spokes programme, focusing on bioenergy.
- Pathfinder, a search and rescue system for preventing firefighters from becoming lost and disoriented in difficult conditions, was developed with researchers at ADAPT, the SFI Research Centre for Digital Content Technology led by Trinity College Dublin (TCD) and Cavan County Fire Service.
- Researchers from the AMBER and BEACON SFI Research Centres discovered a new solution to the problem of plastic - home compostable biodegradable plastic - establishing new possibilities for waste management.

September

- An Post and Science Foundation Ireland unveiled four €1 stamps titled Irish Scientific Discoveries, which highlight recent scientific discoveries made by scientists who work in pioneering research and development in Ireland.
- Minister for Finance and Public Expenditure and Reform, Paschal Donohoe TD, and ADAPT, the SFI Research Centre for Digital Content Technology led by TCD, announced a new Financial Technology research programme, FinTech Fusion. It will encourage breakthroughs in payment (PayTech), regulation (RegTech) and insurance (InsureTech) technologies by accelerating scientific progress and enabling data-driven research.
- Science Foundation Ireland and ten other European research funding organisations announced the launch of the European Commission and European Research Council-supported cOAlition S, to make full Open Access to research publications a reality.
- Minister Humphreys launched the SFI Future Innovator Prize, a new €1 million challenge-based prize programme calling on researchers to develop innovative approaches to Ireland's societal challenges.
- TCD researchers hosted the Schrodinger at 75 conference at the National Concert Hall, with support from Science Foundation Ireland, which featured five Nobel Prize winning speakers.

Pictured: Axieh Bagasol, a Research Assistant and I-Form MSc student, with Minister Halligan at the launch of the I-Form SFI Research Centre for Advanced Manufacturing, led by UCD.

October

- Minister for Agriculture, Food and the Marine, Michael Creed TD, launched the new VistaMilk SFI Research Centre in Teagasc, Moorepark, Co. Cork, jointly funded by Science Foundation Ireland and his Department.
- Minister Creed launched the new €22.2 million BEACON Bioeconomy SFI Research Centre at the National Bioeconomy Campus in Lisheen, Co. Tipperary, as part of the inaugural Bioeconomy Ireland Day.
- Minister Creed launched Microbe Mom, a joint therapeutic research investment of €3.4 million through the SFI Spokes Programme and leading Irish company Alimentary Health Group, led by the SFI Research Centre APC Microbiome Ireland at UCC.

November

- Minister Humphreys launched FutureNeuro, the SFI Research Centre for Chronic and Rare Neurological Diseases led by RCSI.
- Science Foundation Ireland invited the Irish public to #StopAndAsk questions about the world around them for national Science Week, with researchers discussing answers.
- A new RTÉ series 'Growing Up, Live' aired as part of Science Week 2018 to explore the extraordinary development of humans from birth to death.

December

- A Memorandum of Understanding was signed between the Higher Education Authority (HEA) and Science Foundation Ireland to formalise their commitment to advancing the Irish higher education research system.
- SFI Research Professor, Séamus Davis, was announced to lead a pioneering research programme to study Quantum Materials for Quantum Technology, in a joint appointment with UCC, the University of Oxford and a European Research Council Advanced Grant award.
- A research collaboration to significantly impact how MRSA and other superbugs are controlled and prevented in hospital and community settings was announced between AMBER, the SFI Research Centre for Advanced Materials and Bioengineering Research led by TCD, and KASTUS.
- Science Foundation Ireland supported SCI:COM 2018, with keynote speakers such as the US actor and science communicator, Alan Alda.

Excellent Science

Science Foundation Ireland supports excellent science that delivers transformative societal and economic impact for Ireland, working to address global challenges. We seek to inspire and support excellent research and discovery that makes a difference to our world.

1. 2018 Table of Country Rankings

(Top 20 Countries – InCites Essential Science Indicators)

Countries-Territories	Rank
Iceland	1
Switzerland	2
Scotland	3
Netherlands	4
Denmark	5
Singapore	6
Wales	7
England	8
Belgium	9
USA	10
Sweden	11
Ireland	12
Estonia	13
Northern Ireland	14
Austria	15

2. Field Specific Global Excellence

Science Foundation Ireland's ranking statistics are gathered via InCites by Clarivate Analytics:

1st	Immunology
2nd	Agricultural Sciences
3rd	Nanotechnology
5th	Materials Sciences
7th	Microbiology
8th	Neuroscience and Behaviour
8th	Molecular Biology and Genetics
9th	Basic Medical Research
11th	Chemistry

SFI Researcher of the Year Award 2018

Prof Linda Doyle, Dean of Research, TCD, is pictured with Prof John Boland, School of Chemistry, TCD. A former Director of the Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN) and the AMBER SFI Research Centre, Prof Boland was announced as recipient of the SFI Researcher of the Year Award in November 2018.

3. Publications and Citations

The strong performance of Science Foundation Ireland's funded-researchers in scientific publications and citations is evidence that we are achieving significantly on a comparative international level.

4,881 publications reported

by Science Foundation Ireland's researchers in 2018.

Science Foundation Ireland-funded publications are **2.66** times more likely to be star publications than the global average (based on publications in the top 1% of most cited publications, globally). The Irish national average is 1.71.

Country	Funder	# Documents in Web of Science	Documents in the Top 1%
Ireland	**All**	**181,071**	**1.71**
Ireland	Science Foundation Ireland	18,026	2.66
USA	All	9,659,152	1.78
USA	National Science Foundation	552,738	2.89
USA	National Institutes of Health	831,835	2.88
Switzerland	All	566,747	2.63
Denmark	All	313,829	2.47
Singapore	All	235,214	2.20
United Kingdom	All	2,682,452	1.83
Finland	All	245,252	1.78
New Zealand	All	175,858	1.76
Israel	All	288,086	1.65
China	All	4,002,157	1.06
EU	All	11,258,058	1.26
EU	European Research Council	72,787	4.82

Source: InCites by Clarivate Analytics

SPOTLIGHT ON EXCELLENCE

Celebrating 26 of Ireland's most highly cited researchers

In 2018, 26 Science Foundation Ireland-funded researchers were listed by Clarivate Analytics in their world list of Highly Cited Researchers, positioning them in the very highest strata of influence and impact.

The list, as determined by their peers around the globe, recognises world-class researchers for their exceptional research performance, demonstrated by the production of multiple highly cited papers that rank in the top 1% by citations for field.

The overall global list and citation analysis is in its fifth year and includes 17 Nobel Laureates. It identifies influential researchers who are leading the way in solving the world's biggest challenges. 33 Irish researchers were featured in the 2018 list, with 26 of these being supported by Science Foundation Ireland, demonstrating the incredibly high standard of research excellence it supports. The 26 researchers included are:

- **Elke K Arendt, UCC**
- **Paula Bourke, TU Dublin**
- **Andrew G Bowie, TCD**
- **Nigel P Brunton, Teagasc**
- **Yvonne M Buckley, TCD**
- **Jonathan N Coleman, TCD**
- **Aiden Corvin, TCD**
- **Paul D Cotter, Teagasc**
- **John F Cryan, UCC**
- **Henry J Curran, NUI Galway**
- **Kenneth A Dawson, UCD**
- **Timothy Dinan, UCC**
- **Georg S Duesberg, TCD**
- **Padraic G Fallon, TCD**
- **Gerald F Fitzgerald, UCC**
- **Colin Hill, UCC**
- **Derek W Morris, TCD**
- **Colin D O'Dowd, NUI Galway**
- **Luke AJ O'Neill, TCD**
- **Orla O'Sullivan, Teagasc**
- **Paul W O'Toole, UCC**
- **Paul R Ross, UCC**
- **Catherine Stanton, Teagasc**
- **Da-Wen Sun, UCD**
- **Brijesh K Tiwari, Teagasc**
- **Michael J Zaworotko, UL**

Pictured are seven of the ten APC Microbiome Ireland SFI Research Centre researchers named in the 2018 World List of Most Highly Cited Researchers. Pictured (l-r): Prof Paul Ross, Prof Catherine Stanton, Dr Paul Cotter, Prof Elke Arendt, Prof John Cryan, Dr Orla O'Sullivan and Prof Colin Hill.

Talent and Skills

Science Foundation Ireland invests in world-class talent to drive ideas and innovation, and to explore, develop and share knowledge to greater effect, for the benefit of all. One of the most significant and important outcomes from investing in research is the training of highly skilled PhD graduates for advanced high-value industry in Ireland. We need a strong pipeline of excellent talent which can drive competitiveness and productivity in Ireland. Through Science Foundation Ireland's investment in talent, we are futureproofing our economy and society.

New Programmes Launched in 2018 – Talent Pipeline

Science Foundation Ireland developed the new SFI Centres for Research Training Programme to increase and support PhDs and nurture early career talent, meeting the data skills needs of industry. First students will start in September 2019.

The SFI-EPSRC Centres for Doctoral Training is a joint UK-Ireland initiative. Science Foundation Ireland will fund students based at an SFI Research Centre who will be integrated into the CDT, with training taking place in both the UK and Ireland. Student intake will commence in 2019.

4,924

people working on Science Foundation Ireland supported projects

Futureproofing the STEM pipeline in Ireland

1,610

Postgraduate (PhD and Masters) students supported by Science Foundation Ireland – 31% went to industry as 1st destination

1,161

Postdoctoral Researchers

507 SFI Award Holders

259 Funded Investigators

126 Co-Principal Investigators

Industry continues to be the single largest destination (26% of team leavers)

SPOTLIGHT ON EXCELLENCE

First Joint Appointment for SFI Research Professorship

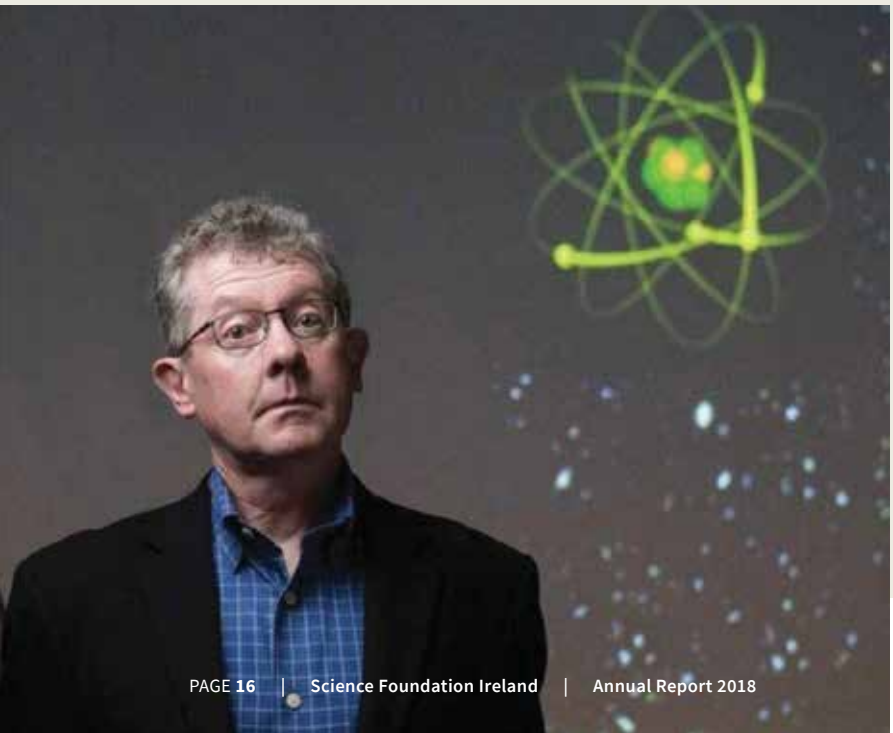
World-leading experimental quantum physicist, Prof Séamus Davis, was recruited by Science Foundation Ireland in December 2018, through the SFI Research Professorship Programme and via an SFI Infrastructure Award.

This significant appointment sees Prof Davis bring a wealth of knowledge and expertise to Ireland, where at UCC he is spearheading a pioneering research programme to study quantum materials for quantum technology, in a joint appointment with the University of Oxford, via a European Research Council Advanced Grant Award. It is the first joint appointment under the SFI Research Professorship Programme.

Obtaining a BSc in Physics at UCC in 1983, Séamus Davis would go on to become a global leader in the field of quantum matter. For the past 10 years Prof Davis was the James Gilbert White Distinguished Professor of Physical Sciences at Cornell University and Senior Physicist at DOE's Brookhaven National Laboratory. He is a Fellow of the prestigious US National Academy of Sciences. In 2005 he was awarded the Fritz London Memorial Prize, the greatest honour in low-temperature physics, and in 2009 he was awarded the Kamerlingh Onnes Prize. In 2016 he was a recipient of the prestigious SFI St. Patrick's Day Science Medal for his dedication to physics.

Prof Davis' programme will enhance the growing reputation in Ireland for quantum materials and quantum technology research, focusing on direct, atomic-scale visualisation of electronic states in quantum materials, which requires a highly specialised ultra-low-vibration (ULV) laboratory environment. Prof Davis believes that the rapidly accelerating second quantum revolution promises truly transformative advances in science, industry, economy and society.

Prof Davis will work directly with researchers at various SFI Research Centres, including the Irish Photonics Integration Centre (IPIC), which is hosted at the Tyndall National Institute (TNI) in Cork, placing Ireland at the forefront of research in quantum technology.



Attracting Overseas Talent

In 2018, four awards were made under the **SFI President of Ireland Future Research Leaders Programme**, representing a €6.2 million investment, to support early career researchers. The programme is designed to attract outstanding new and emerging research talent to Ireland, recognising early career researchers who have displayed exceptional leadership potential at the frontiers of knowledge.

The awardees were: Dr Suzanne Cloonan, Dr David Loane (both at TCD), Dr Joanne Masterson (Maynooth University) and Dr Stephen Redmond (UCD).
The programme will also support the additional recruitment of 17 research positions, focusing on areas such as chronic lung disease, immunology, gastrointestinal disorders and improved prosthetics/ robotic limbs.

SFI Research Professorship Programme Attracting Star Researchers

Prof Murray W. Hitzman - UCD

In 2018, world-leading geologist, Prof Murray W. Hitzman was recruited to Ireland under the SFI Research Professorship Programme to take up a position as Director of the iCRAG, the SFI Centre for Research in Applied Geosciences, led by UCD. Formerly the Associate Director for Energy and Minerals at the US Geological Survey, Prof Hitzman was awarded the Haddon Forrester King Medal by the Australian Academy of Sciences in 2016.

Prof John Dalton - NUI Galway

ERC awardee, Prof John Dalton was awarded an SFI Research Professorship in 2018, bringing his work to NUI Galway to develop new environmentally friendly vaccine strategies to combat parasitic diseases of animals and humans. Formerly a Professor in Infectious Diseases and Director of Research at Queen's University Belfast (QUB), he has secured over €7 million in competitive research funding.

Advocating for Greater Equality and Diversity

Science Foundation Ireland aims to play a strong role in addressing diversity and gender imbalance in STEM. To this end, Science Foundation Ireland is supportive of the Athena SWAN initiative which is endorsed by Irish Research Bodies. As part of Science Foundation Ireland's decision making processes, subject matter experts who participate in either remote or panel reviews are briefed on unconscious bias, ensuring that all applicants deemed excellent and impactful are recommended for funding.

- **The most recent analysis of award holders shows that 26% are female – Science Foundation Ireland's target is 30%**
- **Science Foundation Ireland has published a Gender Dashboard providing an analysis of the review process between 2011 and 2018**
- **The SFI Starting Investigator Research Grant (SIRG) Programme includes a gender initiative which incentivises the Research Bodies to nominate excellent female candidates by permitting a maximum of six (out of a possible 12) male candidates to the funding call**
- **37% of team members associated with Science Foundation Ireland awards were female in 2018**
- **The SFI Centres for Research Training Programme call was launched in 2018. It required applicants to submit gender targets for different levels of their research teams**

A cross section of initiatives will ensure that researchers are embedded in an environment that promotes gender equality, supported by appropriate role models and mentors.

See more at http://www.sfi.ie/funding/sfi-policies-and-guidance/gender/.

Education and Public Engagement

Due to technological advances and scientific discovery, the world we live in is rapidly changing. Creativity, talent, the ability to innovate and to understand science will be required to ensure citizens can fully participate in our society and economy, both now and in the future. Science Foundation Ireland's overarching aim across all of the work that it supports, is to contribute to the betterment of society and to help foster an engaged and informed public that values research. Science Foundation Ireland's education and public engagement programme, SFI Discover, empowers people to explore, innovate and collaborate for a better future. Science Foundation Ireland will thus ensure Ireland is an innovation leader, futureproofing the STEM pipeline.

Science Foundation Ireland-funded researchers' education and public engagement increased 20% with 1,830 activities.

€3.59 million invested in 41 STEM projects through the annual SFI Discover Programme Call

641 primary schools achieved an SFI Discover Primary Science and Maths Award

European Space Education Resource Office (ESERO) DPSM Ireland delivered continuous professional development to 3,032 primary teachers in **273 schools**

The Science Foundation Ireland - RTÉ partnership produced documentaries and TV shows such as Big Week on the Farm and My Broken Brain, reaching approx. **two million** viewers in Ireland

#StopAndAsk

Science Foundation Ireland manages and coordinates the national programme for Science Week.

- 1,400 events with **12** regional science festivals
- #StopAndAsk social media campaign
- **200+** roadshows, workshops and demos across 24 counties

EVIDENCE MATTERS

Sixteen citizens and community groups tell TDs why evidence matters

During Science Week 2018, Minister John Halligan TD, welcomed 16 people from around Ireland to present to TDs, Ministers and officials in Leinster House about why evidence matters to the public, and its importance for informing government policy makers on topics such as housing, health and the environment.

SPOTLIGHT ON STEM EDUCATION

CÚRAM's Teachers in Residence Programme

CÚRAM, the SFI Research Centre for Medical Devices led by NUI Galway, has been running a 'Teachers in Residence Programme' to bring primary and secondary school teachers together in one forum.

Its goal is to inspire and build teachers' confidence in their ability to teach science in the classroom, using more effective and engaging methods for students and incorporating examples of current, cutting-edge Irish research.

This is supported through the development of med-tech lesson plans and activities by teachers for teachers, which are easily implemented into the classroom and linked with the Irish school curriculum.

Ten lesson plan kits were co-created by the teachers and CÚRAM researchers in the areas of biomaterials, cardiovascular system, brain and nervous system, musculoskeletal system and stem cells/regenerative medicine. They are freely available online on the CÚRAM website.

32 teachers (15 primary, 17 secondary) have completed the module and a further 167 teachers have received training through shorter continuous professional development workshops.

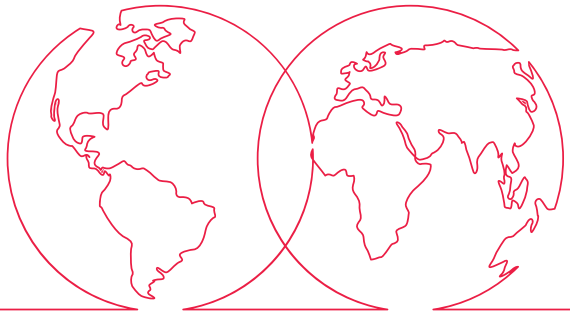
During the residency, teachers work directly with world-class researchers, getting private tours of CÚRAM laboratories and attending interactive workshops, to learn about medical device research and its impact on healthcare in Ireland and globally. Priority is given to teachers who work in schools in under-represented areas, as identified under Delivering Equality of Opportunity in Schools (DEIS) the Action Plan for Educational Inclusion.

Teachers visiting the CÚRAM SFI Research Centre for Medical Devices in Galway.

Department of Education and Skills and Science Foundation Ireland collaborate to promote STEM careers campaign

The SFI Smart Futures STEM Careers Awareness Programme launched a nationwide #IGetPaidToDoThis campaign in collaboration with the Department of Education and Skills and industry partners to promote a diversity of role models and career paths in STEM.

The Smart Futures.ie website experienced a 52% increase in users following the launch of the outdoor campaign.



Global Footprint

International collaboration and partnership between industry, funders and academics is at the core of excellent research and innovation. Science Foundation Ireland has built several exciting international collaborations with innovative global companies, world-leading universities and international funding agencies. These partnerships are harnessing valuable knowledge and important learning exchange.

International Collaborations

Science Foundation Ireland's international collaborations have extensive global reach: Europe (65%), North America (19%), Asia (9%), Australia and Oceania (4%), South America (2%) and Middle East, North Africa, and Greater Arabia (1%).

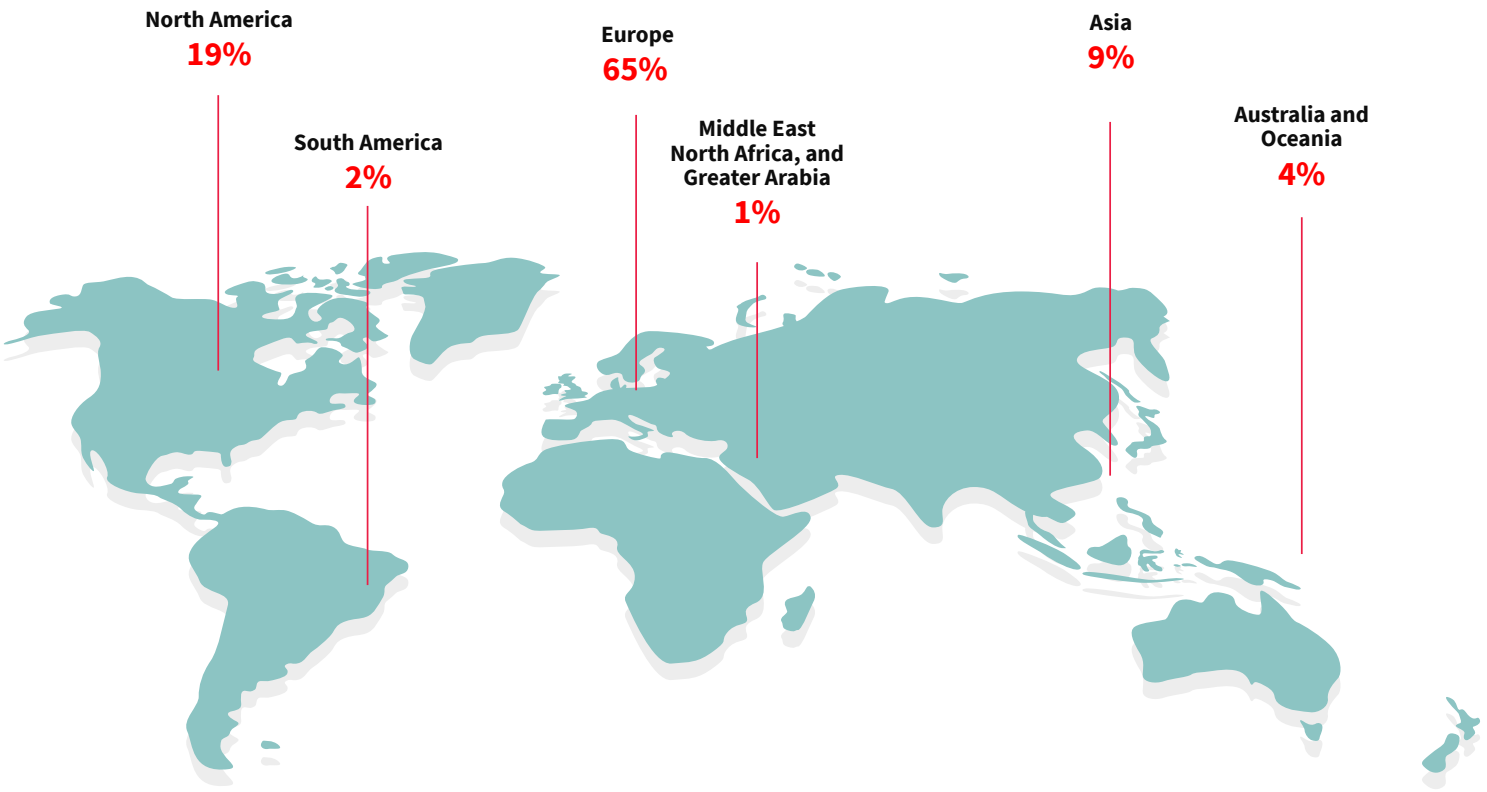
3,797 academic-academic collaborations reported by SFI researchers (up 11%), with over 70% of these with international partners.

51% of non-academic collaborations were with partners outside of Ireland – 12% with United States, 9% with UK and 30% with other countries.

UK Partnerships and BREXIT

Science Foundation Ireland has a broad range of funding mechanisms designed to support UK-Ireland research collaboration. In 2018, the €39 million joint UK-Ireland investment under the SFI-EPSRC Centres for Doctoral Training (CDTs) Programme was launched, while other SFI Programmes facilitate UK partnerships such as the SFI Research Centres and Spokes awards, the SFI Centres for Research Training (CRTs), the SFI Strategic Partnership Awards and the SFI Industry Fellowship Awards. Others, such as the SFI President of Ireland Future Research Leaders Programme and the SFI Research Professorship Programme, also support joint appointments.

In 2018, Science Foundation Ireland and the Irish Research Council co-hosted the inaugural UK – Ireland Research Funders' Forum to engage with statutory funders from the UK. Pictured (l-r): Dr Michael Ryan, Head of International (SFI), Peter Brown, Director of the Irish Research Council, Prof Jane Ohlmeyer, Chair of the Irish Research Council, Robin Barnett, British Ambassador to Ireland, and Prof Andrew Thompson, Executive Chair, Arts Humanities Research Council, UK. Photo by Mark Stedman.



2018 International Academic Collaborations by Country

United Kingdom (excluding Northern Ireland)	490
United States of America	454
Germany	242
France	155
Italy	149
Spain	140
Netherlands	99
Northern Ireland	93
China	89
Australia	73
Canada	67
Sweden	66
Denmark	60
Belgium	49
Switzerland	47
Austria	31
Brazil	31
Poland	29
India	28

Finland	25
Portugal	25
New Zealand	21
Japan	20
Russian Federation	17
Norway	16
Hungary	15
Greece	14
Israel	13
Luxembourg	11
Singapore	9
South Africa	9
Czech Republic	8
Slovakia	8
Chile	7
South Korea (Republic of Korea)	7
Turkey	6
Iran (Islamic Republic of)	6

Romania	6
Qatar	4
Macao	4
Estonia	4
Thailand	4
Taiwan, Province of China	4
Argentina	4
Serbia	4
United States Minor Outlying Islands	4
Kazakhstan	4
Slovenia	4
Colombia	3
Cyprus	3
Hong Kong	3
Iceland	2
Malta	2
United Arab Emirates	2
Sri Lanka	2

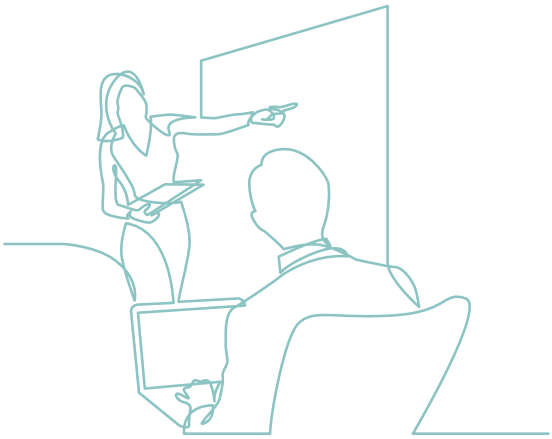
Fiji	2
Latvia	2
Saudi Arabia	2
Algeria	2
Armenia	1
Mexico	1
Bosnia and Herzegovina	1
Bulgaria	1
Egypt	1
Vietnam	1
Tunisia	1
Pakistan	1
Mauritius	1
Croatia	1
Mongolia	1
Lebanon	1
Bangladesh	1
Burkina Faso	1
Kuwait	1
Total	2,715

Science Foundation Ireland Launches First Overseas Post

In 2018, Science Foundation Ireland commenced its first overseas post in the USA, to identify and facilitate research collaboration opportunities and enable Irish researchers to connect more closely with US industry, philanthropy and academia, and forge impactful international funding partnerships.

SFI US-Ireland Programme

The US-Ireland Research and Development Partnership is a unique initiative involving funding agencies across three jurisdictions: United States of America (USA), Republic of Ireland (RoI) and Northern Ireland (NI). Under the US-Ireland R&D Partnership Programme, a 'single-proposal, single-review' mechanism is facilitated by the National Science Foundation (NSF) and National Institutes of Health (NIH) who accept submissions from tri-jurisdictional (USA, NI and RoI) teams to a number of their existing funding programmes. In 2018, five awards were made under the SFI US-Ireland R&D Partnership Programme with an investment of €2.8 million.



€75 million invested across 45 successful partnerships (six Centre to Centre) to-date

454 academic collaborations with the USA

290+ MSc and PhD students and postdoctoral researchers supported

259 collaborations with Industry partners such as Abbvie, Intel, Pfizer, Johnson and Johnson, Microsoft and Nokia Bell Labs.

SFI St. Patrick's Day Science Medal

In 2018, Prof Margaret Murnane, an eminent laser scientist and Professor of Physics, Electrical and Computer Engineering at University of Colorado; and Mr David McCourt, Founder and CEO of Granahan McCourt Capital, were awarded the SFI St. Patrick's Day Science Medal, for their significant contribution to academia, industry and research. The annual Medal recognises distinguished Irish scientists, engineers or technology leaders living and working in the USA.

SPOTLIGHT ON GLOBAL REACH

SFI-NSFC Partnership

Tánaiste and Minister for Foreign Affairs and Trade, Simon Coveney TD, and Minister of State for Trade, Employment, Business, EU Digital Single Market and Data Protection, Pat Breen TD, announced eight new research collaborations forged under a new bilateral partnership programme between Science Foundation Ireland and the National Natural Science Foundation of China (NSFC).

The projects, which will run for four years, will support over 30 researchers in areas of strategic importance to the People's Republic of China and Ireland.

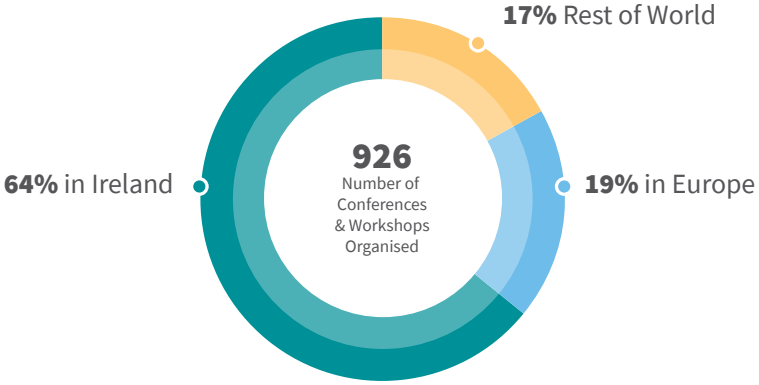
The Programme represents a joint investment made by the Irish government through Science Foundation Ireland to the value of €8.6 million and ¥31,920,000 (ca. €4,273,000) from the NSFC. Ireland's engagement with China has grown from strength to strength in recent years, with China now ranking as Ireland's largest trading partner in Asia. Collaboration and partnership in RD&I is vital for expanding this relationship.

China's emphasis on high technology systems, particularly in green-tech is extremely complimentary to Ireland's research prioritisation and builds on Ireland's strong international reputation as an open and engaging country for research and development. The selected research projects focus on the areas of wireless and optical communications, artificial intelligence, micro and nano-electronics, climate change, green energy, and nano-materials for biomedical applications. Four academic institutions in Ireland will collaborate with six institutions across the People's Republic of China to carry out this work. The Programme supports excellent collaborative scientific research that has potential economic and societal impact and builds capacity, expertise and mutually beneficial relationships between Ireland-based and China-based researchers, that will contribute to global science and economic development in both countries.

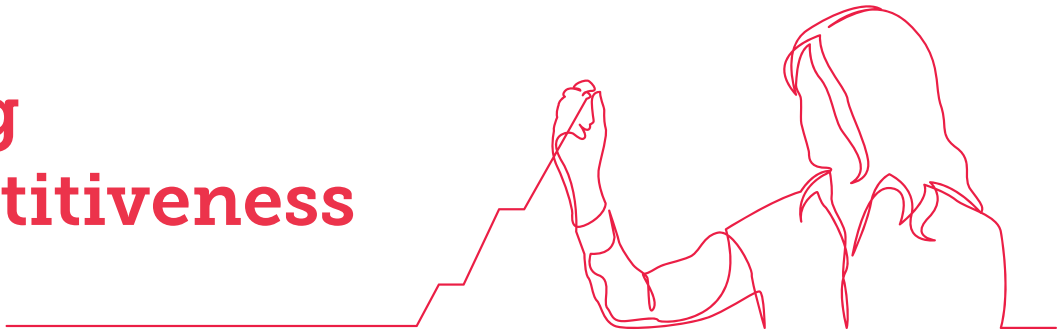
Pictured (l-r): Minister Pat Breen TD, Dr Ciarán Seoighe (SFI), Tánaiste Simon Coveney TD, with Madam Hua Yang, Charge d'Affaires, Embassy of the Peoples Republic of China.

Conferences and Workshops

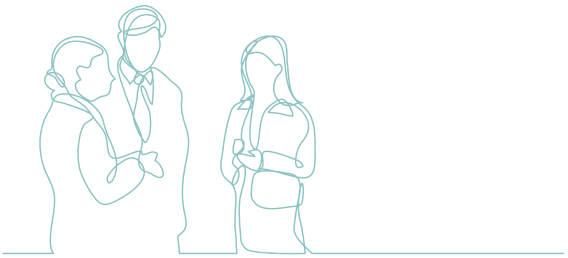
Science Foundation Ireland award holders organised 592 national and 334 international conferences, workshops and seminars in 2018, up 16% from 2017.



Driving Competitiveness



Through deep Industry-academic engagement, Science Foundation Ireland-funded research is positively transforming society and the economy; cultivating a diverse research ecosystem that fosters innovation and knowledge exchange, futureproofing STEM skills and creating high-value jobs. Spanning the Irish regions, this activity supports high-growth SMEs and attracts foreign direct investment via large multinationals.



Non-academic Collaborations

1,927 collaborations with 1,224 distinct organisations (attributed to SFI awards)

1,715 are industry collaborations, 1,003 with MNCs and 712 with SMEs

Innovation and Commercialisation

Science Foundation Ireland-funded researchers have delivered:

12 spin-out companies

5 start-up companies

51 patents

53 licenced technologies

174 invention disclosures

5 standards

€1 million SFI Future Innovator Prize to address societal challenges

In September 2018, a new challenge-based competition, the SFI Future Innovator Prize, was launched to incentivise Ireland's best and brightest unconventional thinkers and innovators, through collaboration and convergence of knowledge in multi-disciplinary teams; to develop novel, and potentially disruptive technologies to address significant societal issues that are of strategic importance to Ireland.

12 awards were made in 2018 under this Call with a €3.1 million prize fund, from the Department of Business, Enterprise and Innovation for the winning project.

SFI Technology Innovation Development Awards (TIDA)

Science Foundation Ireland announced an investment of €4.5 million in funding for 38 research projects to support the commercialisation of government-funded research, through the SFI TIDA Programme. It enables researchers to focus on the initial stages of an applied research project which may have a commercial benefit if further developed.

TIDA recipient, Dr Lynne O'Shea (UCD) is developing a non-invasive commercial test to improve pregnancy success rates when using assisted reproductive technologies.

Strategic Partnerships and Collaborations

One award was made under the SFI Strategic Partnership Programme in 2018, with an investment of €1.6 million from Science Foundation Ireland and industry cash co-investment of €1.2 million. At the end of 2018, Science Foundation Ireland had awarded a cumulative 20 Strategic Partnerships with industry, including nine Pfizer awards, with a total industry contribution of over €25 million.

SFI Industry Fellowship

In 2018, Minister for Business, Enterprise and Innovation, Heather Humphreys TD, launched the SFI Industry Fellowship Programme call, providing industry partners with access to innovative researchers and cutting-edge technology in Irish academic institutions. Over 149 industry partnerships have been forged to-date with companies such as Analog Devices and Pilot Photonics. 50% of the awards made have been with SME partners. Projects span topics such as renewable energy, cancer research, and environmental sensors. 21 awards were made in 2018 with an investment of €1.8 million.

Supporting Regional and Rural Development

Minister for Finance, Public Expenditure and Reform, Paschal Donohoe TD, launched the FINTECHNEXT research collaboration under the SFI Strategic Partnership Programme. A €3 million financial technology (fintech) research collaboration between technology company Fexco (headquartered in Killorglin Co Kerry), UCC and Science Foundation Ireland (SFI), it will also gain critical knowledge and expertise provided by researchers at the Cork University Business School (CUBS) within UCC. 12 newly appointed researchers will work to disrupt three key fintech verticals: Treasury and FX, Digital Taxation, and Corporate Asset Administration. The project reinforces the Government's Action Plan for Rural Development through economic growth and high skill job creation and will run for four years.

Pictured (l-r): Dr Ciarán Seoighe, Deputy Director General, Science Foundation Ireland, Minister for Finance, Public Expenditure and Reform, Paschal Donohoe TD, Mr Denis McCarthy, Chief Executive, Fexco, and Prof John O'Halloran, Deputy President, UCC. Photo by Valerie O'Sullivan.

SFI Generating Value for Money

Demonstrating the quality of scientific excellence, research relevance and quality:

- Science Foundation Ireland-funded researchers competitively won €230 million from several diverse sources **(up 31%)**
- Science Foundation Ireland-funded researchers secured €97.6 million in funding from EU sources **(up 40%)**

Demonstrating Science Foundation Ireland's return on investment and value for money:

- Funding from non-Irish exchequer to Irish exchequer has increased to 2.5:1, from 1.9:1 in 2017
- The ratio of national funding to international funding is 1:1.7 up from 1:1.3
- Funding from private enterprise was €46 million **(up 43%)**

SFI Research Centres have drawn down approximately

€136.2 million

in cumulative Horizon 2020 funding

External Funding Secured by SFI-Funded Researchers in 2018

	Total Funding Secured by PI (€)
Private Enterprise	45,847,263
European Union	97,601,035
Wellcome Trust	4,662,369
Health Research Board	5,286,532
National Institute of Health USA	1,131,934
Other International Interest Organisation	3,708,892
Other International Government Source	2,946,101
Charity/Non-Profit Organisation (International)	1,590,125
Charity/Non-Profit Organisation (Irish)	5,133,963
Enterprise Ireland – Commercialisation and Non-Commercialisation Awards	30,594,742
Irish Research Council	11,288,699
Department of Agriculture, Food and the Marine	5,015,428
The Department of Communications, Climate Action and Environment	2,591,942
Environmental Protection Agency	974,993
Marine Institute	418,850
Higher Education Authority Ireland	321,276
Teagasc	282,000
Other Irish Government Source	5,118,567
Other Source	5,615,122
Grand Total	**230,129,833**

SFI Research Centres

The SFI Research Centres network represents €434 million from Science Foundation Ireland and an industry commitment of €235 million.

The SFI Research Centres link scientists and engineers in partnerships across 850 research bodies across the globe, including eight Irish universities and seven Institutes of Technology.

The Centres have signed collaborative research agreements with 730 companies around the world (197 in Ireland) and attract industry that make important contributions to Ireland's economy, and expanding STEM educational and career opportunities.

An economic impact report on the AMBER SFI Research Centre for Advanced Materials, led by TCD, found that for €108 million State investment

€505 million

was generated in gross national output

For every €1 invested by public funding agencies and industry partners in Lero, the SFI Research Centre for Software, €5.25 is leveraged back to the Irish economy. From 2005-2018, it contributed

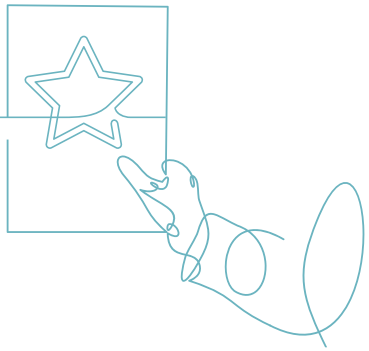
€515 million

A '15 Years of Impact' report found that APC Microbiome Ireland SFI Research Centre helps to generate €1.2 million for the Irish economy

each week

including expenditure and taxation impact.

SFI Research Centres have, to-date:



Secured €196 million in non-exchequer, non-commercial funding and 18 Spoke Awards

182 licensing agreements + 27 spin-outs + 324 Enterprise Ireland Commercialisation Awards

Combined cumulative KPI results for SFI Research Centres against their targets from inception to end of 2018:

SFI Research Centre Outputs	Cumulative to DEC-2018		
	Target	Result	Performance against target
Journal publications	4,090	7,144	175%
Conference publications	3,306	4,212	127%
MSc/MEng graduates	163	118	72%
PhD graduates	484	854	176%
% Trainee departures with industry as first destination	28%	33%	118%
Participations in major EU initiatives	285	336	118%
Coordinations in major EU initiatives	88	84	95%
ERC awards granted	29	26	90%
Funding from non-exchequer, non-commercial sources	€196,726,732	€195,865,387	100%
Cash in bank (minimum target)	€35,042,853	€61,040,554	174%
% Industry cost share (cash)	9%	17%	184%
% Industry cost share (total)	29%	43%	147%
EI Commercialisation Awards	193	324	168%
Licence agreements	145	182	126%
Spin-out companies formed	31	27	89%

SFI Research Centre Looks to the Future of Smart Dairy

The VistaMilk SFI Research Centre was launched in 2018, co-funded by Science Foundation Ireland and the Department of Agriculture, Food and Marine, and led by Teagasc. Its research focuses on using networked, sensor data and machine learning to improve pasture-based dairy production, for example improving the accuracy of predictions of grass growth by linking historical and real-time grass-growth and meteorological data.

SPOTLIGHT ON MOTHERS AND BABIES

Microbe Mom - Finding the optimal probiotics for pregnant women and healthier babies

In October 2018, Minister for Agriculture, Food and the Marine, Michael Creed TD, launched a joint research investment of €3.4 million through the SFI Spokes Programme called Microbe Mom, to improve health outcomes for mothers and babies during pregnancy.

This new therapeutic research project is a four-way collaboration between the Alimentary Health Group, an innovative Irish healthcare company pioneering the discovery and development of proprietary microbiome-based products, APC Microbiome Ireland SFI Research Centre, Teagasc and University College Cork, the UCD Perinatal Research Centre, School of Medicine, University College Dublin, and the National Institute of Biotechnology Research and Training (NIBRT).

This industry-academia collaboration is investigating the impact of the mother's diet and health on her gut bacteria and what bacteria she transfers to her baby at birth, as well as the impact of specific probiotic supplements on the mother's health, and the most likely methods of transfer of bifidobacteria strains from mother to baby. While much research to-date has addressed the impact of the environment on the microbiota (microbes primarily acquired via the mother), the Microbe Mom research programme will focus on transfer of specific strains of bacteria from mother to baby, and in particular, the bifidobacteria strains.

Pictured: Dr Sally Cudmore, APC Microbiome Ireland SFI Research Centre, UCC; Minister for Agriculture, Food and the Marine, Michael Creed TD, and Dr Paul Cotter, Teagasc, APC Microbiome Ireland.

Policy Initiatives

Research Integrity

- Science Foundation Ireland completed a series of pilot data provenance reviews as part of its award management processes. A subject-matter expert panel explored the background of a data set and discussed the procedures and training that support good research practice, during a scheduled progress review. This bottom-up process helps to ensure the highest standards of integrity in all aspects of Science Foundation Ireland-funded research. This process will be mainstreamed into Science Foundation Ireland's award management procedures during 2019.
- Data provenance reviews are being complemented by a top down approach whereby independent advisers review the policies and procedures that are in place at Science Foundation Ireland-funded institutions in relation to Research Integrity and Research Ethics. This 'Agreed Upon Procedure' was piloted during 2018 with the support of two Irish Higher Education Institutions.
- Along with other members of the National Research Integrity Forum, Science Foundation Ireland has sponsored a three-year National Research Integrity training programme provided by Epigeum. This initiative will help to ensure that Irish researchers are trained to high standards of research integrity and ethics.

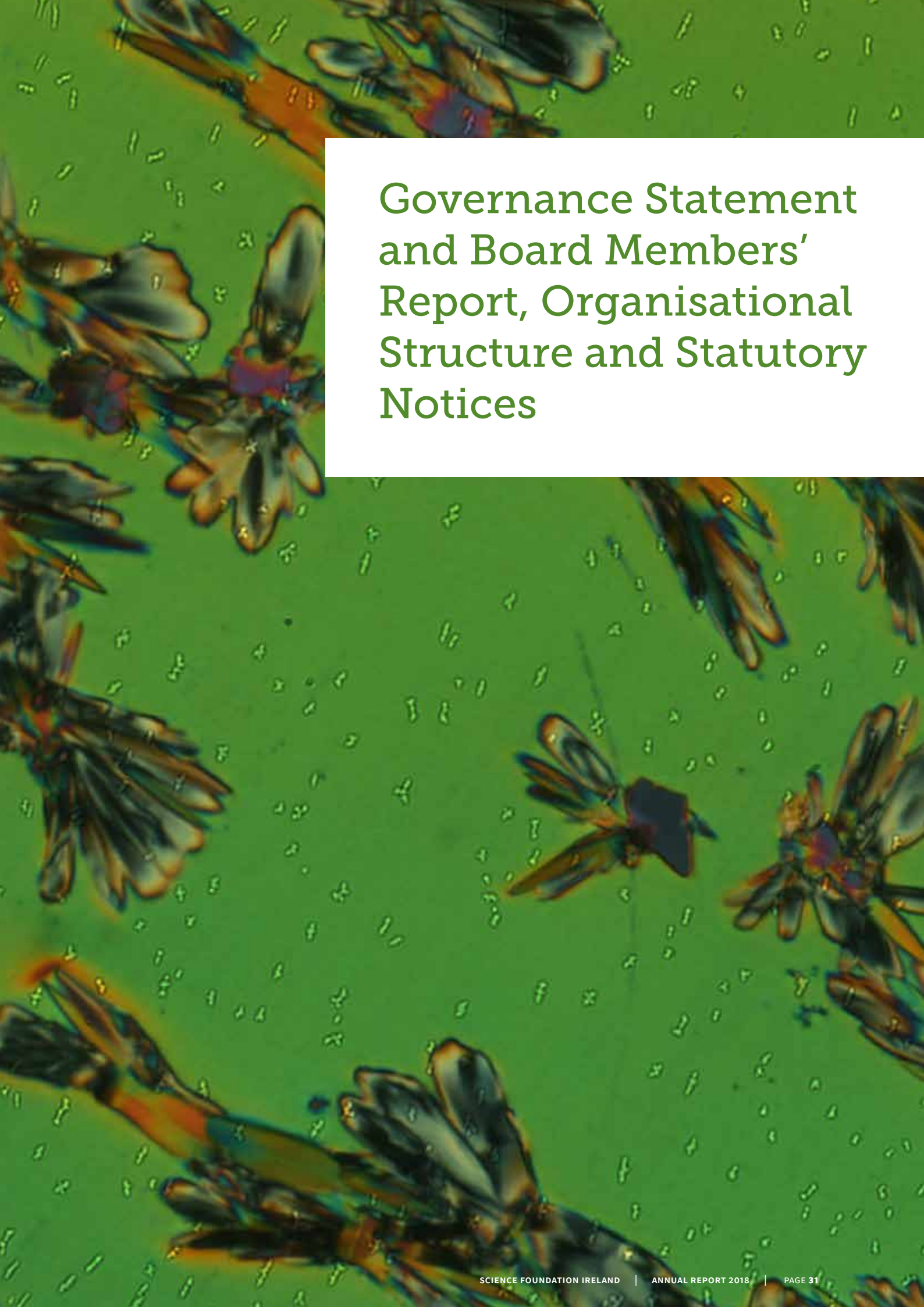
Open Science

Science Foundation Ireland recognises that the societal and economic benefit of research is maximised when research outputs can be accessed by everyone. During 2018, Science Foundation Ireland partnered with other international funding organisations to support Plan S[5], in a move towards full and immediate open access. Our most recent analysis shows that 45% of the Science Foundation Ireland-funded original and review articles published in 2018 were open access, which represents an improvement on previous years.

Science Foundation Ireland supports that research data should be Findable, Accessible, Interoperable and Reusable (FAIR[6]). Appropriate data management and data sharing are fundamental to all stages of the research process and support high quality, reproducible research. As such, 2018 has seen Science Foundation Ireland require applicants to the SFI Research Centres Phase II call to submit Data Management Plans, describing the procedures for data collection, storage, sharing and preservation.

5 https://www.coalition-s.org/

6 European Commission (2018) Turning FAIR into Reality: Final Report and Action Plan from the European Commission Expert Group on FAIR Data. Luxembourg: Publications Office of the European Union.https://doi.org/10.2777/1524



Governance Statement and Board Members' Report, Organisational Structure and Statutory Notices

Governance Statement and Board Members' Report, Organisational Structure and Statutory Notices

Science Foundation Ireland Board Members*

Ms Bernie Cullinan

Deputy Chairman of Science Foundation Ireland,
CEO of Pragma Advisory

Ms Bernie Cullinan is the CEO of Pragma Advisory, a company providing strategic advisory services and solutions for companies in the SME sector in a broad range of domains. Bernie is also Chairman of Crest Solutions Ltd., Crest Solutions (T.S) UK Ltd., Print Inspector Ltd., the Pharmaceutical Training Academy Ltd. and Chairman of Lafferty Architects and Project Management. Bernie is on the Board of Benefacts Ltd., a not-for-profit company and the Board of the DCU Educational Trust. She has held C-level positions in several Irish technology companies and continues to be active in this sector. She has played a key role in driving growth and shareholder value in the US, UK and Ireland and is a past Chairman of the Irish Software Association. Bernie has a BComm from UCD, an MBA from UCD and is a Fellow of the Chartered Institute of Management Accountants (CIMA).

Prof Mark W.J. Ferguson

Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland

Prof Mark Ferguson is the Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland. Recently he served on the EU High Level Group on the impact of H2020 and chaired international committees reviewing the Research and Innovation systems of Denmark, Hungary and Canada. Previously a Professor and Dean of Biological Sciences at The University of Manchester, he was co-founder and CEO of Renovo Group Plc. Prof Ferguson is the recipient of numerous international research prizes and awards, including the 2002 European Science Prize (jointly), author of 329 papers and book chapters, 61 patent families, author/editor of eight books, supervised 77 PhD students and has been awarded over £70 million in competitive research grants and approximately £100 million in start-up company equity funding. Prof Ferguson graduated from Queens University of Belfast with degrees in Dentistry (BDS 1st class honours), Anatomy and Embryology (BSc 1st class honours, PhD) and Medical Sciences (DMedSc), and holds Fellowships from the Royal Colleges of Surgeons in Ireland (FFD), and Edinburgh (FDS) and is a Founding Fellow of the UK Academy of Medical Sciences (FMedSci). He is a member or Fellow of a number of learned Societies and was made a "Commander of the British Empire" (CBE) by the Queen in 1999 for services to Health and Life Sciences.

* As of May 2019

Mr Aidan W. Donnelly

Managing Director of Advest Management Ltd.

Aidan Donnelly is the Managing Director of Advest Management Ltd., a private equity fund management company. In addition, he was Chairman of NORA, the Irish government agency responsible for Ireland's National Oil Reserves and has interests in renewable and environmental start-up companies. Aidan has extensive experience in the development and management of technology-oriented multinationals in Ireland such as Xerox (Europe) Ltd., Quantum Peripheral Products Ltd., Puritan Bennett, Cabletron Systems, Betdaq (Global Betting Exchange Ltd.) and most recently, ServeCentric Ltd. For over 12 years, Aidan also served in the Irish army, holding the rank of Captain in the Army Ordnance Corp. He earned an M.B.A. (UCG), M.I.E. (UCD) and a B.Sc. (UCG) and is a Chartered Director (C.Dir.) with the IOD.

Dr Pat Duane

Vice President and General Manager of Interventional with Creganna Medical

Dr Pat Duane is the Vice President and General Manager of Interventional with Creganna Medical, part of TE Connectivity. A leading expert in the medical device industry, Pat has worked within the sector for over 26 years. Pat is now General Manager for TE Medical's Interventional business, a world leader in the design and supply of minimally invasive delivery systems. Prior to his role of VP and GM of Interventional in Creganna Medical, Pat was VP, Corporate Development and later VP, Global Operations. During this time, Pat led Creganna Medical's integration with TE Connectivity following its acquisition in 2016. Prior to Creganna Medical, Pat spent 12 years with Medtronic and nine years with CR Bard where he held several senior management roles in business development and R&D. Pat is passionate about innovation and is a named inventor on over 12 internationally issued patents. Pat holds a Doctorate in Business from Henley Management College, London and his area of interest is the post-acquisition integration of small to medium enterprises into multi-national corporations. Pat also holds a Masters in Engineering Design from UCD and a BSc. in Applied Physics from NUI Galway.

Ms Máire Geoghegan-Quinn

Former EU Commissioner for Research, Innovation and Science

Appointed SFI Board member in April 2018, Máire Geoghegan-Quinn served as the European Commissioner for Research, Innovation and Science from 2010-2014. As Commissioner she established the 'Innovation Union' initiative; progressed the European Research Area; and delivered the largest ever research framework programme, Horizon 2020, with a 30% budget increase (€80 billion in total for research and innovation). She had political responsibility for two directorates general – the Directorate General for Research and Innovation and the Joint Research Centre. Máire previously served as a Fianna Fáil TD for the Galway West constituency (1975–1997); and held several Ministerial positions including: Minister for the Gaeltacht (1979–1981), becoming the first female Cabinet Minister since the foundation of the Irish State; Minister for European Affairs (1987–1991); and Minister for Justice (1993–1994). She holds a Degree of Doctor of Laws from NUI Galway, a degree of Doctor of Science from UCD (both honoris causa); and the Légion d'honneur among other awards. She is a Member of the European Joint Research Centre (JRC) Alumni Network and an Honorary Fellow of the Royal College of Physicians of Ireland.

Mr Dermot Mulligan

Assistant Secretary General, Dept. of Business, Enterprise and Innovation

Dermot Mulligan is Head of the Innovation and Investment Division of the Department of Business, Enterprise and Innovation. He reports to the Secretary General of the Department and the Minister and his areas of responsibility include formulation and implementation of Government policy on Innovation (including Science, Technology, Research and Development), Foreign Direct Investment and North/South Trade. He has previously worked in a range of Government Departments including the Departments of Health, Finance and Education and Skills. He holds a first degree in Law and an M.Sc. (Economics) in Policy Studies from TCD and an MBA from the University of Warwick.

Prof Sir Tom Blundell

Director of Research and Professor Emeritus in Biochemistry, University of Cambridge

Prof Sir Tom Blundell has previously held teaching and research positions in the Universities of London, Sussex and Oxford and leads an active research team in structural and computational biology in the Department of Biochemistry, Cambridge University. He was co-founder of Astex Therapeutics in 1999, which sold for $886 million to Otsuka. Tom remains on the Board and has a breast cancer drug on the market world-wide and eight in clinical trials. He has also been a member of several Boards and Scientific Advisory Boards of both pharma and biotech companies, including SKB, Celltech and UCB. Tom has held several prestigious roles in public bodies, including Chair of Royal Commission on Environmental Pollution and Charities and a member of the advisory group to the Prime Minister. He was founding CEO and Chair of the UK Biotechnology and Biological Sciences Research Council. Tom Blundell was knighted in 1997 and is a member of several academies. He has received numerous international awards, prizes, medals and honours for his research work and holds Honorary Doctorates from 16 universities. Recent awards include the Ewald Prize and the Shizhang Bei International Award for Contributions to Biophysics.

Mr Barry O'Sullivan,

Managing Director, Palo Alto Technology Partners

Barry O'Sullivan is Managing Director of Palo Alto Technology Partners, a technology and investment consulting firm. He is also a Senior Adviser at Permira LLC, a global investment firm. Prior to his current role, Barry was CEO and founder of Altocloud, an artificial intelligence software company with a mission of improving customer engagement. Prior to Altocloud, Barry was SVP at Cisco Systems and has been General Manager of several multi-billion dollar divisions, including Collaboration and Voice over IP, which he led from number six to the number one market share position worldwide. Barry has spent most of his career in Silicon Valley and is co-founder of the Irish Technology Leadership Group. He holds a Bachelor's degree in electrical engineering from UCC and a Masters degree in computer science from UL, as well as a Master's degree in business administration from Santa Clara University, California.

Mr Liam Madden

Executive Vice President and General Manager of the Wired and Wireless Group at Xilinx

Liam Madden leads a worldwide organisation of R&D professionals, including teams in Dublin and Cork, and as GM is also responsible for approximately $1 billion in revenue. Mr Madden has spent more than 30 years in the US semiconductor industry where he has contributed to a range of industry leading products and technologies. Based in Silicon Valley, he has worked with established companies and start-ups, including a leadership role in a successful IPO. Mr Madden is a regular speaker at university and industry events worldwide. He holds five patents in semiconductor technology. He is a Fellow of Engineers Ireland and from February 2013 to February 2018 was an Adjunct Professor of Electrical, Electronic and Communication Engineering at UCD.

Ms Mary Doyle

Former Deputy Secretary General, Dept. of Education and Skills

Ms Mary Doyle sits on the SFI Board as the appointee of the Minister for Education and Skills. Mary took up her role in the Department of Education and Skills in June 2012 where she led the Higher Education and Further Education Divisions in the Department. She has worked in the Departments of the Taoiseach, Health, and was Director General in the Office/ Department of the Minister for Children and Youth Affairs. She has been a member of the National Economic and Social Council and the National Statistics Board and a Forum Member of the Economic and Social Research Institute. She is currently a member of the Board of The Wheel. She holds a degree in European Studies from UL and a Masters in Public Service Management from TCD/Irish Management Institute.

Ms Grainne McAleese

Head of Finance for UDG Healthcare plc

Grainne McAleese is a senior business leader with experience working internationally at executive committee level in financial and leadership roles, primarily in the pharmaceutical and biotech industry. Ms McAleese is currently Head of Finance for UDG Healthcare plc, a global Irish-headquartered company providing innovative outsourced services to healthcare companies. Prior to UDG Healthcare, she worked as General Manager for Ireland and Vice President, Finance with Alexion Pharmaceuticals, a rare disease US biotech company. Ms McAleese previously spent 10 years working with Elan Corporation, plc in the United States and Ireland in various corporate, strategic and group finance roles, and most recently as Corporate Controller and Chief Accounting Officer. Ms McAleese is a Fellow of Chartered Accountants Ireland, a Certified Public Accountant in the United States, and holds a Bachelors and a Masters degree from DCU.

Statement on Corporate Governance and Board Members' Report

Governance

The Board of Science Foundation Ireland (SFI) was established under the Industrial Development (Science Foundation Ireland) Act 2003. The functions of the Board are set out in section 7 of this Act, as amended. The Board is accountable to the Minister for Business, Enterprise and Innovation ("the Minister") and is responsible for ensuring good governance and it performs this task by setting strategic objectives and targets and taking strategic decisions on all key business issues. Section 7(4) of the Act requires the Board to comply with such general directives relating to policy in the exercise of its functions as may be given by the Minister. The regular day-to-day management, control and direction of Science Foundation Ireland are the responsibility of the Director General and the senior management team. The Board also sets the ethical tone of the Foundation by its own actions, but also in overseeing senior management and staff to ensure that Science Foundation Ireland's values, good standards of governance and ethical behaviours permeate all levels of the Foundation. The Director General and the senior management team follow the broad strategic direction set by the Board and must ensure that all Board members have a clear understanding of the key activities and decisions related to the entity, and of any significant risks likely to arise. The Director General acts as a direct liaison between the Board and management of Science Foundation Ireland.

Board Responsibilities

The work and responsibilities of the Board are set out in the Board Manual, which also contains the matters specifically reserved for Board decision. Standing items considered by the Board include:

- **Declaration of interests**
- **Reports from Board committees, including circulation of minutes**
- **Financial reports/management accounts**
- **Performance reports**
- **Risk register and**
- **Matters reserved for the Board**

Section 24 of the Act requires the Board keep, in such form as may be approved by the Minister with consent of the Minister for Public Expenditure and Reform, all proper and usual accounts of money received and expended by it.

In preparing these financial statements, the Board of the Foundation is required to:

- **Select suitable accounting policies and apply them consistently**
- **Make judgements and estimates that are reasonable and prudent**
- **Prepare the financial statements on the going concern basis unless it is inappropriate to presume that it will continue in operation, and**
- **State whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements.**

The Board is responsible for keeping adequate accounting records which disclose, with reasonable accuracy at any time, its financial position and enable it to ensure that the financial statements comply with section 24 of the Act. The maintenance and integrity of the corporate and financial information on the Foundation's website is the responsibility of the Board. The Board is responsible for approving the annual plan and budget. An evaluation of the performance of the Foundation by reference to the annual plan and budget was carried out on December 10, 2018. The Board, principally through the Audit and Risk Committee, has assessed the State body's principal risks including a description of these risks where appropriate and associated mitigation measures or strategies.

The Foundation is adhering to the relevant aspects of the Public Spending Code. The Board is also responsible for safeguarding its assets and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities. The Board considers that the financial statements of Science Foundation Ireland give a true and fair view of the financial performance and the financial position of the Foundation at 31 December 2018.

Board Structure and Committees

The Science Foundation Ireland Board normally consists of a Chairman , Deputy Chairman and ten ordinary members appointed by the Minister for Business, Enterprise and Innovation, following consultation with the Minister for Education and Skills, as set out in Section 8 of the Industrial Development (Science Foundation Ireland) Act 2003. The independent non-executive Board Members, national and international, have the necessary and complementary skills and expertise to set the strategy and broad policies for the Foundation and oversee its operation. The table below details the appointment period for current members:

Board Member	Role	Date Appointed
Bernie Cullinan	Deputy Chairman (w.e.f 5 December 2018)	07/12/2009 (renewed 24/7/15)
Pat Duane	Board Member	29/09/10 (renewed 24/7/15)
Mark Ferguson	Director General	16/1/12 (reappointed 16/1/17)
Liam Madden	Board Member	01/02/13 (renewed 08/06/17)
Mary Doyle	Board Member	05/12/2012 (renewed 23/08/16)
Aidan Donnelly	Board Member	05/12/13 (renewed 08/06/17)
Dermot Mulligan	Board Member	02/09/15
Barry O'Sullivan	Board Member	19/11/14 (renewed 25/7/18)
Tom Blundell	Board Member	19/11/14
Maire Geoghegan Quinn	Board Member	11/04/18
Grainne McAleese	Board Member	25/10/18

The Board reviewed its performance in February 2019 with the submission of a report on 2018 activities, which included a review of the Board Committees and the Board members also completed a Board Evaluation Questionnaire. The Board has established four committees as follows:

Audit and Risk Committee

The role of the Audit and Risk Committee (ARC), which comprise five members, is to support the Board in relation to its responsibilities for issues of risk, control and governance and associated assurance. The ARC is independent from the financial management of the organisation and monitors the system of internal controls and financial safeguards, oversees the internal audit function and the conduct of audits of Science Foundation Ireland grants made to external institutions. The committee ensures a system to monitor risk and provide for mitigating actions is in place and kept up-to-date. The committee also monitors and reviews Science Foundation Ireland financial reports on a regular basis including the Annual Financial Statements.

The committee is also responsible for overseeing compliance with corporate governance requirements, including with the Code of Practice for the Governance of State Bodies as updated in September 2016. The ARC reports to the Board after each meeting, and formally in writing annually.

The members of the Audit and Risk Committee are: Bernie Cullinan (Chairman), Aidan Donnelly, Grainne McAleese, Marcus Breathnach and Brendan Harte. (Mr Breathnach and Mr Harte are not Board members. Mr Breathnach is a representative of the Department and Mr Harte is an external committee member). There were seven meetings of the ARC in 2018.

Board Nominations Advisory Committee

The Board Nominations Advisory Committee (NAC) comprises four members and considers the skillsets required on the Board as well as relevant areas of expertise and advises the Public Appointments Service accordingly when Board vacancies arise. The committee reports to the Board after each meeting.

The members of the committee are: Bernie Cullinan (Chairman), Mark Ferguson, Barry O'Sullivan and Dermot Mulligan. There were three meetings of the committee in 2018.

Management Development and Remuneration Committee

The Management Development and Remuneration Committee (MDRC) comprises two members and reviews the performance of the senior management team and oversees planning for management development and succession. The committee reports to the Board after each meeting.

The members of the committee are: Bernie Cullinan (Chairman) and Aidan Donnelly. There was one meeting of the committee in 2018.

Grant Approval Committee

The SFI Grant Approval Committee (GAC), which comprises five members, is delegated the power to approve research grant proposals in line with the delegated authority levels approved by the Board. The committee reports to the Board after each meeting.

The members of the committee are: Liam Madden (Chairman), Pat Duane, Tom Blundell, Barry O'Sullivan and Mark Ferguson.

There were three meetings of the committee in 2018 (and on two occasions committee members approved grants by email). Martin Lyes, an external member of the committee, resigned with effect from 06/03/2019.

A list of awards approved by the Grant Approval Committee in 2018 was circulated to the Board for information in February 2019. The committee agreed to establish a standing time for GAC meetings to coincide with Board meeting dates. Where required, these meetings are supplemented by telecons during the year. The committee completed a review of its effectiveness in June 2018 and the outputs of this review included further guidance on Conflicts of Interest and a programmatic overview provided to the committee.

Schedule of Attendance, Fees and Expenses

A schedule of attendance at the Board and committee meetings for 2018 is set out below including the fees and expenses received by each member:

	Board	Audit and Risk Committee	Grant Approval Committee	Board Nominations Advisory Committee	Management Development and Remuneration Committee	Fees 2018	Expenses 2018
Number of meetings	**6**	**7**	**3**	**3**	**1**		
Tom Blundell	5		3			11,970	1,399
Pat Duane	6		3			11,970	-
Bernie Cullinan	5	6		1	1	11,970	215
Dermot Mulligan	6			3		-	-
Mary Doyle	6					-	114
Liam Madden	5		3			-	30,473
Aidan Donnelly	6	7			1	11,970	150
Barry O'Sullivan	5		3	2		-	311
Maire Geoghegan Quinn (appointed 11/4/18)	4					8,645	800
Grainne McAleese (appointed 25/10/18)	1					2,220	-
Mark Ferguson	6		3	3		-	-
Ann Riordan (retired 04/12/18)	5				1	19,031	439
Geraldine Ruane (retired 24/7/18)	2	2				-	-
TOTAL						**77,776**	**33,901**

Board members are paid fees as determined by the Minister for Business, Enterprise and Innovation with the consent of the Minister for Public Expenditure and Reform. Certain Board members are excluded from receiving fees from SFI under the "One Person One Salary" remuneration arrangements whereby public servants cannot receive Board fees in addition to a salary. These are Prof Mark Ferguson, Ms Mary Doyle, Ms Geraldine Ruane and Mr Dermot Mulligan. In addition, two Board members, Prof Liam Madden and Mr Barry O'Sullivan, have waived their Board fees.

Key Personnel Changes:

- **Ms Máire Geoghegan Quinn was appointed to the Board on 11th April 2018**
- **Mr Barry O'Sullivan was reappointed to the Board on 25th July**
- **Ms Geraldine Ruane retired from the Board on 24th July 2018**
- **Ms Grainne McAleese was appointed to the Board on 25th October 2018**
- **Dr Martin Lyes retired from the Grant Approval Committee on 6th March 2019**
- **Ms Ann Riordan retired as Chairman of the Board on 4th December 2018**

Dr Ciarán Seoighe joined Science Foundation Ireland as Deputy Director General in January 2018. Dr Darrin Morrissey resigned as Director of Programmes with Science Foundation Ireland in July 2018. Dr Siobhan Roche was appointed as Director of Science for the Economy in September 2018.

Disclosures Required by the Code of Practice for the Governance of State Bodies (2016)

The Board is responsible for ensuring that Science Foundation Ireland has complied with the requirements of the Code of Practice for the Governance of State Bodies (2016) as published by the Department of Public Expenditure and Reform in August 2016. The following disclosures are required by the Code:

Employee Short-Term Benefits Breakdown

Employees' short-term benefits in excess of €60,000 are categorised into the following bands:

		Number of Employees	
From	To	2018	2017
€60,000	- €69,999	10	12
€70,000	- €79,999	4	10
€80,000	- €89,999	-	3
€90,000	- €99,999	5	5
€100,000	- €109,999	6	3
€110,000	- €119,999	1	-
€120,000	- €129,999	-	2
€140,000	- €149,999	1	1
€150,000	- €159,999	1	-
€170,000	- €179,999	-	1
€180,000	- €189,999	1	-

Note: For the purposes of this disclosure, short-term employee benefits in relation to services rendered during the reporting period include salary, overtime allowances and other payments made on behalf of the employee, but exclude employer's PRSI.

Consultancy Costs

Consultancy costs include the cost of external advice to management and exclude outsourced 'business-as-usual' functions.

	2018	2017
	€	€
Legal advice	150,000	172,000
Tax and financial advice	14,000	12,000
Design and project management fees for move to new premises	178,000	0
SFI Discover Programme evaluation review	36,900	0
Research Integrity advice	21,902	0
Other	30,198	90,000
Total Consultancy costs	431,000	274,000
Consultancy Costs Capitalised	-	-
Consultancy Costs charges to the Income and Expenditure and Retained Reserves	431,000	274,000

Legal Costs and Settlements

Expenditure incurred in relation to general legal advice received by SFI is disclosed in Consultancy Costs above. There were no legal cases or settlements made in 2018.

Travel and Subsistence Expenditure

Travel and subsistence expenditure is categorised as follows:	2018	2017
	€	€
Domestic		
-Board*	9,000	12,000
-Employees	119,000	85,000
International		
-Board*	32,000	55,000
-Employees	112,000	96,000
Total	272,000	248,000

* includes travel and subsistence of €2,000 paid directly to Board members in 2018 (2017: €3,000). The balance of €39,000 (2017: €64,000) relates to expenditure paid by Science Foundation Ireland on behalf of the Board members.

Hospitality Expenditure

The Income and Expenditure Account includes the following hospitality expenditure

	2018	2017
	€	€
Staff hospitality	1,000	3,000
Client hospitality	-	-
Total	1 ,000	3,000

Statement of Compliance

The Board has adopted the Code of Practice for the Governance of State Bodies (2016) and has put procedures in place to ensure compliance with the Code. Science Foundation Ireland was in compliance with the Code of Practice for the Governance of State Bodies for 2018.

Risk Management

The Science Foundation Ireland Board has adopted the SFI Risk Policy and Strategy, which outlines the risk management system in place and sets out the roles and responsibilities of the various stakeholders involved with the management of risk. It is the policy of the Foundation to adhere to risk management best practice. The Policy and Strategy sets out the process by which the Foundation identifies and addresses the key risks attached to its activities. These risks are compiled by the Management Risk Committee with the input and support of the Executive Committee and reported on at regular intervals to the SFI Audit and Risk Committee and to the Board, including associated mitigation measures, controls and updates. The Board has conducted an assessment of Science Foundation Ireland's principal risks including a description of these risks where appropriate and associated measures or strategies.

Organisation Structure 2019

SFI BOARD

- Grant Approval Committee
- Audit and Risk Committee
- Management Development and Remuneration Committee
- Board Nominations Advisory Committee

Prof Mark Ferguson
Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland

Mr Donal Keane
Chief Operations Officer

- **Dr Marion Boland** — *Head of Research Policy*
- **Mr Eric Dowdall** — *Chief Information Officer*
- **Ms Joan Hynes** — *Head of Finance and Grants*

Dr Abigail Ruth Freeman
Director of Science for Society

- **Dr Roisin Cheshire** — *Head of Individual-led Research*
- **Ms Margie McCarthy** — *Head of Education and Public Engagement*
- **Dr Lisa Higgins** — *Head of Challenge Research*

Dr Ciarán Seoighe
Deputy Director General

Ms Kim Lavelle
Board Secretary / Chief Risk Officer

Ms Carolyn O'Malley
Head of HR and Organisational Development

Dr Siobhan Roche
Director of Science for the Economy

- **Dr Aisling McEvoy** — *Head of Enterprise Partnerships*
- **Dr Kevin Walsh** — *Head of Research Centres*

Ms Alva O'Cleirigh
Head of Corporate Communications

Dr Peter Clifford
Head of Strategy

Dr Michael Ryan
Head of International

Executive Team

Prof Mark Ferguson

Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland – see full profile on page 32.

Dr Ciarán Seoighe - Deputy Director General

Dr Ciarán Seoighe joined Science Foundation Ireland as Deputy Director General in January 2018. In his role Ciarán is responsible for Organisational Strategy, Corporate Communications and Science Foundation Ireland's International team. In addition, he deputises for the Director General as required. Ciarán joined Science Foundation Ireland after nearly two decades in management consulting with Accenture. He holds a BA (Mod) in Natural Science and PhD in Quantum Physics from TCD. In his time with Accenture, in both Ireland and South Africa, Ciarán has worked with some of the world's largest and most successful organisations. He has a wealth of experience across a variety of sectors executing large-scale transformation, business re-engineering, strategic and change initiatives.

Mr Donal Keane - Chief Operations Officer

Mr Donal Keane was appointed as Chief Operations Officer at Science Foundation Ireland on 1 November 2005. He has responsibility for Financial Control, Financial Management of Grants, Information Systems, IT Networks, Data Protection/GDPR and liaison with the Internal Audit Coordinator with respect to internal audits and external grant audits. Donal joined Science Foundation Ireland from IADT Dun Laoghaire, where he held the position of Secretary/ Financial Controller from 1997 to 2005. Prior to that Donal held senior management positions at Our Lady of Lourdes Hospital Drogheda, GE Capital and Wang Finance in both Dublin and Toronto, Canada. Donal has also been a member of the European Science Foundation (Strasbourg) and BBSRC (now part of UKRI) Audit Committees in recent years. Donal holds a Bachelor of Commerce degree from UCD and is a Fellow of the Institute of Chartered Accountants in Ireland.

Dr Abigail Ruth Freeman - Director of Science for Society

Dr Abigail Ruth Freeman was appointed Director of Strategy and Communications in 2013, and following department restructure in 2018, became Director of Science for Society. Prior to her current appointment, Ruth has held a series of positions at Science Foundation Ireland, including Director of Innovation, Communications and Education and Director of Programmes, Enterprise and International Affairs, with responsibility for overseeing all Science Foundation Ireland research funding programmes and management of funded awards, as well as the Foundation's activities in conjunction with industry and international partners. Ruth joined Science Foundation Ireland as a Scientific Programme Manager in November 2006. Prior to joining the Foundation, Ruth worked as a researcher at TCD. She holds PhD and Bachelor degrees in Genetics from TCD, where she was awarded a Trinity scholarship, the Eli Lilly Chemistry Prize and the Roberts prize for Biology. Ruth's PhD research, on population genetics in hybrid zones, was funded by a prestigious studentship from the Wellcome Trust and was carried out at TCD and ILRI, Nairobi.

Dr Siobhan Roche - Director of Science for the Economy

Dr Siobhan Roche was appointed SFI Director of Science for the Economy in 2018. She is responsible for developing and implementing Science Foundation Ireland's strategies on competitive funding programmes, working closely with industry partners, including large and small, multinational and indigenous companies, academic researchers and other external stakeholders, on collaborations and the co-funding of programmes. Siobhan has worked within Science Foundation Ireland for several years, most recently as Head of Post Award and SFI Research Centres, following her role as Head of Partnerships and Scientific Programme Manager. Siobhan brings experience as a research scientist from both the private sector, where she worked with US-based Exelixis Inc. and a former Irish human genome start-up company, Hibergen Inc., and academia where she was a Research Fellow and Group Leader at Trinity College Dublin and St Patrick's Hospital. Siobhan has authored publications in leading, peer-reviewed journals and holds several international patents. She holds a B.A. Mod in Genetics from TCD and a PhD in Molecular and Cell Biology from the University of California at Berkeley (USA).

Statutory and Other Notices

1. Board Members – Register of Interests

The Board operates to the best practice corporate governance principles and in accordance with the guidelines set out in the Code of Practice 2016 issued by the Department of Public Expenditure and Reform, both in its activities and in its use of committees. In accordance with these guidelines, Science Foundation Ireland Board members register their interests in other undertakings with the Secretary.

2. Ethics in Public Office Acts 1995 and Standards in Public Offices Act 2001

Science Foundation Ireland became subject to the Ethics in Public Office Acts 1995 and 2001 on the 1 January 2005. Science Foundation Ireland has complied with the provisions of the Act.

3. Freedom of Information Act 1997, Freedom of Information (Amendment) Act 2003 and Freedom of Information Act 2014

Science Foundation Ireland became a prescribed body under the Freedom of Information Act 1997 from 31 May 2006. Science Foundation Ireland complies fully with the Act. Requests for information under this Act should be addressed to the FOI Officer, Science Foundation Ireland, Wilton Park House, Wilton Place, Dublin 2. In 2018 SFI received six FOI requests.

Prompt Payment of Accounts Act 1997

4. (i) Prompt Payment of Accounts Act 1997

Science Foundation Ireland comes under the remit of the Prompt Payment of Accounts Act 1997 which came into effect on 2 January 1998, and the European Communities (Late Payment in Commercial Transactions) Regulations 2002, which came into effect on the 7 August 2002. It is the policy of Science Foundation Ireland to ensure that all invoices are paid promptly. Specific procedures are in place that enable SFI to track all invoices and ensure that payments are made before the due date. Invoices are registered daily and electronic payments are issued as required to ensure timely payments. Management is satisfied that Science Foundation Ireland complied with the provisions of the Act in all material respects.

4. (ii) Prompt payment to suppliers

Science Foundation Ireland is committed to meeting its obligations under the 15-day Prompt Payment Rule, which came into effect on 1st July 2011. This provision ensures that payments to suppliers in respect of all valid invoices received will be made within 15 calendar days. Science Foundation Ireland reports quarterly in the 'About Us – Governance - Customer Service' section of the website on the implementation of the 15-day Prompt Payments Rule. http://www.sfi.ie/about-us/governance/customer-service/

5. Employment Equality Acts 1998-2015

Science Foundation Ireland wholeheartedly supports the principle of equal opportunities in employment. It opposes all forms of discrimination on the grounds of colour, race, nationality, sexual orientation, ethnic or national origin (and/or area of origin), religion, gender, marital status, age or disability. Science Foundation Ireland's commitment to implementing equal opportunities is reflected in its policies, practices and procedures, recruitment, promotion, training, use of non-discriminatory language in Foundation documents and publications. The objective is to ensure that all staff are selected and treated only on the basis of their abilities, knowledge and qualifications.

6. Protected Disclosures Act 2014

There were no protected disclosures made to Science Foundation Ireland in 2018.

7. Safety, Health and Welfare at Work Act 2005 and 2010.

In accordance with the above Act, Science Foundation Ireland in consultation with IDA implements appropriate measures to protect the safety, health and welfare of all employees and visitors within its offices.

8. Clients' Charter

Science Foundation Ireland has published a Clients' Charter setting out its commitment to a high-quality of service. This charter includes a procedure for dealing with complaints. In 2018, no complaints were received under the charter.

9. Reporting by Public Sector Bodies

Under Statutory Instrument (SI) 542, 2009 the public sector has specific energy reporting obligations. SFI's offices are located in Wilton Park House, Wilton Place, Dublin 2. The building facilities are managed by IDA. In each area relevant to energy usage and services to the building, SFI is satisfied that IDA endeavours to employ the most energy efficient and environmentally friendly means available. In compliance with Statutory Instrument (SI) 542, 2009, Science Foundation Ireland has reported details of energy usage for 2018 through the public-sector monitoring and reporting (M&R) website.

Annual Financial Statements Year Ended 31 December 2018

Ard Reachtaire Cuntas agus Ciste
Comptroller and Auditor General

Report for presentation to the Houses of the Oireachtas

Science Foundation Ireland

Opinion on the financial statements

I have audited the financial statements of Science Foundation Ireland for the year ended 31 December 2018 as required under the provisions of section 24 of the Industrial Development (Science Foundation Ireland) Act 2003. The financial statements comprise

- the statement of income and expenditure and retained revenue reserves
- the statement of comprehensive income
- the statement of financial position
- the statement of cash flows and
- the related notes, including a summary of significant accounting policies.

In my opinion, the financial statements give a true and fair view of the assets, liabilities and financial position of Science Foundation Ireland at 31 December 2018 and of its income and expenditure for 2018 in accordance with Financial Reporting Standard (FRS) 102 — *The Financial Reporting Standard applicable in the UK and the Republic of Ireland*.

Basis of opinion

I conducted my audit of the financial statements in accordance with the International Standards on Auditing (ISAs) as promulgated by the International Organisation of Supreme Audit Institutions. My responsibilities under those standards are described in the appendix to this report. I am independent of Science Foundation Ireland and have fulfilled my other ethical responsibilities in accordance with the standards.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Report on information other than the financial statements, and on other matters

Science Foundation Ireland has presented certain other information together with the financial statements. This comprises the annual report including the governance statement and Board members' report and the statement on internal financial control. My responsibilities to report in relation to such information, and on certain other matters upon which I report by exception, are described in the appendix to this report.

I have nothing to report in that regard.

Seamus McCarthy
Comptroller and Auditor General

26 June 2019

Appendix to the report

Responsibilities of Board members

As detailed in the governance statement and Board members' report, the Board members are responsible for

- the preparation of financial statements in the form prescribed under section 24 of the Industrial Development (Science Foundation Ireland) Act 2003
- ensuring that the financial statements give a true and fair view in accordance with FRS 102
- ensuring the regularity of transactions
- assessing whether the use of the going concern basis of accounting is appropriate, and
- such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Responsibilities of the Comptroller and Auditor General

I am required under section 24 of the Industrial Development (Science Foundation Ireland) Act 2003 to audit the financial statements of Science Foundation Ireland and to report thereon to the Houses of the Oireachtas.

My objective in carrying out the audit is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement due to fraud or error. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the ISAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with the ISAs, I exercise professional judgment and maintain professional scepticism throughout the audit. In doing so,

- I identify and assess the risks of material misstatement of the financial statements whether due to fraud or error; design and perform audit procedures responsive to those risks; and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- I obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal controls.
- I evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures.
- I conclude on the appropriateness of the use of the going concern basis of accounting and, based on the audit evidence obtained, on whether a material uncertainty exists related to events or conditions that may cast significant doubt on Science Foundation Ireland's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my report. However, future events or conditions may cause the Science Foundation Ireland to cease to continue as a going concern.
- I evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

Information other than the financial statements

My opinion on the financial statements does not cover the other information presented with those statements, and I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial statements, I am required under the ISAs to read the other information presented and, in doing so, consider whether the other information is materially inconsistent with the financial statements or with knowledge obtained during the audit, or if it otherwise appears to be materially misstated. If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact.

Reporting on other matters

My audit is conducted by reference to the special considerations which attach to State bodies in relation to their management and operation. I report if I identify material matters relating to the manner in which public business has been conducted.

I seek to obtain evidence about the regularity of financial transactions in the course of audit. I report if I identify any material instance where public money has not been applied for the purposes intended or where transactions did not conform to the authorities governing them.

I also report by exception if, in my opinion,

- I have not received all the information and explanations I required for my audit, or
- the accounting records were not sufficient to permit the financial statements to be readily and properly audited, or
- the financial statements are not in agreement with the accounting records.

Statement on Internal Control

Scope of Responsibility

On behalf of the Board of Science Foundation Ireland I acknowledge our responsibility for ensuring that an effective system of internal control is maintained and operated. The responsibility takes account of the requirements of the Code of Best Practice for the Governance of State Bodies (2016).

Purpose of the System of Internal Control

The system of internal control is designed to manage risk to a tolerable level rather than to eliminate it. The system can therefore provide only reasonable and not absolute assurance that assets are safeguarded, transactions authorised and properly recorded and that material errors or irregularities are either prevented or detected in a timely way.

The system of internal control, which accords with guidance issued by the Department of Public Expenditure and Reform, has been in place in Science Foundation Ireland for the year ended 31 December 2018 and up to the date of approval of the financial statements.

Capacity to Handle Risk

Science Foundation Ireland has an Audit and Risk Committee (ARC) comprising three Board members plus one external appointment with financial and audit expertise, one of whom is the Chair. The ARC met seven times in 2018.

Science Foundation Ireland has also established an internal audit function which is adequately resourced and conducts a programme of work agreed with the ARC.

The ARC has developed a risk management policy which sets out its risk appetite, the risk management processes in place and details the roles and responsibilities of staff in relation to risk. The policy has been issued to all staff who are expected to work within Science Foundation Ireland's risk management policies, to alert management on emerging risks and control weaknesses and assume responsibility for risks and controls within their own area of work.

Risk and Control Framework

Science Foundation Ireland has implemented a risk management system which identifies and reports key risks and the management actions being taken to address and, to the extent possible, to mitigate those risks.

A risk register is in place which identifies the key risks facing Science Foundation Ireland and these have been identified, evaluated and graded according to their significance. The register is reviewed and updated by the ARC on a bi-monthly basis. The outcome of these assessments is used to plan and allocate resources to ensure risks are managed to an acceptable level.

The risk register details the controls and actions needed to mitigate risks and responsibility for operation of controls assigned to specific staff. I confirm that a control environment containing the following elements is in place:

- procedures for all key business processes have been documented,
- financial responsibilities have been assigned at management level with corresponding accountability,
- there is an appropriate budgeting system with an annual budget which is kept under review by senior management,
- there are systems aimed at ensuring the security of the information and communication technology systems,
- there are systems in place to safeguard the assets, and
- control procedures over grant funding to outside agencies are in place to ensure adequate control over approval of grants and monitoring and review of grantees to ensure grant funding has been applied for the purpose intended.

Ongoing Monitoring and Review

Formal procedures have been established for monitoring control processes and control deficiencies are communicated to those responsible for taking corrective action and to management and the Board, where relevant, in a timely way. I confirm that the following ongoing monitoring systems are in place:

- key risks and related controls have been identified and processes have been put in place to monitor the operation of those key controls and report any identified deficiencies,
- reporting arrangements have been established at all levels where responsibility for financial management has been assigned, and
- there are regular reviews by senior management of periodic and annual performance and financial reports which indicate performance against budgets/forecasts.

Statement on Internal Control

- External Peer review of all research proposals by scientific experts to adjudicate whether the proposal is worthwhile from an educational and scientific research viewpoint and that it meets the criteria for funding,
- Monitoring and control of all research grants awarded, with annual grant payments based on budget projections provided for each award with option to defer grant payments if expenditure is below budget,
- Annual systems based internal audit reviews in respect of research grants awarded carried out at the Eligible Research Bodies,
- Setting targets to measure financial and other performance,
- Formal project management disciplines.

Procurement

I confirm that Science Foundation Ireland has procedures in place to ensure compliance with current procurement rules and guidelines and that during 2018 Science Foundation Ireland complied with those procedures.

Review of Effectiveness

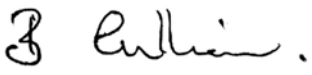
I confirm that Science Foundation Ireland has procedures to monitor the effectiveness of its risk management and control procedures. Science Foundation Ireland's monitoring and review of the effectiveness of the system of internal control is informed by the work of the internal and external auditors, the Audit and Risk Committee which oversees their work, and the senior management within Science Foundation Ireland responsible for the development and maintenance of the internal control framework.

I confirm that the Board conducted an annual review of the effectiveness of the internal controls for 2018 on 26th March 2019.

Internal Control Issues

No weaknesses in internal control were identified in relation to 2018 that require disclosure in the financial statements.

On behalf of the Board of Science Foundation Ireland:



Ms. Bernie Cullinan
Deputy Chairman

Date: 24th June 2019

Statement of Income and Expenditure and Retained Revenue Reserves

For the year ended 31 December 2018

	Notes	2018 €'000	2017 €'000
Income			
Oireachtas Grant	2	**191,582**	182,933
Other Income	3	**3,100**	2,679
Net Deferred Retirement Benefit Funding	5(c)	**1,666**	1,581
		196,348	187,193
Expenditure			
Administration, Operations and Promotion Expenses	4	**10,957**	10,198
Depreciation	6	**164**	146
Retirement Benefit Costs	5(a)	**1,461**	1,400
Grants Paid	9(a)	**183,729**	175,426
		196,311	187,170
Surplus for the year before appropriations		**37**	23
Transfer (to) / from the Capital Account	7	**97**	(27)
Surplus /(Deficit) for the Year after appropriations		**134**	(4)
Balance Brought Forward at 1 January 2018		**593**	597
Balance Carried Forward at 31 December 2018		**727**	593

The Statement of Cash Flows and Notes 1 to 16 form part of these Financial Statements.

On behalf of the Board of Science Foundation Ireland:

Ms Bernie Cullinan
Deputy Chairman

Date: 24th June 2019

Prof Mark Ferguson
Director General

Date: 24th June 2019

Statement of Comprehensive Income

For the year ended 31 December 2018

	Note	**2018 €'000**	2017 €'000
Surplus/(Deficit) after Appropriations		**134**	(4)
Experience losses on retirement benefit obligations		**(415)**	(828)
Change in assumptions underlying the present value of retirement benefit obligations		**810**	4
Total Actuarial Gain/(Loss) in the period	5(d)	**395**	(824)
Adjustment to Deferred retirement benefits funding		**(395)**	824
Total Comprehensive Income/(Loss) for the year		**134**	(4)

The Statement of Cash Flows and Notes 1 to 16 form part of these Financial Statements.

On behalf of the Board of Science Foundation Ireland:

Ms Bernie Cullinan
Deputy Chairman

Date: 24th June 2019

Prof Mark Ferguson
Director General

Date: 24th June 2019

Statement of Financial Position

For the year ended 31 December 2018

	Notes	2018 €'000	2017 €'000
Fixed Assets			
Property, Plant and Equipment	8	**165**	262
Current Assets			
Receivables	10	**292**	897
Cash and Cash Equivalents		**1,686**	402
		1,978	1,299
Current Liabilities (Amounts Falling due within one year)			
Payables	11	**(1,251)**	(706)
Net Current Assets		**727**	593
Long term Liabilities (Amounts falling due after one year)		-	-
Retirement benefits			
Retirement Benefit Liability	5(b)	**(18,789)**	(17,518)
Deferred Retirement Benefit Funding Asset	5(b)	**18,789**	17,518
		-	-
Total Net Assets		**892**	855
Representing:			
Capital Account	7	**165**	262
Accumulated Surplus at end of Year		**727**	593
		892	855

The Statement of Cash Flows and Notes 1 to 16 form part of these Financial Statements.

On behalf of the Board of Science Foundation Ireland:

Ms Bernie Cullinan
Deputy Chairman

Date: 24th June 2019

Prof Mark Ferguson
Director General

Date: 24th June 2019

Statement of Cash Flows

For the year ended 31 December 2018

	Notes	2018 €'000	2017 €'000
Net Cash Flows from Operating Activities			
Excess Income over Expenditure		**37**	23
Depreciation of Fixed Assets	6	**164**	146
Decrease / (increase) in Receivables	10	**605**	(264)
Increase in Payables	11	**545**	288
Net Cash Flow from Operating Activites		**1,351**	193
Cash Flows from Investing Activities			
Payments to acquire Property, Plant and Equipment	8	**(67)**	(173)
Net Cash Flows from Investing Activities		**(67)**	(173)
Cash Flows from Financing Activities		**-**	-
Increase in Cash and Cash Equivalents		**1,284**	20
Cash and Cash Equivalents at 1 January 2018		**402**	382
Cash and Cash Equivalents at 31 December 2018		**1,686**	402

Notes to the Financial Statements

For the year ended 31 December 2018

1 Accounting Policies

The basis of accounting and significant accounting policies adopted by Science Foundation Ireland are set out below. They have been applied consistently throughout the year and for the preceding year.

(a) General Information
Science Foundation Ireland was set up under the Industrial Development (Science Foundation Ireland) Act 2003, and by the Industrial Development (Science Foundation Ireland) (Amendment) Act, 2013, with its Head Office at Wilton Park House, Wilton Place, Dublin 2.

Science Foundation Ireland's primary objectives as set out under section 7 of the Industrial Development (Science Foundation Ireland) Act 2003, as amended by the Industrial Development (Science Foundation Ireland) (Amendment) Act, 2013, are as follows:

Science Foundation Ireland funds oriented basic and applied research in the areas of science, technology, engineering, and mathematics (STEM) which promotes and assists the development and competitiveness of industry, enterprise and employment in Ireland. The Foundation also promotes and supports the study of, education in and engagement with, STEM and promotes an awareness and understanding of the value of STEM to society and in particular to the growth of the economy.

Science Foundation Ireland is a Public Benefit Entity (PBE).

(b) Statement of Compliance
The financial statements of Science Foundation Ireland for the year ended 31 December 2018 have been prepared in accordance with FRS 102, the financial reporting standard applicable in the UK and Ireland issued by the Financial Reporting Council (FRC), as promulgated by Chartered Accountants Ireland.

(c) Basis of Preparation
The financial statements have been prepared under the historical cost convention, except for certain assets and liabilities that are measured at fair values as explained in the accounting policies below. The financial statements are in the form approved by the Minister for Business, Enterprise and Innovation with the consent of the Minister for Public Expenditure and Reform under the Industrial Development (Science Foundation Ireland) Act 2003, and by the Industrial Development (Science Foundation Ireland) (Amendment) Act, 2013. The financial statements reflect the requirements of the Code of Practice for the Governance of State Bodies 2016, which came into effect for accounting periods commencing on or after the 1st September, 2016.

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to Science Foundation Ireland's Financial Statements.

(d) Revenue
Revenue is recognised on an accruals basis except in the case of Oireachtas Grants which are recognised on a cash receipts basis.

(e) Property, Plant and Equipment
Property, Plant and Equipment are stated at cost less Accumulated Depreciation, adjusted for any provision for impairment. Depreciation is provided on all property, plant and equipment, at rates estimated to write off the cost less the estimated residual value of each asset on a straight-line basis over their estimated useful lives, as follows:

(i)	Computer Equipment and Computer Software	3 years
(ii)	Fixtures and Fittings	5 years

Residual value represents the estimated amount which would currently be obtained from disposal of an asset, after deducting estimated costs of disposal, if the asset were already of an age and in the condition expected at the end of its useful life.

(f) Capital Account
The Capital Account represents the unamortised funds utilised for the acquisition of Property, Plant and Equipment and is written down in line with the depreciation policy for these assets.

(g) Foreign Currency
Monetary assets and liabilities denominated in foreign currencies are translated at the exchange rates ruling at the end of the Financial Year. Revenues and costs are translated at the exchange rates ruling at the dates of the underlying transactions. The resultant surpluses or deficits are dealt with in the Statement of Income and Expenditure and Retained Revenue Reserves.

(h) Employee Benefits

Short term benefits
Short term benefits such as holiday pay are recognised as an expense in the year, and benefits that are accrued at year-end are included in the Payables figure in the Statement of Financial Position.

Retirement Benefits
The Industrial Development (Forfás Dissolution) Act 2014 (No 13 of 2014) which was passed into law on 16th July 2014 made provision for the dissolution of Forfás and provided for the establishment of Science Foundation Ireland as a separate legal employer. Under the legislation:

- Science Foundation Ireland is responsible for the establishment of its own pension scheme.

Notes to the Financial Statements

For the year ended 31 December 2018

- SFI Staff who were members of the Forfás Pension scheme join the new scheme on superannuation terms no less favourable than those they enjoyed under the Forfás scheme immediately before the date of transfer.
- SFI is responsible for the pensions of staff who retire after 16th July 2014.
- The Department of Jobs, Enterprise and Innovation assumes legal responsibility for the existing Forfás pension scheme and existing SFI pensioners and former staff with preserved benefits.
- Employee pension contributions are paid to the Exchequer.

Ministerial Regulations (SI No. 39 of 2019 refers), under section 52 of the Pensions Act 1990, as amended, which lists the schemes exempt from the funding standard requirements of Part IV of that Act, includes the Science Foundation Ireland Superannuation Scheme 2016 in the list of Schemes excluded from the provisions of Part IV of the Pensions Act 1990.

Science Foundation Ireland also operates the Single Public Services Pension Scheme ("Single Scheme"), which is a defined benefit scheme for pensionable public servants appointed on or after 1 January 2013. Single Scheme members' contributions are paid over to the Department of Public Expenditure and Reform (DPER).

Pension costs reflect pension benefits earned by employees, and are shown net of staff pension contributions which are remitted to the Department for Business, Enterprise and Innovation in respect of Science Foundation Ireland's retirement benefit scheme and to DPER in respect of the Single Scheme. An amount corresponding to the pension charge is recognised as income to the extent that it is recoverable.

Actuarial gains or losses arising on scheme liabilities are reflected in the Statement of Comprehensive Income, and a corresponding adjustment is recognised in the amount recoverable from the Department of Business, Enterprise and Innovation.

The Financial Statements reflect, at fair value, the assets and liabilities arising from Science Foundation Ireland's pension obligations and any related funding, and recognise the costs of providing pension benefits in the accounting periods in which they are earned by employees. Retirement benefit scheme liabilities are measured on an actuarial basis using the Projected Unit Credit method. Deferred pension funding represents the corresponding asset to be recovered in future periods from the Department of Business, Enterprise and Innovation.

(i) Operating Leases
Rental expenditure under operating leases is recognised in the Statement of Income and Expenditure and Retained Revenue Reserves as they fall due. Any lease incentives receivable are spread over the period of the Lease term.

(j) Research Grant Payments
Amounts paid to Research Bodies on foot of research grants awarded are charged to the Statement of Income and Expenditure and Retained Revenue Reserves in the year of payment.

(k) Critical Accounting Judgements and Estimates
The preparation of the financial statements requires management to make judgements, estimates and assumptions that affect the amounts reported for assets and liabilities as at the balance sheet date and the amounts reported for revenues and expenses during the year. However, the nature of estimation means that actual outcomes could differ from those estimates. The following judgements have had the most significant effect on amounts recognised in the financial statements.

Depreciation and Residual Values
The Directors have reviewed the asset lives and associated residual values of all fixed asset classes, and in particular, the useful economic life and residual values of fixtures and fittings, and have concluded that asset lives and residual values are appropriate.

Retirement Benefit Obligation
The assumptions underlying the actuarial valuations for which the amounts recognised in the financial statements are determined (including discount rates, rates of increase in future compensation levels, mortality rates and healthcare cost trend rates) are updated annually based on current economic conditions, and for any relevant changes to the terms and conditions of the pension and post-retirement plans.

The assumptions can be affected by:

(i) The discount rate, changes in the rate of return on high-quality corporate bonds

(ii) Future compensation levels, future labour market conditions

(iii) Changes in Demographics

Notes to the Financial Statements

For the year ended 31 December 2018

2 Oireachtas Grant

The Oireachtas Grants voted to Science Foundation Ireland from Vote 32, Business, Enterprise and Innovation, (under the Science and Technology Development Programme) as shown in the financial statements consist of:

		2018	2017
		€'000	€'000
Grants for Current Expenditure			
Pay*	Subhead B.4	**4,612**	4,048
Administration Expenses	Subhead B.4	**5,980**	5,785
Grants for Capital Expenditure			
Research Grants	Subhead B.4	**175,490**	173,100
Research Grants	Subhead B.5	**5,500**	-
		191,582	182,933

* The grant for pay expenditure is stated net of employee pension contributions of €223k (2017: €198k) remitted to the Exchequer. These include deductions of €77k in 2018 (2017: €55k) in respect of members of The Single Pension Scheme which were remitted to the Department of Public Expenditure and Reform.

Under Section 11 of the Industrial Development Act, 1993, as amended by Section 4(a) of the Industrial Development Act, 2009, the aggregate amount of grants made by the Minister to Enterprise Ireland, IDA and Science Foundation Ireland to enable them to discharge their Capital obligations and liabilities shall not exceed €7,000,000,000. At 31 December, 2018 the aggregate amount made available to the three Agencies was €6.5 billion (2017 €6.2 billion).

3 Other Income

	Notes	**2018**	2017
		€'000	€'000
Research Grant Funding:			
Contributions from other funding agencies to awards made by SFI			
Teagasc	3(a)	**532**	184
Marine Institute	3(b)	**704**	393
Environmental Protection Agency	3(c)	**117**	207
Geological Society of Ireland	3(d)	**296**	184
Health Research Board	3(e)	**57**	115
Sustainable Energy Authority of Ireland	3(f)	**-**	693
Irish Cancer Society	3(g)	**184**	345
Department of Agriculture, Food and the Marine	3(h)	**820**	-
Sub-Total		**2,710**	2,121
Contributions from other funding sources			
Contribution towards ERA NET funding calls	3(i)		
ERA-HDHL		**129**	267
ERA CoSysMed		**-**	107
M-ERANET2		**6**	85
EU NanoMed III		**-**	7
QuantERA		**29**	2
Income from EU in respect of SFI's participation in Horizon 2020 awards where SFI is a partner	3(J)		
ACT		**24**	-
Inroad		**9**	10

Notes to the Financial Statements

For the year ended 31 December 2018

3 Other Income (continued)

	Notes	2018 €'000	2017 €'000
Repayment to EU in respect of final settlement of EU Marie-Curie fund which was a Contribution towards SIRG awards made in 2012	3(k)	-	(120)
Contribution from Pfizer Corporation towards awards made SFI under the SFI-Pfizer Biotherapeutics Innovation Award Programme 2014		**30**	78
European Space Agency	3(l)	**163**	122
Total		**3,100**	2,679

(a) Contribution from Teagasc for co-funding of multi-annual awards made by SFI in 2014 and 2017.

(b) Contributions from the Marine Institute for co-funding of multi-annual awards made by SFI in 2016, 2017 and 2018.

(c) Contributions from the Environmental Protection Agency for co-funding of multi-annual awards made by SFI in 2016 and 2017.

(d) Contributions from the Geological Society of Ireland for Co-Funding of multi-annual awards made in 2016, 2017 and 2018.

(e) Contribution from the Health Research Board in respect of one US/Ireland R&D Partnership award.

(f) Contribution from the Sustainable Energy Authority of Ireland for two Career Development Awards made in 2017.

(g) Contribution from the Irish Cancer Society towards the ICS-SFI Collaborative Cancer Research Centre (CCRC) Programme awarded 2015.

(h) Contribution from the Department of Agriculture, Food and the Marine for SFI Research Centre awarded in 2018.

(i) SFI participates in a number of different ERA Net funding calls in conjunction with the other European funding agencies and the EU. As part of its participation in these activities, SFI receives funding towards both the capital cost of awards made and towards the programme management costs of running these activities.

(j) SFI is a partner in two EU research awards made under the European Union's Horizon 2020 research and innovation programme; a) ACT (Communities of PrACTice for Accelerating Gender Equality and Institutional Change in Research and Innovation across Europe) and b) InRoad (towards better synchronisation of priority settings and evaluation mechanisms for research infrastructures beyond national relevance).

(k) A final refund made to the EU in 2017 on completion of the EU Marie Curie scheme which co-funded 12 Starting Investigator Research Grant awards made by SFI in 2012. This refund arose as 3 of the initial grant awards terminated early, while full payment had been received by the EU for all 12 awards.

(l) Funding arising from an annual contract between Science Foundation Ireland and the European Space Agency (ESA) for the implementation of a European Space Education Resource Office (ESERO) in Ireland.

4 Administration, Operations and Promotion Expenses

	Notes	2018 €'000	2017 €'000
Remuneration and other pay costs	4(a)	**5,166**	4,506
Programme Management		**687**	1,228
Accommodation		**971**	850
Professional and Support Services	4(i)	**536**	360
Accounting and Internal Audit Services		**337**	257
Marketing and Supports	4(ii)	**1,593**	1,695
Specialist and Education Services		**291**	168
IT Support and Infrastructure		**769**	650
HR Management		**108**	86
Administration Expenses	4(iii)	**468**	371
Statutory Audit Fee	4iv)	**31**	27
Total		**10,957**	10,198

Notes to the Financial Statements

For the year ended 31 December 2018

4 Administration, Operations and Promotion Expenses (continued)

(i) Included in Professional and Support services is legal fees of €150k (2017: €172k) which are general in nature, tax, financial advisory fees of €14k (2017: €12k), design and project management fees for new premises of €178k (2017: nil), SFI Discover Programme Evaluation review €37k (2017: nil), Research Integrity advice €22k (2017: nil) and other consultancy fees of €30k (2017: €90k). There were no legal cases or settlements made in 2018. SFI defines consultancy fees as specific finite tasks involving expert skills or capabilities that would not normally reside within SFI.

(ii) Included in Marketing and Supports is public engagement consultant fees of €115k (2017: €120k)

(iii) Included in the administration expenses is Staff Hospitality related expenditure of €1k (2017: €3k). There was no client related hospitality expenses in the year.

(iv) Included in the statutory audit fee is the 2018 audit fee of €29k and an amount of €2k to address the under-accrual for the 2017 audit fee.

(a) Remuneration and other pay costs

	Notes	**2018**	2017
		€'000	€'000
Staff Salaries		**4,266**	3,705
Employers' contribution to Social Welfare		**403**	348
Increase in holiday pay accrual		**43**	13
Staff Training and Development		**104**	111
Staff travel and subsistence costs**		**231**	181
Board Members' Remuneration and Expenses	4(b)	**119**	147
Total		**5,166**	4,506
Actual employed as at year end		**59**	58

The total key management personnel compensation for 2018 was €946k (2017: €642k). This includes the compensation for the Board members, the Director General and five senior executives who reported to him (including maternity leave cover for one senior executive). Science Foundation Ireland deducted pension levies from staff of €239k (2017: €198k) which were paid over to the Department for Enterprise, Business and Innovation. There were no overtime payments, other allowances or termination payments made in either year.

**Of the total staff travel and subsistence costs of €231k (2017: €181k) €112k (2017: €96k) relates to international travel and subsistence and €119k (2017: €85k) relates to national travel and subsistence.

Employee benefits breakdown

Range of Key Management Personnel Remuneration			**Number of Employees**	
			2018	2017
From		To		
€60,000	-	€69,999	**10**	12
€70,000	-	€79,999	**4**	10
€80,000	-	€89,999	**-**	3
€90,000	-	€99,999	**5**	5
€100,000	-	€109,999	**6**	3
€120,000	-	€129,999	**1**	-
€140,000	-	€149,999	**-**	2
€170,000	-	€179,999	**1**	1
€150,000	-	€159,999	**1**	-
€170,000	-	€179,999	**-**	1
€180,000	-	€189,999	**1**	-

Note: For the purposes of this disclosure, short-term employee benefits in relation to services rendered during the reporting period include salary, overtime allowances and other payments made on behalf of the employee, but exclude employer's PRSI.

Notes to the Financial Statements

For the year ended 31 December 2018

4 Administration, Operations and Promotion Expenses (continued)

(b) Board Members' Emoluments

	Board Fees 2018 €	Vouched Expenses 2018 €	Meetings attended 2018	Board Fees 2017 €	Vouched Expenses 2017 €	Meetings attended 2017
Board Member						
Ann Riordan	19,031	439	5 out of 5	20,520	319	6 out of 6
Bernie Cullinan	11,970	215	5 out of 6	11,970	-	6 out of 6
Prof Sir Tom Blundell	11,970	1,399	5 out of 6	11,970	2,326	6 out of 6
Barry O Sullivan	-	311	5 out of 6	-	29,163	6 out of 6
Prof Mark Ferguson	-	-	6 out of 6	-	-	6 out of 6
Rita Colwell	-	-	-	11,970	-	3 out of 6
Geraldine Ruane	-	-	2 out of 3	-	143	4 out of 6
Dr Pat Duane	11,970	-	6 out of 6	11,970	803	6 out of 6
Dermot Mulligan	-	-	6 out of 6	-	-	5 out of 6
Aidan Donnelly	11,970	150	6 out of 6	11,970	-	6 out of 6
Mary Doyle	-	114	6 out of 6	-	-	6 out of 6
Prof Liam Madden	-	30,473	5 out of 6	-	23,508	5 out of 6
Maire Geoghegan Quinn	8,645	800	4 out of 5	-	-	-
Grainne McAleese	2,220	-	1 out of 1	-	-	-
General Board Expenses	-	6,935	n/a	-	10,511	n/a
Total	**77,776**	**40,836**		**80,370**	**66,773**	

Board members are paid fees as determined by the Minister for Business, Enterprise and Innovation with the consent of the Minister for Public Expenditure and Reform. Certain Board members are excluded from receiving fees from SFI under the "One Person One Salary" remuneration arrangements whereby public servants cannot receive Board fees in addition to a salary. These are Prof Mark Ferguson, Ms. Mary Doyle, Ms. Geraldine Ruane and Mr. Dermot Mulligan. In addition, two Board members, Prof Liam Madden and Mr. Barry O'Sullivan, have waived their Board fees.

The following Board members are based overseas: Prof. Sir Tom Blundell is UK based while Dr. Rita Colwell, Mr. Barry O'Sullivan and Prof. Liam Madden are US Based. Dr. Rita Colwell retired from the Board on 31st December 2017.

The Director General's remuneration package for 2018 was as follows: annual basic salary €186k (2017: €179k) and standard public sector pension arrangements apply. No performance related bonus was applicable.

Prof. Ferguson is also Chief Scientific Advisor (CSA) to the Government, a role formerly under the administration of Forfás. There is no remuneration for this role and all administration costs for the office are absorbed by SFI. Total expenses for the year incurred by the Director General in the discharge of both roles amounted to €62k (2017: €30k) of which €4k (2017: €4k) related to CSA activities.

Of the total Board vouched expenses costs of €41k (2017: €67k), €32k (2017: €55k) relates to international travel and subsistence and €9k (2017: €12k) relates to national travel and subsistence. Board expenses includes travel and subsistence of €2,000 paid directly to Board members in 2018 (2017: €3,000). The balance of €39,000 (2017: €64,000) relates to expenditure paid by Science Foundation Ireland on behalf of the Board members.

General Board expenses for 2018 include accommodation and meal costs for Board meetings held off site. During 2018 six Board meetings were held. The following appointments to and resignations from the Board took place in 2018:

1. Ms Maire Geoghan-Quinn was appointed on 11th April, 2018
2. Mr Barry O'Sullivan retired and was reappointed on 25th July, 2018
3. Ms Geraldine Ruane retired on 24th July, 2018
4. Ms Grainne McAleese was appointed on 25th October 2018
5. Ms Ann Riordan retired on 4th December 2018.

Notes to the Financial Statements

For the year ended 31 December 2018

5 Retirement Benefit Costs

(a) Analysis of total retirement benefit costs charged to the Statement of Income and Expenditure and Retained Revenue Reserves

	2018	2017
	€'000	€'000
Current Service Cost	**1,325**	1,296
Interest on Retirement Benefit Scheme Liabilities	**359**	302
Employee Contributions	**(223)**	(198)
	1,461	1,400

(b) Movement in net Retirement benefit obligation during the financial year

	2018	2017
	€'000	€'000
Net retirement benefit obligation at 1 January	**17,518**	15,113
Current service Costs	**1,325**	1,296
Interest Costs	**359**	302
Payments to Pensioners	**(18)**	(17)
Actuarial (Gain)/ Loss	**(395)**	824
Net retirement benefit obligation at 31 December	**18,789**	17,518

The Board recognises these amounts as an asset corresponding to the unfunded deferred liability for retirement benefits on the basis of the set of assumptions described above and a number of past events. These events include the statutory basis for the establishment of the retirement benefit schemes, and the policy and practice currently in place in relation to funding public service pensions including contributions by employees and the annual estimates process. The Board has no evidence that this funding policy will not continue to meet such sums in accordance with current practice.

The net deferred funding for retirement benefits recognised in the Statement of Income and Expenditure and Retained Revenue Reserves is as follows:

(c) Deferred Funding Retirement Benefits

	2018	2017
	€'000	€'000
Funding recoverable in respect of Current Year Retirement benefit costs	**1,684**	1,598
Less State Grant applied to pay retirement benefits.	**(18)**	(17)
	1,666	1,581

Notes to the Financial Statements

For the year ended 31 December 2018

5 Retirement Benefit Costs (continued)

(d) General Description of the scheme

Science Foundation Ireland has responsibility for the pension costs of:

1. staff with effect from 16th July 2014, under the Industrial Development (Forfás Dissolution) Act 2014. Staff who are/were members of the Forfás Pension Scheme joined the new Science Foundation Ireland pension scheme on superannuation terms no less favourable than those they enjoyed under the Forfás scheme immediately before the date of transfer from Forfás to SFI.
2. staff who are members of the Single Public Service pension scheme.

Both schemes are defined benefit pension schemes and are fully funded annually on a pay as you go basis from monies provided by the Department of Business, Enterprise and Innovation.

The schemes are defined benefit final salary schemes with retirement benefits linked to final salary and length of service. The valuation used for FRS 102 disclosures are based on an actuarial review of the schemes for the financial year ending 31 December 2018 carried out by a qualified independent actuary, taking account of the requirements of the FRS in order to assess the schemes liabilities at 31 December 2018.

The principal actuarial assumptions were as follows:

Liabilities shown in the Financial Accounts are computed using the Projected Unit Credit method.

	2018	2017
Financial Assumptions		
Discount Rate	**2.00% p.a**	**2.05% p.a.**
Future Salary Increases	**3.30% p.a**	**3.50% p.a.**
Future State Pension increases	**3.30% p.a**	**3.50% p.a.**
Future Pension Increases	**2.80% p.a**	**3.00% p.a.**
Future inflation	**1.80% p.a**	**2.00% p.a.**
Revaluation in deferment	**2.80% p.a**	**3.00% p.a.**

** discount rate reflects a duration of liabilities of approximately 31 years in 2018 (31 years in 2017)*

Demographic Assumptions		
Mortality pre-Retirement	**62% PNMLOO (Males)**	**62% PNMLOO (Males)**
	70% PNFLOO (Females)	**70% PNFLOO (Females)**
Mortality post-Retirement	**58% ILT15 (Males)**	**58% ILT15 (Males)**
	62% ILT15 (Females)	**62% ILT15 (Females)**
Retirement age		
New entrants	**Age 65**	**Age 65**
Other members	**Age 62**	**Age 62**

The Mortality basis explicitly allows for improvements in life expectancy over time, so that life expectancy at retirement will depend on the year in which a member attains retirement age (age 65). The table below shows the life expectancy for members attaining age 65 in 2018 and 2038.

Year of attaining age 65	**2018**	2038
Life expectancy - Male	**21.4**	23.8
Life expectancy - Female	**23.9**	25.9

Notes to the Financial Statements

For the year ended 31 December 2018

5 Retirement Benefit Costs (continued)

Prior Year Comparatives

Year ending December 31st	**2018** €'000	2017 €'000	2016 €'000	2015 €'000	2014 €'000
Closing pension liability	**18,789**	17,518	15,113	10,076	7,873
Experience (loss)/gain arising on the plan Liabilities	**(415)**	(828)	161	(469)	164
% Liabilities	**-2.2%**	-4.7%	1.1%	-4.6%	2.1%
Total Gain / (Loss) recognised in Statement of Comprehensive Income	**395**	(824)	(3,766)	(1,058)	38
% Liabilities	**2.1%**	-4.7%	-24.9%	-10.5%	0.5%

6 Depreciation

	Note	**2018 €'000**	2017 €'000
Depreciation of property, plant and equipment	8	**164**	146
		164	146

7 Capital Account

	2018 €'000	2017 €'000
Opening Balance as at 1 January	**262**	235
Transfer from Statement of Income and Expenditure and Retained Revenue Reserves		
- To fund Fixed Asset acquisitions	**67**	173
- Amortised in line with asset depreciation	**(164)**	(146)
Net Movement	**(97)**	27
Closing balance as at 31 December	**165**	262

Notes to the Financial Statements

For the year ended 31 December 2018

8 Property, Plant and Equipment

	Computer Equipment €'000	Computer Software €'000	Fixtures and Fittings €'000	**Total €'000**
Cost				
At 1 January 2018	830	768	165	**1,763**
Additions	66	-	1	**67**
At 31 December 2018	896	768	166	**1,830**
Depreciation				
At 1 January 2018	682	701	118	**1,501**
Charge for Year	94	50	20	**164**
At 31 December 2018	776	751	138	**1,665**
Net Book Amount				
At 1 January 2018	148	67	47	**262**
Net Movement for Year	(28)	(50)	(19)	**(97)**
At 31 December 2018	**120**	**17**	**28**	**165**

There were no disposals in 2018.

9 Grants

		2018 €'000	2017 €'000
(a)	**Analysis of Grants Paid**		
	Priority Area A - Future Networks and Communications	**12,279**	17,960
	Priority Area B - Data Analytics, Management, Security and Privacy	**10,898**	14,177
	Priority Area C - Digital Platforms, Content and Applications	**11,032**	7,994
	Priority Area D - Connected Health and Independent Living	**1,643**	587
	Priority Area E - Medical Devices	**11,607**	15,784
	Priority Area F - Diagnostics	**18,863**	14,541
	Priority Area G - Therapeutics: Synthesis, Formulation, Processing and Drug Delivery	**16,084**	19,646
	Priority Area H - Food for Health	**6,721**	9,399
	Priority Area I - Sustainable Food Production and Processing	**11,877**	6,400
	Priority Area J - Marine Renewable Energy	**5,128**	4,917
	Priority Area K - Smart Grids and Smart Cities	**5,199**	3,494
	Priority Area L - Manufacturing Competitiveness	**5,386**	7,246
	Priority Area M - Processing Technologies and Novel Materials	**37,059**	29,506
	Priority Area N - Innovation in Services and Business Processes	**599**	576
	Basic Biomedical Science (BBS)	**7,139**	8,048
	Other	**22,215**	15,151
	Total	**183,729**	175,426

The analysis of grants paid reflects the results of the National Research Prioritisation Strategy adopted by Government following input from the research community, the enterprise sector and research funding departments and agencies.

Notes to the Financial Statements

For the year ended 31 December 2018

9 Grants (continued)

(b) Grant Commitments

	2018 €'000	2017 €'000
Outstanding Grant Commitments as at 1 January	**458,006**	427,595
Grants Approved during the year	**132,077**	212,674
De-commitments during the year	**(8,167)**	(8,958)
Grant Payments made in the year - Gross	**(183,729)**	(175,426)
Amounts received other funding agencies for Co-Funding of SFI awards		
Teagasc	**532**	184
Irish Cancer Society	**184**	345
Environmental Protection Agency	**117**	207
Marine Institute	**704**	393
Geological Society of Ireland	**296**	184
Sustainable Energy Authority of Ireland	**-**	693
Health Research Board	**57**	115
Department of Agriculture, Food and the Marine	**820**	-
Outstanding Commitments as at 31 December	**400,897**	458,006

10 Receivables

	2018 €'000	2017 €'000
Debtors	**13**	2
Prepayments	**279**	895
Total	**292**	897

11 Payables

	2018 €'000	2017 €'000
General Creditors	**231**	122
Deferred Income*	**289**	302
Accruals	**661**	263
Interagency Balance - IDA**	**70**	19
Total	**1,251**	706

* *Deferred income represents the grants and programme management monies received from the EU but not expended in respect of SFI's participation in ERA-Net Co-funded calls (made in conjunction with other EU funding agencies and the EU). These amounts are credited to Other Income over the period to which the related expenditure is incurred.

**Interagency Balance relates to the balance owed by Science Foundation Ireland to IDA at 31 December 2018, being the difference between the amount of money paid to IDA by Science Foundation Ireland and the actual money spent by IDA on behalf of Science Foundation Ireland.

Notes to the Financial Statements

For the year ended 31 December 2018

12 Commitments under Operating Leases

Science Foundation Ireland is a tenant of IDA (formerly under Forfás tenancy) in Wilton Park House and currently has no commitments under operating leases on the building, but pays rent to IDA as a contribution to the lease costs incurred by IDA.

Science Foundation Ireland signed an "Agreement for Lease" with the IDA in May 2018 for the new premises Three Park Place. The planned date for moving to Three Park Place is no later than 31st October 2019. The lease is for 25 years (subject to a break clause after 10 years) with annual rent payments of €1,683,621 commencing in May 2019, following a one year rent free period.

The following are future minimum lease payments over the period of the lease:

	2018	2017
	€'000	€'000
Within 1 year	**1,122**	-
During 2-5 years	**6,734**	-
Over 5 years	**32,551**	-

13 Taxation

Section 227 of the Taxes Consolidation Act, 1997, provides an exemption from tax on the income of non-commercial state bodies except where interest is subject to tax at source (e.g. DIRT). The net amount of such income is credited to the Statement of Income and Expenditure and Retained Revenue Reserves.

SFI is liable to employer taxes in Ireland and complies with related withholding, reporting and payment obligations.

14 Related Party Disclosures

Science Foundation Ireland adopts procedures in accordance with the guidelines issued by the Department of Public Expenditure and Reform covering the personal interests of Board members and staff. In the normal course of business, Science Foundation Ireland may approve grants or enter into other contractual arrangements with entities in which Science Foundation Ireland Board members and staff are employed or are otherwise interested.

In cases of potential conflict of interest, Board members and staff do not receive Board documentation or otherwise participate in or attend discussions regarding these transactions. A register is maintained and available on request of all such instances.

15 Contingencies and Legal Actions

There are no contingencies or legal actions which require specific provision in the Financial Statements.

16 Approval of Financial Statements

The Financial Statements were approved by the Board of Science Foundation Ireland on 24th June 2019.

Science Foundation Ireland Portfolio 2018

Full details of all awards and grant commitments made by programme are outlined from page 68.
Calculated from outstanding commitments as of 31/12/2018 and in-year spend for 2018.

Award Portfolio and New Awards Approved

Science Foundation Ireland funds early and mid-stage researchers and established highly-esteemed research leaders, through individual and collaborative awards, across a diverse and balanced portfolio of programmes. In 2018, 323 new awards were approved across 29 programmes, with a value of €132 million. Total payments to research bodies/institutions were €181 million.

The following is a summary of award programme decisions in 2018:

€6.2 million was invested via four awards under the President of Ireland Future Research Leaders Programme.

19 outstanding senior researchers were supported by an investment of €10.2 million through the SFI Starting Investigator Research Grant (SIRG) Programme.

Three awards were made under the SFI Research Professor Programme to attract world-leading researchers to Ireland, with an investment of €17.2 million.

Science Foundation Ireland made an investment of **€1.9 million** across ERC Support Programme (six awards) and ERC Development Programme (one award) in 2018.

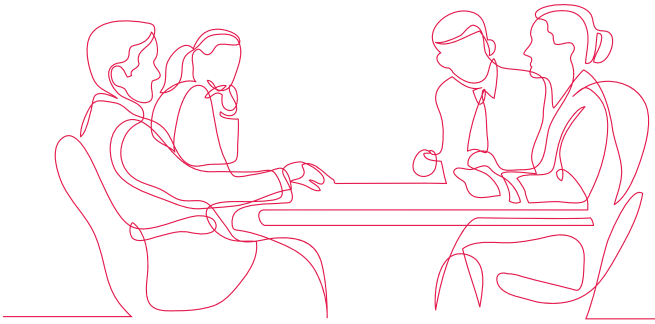
The SFI Research Infrastructure Programme funded six research equipment and facilities awards valued at €24.8 million to support key research infrastructure projects.

38 awards were funded under the SFI Technology Innovation Development Award Programme (TIDA) with an investment of €4.5 million.

12 awards were made under the SFI Future Innovator Prize Call 2018 with an investment of €3.1 million.

21 awards valued at €1.8 million were approved under the SFI Industry Fellowship Programme aimed at providing researchers with first hand experience of working in an industry-research environment.

41 awards were made through the SFI Discover Annual Programme totalling €3.59 million to support the education and engagement of the public and young people in STEM.



Grant Commitments and Payments Analysis 2018

2018 Payments by Institution	€000s
Trinity College Dublin	€43,249
University College Dublin	€29,406
Tyndall National Institute	€24,761
University College Cork	€20,394
National University of Ireland, Galway	€19,925
University of Limerick	€15,920
Dublin City University	€5,359
Teagasc	€4,802
Royal College of Surgeons in Ireland	€4,683
National University of Ireland, Maynooth	€4,251
The Royal Society	€1,861
Marine Institute	€1,427
Health Research Board	€846
Dublin Institute of Technology	€789
Dublin Institute for Advanced Studies	€708
The National Institute for Bioprocessing Research and Training	€573
RTÉ	€515
The Festival of Curiosity Ltd.	€335
Cork Institute of Technology	€216
Waterford Institute of Technology	€190
Institute of Technology Carlow	€169
Cork City Council t/a Lifetime Lab	€150
National Youth Council of Ireland	€145
Scifest Ltd.	€135
Junior Achievement Ireland	€132
Cosmos Education T/A - Blackrock Castle Observatory	€126
Irish Research Council	€114
Institute of Technology Sligo	€109
Irish Universities Association	€90
CoderDojo Ireland Foundation	€80
The Institution of Engineers of Ireland	€70
Institute of Technology Tallaght	€70
Athlone Institute of Technology	€69
British Council Ireland	€65
Royal Society of Chemistry	€47
FabLab Foundation Ireland	€42
Brigit's Garden CLG	€39
The National Concert Hall	€39
Gallomanor Communications Ltd.	€38
Feilte Dhuibh Linne Teoranta t/a St Patrick's Day Festival	€37
Glenosheen Ltd.	€35

2018 Payments by Institution	€000s
Mary Immaculate College	€34
Wexford County Council	€32
Whipsmart Media Ltd.	€32
Centre for Climate Change T/A Cool Planet Experience	€32
Monaghan County Council	€32
Atlantic Corridor	€27
ECDL Ireland Ltd T/A ICS Skills	€25
Learning Hub Limerick Ltd.	€25
Mayo County Council t/a Mayo Science and Technology Festival	€24
STEPS, Engineers Ireland	€21
Galway Science and Technology Forum	€20
Limerick Institute of Technology	€19
DunLaoghaire Rathdown County Council	€18
The Rediscovery Centre Ltd.	€8
Dublinia	€7
Gaiety School of Acting	€7
Imaginosity, Dublin Children's Museum	€7
Louth County Council	€7
Sirius Science Ltd.	€7
The Children's Cultural Centre Ltd. t/a The Ark	€7
Learn it Educational Solutions Ltd.	€6
Royal Dublin Society RDS	€5
The Cork Electronic Industries Association	€5
Calmast, Waterford Institute of Technology	€5
Atlantic Corridor t/a Midlands Midlands Science	€4
Monaghan County Council - Library Service	€4
Institute of Technology Tralee	€3
LarkinLennox Ltd T/a Foodoppi	€1
Rokit Entertainment Ltd.	€1
The Ark	€1
Trinity College (Science Gallery)	€1
Dublinia Heritage Centre	€1
Kildare Education Centre	€0
National College of Ireland	€0
Environmental Protection Agency*	-€118
Irish Cancer Society*	-€183
Geological Survey of Ireland*	-€297
Department of Agriculture, Food and the Marine*	-€820
GRAND TOTAL	**€181,020**

* Represents the co-funding by these funding agencies of awards made by SFI.

2018 Payments by Programme	€000s
SFI Research Centres	€55,563
Investigator Programme	€31,042
Research Infrastructure	€24,829
Research Professorship	€10,688
Spokes Fixed Programme	€7,664
Starting Investigator Research Grant	€5,489
Career Development Award	€5,339
Strategic Partnership Programme	€5,285
Research Centres PhD Scheme	€4,377
Technological Innovation Development Award (TIDA)	€4,240
SFI Discover Awards	€4,314
Future Innovator Prize	€3,161
President of Ireland Future Research Leaders	€2,675
BBSRC-SFI Joint Funding of Research	€1,938
EU Co-Funding Initiatives	€1,897
US-Ireland R&D Partnership	€2,940
Industry Fellowship	€1,475
SFI ERC Support Programme	€1,436
RS-SFI University Research Fellow	€1,260
ERC Development Programme	€1,258
Investigator Programme - PhD programme	€916
Conference and Workshop	€613
SFI-HRB-Wellcome Trust Biomedical Research Partnership	€542
SFI-Pfizer Biotherapeutics Innovation Award Programme 2014	€532
President of Ireland Young Researcher Award (PIYRA)	€519
Fellowship	€495
RS-SFI University Research Fellow Enhancement Award	€429
ICS-SFI Collaborative Cancer Research Centre (CCRC) Programme 2014	€302
SFI-NSFC Partnership	€250
Translational Research Awards (TRA)	€245
SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	€207
RS-SFI University Research Fellow Start up Grant	€172
Maternity Allowance	€164
Postgraduate Scholarship Scheme	€95
SFI/IUA Partnership	€90
Strategic Research Centres	€37
NSF/SFI Graduate Research opportunities Worldwide (GROW) Programme	€29
Research projects Grant scheme Strand 6	€18
US-Irl R&D Partnership Planning Programme	€2
Incoming Short Term Travel Fellowship	-€1
Research Frontiers Pogramme (RFP)	-€8
Inv Catalyst Award	-€469
Centres for Science Engineering and Technology (CSET)	-€1,029
GRAND TOTAL	**€181,020**

2018 Grant Commitments by Programme	€000s
Research Infrastructure	€24,862
SFI Research Centres	€20,629
Research Professorship	€17,232
Research Centres PhD Scheme	€13,739
Starting Investigator Research Grant	€10,258
Investigator Programme - PhD programme	€9,242
President of Ireland Future Research Leaders	€6,228
Technological Innovation Development Award (TIDA)	€4,541
SFI Future Innovator Prize 2018 Call	€3,161
US-Ireland R&D Partnership	€2,927
Spokes Rolling Programme	€2,466
EU Co-Funding Initiatives	€2,103
Industry Fellowship	€1,854
Strategic Partnership Programme	€1,638
SFI ERC Support Programme	€1,407
RS-SFI University Research Fellow Enhancement Award	€1,304
SFI Discover Programme Call	€3,594
SFI Fellowship	€650
Conference and Workshop	€624
SFI/RTÉ Joint Initiative	€585
SFI ERC Development Programme	€561
RS-SFI University Research Fellow Research Grant	€524
SFI Secondment model	€481
SFI Discover Science Week 2018	€472
RS-SFI University Start Up Grant	€383
SFI Maternity Allowance	€352
SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	€229
NSF/SFI Graduate Research opportunities Worldwide (GROW) Programme	€29
US-Irl R&D Partnership Planning Programme	€2
GRAND TOTAL	**€132,077**

2018 Number of Awards by Programme	
Conference and Workshop	64
SFI Discover	59
Technological Innovation Development Award (TIDA)	38
Industry Fellowship	23
Starting Investigator Research Grant	19
SFI Maternity Allowance	14
Research Centres PhD Scheme	12
SFI Future Innovator Prize 2018 Call	12
Discover Regional/National Impact	10
EU Co-Funding Initiatives	9
RS-SFI University Research Fellow Enhancement Award	9
Investigator Programme - PhD programme	7
SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	7
Research Infrastructure	6
SFI ERC Support Programme	6
US-Ireland R&D Partnership	5
President of Ireland Future Research Leaders	4
Research Professorship	3
SFI Fellowship	3
NSF/SFI Graduate Research opportunities Worldwide (GROW) Programme	2
RS-SFI University Start Up Grant	2
SFI Secondment model	2
RS-SFI University Research Fellow Research Grant	1
SFI ERC Development Programme	1
SFI Research Centres	1
Spokes Rolling Programme	1
Strategic Partnership Programme	1
US-Ireland R&D Partnership: Centre-to-Centre mechanism	1
US-Irl R&D Partnership Planning Programme	1
GRAND TOTAL	**323**

2018 Number Awards by Institution	
Trinity College Dublin	68
University College Dublin	58
National University of Ireland, Galway	37
University College Cork	24
Dublin City University	18
University of Limerick	15
Royal College of Surgeons in Ireland	14
National University of Ireland, Maynooth	12
The Royal Society	12
Tyndall National Institute	12
Dublin Institute of Technology	4
Teagasc	4
British Council Ireland	3
Cork Institute of Technology	3
Centre for Climate Change T/A Cool Planet Experience	2
Institute of Technology Carlow	2
Institute of Technology Sligo	2
The Festival of Curiosity Ltd	2
The National Institute for Bioprocessing Research and Training	2
Atlantic Corridor	1
Brigit's Garden CLG	1
Cork City Council t/a Lifetime Lab	1
Cosmos Education T/A - Blackrock Castle Observatory	1
Dublinia	1
DunLaoghaire Rathdown County Council	1
ECDL Ireland Ltd T/A ICS Skills	1
Feilte Dhuibh Linne Teoranta t/a St Patrick's Day Festival	1
Gaiety School of Acting	1
Gallomanor Communications Ltd.	1
Galway Science and Technology Forum	1
Glenosheen Ltd.	1
Imaginosity, Dublin Children's Museum	1
Learning Hub Limerick Ltd	1
Limerick Institute of Technology	1
Louth County Council	1
Marine Institute	1
Mary Immaculate College	1
Mayo County Council t/a Mayo Science and Technology Festival	1
Monaghan County Council	1
National Youth Council of Ireland	1
RTE	1
Sirius Science Ltd	1
The Children's Cultural Centre Ltd. t/a The Ark	1
The National Concert Hall	1
The Rediscovery Centre Ltd	1
Waterford Institute of Technology	1
Wexford County Council	1
Whipsmart Media Ltd	1
GRAND TOTAL	**323**

List of SFI awards made in 2018

SFI Research Scientist	Programmes	Research Title	Research Body	Total value of award including overheads
Michael Morris	Brussels Conference Event Programme	Additive Manufacturing - Ireland's Ecosystem for Delivering Innovation	Trinity College Dublin	€8,120.00
Adegboyega Ojo	Conference and Workshop	11th International Conference on Theory and Practice of Electronic Governance (ICEGOV2018) - Transforming Digital Government for Sustainable and Resilient Societies	National University of Ireland, Galway	€19,300.00
Aidan Quinn	Conference and Workshop	18th International Conference on Nanotechnology (IEEE NANO 2018) Ireland	Tyndall National Institute	€29,350.00
Alison Reynolds	Conference and Workshop	New Frontiers in Ocular Therapeutics 2: Moving Towards the Clinic	University College Dublin	€5,442.00
Anding Zhu	Conference and Workshop	IEEE MTT-S IMWS-5G 2018	University College Dublin	€4,000.00
Anil Kokaram	Conference and Workshop	28th International Conference on Field Programmable Logic and Applications 2018	Trinity College Dublin	€18,100.00
Blánaid White	Conference and Workshop	Eurachem 2018: Data - Quality, Analysis and Integrity	Dublin City University	€6,500.00
Brian Davis	Conference and Workshop	6th Workshop on Controlled Natural Language (CNL 2018)	Maynooth University	€2,250.00
Bruce Osborne	Conference and Workshop	10th International Conference on Biological Invasions: New Directions in Invasion Biology	University College Dublin	€6,700.00
Chandralal Hewage	Conference and Workshop	XXVIII International Conference on Magnetic Resonance in Biological Systems - ICMRBS 2018	University College Dublin	€20,000.00
Charles Patterson	Conference and Workshop	ECAM Extended Software Development Workshop: Scaling Electronic Structure Applications	Trinity College Dublin	€5,000.00
David Finn	Conference and Workshop	18th Annual Scientific Meeting of the Irish Pain Society	National University of Ireland, Galway	€3,550.00
David Lewis	Conference and Workshop	Ethics in Research and Innovation: Methods and Best Practice	Trinity College Dublin	€1,400.00
Declan Jordan	Conference and Workshop	European Regional Science Association 58th Annual Congress	University College Cork	€2,120.00
Deirdre Hennessy	Conference and Workshop	27th European Grassland Federation General Meeting: Sustainable Meat and Milk Production from Grasslands	Teagasc	€20,000.00
Denis Shields	Conference and Workshop	9th Annual Molecular and Computational Biology PhD Symposium	University College Dublin	€4,250.00
Derek Richards	Conference and Workshop	5th Conference of the European Society for Research on Internet Interventions (ESRII)	Trinity College Dublin	€5,000.00
Dermot Brabazon	Conference and Workshop	21st International Conference on Advances in Materials and Processing Technologies – AMPT 2018	Dublin City University	€16,000.00
Dimitrios Zeugolis	Conference and Workshop	26th Annual Meeting of the European Orthopaedic Research Society (EORS)	National University of Ireland, Galway	€24,200.00
Ed Lavelle	Conference and Workshop	Irish Society for Immunology 2018 Meeting	Trinity College Dublin	€6,440.00
Edin Omerdic	Conference and Workshop	EMRA 2018 Workshop on EU-Funded Marine Robotics and Applications	University of Limerick	€1,300.00
Eilis Dowd	Conference and Workshop	BNA2019: The British Neuroscience Association (BNA) Festival of Neuroscience 2019	National University of Ireland, Galway	€43,600.00
Eithne Dempsey	Conference and Workshop	Conference in Analytical Sciences in Ireland CASi 2018	Maynooth University	€3,000.00
Eric Moore	Conference and Workshop	All Hazards Forensic Conference	Tyndall National Institute	€4,250.00
Federico Milano	Conference and Workshop	20th Power Systems Computation Conference (PSCC) 2018	University College Dublin	€8,350.00
Fionnuala Ní Áinle	Conference and Workshop	Venous Thromboembolism (VTE) Dublin 2018	University College Dublin	€4,950.00

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Gerhard Schlosser	Conference and Workshop	7th Meeting of the European Society for Evolutionary Developmental Biology (EED)	National University of Ireland, Galway	€13,000.00
Helen Shaw	Conference and Workshop	50th Conference of Irish Geographers: The Earth as Our Home	Maynooth University	€1,600.00
Hermann Render	Conference and Workshop	International Conference on Complex Analysis, Potential Theory and Applications	University College Dublin	€9,465.00
Isabella Gollini	Conference and Workshop	Women in Mathematics Day, Ireland 2018	University College Dublin	€2,510.00
James Murray	Conference and Workshop	Dublin Cystinosis 2018 Scientific Workshop	Trinity College Dublin	€3,000.00
Jane Stout	Conference and Workshop	SCAPE 2018: Annual Meeting of the Scandinavian Association of Pollination Ecologists	Trinity College Dublin	€5,450.00
Jennifer McElwain	Conference and Workshop	10th European Palaeobotany and Palynology Conference	Trinity College Dublin	€3,000.00
John Cryan	Conference and Workshop	International Society for Serotonin Research “Serotonin on the Wild Atlantic Way” 2018	University College Cork	€17,300.00
John Ferguson	Conference and Workshop	Conference for Applied Statistics in Ireland, 2018	National University of Ireland, Galway	€6,100.00
Jon Ivar Skullerud	Conference and Workshop	Quark Confinement and the Hadron Spectrum	Maynooth University	€25,000.00
Julie Regan	Conference and Workshop	8th European Society of Swallowing Disorders (ESSD) Annual Congress 2018 - 'Dysphagia: Shaping the Future'	Trinity College Dublin	€2,400.00
Lennon O'Naraigh	Conference and Workshop	Computational Modelling of Instabilities and Turbulence in Separated Two-Phase Flows	University College Dublin	€6,640.00
Leonie Young	Conference and Workshop	Dublin Steroid Cancer Conference 2018	Royal College of Surgeons in Ireland	€12,250.00
Madeline Lowry	Conference and Workshop	XXII Congress of the International Society of Electrophysiology and Kinesiology	University College Dublin	€20,000.00
Marco Ruffini	Conference and Workshop	Optical Network Design and Modeling Conference	Trinity College Dublin	€15,900.00
Marguerite Clyne	Conference and Workshop	Microbiology Society (Irish Division) 2018: Microbes and Mucosal Surfaces	University College Dublin	€5,720.00
Mary Cahill	Conference and Workshop	Young Cancer Researchers Networking 2018	University College Cork	€5,500.00
Mary Murphy	Conference and Workshop	2nd International Workshop on the Epigenetics of Osteoarthritis	National University of Ireland, Galway	€5,100.00
Michael O'Dwyer	Conference and Workshop	Blood Cancer Research: Focus on Immunotherapy and the Tumour Microenvironment	National University of Ireland, Galway	€4,100.00
Michelle Carey	Conference and Workshop	The 141th European Study Group with Industry, ESGI141	University College Dublin	€3,500.00
Nathan Quinlan	Conference and Workshop	13th International SPHERIC Workshop	National University of Ireland, Galway	€2,417.00
Neil Hurley	Conference and Workshop	European Conference on Machine Learning and Principles of Knowledge Discovery in Databases	University College Dublin	€24,290.00
Niall English	Conference and Workshop	Computer Simulation Empowering Chemical Technologies involving Confined Liquids	University College Dublin	€4,900.00
Niall Holmes	Conference and Workshop	Civil Engineering Research in Ireland 2018	Technological University Dublin	€3,570.00
Nicholas Holden	Conference and Workshop	Internet of Things for Food: Transforming Food Systems with Technology	University College Dublin	€10,000.00
Nigel Stevenson	Conference and Workshop	25th International Symposium on Hepatitis C Virus and Related Viruses	Trinity College Dublin	€28,300.00
Paolo Guasoni	Conference and Workshop	10th World Congress of the Bachelier Finance Society	Dublin City University	€23,100.00
Peter Corcoran	Conference and Workshop	IEEE Games Entertainment and Media Conference (GEM 2018)	National University of Ireland, Galway	€7,070.00
Peter Humphries	Conference and Workshop	RD20018	Trinity College Dublin	€13,500.00
Roger Preston	Conference and Workshop	Irish Centre for Vascular Biology - New Advances in Vascular Biology	Royal College of Surgeons in Ireland	€10,500.00

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Roisin Loughran	Conference and Workshop	Computer Simulation of Musical Creativity 2018	University College Dublin	€1,500.00
Rosemary Monahan	Conference and Workshop	FMICS/iFM 2018 - 23rd International Conference on Formal Methods for Industrial Critical Systems and the 14th International Conference on Integrated Formal Methods University	Maynooth University	€10,370.00
Stefan Oscarson	Conference and Workshop	The 8th Baltic Meeting on Microbial Carbohydrates	University College Dublin	€8,350.00
Thomas Newe	Conference and Workshop	12th International Conference on Sensing Technology (ICST 2018)	University of Limerick	€5,690.00
Tia Keyes	Conference and Workshop	35th European Peptide Society Symposium 2018	Dublin City University	€15,000.00
Vladimir Dotsenko	Conference and Workshop	14th William Rowan Hamilton Geometry and Topology Workshop	Trinity College Dublin	€5,000.00
Vladimir Lobaskin	Conference and Workshop	Bio, Chem and Nanoinformatics Approaches to Study Bionano Interface	University College Dublin	€4,960.00
William Whelan-Curtin	Conference and Workshop	Photonics Ireland 2018	Cork Institute of Technology	€5,000.00
Daniel Vincent McCarthy	Discover Regional/National Impact	Curiosity Studio - Ireland's Science Communications Accelerator	The Festival of Curiosity Ltd	€300,000.00
Ian Brunswick	Discover Regional/National Impact	Science Gallery	Trinity College Dublin	€297,000.00
Jonathan McCrea	Discover Regional/National Impact	SCI:COM	Whipsmart Media Ltd	€64,000.00
Mary Cleary	Discover Regional/National Impact	Tech Week	ECDL Ireland Ltd T/A ICS Skills	€50,000.00
Mary Cunningham	Discover Regional/National Impact	STEAM in Youth Work	National Youth Council of Ireland	€299,999.00
Mervyn Horgan	Discover Regional/National Impact	Cork Carnival of Science	Cork City Council t/a Lifetime Lab	€280,500.00
Muriel Grenon	Discover Regional/National Impact	Cell EXPLORERS	National University of Ireland, Galway	€298,778.00
Rosemary Monahan	Discover Regional/National Impact	Introducing the Science of Problem-solving through Education in Computational Thinking	Maynooth University	€272,895.00
Sophie Murray	Discover Regional/National Impact	The Astronomical Midlands: Engaging Rural Communities with I-LOFAR	Trinity College Dublin	€195,502.00
Tomas Ward	Discover Regional/National Impact	Maker Advocacy in Dublin for Everyone (MADE)	Dublin City University	€300,000.00
Patrick McGarry	ERC Development Programme	A Novel Cell Mechanics Modelling Framework to Simulate Cardiac Hypertrophy	National University of Ireland, Galway	€561,070.00
Linda Doyle	ERC Support Programme	SFI ERC Support Programme	Trinity College Dublin	€150,000.00
Linda Doyle	ERC Support Programme	SFI ERC Support Programme	Trinity College Dublin	€150,000.00
Linda Doyle	ERC Support Programme	SFI ERC Support Programme	Trinity College Dublin	€150,000.00
Ray O'Neill	ERC Support Programme	SFI ERC Support Programme	Maynooth University	€656,500.00
Raymond Stallings	ERC Support Programme	SFI ERC Support Programme	Royal College of Surgeons in Ireland	€150,000.00
Raymond Stallings	ERC Support Programme	SFI ERC Support Programme	Royal College of Surgeons in Ireland	€150,000.00

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Abhay Pandit	EU Co-Funding Initiatives	NanoGSkin - Transversal tissue engineering and nanomedicine approach towards an improved chronic wound therapy	National University of Ireland, Galway	€159,953.30
Jochen Prehn	EU Co-Funding Initiatives	RNA-Neuro: Systems analysis of novel small non-coding RNA in neuronal stress responses: towards novel biomarkers and therapeutics for neurodegenerative disorders - JPI ND	Royal College of Surgeons in Ireland	€267,982.00
Jochen Prehn	EU Co-Funding Initiatives	Carbon metabolism systems analysis for the identification of disease and patient-specific metabolic and energetic defects in neurodegenerative diseases	Royal College of Surgeons in Ireland	€196,160.90
Paul Galvin	EU Co-Funding Initiatives	POSITION-II: A pilot line for the next generation of smart catheters and implants	Tyndall National Institute	€536,300.70
Pieter Brama	EU Co-Funding Initiatives	NANO-SCORES - Nano-structured osteochondral scaffold: novel biomimetic triggers for enhanced bone regeneration	University College Dublin	€243,432.80
Stephen Fahy	EU Co-Funding Initiatives	CUSPIDOR - CMOS compatible single photon sources based on SiGe quantum dots	Tyndall National Institute	€78,688.80
William Whelan-Curtin	EU Co-Funding Initiatives	CUSPIDOR - CMOS compatible single photon sources based on SiGe quantum dots	Cork Institute of Technology	€172,900.00
Yan Yan	EU Co-Funding Initiatives	MAGneTISe - Magnetic Particle Imaging for the Treatment and Imaging of Stroke	University College Dublin	€249,995.50
Yvonne Nolan	EU Co-Funding Initiatives	Gut microbes, neuroinflammation and Alzheimer's disease: determining the immunoregulatory role of gut microbiota on brain and behaviour - Pathfinder III	University College Cork	€197,931.30
Abdollah Malekjafarian	Industry Fellowship	Dynamic soil-structure interaction modelling for the optimisation of offshore wind turbines	University College Dublin	€72,256.00
Aleksandra Kaszubowska-Anandarajah	Industry Fellowship	Comb-Based Integrated THz transmitter - COMBINE	Trinity College Dublin	€113,643.00
Atif Madi	Industry Fellowship	Optimisation of the downstream formulation and processing of spray dried amorphous solid dispersion (ASD) powders	Trinity College Dublin	€69,601.00
Carlo Galiotto	Industry Fellowship	An alternative RAN architecture to perfect the connected world	Trinity College Dublin	€71,033.00
Daithi De Faoite	Industry Fellowship	Thermal control coatings for space and terrestrial applications	University College Dublin	€76,164.00
David MacManus	Industry Fellowship	Development of an experimental multiscale preclinical model for lipohypertrophy using an in vitro cell scratch assay and an ex vivo intra-tissue perfusion model	University College Dublin	€81,969.00
Debra Higgins	Industry Fellowship	Extending the clinical utility of OncoMasTR via technology transitioning and cross-cancer approach	University College Dublin	€123,115.00
Declan Byrne	Industry Fellowship	Modelling of low inertia grid systems with the objective of maximizing renewable energy	Trinity College Dublin	€68,969.00
Francesca Bottacini	Industry Fellowship	Development of a biocomputing platform to screen bifidobacteria for the food industry	University College Cork	€7,359.00
Isaac Tobin	Industry Fellowship	Lean engineering of next generation cell imaging microscopes: soft x-ray optical feedback stabilising sub 5 µm sources	University College Dublin	€77,062.00
James McGrath	Industry Fellowship	Secondary exposure to aerosol emitted during respiratory therapy	National University of Ireland, Galway	€82,945.00
Janina Berghoff	Industry Fellowship	Deciphering the most clinically and biologically relevant circulating tumour cells (CTCs) in cancer metastasis	Trinity College Dublin	€80,133.00
Kate Smith	Industry Fellowship	Novel passive thermal management solutions for small-scale electronics cooling	Trinity College Dublin	€107,128.00
Magdalena Hajdukiewicz	Industry Fellowship	The influence of structural design on the environmental and energy performance of non-residential buildings	National University of Ireland, Galway	€86,603.00

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Mohammad Reza Ghaani	Industry Fellowship	Exploration of COValEnt inhibitoRs vIa tight-binding molecular simulation (COVER IT)	University College Dublin	€78,540.00
Naveen Balla	Industry Fellowship	Understanding thermal interfacial resistance using time domain ThermoReflectance	Trinity College Dublin	€76,357.00
Paul O'Callaghan	Industry Fellowship	Payment for ecosystem services schemes, from theory to policy and practice	University College Dublin	€78,148.00
Rachel Gleeson	Industry Fellowship	Process and system development for chipscale energy harvesting	University of Limerick	€72,865.00
Shaun Mills	Industry Fellowship	To enhance the capability and reliability of pressure sensors used in harsh environment applications	Trinity College Dublin	€86,014.00
Sibu Padmanabhan	Industry Fellowship	Optimization of a pilot plant dip coating process for manufacturing antimicrobial polymer film-based food packaging materials and product validation	University College Cork	€110,656.00
Sofiane Zemouri	Industry Fellowship	Using software defined networks to unleash the power of edge computing for connected vehicles	University College Dublin	€78,744.00
Tatiana Stefanov	Industry Fellowship	Advanced catheter development	University College Dublin	€80,019.00
Zohreh Pourzolfaghar	Industry Fellowship	Enhancement of the skills to utilise BIM technology to improve information sharing in building projects	Dublin City University	€75,023.00
Andrew Keane	Investigator Programme - PhD programme	Active distribution system management enabled by distributed power electronics	University College Dublin	€1,343,815.00
Brian Kelleher	Investigator Programme - PhD programme	Integrating multidisciplinary geoscientific data into forecasting models to monitor and predict coastal change: Proof of concept in Dublin Bay	Dublin City University	€1,141,029.00
Cathal Seoighe	Investigator Programme - PhD programme	Inference of somatic mutation rates from high-throughput sequencing data: models and applications	National University of Ireland, Galway	€1,124,708.00
Ciaran Kelly and B Kelleher	Investigator Programme - PhD programme	Integrating multidisciplinary geoscientific data into forecasting models to monitor and predict coastal change: Proof of concept in Dublin Bay	Marine Institute	-380,343.00
Conor Ryan	Investigator Programme - PhD programme	Automatic Design of Digital Circuits (ADDC)	University of Limerick	2,332,818.00
Kevin M Ryan	Investigator Programme - PhD programme	Multinary compound Si, Ge and Sn derived nanocrystals: composition, shape and heterostructure control via solution methods (NanoIVCrystals)	University of Limerick	1,177,431.00
Koen Verbruggen and B Kelleher	Investigator Programme - PhD programme	Integrating multidisciplinary geoscientific data into forecasting models to monitor and predict coastal change: Proof of concept in Dublin Bay	Geological Survey of Ireland	€-380,343.33
Robert Shorten	Investigator Programme - PhD programme	Scalable, privacy-enhanced analytics for the sharing economy	University College Dublin	€2,304,220.00
Vladimir Lobaskin	Investigator Programme - PhD programme	Quantitative modelling of bionano interface	University College Dublin	€578,691.00
David Loane	President of Ireland Future Research Leaders	NOX2 and the chronic pathologies of traumatic brain injury (TBI): Integrating basic and translational research to improve TBI outcomes	Trinity College Dublin	€1,587,818.00
Joanne Masterson	President of Ireland Future Research Leaders	Transcriptional mechanisms controling epithelial cell fate determination during allergic esophageal inflammation in Eosinophilic Esophagitis	Maynooth University	€1,572,600.00
Stephen Redmond	President of Ireland Future Research Leaders	Design of tactile sensors for robotic and prosthetic grippers inspired by human touch	University College Dublin	€1,479,655.00

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Suzanne Cloonan	President of Ireland Future Research Leaders	The “Ironome” of the lung and disease pathogenesis	Trinity College Dublin	€1,587,525.00
Aidan McDonald	RS-SFI University Research Fellow Enhancement Award	Influence of the metal on the amphoteric reactivity of metal-superoxides	The Royal Society	€148,200.00
David Wilson	RS-SFI University Research Fellow Enhancement Award	Hadron resonance photocouplings from first principles	The Royal Society	€148,200.00
Jonathan Mackey	RS-SFI University Research Fellow Enhancement Award	Simulating non-thermal emission at low energy	The Royal Society	€134,550.00
Lynette Keeney	RS-SFI University Research Fellow Enhancement Award	Correlation of magnetic and magnetoelectric properties with crystallite orientation and sub-unit cell characteristics in room temperature multiferroic materials	The Royal Society	€146,250.00
Marius de Leeuw	RS-SFI University Research Fellow Enhancement Award	Deforming solvable models	The Royal Society	€140,400.00
Mark Howard	RS-SFI University Research Fellow Enhancement Award	Noisy intermediate-scale quantum computers	The Royal Society	€202,071.00
Morgan Fraser	RS-SFI University Research Fellow Enhancement Award	Automated photometry of transients (AutoPhOT)	The Royal Society	€137,800.00
Richard Hobbs	RS-SFI University Research Fellow Enhancement Award	Nanopatterned plasmonic antenna-receptor complexes for photocatalysis	The Royal Society	€98,000.00
Sinead O'Keeffe	RS-SFI University Research Fellow Enhancement Award	Distributed optical sensors for advancing radiotherapy	The Royal Society	€148,200.00
Mark Howard	RS-SFI University Research Fellow Research Grant	New horizons for fault-tolerant quantum computation	The Royal Society	€524,059.80
David Wilson	RS-SFI University Start Up Grant	Excited charm resonances from quantum chromodynamics	The Royal Society	€225,200.00
Neils Warburton	RS-SFI University Start Up Grant	Gravitational waveform templates: bridging the gap between source modelers and data analysis	The Royal Society	€157,626.00
Walter Kolch	Research Infrastructure	A national platform for comprehensive molecular analysis underpinning chemistry, the bioeconomy, and precision oncology research: from molecules to microorganisms and humans	University College Dublin	€2,686,127.00
Graeme Maxwell	Research Infrastructure	Tyndall 200mm FlexiFab - core (national) infrastructure upgrade	Tyndall National Institute	€16,014,600.00
Kingston Mills	Research Infrastructure	Next generation flow cytometry and single cell gene analysis	Trinity College Dublin	€628,705.00
Timothy McCarthy	Research Infrastructure	National Autonomous Technologies Data Platform (NATDaP)	Maynooth University	€1,002,177.00
Eleanor O'Rourke	Research Infrastructure	EirOOS Irish Ocean Observing System: A component of the European Ocean Observing System (EOOS)	Marine Institute	€2,041,566.00
Mani Ramaswami	Research Infrastructure	Ultra Low Noise Digital 3T MRI	Trinity College Dublin	€2,489,157.00
John Dalton	Research Professorship	Mining the molecular interplay between parasite and host for vaccines, diagnostics and biotherapeutics discovery	National University of Ireland, Galway	€5,904,647.13

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Murray Hitzman	Research Professorship	Innovative geological research to improve mineral resource discovery and sustainable development	University College Dublin	€5,929,885.00
Seamus Davis	Research Professorship	Quantum visualisation of quantum materials for quantum technology	University College Cork	€5,397,642.00
Aidan O'Driscoll	SFI Research Centres	VistaMilk SFI Research Centre	Department of Agriculture, Food and the Marine	€-5,000,000.00
Donagh Barry	SFI Research Centres	VistaMilk SFI Research Centre	Teagasc	€25,629,333.00
Abhay Pandit	SFI Research Centres PhD Scheme	CÚRAM SFI Research Centre	National University of Ireland, Galway	1,168,320.00
Brian Fitzgerald	SFI Research Centres PhD Scheme	Lero SFI Research Centre	University of Limerick	€1,167,672.00
Fergus Shanahan	SFI Research Centres PhD Scheme	APC SFI Research Centre	University College Cork	€1,167,600.00
Geraldine Boylan	SFI Research Centres PhD Scheme	INFANT SFI Research Centre	University College Cork	€1,062,100.00
Jerry Murphy	SFI Research Centres PhD Scheme	MaREI SFI Research Centre	University College Cork	€1,099,950.00
Luiz DaSilva	SFI Research Centres PhD Scheme	CONNECT SFI Research Centre	Trinity College Dublin	€1,164,780.00
Michael Morris	SFI Research Centres PhD Scheme	AMBER SFI Research Centre	Trinity College Dublin	€1,170,000.00
Michael Zaworotko and Gavin Walker	SFI Research Centres PhD Scheme	SSPC SFI Research Centre	University of Limerick	€1,167,300.00
Murray Hitzman	SFI Research Centres PhD Scheme	ICRAG SFI Research Centre	University College Dublin	€1,170,000.00
Oliver Daniels	SFI Research Centres PhD Scheme	Insight SFI Research Centre	National University of Ireland, Galway	€1,078,936.00
Paul Townsend	SFI Research Centres PhD Scheme	IPIC SFI Research Centre	Tyndall National Institute	€1,159,380.00
Vincent Wade	SFI Research Centres PhD Scheme	ADAPT SFI Research Centre	Trinity College Dublin	€1,163,250.00
Abhay Pandit	SFI Discover	Strength in Science	National University of Ireland, Galway	€47,650.00
Aoibheann Bird	SFI Discover	Suite Science	University College Dublin	€46,990.00
Brendan Tangney	SFI Discover	Engaging Girls in CS - Code Plus	Trinity College Dublin	€49,919.00
Daniel Vincent McCarthy	SFI Discover	Stupid Things	The Festival of Curiosity Ltd	€50,000.00
Deirdre Daly	SFI Discover	Motherhood, Empowerment, Sustainable Self-Help: Addressing Gaps in Education with Science	Trinity College Dublin	€44,692.00

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Denis Dowling	SFI Discover	Shaping Your Future: 3D Printing and Augmented Reality	University College Dublin	€38,120.00
Edelle Moss	SFI Discover	Science Foundation Ireland at the Big Day Out	Feilte Dhuibh Linne Teoranta t/a St Patrick's Day Festival	€41,236.00
Eilish McLoughlin	SFI Discover	Science on Stage	Dublin City University	€15,200.00
Elizabeth Mathews	SFI Discover	Irish Sign Language Glossary Project Phase 2: Environmental Science	Dublin City University	€50,000.00
Enda O'Connell	SFI Discover	ReelLIFE SCIENCE Video Competition	National University of Ireland, Galway	€12,000.00
Eoin O'Reilly	SFI Discover	Tyndall MakerDojo: Festivals and Workshops	Tyndall National Institute	€50,000.00
Grainne Walshe	SFI Discover	SOPHia: Science Outreach to Promote Physics to Female Students	University of Limerick	€31,561.00
Hedda Dick	SFI Discover	Brigit's Garden Family STEM Trail	Brigit's Garden CLG	€43,740.00
James Blake	SFI Discover	Science Hub at Learning Hub Limerick	Learning Hub Limerick Ltd	€25,000.00
Jessamyn Fairfield	SFI Discover	Bright Club	National University of Ireland, Galway	€49,797.00
Judith Harford	SFI Discover	Girls in DEIS Schools: Changing Attitudes /Impacting Futures in STEM	University College Dublin	€50,000.00
Liz McBain	SFI Discover	FameLab Ireland 2019	British Council Ireland	€49,800.00
Maeve McElligott	SFI Discover	dlr Teen Entrepreneur STEM Camp and TY STEM Day 2019	DunLaoghaire Rathdown County Council	€19,996.00
Maria McNamara	SFI Discover	Ireland's Secret Past: Unlocking Our Fossil Heritage	University College Cork	€50,000.00
Marion McAfee	SFI Discover	Sligo Engineering Fair	Institute of Technology Sligo	€22,000.00
Merrilyn Goos	SFI Discover	STEMChAT – Women as catalysts for change in STEM education	University of Limerick	€35,880.00
Nigel Flegg	SFI Discover	Music and Science: Quavers to Quadratics	The National Concert Hall	€39,800.00
Nina Bresnihan	SFI Discover	OurKidsCode: Phase 2 Supporting families' continued engagement in computing	Trinity College Dublin	€49,883.00
Pamela O'Brien	SFI Discover	Exploring Computer Science and Career Choices in IT	Limerick Institute of Technology	€20,700.00
Shane Bergin	SFI Discover	Community Maths Challenge	University College Dublin	€42,138.00
Shane McCracken	SFI Discover	I'm a Scientist and I'm an Engineer Ireland	Gallomanor Communications Ltd	€39,900.00
Sinead Burke	SFI Discover	Young Modellers	University of Limerick	€39,125.00
Sinead McNally	SFI Discover	Let's talk about STEM: supports for girls' early science engagement	Dublin City University	€49,130.00
Siún Nic Mhuirí	SFI Discover	Mathematics Teaching Practices Toolkit	Dublin City University	€49,998.00
Stephen Buckley	SFI Discover	The IMT National Integration of Mathematics Outreach	Maynooth University	€50,000.00
Vicky Brown	SFI Discover	Planeteers	Centre for Climate Change t/a Cool Planet Experience	€30,500.00
Adrian Lynch	SFI Discover/RTÉ Joint Initiative	Joint Initiative	RTÉ	€585,000.00
Aideen Howard	SFI Discover Science Week 2018	Science Week at The Ark 2018	The Children's Cultural Centre Ltd t/a The Ark	€8,000.00
Amanda Branigan	SFI Discover Science Week 2018	Louth Libraries Science Week Library Programme	Louth County Council	€8,000.00

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Anna Kadzik-Bartoszewska	SFI Discover Science Week 2018	Stemming from STEAM	Gaiety School of Acting	€8,000.00
Bernie Quilligan	SFI Discover Science Week 2018	Limerick Festival of Science 2018	University of Limerick	€34,430.00
Carolyn Kelly	SFI Discover Science Week 2018	The Virtual Heritage Lab	Dublinia	€8,000.00
Catriona Boyle	SFI Discover Science Week 2018	Festival of Farming and Food–SFI Science Week at Teagasc	Teagasc	€12,032.00
Clair McSweeney	SFI Discover Science Week 2018	Ireland's Astronaut Candidates of 1991	Cosmos Education t/a - Blackrock Castle Observatory	€4,800.00
Darren Kavanagh	SFI Discover Science Week 2018	EUREKA Science and Technology Festival 2018	Institute of Technology Carlow	€35,000.00
Deirdriu McQuaid	SFI Discover Science Week 2018	Cavan Monaghan Science Festival	Monaghan County Council	€35,000.00
Eileen Morrissey	SFI Discover Science Week 2018	WexSci Wexford Science Festival	Wexford County Council	€35,000.00
Gemma Dardis	SFI Discover Science Week 2018	Imaginosity's 'Dr.Osity Body Science Show' Outreach Project for Science Week	Imaginosity, Dublin Children's Museum	€8,000.00
Ian Brunswick	SFI Discover Science Week 2018	Vaccines: Health, Trust and Evidence	Trinity College Dublin	€8,000.00
Ian Brunswick	SFI Discover Science Week 2018	Science Week Maker Workshops	Trinity College Dublin	€8,000.00
Jackie Gorman	SFI Discover Science Week 2018	Midland Science Festival	Atlantic Corridor	€30,000.00
Jeremy Bird	SFI Discover Science Week 2018	Sligo Science Festival	Institute of Technology Sligo	€30,000.00
Laura Grehan	SFI Discover Science Week 2018	'Technology in My Life' Citizens' Think-In	Trinity College Dublin	€7,976.30
Liz McBain	SFI Discover Science Week 2018	Baking in Space-food and engineering in the next frontier	British Council Ireland	€7,976.00
Liz McBain	SFI Discover Science Week 2018	Art in Mind - How Nature Inspires	British Council Ireland	€7,870.00
Maeve Liston	SFI Discover Science Week 2018	Tipperary Festival of Science	Mary Immaculate College	€35,000.00
Mervyn Horgan	SFI Discover Science Week 2018	Cork Science Festival 2018	Glenosheen Ltd.	€35,000.00
Neil Trappe	SFI Discover Science Week 2018	Dr. Mindflip's Travelling Physics Caravan	Maynooth University	€8,000.00
Pat McHale	SFI Discover Science Week 2018	Mayo Science and Technology Festival	Mayo County Council t/a Mayo Science and Technology Festival	€26,500.00
Paul Mee	SFI Discover Science Week 2018	Galway Science and Technology Festival	Galway Science and Technology Forum	€20,000.00
Sarah Miller	SFI Discover Science Week 2018	Lets Talk Science Festival 2018	The Rediscovery Centre Ltd	€8,000.00
Sheila Donegan	SFI Discover Science Week 2018	South East Science Festival	Waterford Institute of Technology	€30,000.00
Susan Heaney	SFI Discover Science Week 2018	Seeing Space from the Islands	Sirius Science Ltd	€8,000.00
Vicky Brown	SFI Discover Science Week 2018	Planeteers Science Week Workshops	Centre for Climate Change t/a Cool Planet Experience	€5,000.00
Linda Doyle	SFI Fellowship		Trinity College Dublin	€122,765.50
Orla Feely	SFI Fellowship		University College Dublin	€292,458.40
Linda Doyle	SFI Fellowship		Trinity College Dublin	€235,168.90
Orla Feely	SFI Secondment		University College Dublin	€409,229.60

SFI Research Scientist	Programmes	Research Title	Research Body	Total value of award including overheads
Orla Feely	SFI Secondment		University College Dublin	€71,773.00
Adriana Cunha Neves	SFI Future Innovator Prize 2018 Call	Developing bioplastic packaging that improves user convenience using human-centred design engineering processes	Institute of Technology Carlow	€139,833.60
Ansar Masood	SFI Future Innovator Prize 2018 Call	A novel sustainable electric motor using high-grade permanent magnets based on common metallic elements	Tyndall National Institute	€270,347.65
Barry O'Sullivan	SFI Future Innovator Prize 2018 Call	An artificial intelligence and data analytics system for minimising hospital waiting-lists and optimising healthcare capacity in Ireland	University College Cork	€285,373.50
Dominic Zerulla	SFI Future Innovator Prize 2018 Call	Real-time imaging of nanoscale biological processes via plasmonically enabled nanopixel arrays	University College Dublin	€257,210.00
Elaine Spain	SFI Future Innovator Prize 2018 Call	SepTec: improving outcomes for sepsis patients	Dublin City University	€281,226.40
Eoin Flynn	SFI Future Innovator Prize 2018 Call	Designed environmentally sustainable thin-films utilising renewable biopolymers (DESTURB)	University College Cork	€280,975.92
Eric Moore	SFI Future Innovator Prize 2018 Call	SMARTProbe - real-time point of care enhancement of breast cancer diagnosis	Tyndall National Institute	€276,097.40
Fengzhou Fang	SFI Future Innovator Prize 2018 Call	Disruptive customized design and production of freeform accommodative intraocular lenses	University College Dublin	€256,000.00
Igor Shvets	SFI Future Innovator Prize 2018 Call	Reducing mining industry emissions through spectroscopic sorting of mineral ores	Trinity College Dublin	€272,013.20
Martin O'Halloran	SFI Future Innovator Prize 2018 Call	A novel hydrogel to treat and cure persistent post-operative pain	National University of Ireland, Galway	€280,000.00
Rocco Lupoi	SFI Future Innovator Prize 2018 Call	Genetic algorithm aided optimisation of the mechanical structure of orthopaedic implants for revision-free life cycles	Trinity College Dublin	€283,000.00
Wenxin Wang	SFI Future Innovator Prize 2018 Call	A disruptive, non-viral gene editing platform technology for treating genetic conditions	University College Dublin	€278,846.00
Abhay Pandit	SFI Maternity Allowance	CÚRAM SFI Research Centre	National University of Ireland, Galway	€24,608.20
Andrew Keane	SFI Maternity Allowance	Energy Systems Integration Partnership Programme (ESIPP)	University College Dublin	€15,535.78
Daniela Boehm	SFI Maternity Allowance	Harnessing the potential of plasma activated liquids for bio-medical applications	Technological University Dublin	€27,350.30
David Hensahll	SFI Maternity Allowance	FutureNeuro SFI Research Centre	Royal College of Surgeons in Ireland	€25,228.02
Fergus Shanahan	SFI Maternity Allowance	APC SFI Research Centre	University College Cork	€22,771.58
Fergus Shanahan	SFI Maternity Allowance	Gut Inflammation – Discovery and Therapeutic Targeting of the Secretome-Receptome Inflammatory Network in Inflammatory Bowel Disease	University College Cork	€21,164.27
Geraldine Boylan	SFI Maternity Allowance	INFANT SFI Research Centre	University College Cork	€38,278.20
Geraldine Boylan	SFI Maternity Allowance	INFANT SFI Research Centre	University College Cork	€22,581.08
Kingston Mills	SFI Maternity Allowance	Understanding the role of T cells in sustained protective immunity to Bordetella pertussis to inform the design of third generation vaccines against pertussis	Trinity College Dublin	€25,295.32

SFI Research Scientist	Programmes	Research Title	Research Body	Total value of award including overheads
Michael Zaworotko	SFI Maternity Allowance	SSPC SFI Research Centre	University of Limerick	€22,547.53
Oliver Daniels	SFI Maternity Allowance	Insight SFI Research Centre	National University of Ireland, Galway	€21,697.25
Peter Corcoran	SFI Maternity Allowance	Next generation imaging for smartphone and embedded platforms	National University of Ireland, Galway	€27,797.72
Richard O'Kennedy	SFI Maternity Allowance	Metabolomic and array-based biomarker approaches to understand human exposure to potent carcinogenic fresh water toxins	Dublin City University	€26,705.69
Stefano Sanvito	SFI Maternity Allowance	Ultra-low energy electric field control of nonvolatile magnetoelectric memory devices	Trinity College Dublin	€30,400.51
Vincent Wade	Spokes Rolling Programme	ADAPT FinTech Spoke	Trinity College Dublin	€2,465,806.00
Philip O'Reilly	Strategic Partnership Programme	Next Generation Financial Services Technology (FINTECHNEXT)	University College Cork	€1,637,906.40
Eoin O'Cearbhaill	SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	iBrux – minimally invasive diagnosis and management of bruxism	University College Dublin	€35,000.00
Garry Duffy	SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	B-Basket: A pancreatic islet encapsulation system for treatment of type 1 diabetes	National University of Ireland, Galway	€33,000.00
Helena Kelly	SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	ChemoGel – a new treatment approach for pancreatic cancer	Royal College of Surgeons in Ireland	€29,350.00
Jamie Goggins	SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	Design and optimisation software for full-scale wind and tidal turbine blades	National University of Ireland, Galway	€35,000.00
Matthew Campbell	SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	NanoMi22 – a novel technology approach for miR-based therapy delivery into the brain	Trinity College Dublin	€34,900.00
Olive Healy	SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	InterAcT: Accomplish and Thrive - an assistive technology software platform for supporting people with Autism Spectrum Disorder (ASD)	Trinity College Dublin	33,492.00
Rozenn Dahyot	SFI-NSF I-Corps@SFI Entrepreneurial Training Programme	AIMapIT: Remote Asset Detection and Monitoring. An innovative combination of Artificial Intelligence, Image Processing and Stochastic Geometry which allows an asset to be identified and accurately geo-tagged from street level imagery	Trinity College Dublin	€28,500.00
Marina Lynch	NSF/SFI Graduate Research Opportunities Worldwide (GROW) Programme	GROW Supplement	Trinity College Dublin	€20,400.00
Oliver Daniels	NSF/SFI Graduate Research Opportunities Worldwide (GROW) Programme	GROW Supplement	National University of Ireland, Galway	€8,500.00
Aine Hennessy	SIRG	Functional indicators of iodine status in pregnancy - an outcome-driven, personalised nutrition approach	University College Cork	€550,685.00

SFI Research Scientist	Programmes	Research Title	Research Body	Total value of award including overheads
Amanda Sosa-Avendano	SIRG	Sustainable biomass supply chain development for the Irish bioeconomy	University College Dublin	€513,482.42
Amir Pakdel	SIRG	Flexible Nano-Thermoelectrics for Body Energy Harvesting	Trinity College Dublin	€424,944.00
Chris Mark	SIRG	Advanced Geochronology of Earth-System Processes (AGE-Pro): Constraining rates and dates of geological processes by novel U-Pb analysis	University College Dublin	€545,304.00
Colm Browning	SIRG	Flexible photonic network convergence enabling future mobile communications (COMPhLEX)	Dublin City University	€547,596.16
Cristina Trujillo	SIRG	Theoretical Development of New Class of Phase Transfers Catalysts: Applications in the Pharmaceutical Industry	Trinity College Dublin	€402,788.00
Fiona McDonald	SIRG	A trilogy of stressors in the NICU: towards therapy for preterm adversity	University College Cork	€552,387.50
Gary Brennan	SIRG	Molecular mechanisms of epileptogenesis and epilepsy-induced cognitive impairments; a dual role for m6A	Royal College of Surgeons in Ireland	€544,797.80
Gediminas Juska	SIRG	Deterministic photonic cluster states from Pyramidal site-controlled quantum dots for measurement-based quantum computation	Tyndall National Institute	€549,370.00
Gerard Brien	SIRG	Targeting underlying disease mechanisms in cancer using targeted protein degraders, a novel class of molecular therapeutic	Trinity College Dublin	€550,512.00
Hugh Geaney	SIRG	Silicon anodes through nanostructural development (SAND)	University of Limerick	€551,735.00
Joseph Byrne	SIRG	Carbohydrate-based sensing materials as platforms for 3D-printed microfluidic pathogen detection devices with diagnostic and environmental monitoring applications	National University of Ireland, Galway	€544,860.00
Konstantinos Gkrintzalis	SIRG	Metabolomic approaches in mechanistic toxicology	Dublin City University	€549,200.00
Maria Prencipe	SIRG	Targeting co-regulators of the Androgen Receptor as a novel therapeutic approach for prostate and breast cancer	University College Dublin	€552,384.00
Meadhbh Brennan	SIRG	3D Printed Extracelluar Vesicles for in situ Bone Tissue Regeneration	Trinity College Dublin	€542,411.00
Nicholas Payne	SIRG	Thermal scaling: rethinking how temperature drives macro-ecological patterns	Trinity College Dublin	€419,559.00
Sinead McParland	SIRG	Infrared spectroscopy analysis of milk as a low-cost solution to identify efficient and profitable dairy cows	Teagasc	€488,635.00
Steve Campbell	SIRG	SpeedDemon: Quantum speed limits in thermodynamic processes and coherent control	Trinity College Dublin	€400,373.00
Sudipto Das	SIRG	DETECT - DNA methylation signatures for personalising ulcerative colitis treatment	Royal College of Surgeons in Ireland	€552,186.00
Adrienne Gorman	TIDA	Validating promising RIP2 inhibitors as a new therapeutic option in triple negative breast cancer	National University of Ireland, Galway	€128,440.33
Aisling Byrne	TIDA	Core-shell nanoparticles with spatially separated reference and probe for ratiometric oxygen concentration and pH in-cell sensing	Dublin City University	€121,279.00
Akeem Olaleye	TIDA	Smart flow aids for efficient transport of cohesive dairy powder	University of Limerick	€111,280.00
Brendan Duffy	TIDA	Bio-functional coating for osteointegration and bone healing of titanium orthopaedic implants (Bio-COHT)	Technological University Dublin	€129,656.00

SFI Research Scientist	Programmes	Research Title	Research Body	Total value of award including overheads
Bryan Hennelly	TIDA	Label-free life-science microscope with continuously variable magnification.	Maynooth University	€112,672.00
Creina Slator	TIDA	Pre-clinical evaluation of chemotherapeutic Z-DNA forming Di-Copper(II) Metallodrugs	Dublin City University	€96,767.00
Crystal O'Connor	TIDA	Development and comprehensive market analysis of cyclic AB substrates as a safe, sustainable and economical hydrogen storage medium	University College Dublin	€106,227.42
Ed Lavelle	TIDA	Sugar coating immunity for enhancement of biomaterials	Trinity College Dublin	€95,811.00
Eimear Dolan	TIDA	ImmunoCell: A cell reservoir device for replenishable delivery of natural killer cells for ovarian cancer treatment	National University of Ireland, Galway	€129,995.00
Fiona McGillicuddy	TIDA	Development of a novel biomarker-based clinical management platform for obesity and associated comorbidities	University College Dublin	€119,853.27
Gabriella Farries	TIDA	An integrated genomics and transcriptomics approach to the development of predictors of aerobic fitness and training adaptation for application in the thoroughbred industry	University College Dublin	€73,054.00
Gerard McGlacken	TIDA	Development of novel small molecule therapeutics targeting the ghrelin receptor to modulate appetite	University College Cork	€129,502.00
Haroon Zafar	TIDA	Development of smart endovascular renal denervation verification and efficacy device	National University of Ireland, Galway	€91,205.00
Jacintha O'Sullivan	TIDA	Inhibition of tumour angiogenesis as a strategy to circumvent acquired resistance to anti-cancer agents in oesophageal cancer: links to the Irish NEO-AEGIS clnicial trial	Trinity College Dublin	€126,269.00
James Phelan	TIDA	Evaluating the immunometabolic potential of desferrioxamine to augment antibiotic treatment against Mycobacterium tuberculosis	Trinity College Dublin	€127,349.00
James Rice	TIDA	A nanomaterial composite sensor platform	University College Dublin	€101,907.00
John Morrissey	TIDA	New yeast strains for production of low-FODMAP baked products	University College Cork	€108,587.00
John O' Toole	TIDA	Neuromonitoring of preterm infants in intensive care (NeuPIC): continuous grading of the electroencephalogram using artificial intelligence	University College Cork	€124,712.00
Mark Johnson	TIDA	Macroalgae: the next generation functional and sustainable aquafeed ingredients through microbial fermentation (Blooms2Feeds+2)	National University of Ireland, Galway	€123,956.00
Martin Clynes	TIDA	A new monoclonal antibody directed against a novel cell surface cancer target: research towards development of a new cancer therapeutic agent	Dublin City University	€128,422.00
Matthew Campbell	TIDA	A gene therapy based approach to epilepsy treatment	Trinity College Dublin	€125,610.00
Michael Butler	TIDA	Production of single structural forms of monoclonal antibodies by solid-state chemoenzymatic transformation	The National Institute for Bioprocessing Research and Training	€126,506.38
Michael Madden	TIDA	Autonomous lifeguard and search system using computer vision and machine learning techniques to accurately detect people in noisy aquatic environments	National University of Ireland, Galway	€124,367.00
Michael Morris	TIDA	Polymer self-assembly of hierarchical surfaces for enhanced phase-change heat and mass transfer	Trinity College Dublin	€120,670.00
Niall Barron	TIDA	Reader lost in translation: An epi-transcriptomic-based approach for development of high producer Chinese hamster cells	The National Institute for Bioprocessing Research and Training	€124,910.00
Olga Piskareva	TIDA	3D cell culture model of neuroblastoma using collagen-based scaffolds for tumour-immune system interactions and therapeutics screening	Royal College of Surgeons in Ireland	€128,233.00

SFI Research Scientist	Programmes	Research Title	Research Body	Total value of award including overheads
Peter Humphries	TIDA	Glaucoma gene therapy: standardisation of ocular iPerfusion system for use in outflow measurements in human eyes ex vivo	Trinity College Dublin	€125,791.00
Peter Parbrook	TIDA	Spectrally pure high efficiency micro-Light Emitting Diodes (microLEDS) using nanostructured active regions	Tyndall National Institute	€129,987.00
Robert Sheehan	TIDA	Development of a thermal laser for deployment in data centre WDM transmission systems	Cork Institute of Technology	€125,501.00
Rocco Lupoi	TIDA	Supersonic-assisted laser ablation for the deposition of thin coatings at high rates	Trinity College Dublin	€124,323.00
Roger Preston	TIDA	A novel pro-haemostatic agent for the treatment of inherited and acquired bleeding disorders	Royal College of Surgeons in Ireland	€123,313.00
Sally-Ann Cryan	TIDA	A tubular bioengineered scaffold that supports epithelialisation and vascularisation for tracheal tissue regeneration (TracheoColl)	Royal College of Surgeons in Ireland	€116,723.00
Sarah Doyle	TIDA	Investigating the use of IL-36 to reduce oedema and neovascularisation in models of retinal degeneration	Trinity College Dublin	€127,354.00
Sinead O'Keeffe	TIDA	Photonic sensor for brachytherapy dosimetry	University of Limerick	€125,072.00
Stephen Dooley	TIDA	Technology for economically viable advanced biofuels from lignocellulosic waste	Trinity College Dublin	€122,213.00
Stephen Maher	TIDA	Therapeutic development of a series of clinically relevant novel radiosensitising agents for cancer	Trinity College Dublin	€129,386.00
Thomas Walther	TIDA	Development of an angiotensin II type 2 (AT2) receptor specific non-peptidic agonist based on in silico modelling, in vitro approaches, and functional assays	University College Cork	€128,912.00
Yurii Gun'ko	TIDA	Environmentally-safe membranes and adsorbents for complex water treatment	Trinity College Dublin	€125,630.00
Brian Norton	US-Ireland R&D Partnership	Integrating thermoelectric materials into concrete walls (ThermoConc)	Technological University Dublin	€375,765.00
Fergal O'Brien	US-Ireland R&D Partnership	Non-viral delivery of genetic cargo on biomaterial scaffolds for bone regeneration	Royal College of Surgeons in Ireland	€464,053.80
Ian Povey	US-Ireland R&D Partnership	EMERALD: emerging materials for energy storage and Environmental Research enabled through Atomic Layer Deposition	Tyndall National Institute	€423,803.90
Manus Biggs	US-Ireland R&D Partnership: Centre-to-Centre mechanism	Externally charged cardiOvascular bioSENSors – ECHO-SENS	National University of Ireland, Galway	€758,081.80
Manus Biggs	US-Irl R&D Partnership Planning Programme	Explant - externally powered implantable biosensors	National University of Ireland, Galway	€1,700.00
Mark Flanagan	US-Ireland R&D Partnership	Transcoding: a new approach for multi-hop communications	University College Dublin	€467,568.30
Michela Bertolotto	US-Ireland R&D Partnership	Urban ARK: assessment, risk management, and knowledge for coastal flood management in urban areas	University College Dublin	€438,062.60
			Total	**€132,077,066.80**

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