SCIENCE › TECHNOLOGY › INNOVATION

Annual Report

and Accounts 2010

sfi Science Foundation Ireland

INSIDE:

Ireland Ranked in Top 20 Nations ›

Irish Based Researchers Collaborate with 58 Countries ›

500 Companies Partner in Research ›

› SCIENCE FOUNDATION IRELAND › **RESEARCH FOR IRELAND'S FUTURE** ›

Cover Image is entitled **'The Art of Detecting Cancer'**. The image won the SFI Research Image Competition 2010 and is by Professor Malini Olivo, NUI Galway. The science behind this type of investigation is whether the natural fluorescence of cancer can be enlisted to study cancer pathology. Professor Olivo wants to detect cancer early using natural fluorescence. This image shows the natural fluorescence, or endogenous auto-fluorescence, from a large blood vessel in oral cancer tissue. The various colours are contributed by endogenous natural fluorophores that exist in the cancerous tissue. These fluoresce upon laser light activation. This image was taken with light activation from a laser confocal microscope. The laser blue light excites or activates the fluorophores to emit light at various wavelengths. The tumour is rich in natural proteins like porphyrins, collagen and elastin, that make them glow from red to blue when activated with light. The spectrum of cancerous tissue gives us a spectral signature of the cancer that enables one to differentiate pathological changes that are occurring at a molecular level.

Science Foundation Ireland (SFI) Annual Report and Accounts 2010

Contents

Vision:

Ireland will be a global knowledge leader that places scientific and engineering research at the core of its society to power economic development and social progress.

Mission:

SFI will build and strengthen scientific and engineering research and its infrastructure in the areas of greatest strategic value to Ireland's long-term competitiveness and development.

SFI is underpinned by the following Core Values

Excellence

We fund internationally recognised world-class research.

Engagement

We are committed to SFI's role in Ireland's development and to the research community.

Strategic

We are visionary, plan for the long term, and invest in research with consequences for the benefit of Ireland's economy and society.

Innovation

We are dynamic, collaborative, creative and responsive to the ever changing needs of our stakeholders.

Integrity

We inspire trust by acting fairly, objectively, honestly and transparently in the manner in which we operate and the research that we fund.

Frontier research

We work at the frontiers of research. We advance knowledge, stimulate interdisciplinarity and promote linkages with industry.

Prof Jean-Pierre Colinge (Tyndall National Institute) designed the world's first junction less transistor

TCD researchers have discovered what could be the underlying basis for Type 2 diabetes

Ireland is in the top 20 countries in scientific global rankings

The complete genetic code of an Irish person has been sequenced for the first time by UCD researchers

TCD-led research may lead to more effective vaccinations against pneumonia and meningitis

Boost for Regenerative Medicine research in Ireland almost €10 million, awarded to the Regenerative Medicine Institute (REMEDI) at NUI Galway

A team of researchers led by UCC has discovered the way to predict pre-eclampsia in pregnant women

SFI researchers work with 534* companies

* Includes Government Departments, Charities, State Agencies, etc.

€19m investment in the Biomedical Diagnostics Institute (BDI)led by DCU

A joint SFI/IDA Ireland conference showcased Ireland's R&D capabilities at Stanford University

SFI researchers published 4,978 peer reviewed papers

22% increase in number of peer reviewed papers published

SFI research engaged in 1,700 international academic collaborations spanning 58 countries

New SFI-HRB-Wellcome Trust Biomedical Research Partnership will mean that the prestigious Wellcome Trust will jointly fund biomedical researchers in Ireland

Ireland is third in the world for the quality of its research in Immunology

President of Ireland, Mary McAleese, received two President of Ireland Young Researcher Awardees at a special ceremony in Áras an Uachtaráin

EU Commissioner for Research, Innovation and Science, Ms Maire Geoghegan-Quinn addressed the SFI Science Summit 2010

SFI awards support 2,999 Team Members

Ireland is eighth in the world for the quality of its research in Materials Science

44% increase in number of collaborations with industry

SFI researchers secured €153m of leveraged funding from non-SFI sources

Chairperson's Statement

I am delighted to present SFI's Annual Report and Financial Statements for 2010.

2010 marked SFI's ten-year anniversary as Ireland's State agency tasked with investing in research in the fields of science and engineering most likely to generate new knowledge, leading edge technologies and competitive enterprises. In a research timescale, ten years is, of course, a comparatively brief period. This makes the achievements of SFI and the research activity it has supported to date all the more commendable.

The key to developing sustainable long-term economic growth in Ireland is to focus on sectors where real potential exists, especially in the field of R&D and innovation. One of the mechanisms for driving economic development from the research supported by SFI is through collaboration with industry. Since it was established SFI has placed a strong emphasis on building these collaborations, I am pleased to report that there were over 500 companies working with SFI researchers in 2010. Over the past two years the number of industry-academic collaborations reported by SFI-supported researchers has more than doubled. SFI-supported researchers, working in conjunction with multinational and Irish companies, are helping to create a new environment that is both retaining and creating jobs.

SFI has a number of programmes focused specifically on this process, in particular the Centres for Science Engineering Technology (CSETs) and Strategic Research Clusters (SRCs). In 2010 a five year award commitment under the CSET programme was made to support the Biomedical Diagnostic Institute (BDI) at Dublin City University. This is matched with a contribution of €5 million from BDI's industry partners Ortho Clinical Diagnostics, Analog Devices Inc., Becton Dickinson and Co., Millipore, Biosurfit S.A. and Alere. Similarly, a five year award was made, under the SRC programme, to the Regenerative Medicine Institute (REMEDI) at NUI Galway. Much of the work at REMEDI will also link industry-based research and development, including several leaders in the medical device sector, a major sector of employment, innovation and exports in Ireland. Industry partners involved are Medtronic; Creganna-Tactx Medical; Ovagen; EnBIO; Ziel Biopharma and Proxy Biomedical. These partners collectively are providing a further €4 million in support of REMEDI over the 5 year period.

In the international arena, while Ireland frequently found itself on the front pages of newspapers around the globe primarily for fiscal reasons, our reputation overseas as an emergent scientific force was notable in 2010 on a number of fronts. Collaborations between SFI-funded researchers and international researchers have increased significantly with over 1,700 international collaboration taking place across 58 countries. During the year these produced some outstanding results. These included areas such as the treatment of thyroid disorders, pre-eclampsia, type 2 diabetes, asthma, the superbug C. difficile, the use of modified bacteria to replace oil-derived products, the world's first junctionless transistor, and sports television broadcasting capabilities in partnership with research division of the world-renowned Walt Disney Company.

The significant base of scientific excellence which Ireland now provides was highlighted to the US industry and research community, from which Ireland is seeking increased investment and collaborations, at a major event at Stanford University in California in November 2010. This event was organised jointly with IDA Ireland and attracted major US multinational companies and top class researchers.

A series of other high-profile events were also held which attracted considerable interest from within and outside the scientific community. A major SFI-sponsored global conference on molecular and cellular biology was held in Trinity College, Dublin, at which the remarkable advances recently recorded in this field were discussed over a full week by many of the world's leading immunologists and industry figures. The announcement by Thomson Reuters that Ireland is now ranked third in the world for the quality of research in immunology and eighth in the world in the field of materials science served to reaffirm our position as an authoritative voice in these disciplines. Other important conferences held in 2010 included special software and pharmaceutical industry-focused showcases hosted by SFI and IBEC.

These events are significant in achieving national and international recognition of Ireland's growing reputation in scientific research. They are important in convincing potential investors in industry and services that Ireland's human resource capital and knowledge-base provide a rich and increasing source of competitive advantage for firms which invest in Ireland. It is no coincidence that Irish export performance in recent years is led by those firms which invest significantly in R&D.

SFI investment is an important enabler in this process of economic development.

SFI's annual Science Summit brought together over 300 of Ireland's most accomplished and most promising researchers to look at achievements to date, but, more specifically, to focus on how to harness existing potential for future scientific breakthroughs. With 'Mining Minds – A new Decade of Discovery' as its theme, the significance of this year's Summit was underpinned by the presence and contribution of Ms Máire Geoghegan-Quinn, European Commissioner for Research, Innovation and Science.

In 2010, SFI continued to work side by side with other State agencies including IDA Ireland, Enterprise Ireland, the Health Research Board, the Higher Education Authority, Teagasc as well as with our universities and other higher education institutes. It also worked closely with our parent Department of Jobs, Enterprise and Innovation, other government departments and other key stakeholders. I want to thank our colleagues in these bodies for their strong support and collaboration.

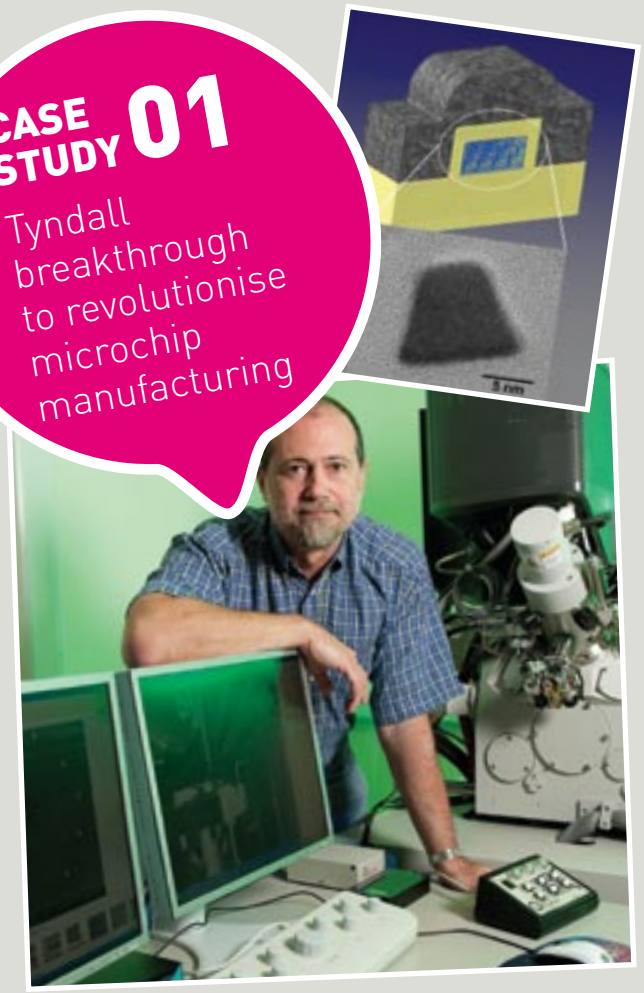
I want to pay tribute to the Board and staff of SFI for their unwavering commitment and good work throughout 2010. The organisation has been responsive to the needs of those in the science community and is wholly committed to ensuring that we build on the achievements of the last ten years. In this context, I want to especially thank Professor Frank Gannon for his immense contribution to SFI during his time as Director General between 2007-2010. I would also like to thank Board member John Travers for his agreement to take on the role of Director General at the request of the Board pending the appointment of a new Director General following a process of public competition.

Finally, I would encourage readers of this Annual Report to delve into its contents to gain some familiarity, with the many outstanding endeavours and outcomes of our most skilled scientists and engineers. Science exists in everything we are and everything we do. It is, and will remain at the heart of Ireland's economic regeneration today and the process of social and economic development in the days and years to come.

Professor Patrick Fottrell
Chairperson

CASE STUDY 01

Tyndall breakthrough to revolutionise microchip manufacturing



A team of scientists led by Prof Jean-Pierre Colinge at the Tyndall National Institute, Cork, has designed and fabricated the world's first junction less transistor that could revolutionise the microchip.

Transistors are an integral building block of all modern electronic devices. Their function is to either amplify or switch electronic signals, their size has continued to be reduced dramatically, allowing devices to be made smaller and to have more powerful storage and calculating abilities. As a consequence, the size of electronic devices has been reduced considerably while the capacity has increased. As reported in the prestigious journal, Nature Nanotechnology, Prof. Jean-Pierre Colinge and his team have used silicon nanowires, materials that have a diameter of around 10 nanometers (approximately 10,000 times thinner than a human hair!) to prepare minute devices that act as excellent transistors but do not require junctions to perform. The scale and electronic properties of these devices are such that they can be envisaged as providing an answer to one of the biggest questions that exists in electronics technology, namely, how can we reduce the size of components in order to continue the advancement of the electronic age?

Tyndall National Institute

Director General's Statement

I am delighted to present SFI's Annual Report and Financial Statements for 2010.

Despite a backdrop of progressively challenging national and international economic trends, 2010 was a year in which SFI's strengthening role, increased outputs and overall strategic relevance to Ireland's competitiveness came to the fore, perhaps more than at any other stage since its establishment. Investment in SFI's programmes continued during 2010, from individual Principal Investigator awards to funding for research centres in key sectors.

The occasion of its tenth anniversary in 2010 was a timely juncture to reflect on the SFI story to date. A tremendous amount has been achieved by many people dedicated to the SFI cause over that period. We have now arrived at a point where Ireland can justifiably claim to be excelling internationally in a range of scientific disciplines. A great distance in scientific achievement has been covered in a short time.

While it is important to look back and acknowledge what has been achieved by SFI as an organisation, science is ultimately about today and tomorrow. Operating in the present with pragmatism and in partnership, as well as looking to the future with a strategic and shared framework in place, will best ensure that science emerges as a pivotal component in our long-term economic recovery.

Science is about delivery - about bringing to fruition advances that are directly applicable and beneficial to society, be it in a medical, technological, energy or related context. It is also about delivering the message of success to as wide an audience as possible. Working to achieve this in conjunction with other State agencies as part of one platform enables Ireland to speak to the international community with a collective and convincing voice. Encouragingly, SFI and its diverse range of partners are all viewing the challenges and goals through the one blended prism of scientific excellence, commercialisation and economic impact.

Scientific discovery cannot flourish if it isolates itself from our day-to-day world. Equally, the obstacles that potentially inhibit the continued development of our research capacity must be worked around. One of these obstacles can be when the value and relevance of science to this and future generations is not appreciated by enough people, either through a lack of awareness, a lack of understanding, or both. We all have a duty, therefore, to decode the complexities of science and ensure that the necessity for scientific investment becomes - and remains - a priority in the public consciousness.

The importance of creating the right conditions for science itself was perhaps best articulated by President of Ireland, Mary McAleese, on her visit to Russia during 2010. Visiting one of Russia's leading nanotechnology institutions, President McAleese addressed a special Forum on Nanotechnology hosted by SFI. She spoke of scientific discovery requiring "an architecture of encouragement and resources". The President added that what was needed was "an environment which supports brilliant and pioneering minds, which encourages collaboration and which ensures that vital information gets easily to where it can do most good for all stakeholders including the wider scientific, commercial, industrial and public affairs communities but, above all, for civic society and the individual whose health, dignity, life's opportunities and life chances can be so imperilled or enhanced by the advancing frontiers of science."

Building Ireland's international reputation in scientific research was further supported by a highly successful showcase of Irish Research & Development at Stanford University in November 2010 organised jointly by IDA Ireland and SFI. Similarly, many other SFI-funded researchers this year presented their research in locations around the globe, including Russia, India, Italy, the United States and elsewhere.

These events are invaluable in proclaiming the message that Ireland is "open for business" and is an excellent base for international investors seeking competitive advantage through highly- skilled knowledge-based personnel working at the frontiers of scientific excellence.

2010 ended with a strong endorsement from Government of SFI's capacity to deliver economic benefit for Ireland. Funding allocated for research in December 2010's budget facilitates the re-opening of a number of SFI award programmes for new applications and, crucially, the renewal of many important research projects that are currently mid-stream. Sustaining such activity will,

EU Commissioner for Research and Innovation, Ms. Máire Geoghegan-Quinn, delivered a keynote address at the SFI Science Summit 2010, a two-day conference in Athlone attended by over 300 people including Ireland's leading scientific researchers and leading industry figures.

in particular, enable Ireland to remain an attractive location for foreign direct investment and support the development of indigenous Irish Enterprise.

Having been involved with SFI since its formation, I have seen first hand the dedication and infectious enthusiasm of Ireland's scientific community in their mission to succeed, to make a difference, to do things better than they have ever been done before and, in some instances, to do things that have never been done before. In truth, the vast majority of the general public in the course of their everyday lives will rarely, if ever, encounter those researchers who are tirelessly devoting day and night to re-writing science and to reconfiguring the relationship between the worlds of scientific endeavour and its application to enterprise and the wellbeing of our society. As we enter SFI's second decade, we will be working to ensure that this next 'decade of discovery' is firmly focused on supporting economic recovery and Ireland's competitiveness. This will be achieved by strengthening our engagements with industry both in Ireland and overseas, by encouraging more collaborations with industry and between scientists both in Ireland and in other countries, by training high quality researchers, by increasing the commercialisation of research and by highlighting its societal benefits.

John Travers

John Travers
Director General

CASE STUDY 02
High-End Computing Supporting Industry

The exponential growth in data sets requires the application of increasingly complex, large-scale and multi-disciplinary techniques combined with more powerful computers to extract important trends and characteristics.

With its in-house expertise spanning a wide range of disciplines, Irish Centre for High-End Computing (ICHEC) staff are providing high-performance solutions to tackle complexity in data-intensive areas from finance to meteorology to nanotechnology.

ICHEC has a particular focus on the use of graphics processors, GPGPUs, to achieve huge performance gains over conventional compute clusters and is applying these novel resources to tackle compute-intensive problems such as: seismic surveys of oil fields; the analysis of cholesterol crystal structures in human gallstones; the acceleration of fundamental computations used in phylogenetics and comparative genomics; and very high resolution regional forecasting for predicting extreme weather. The world-leader in graphics processor technologies, NVIDIA, has acknowledged ICHEC as an enabling partner and in recognition of its GPU expertise designated it as a CUDA Research Centre.

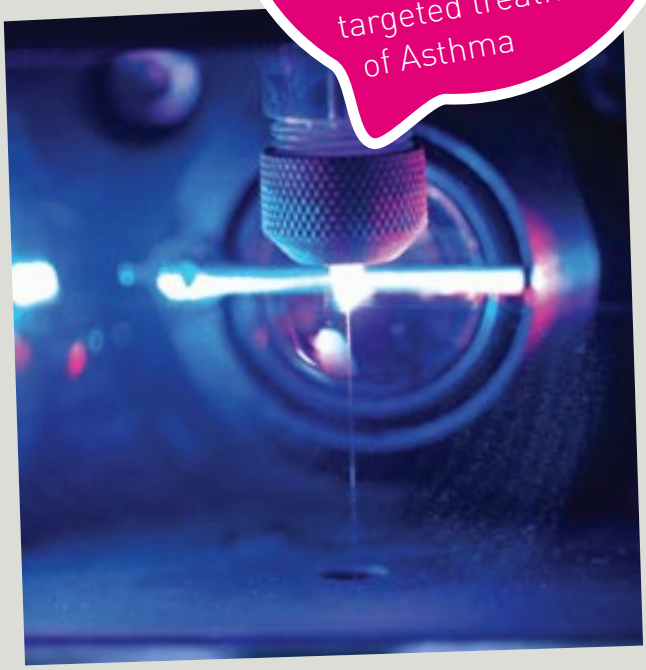
ICHEC and Met Éireann are involved in a collaboration to develop and run weather forecast models.

ICHEC staff are working with a number of Irish companies to provide solutions to their business strategies. These include Tullow Oil, Paddy Power, CarTrawler, ezetop along with several others.

ICHEC

CASE STUDY 03

TCD Researchers Collaborate in Discovery of New Cell that has potential for targeted treatment of Asthma



A collaboration between scientists in Trinity College Dublin (TCD) and the Medical Research Council Laboratory for Molecular Biology in Cambridge (United Kingdom) has identified a previously undiscovered white blood cell, called the nuocyte that is involved in allergic responses.

The discovery has implications for the development of new treatments of asthma and other allergic diseases. Allergic diseases such as eczema or asthma may arise when the body makes an inappropriate response to molecules in the environment, such as allergens from house dust mites. *"As asthma is on the increase globally, particularly in Ireland, the discovery of a new cell involved opens novel opportunities for developing drugs for allergic diseases. This development also sheds new light on the response to parasitic infections and could provide insights into poverty-related diseases worldwide,"* explained Professor Fallon, SFI Stokes Professor of Translational Immunology, Institute of Molecular Medicine, TCD.

TRINITY COLLEGE DUBLIN
COLÁISTE NA TRÍONÓIDE, BAILE ÁTHA CLIATH
THE UNIVERSITY OF DUBLIN

Achievements

2010 marked 10 years of investment and achievement by SFI and the research teams it supports. During this period a number of significant milestones have been reached, including:

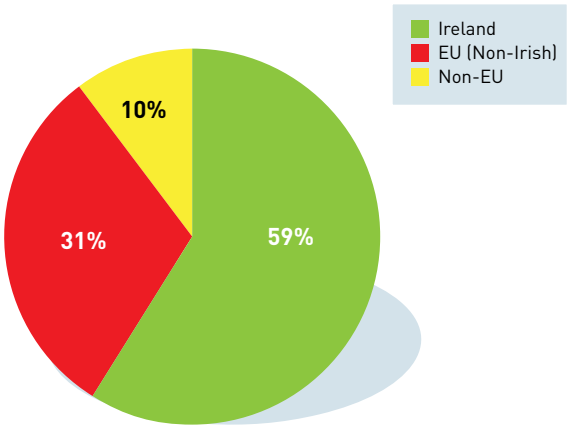
- the development of a credible base of world class research teams;
- an increase in publications – both in numbers and in quality;
- increases in the number of licences, patents and discoveries that are captured as having potential commercial interest; and
- the development of completely new models of research at the interface between academia and industry in the SFI Centres for Science, Engineering and Technology (CSETs) and Strategic research Clusters (SRCs).

Building Ireland's Human Capital – Valuing People as an asset

People are Ireland's primary resource. SFI-funded awards supported 2,999 team members in 2010. There were 5,618 research team members funded from SFI funding and other (leveraged) sources of funding.

Of the 463 SFI award holders almost 40% are non-Irish, and as a group are made up of 35 nationalities. Apart from the UK, which represents 16%, and Germany, which represents 6%, there is a wide distribution of nationalities included.

Nationality of SFI Award Holders in 2010

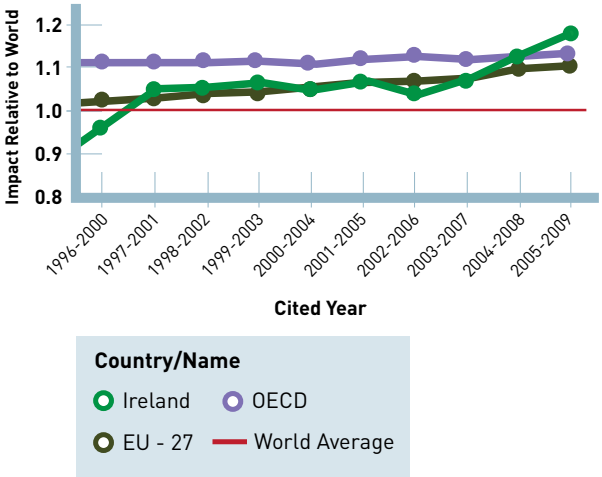


Focus on Research Excellence – High Quality Output

A focus on excellent research is critical if Ireland is to continue to build an effective research base that will contribute to economic development. Publications and citations provide a key indicator of the excellence of the research funded. Ireland's reputation as a location for high quality research has grown over the past decade and the impact of Irish research is now above the World, EU-27 and OECD average.

SFI supported researchers have contributed significantly to this growth in high quality research. A total of 4,978 peer reviewed publications were reported in 2010 by SFI-funded researchers. This represents an increase of 22% on 2009. SFI awards supported a total of 2,283 publications. 37% of these involve a non-Irish based co-author, indicating the internationalisation of Irish science. In line with SFI's policy on open access, 1,050 of these publications are available in open access repositories.

Impact Relative to World (Thomson Reuters-InCities)



Publications Table of Country Ranking (Thomson Reuters)

Listed By Citations Per Paper 2010	
1	SWITZERLAND
2	USA
3	DENMARK
4	NETHERLANDS
5	SCOTLAND
6	ENGLAND
7	SWEDEN
8	FINLAND
9	BELGIUM
10	GERMANY
11	CANADA
12	AUSTRIA
13	ISRAEL
14	NORWAY
15	FRANCE
16	WALES
17	AUSTRALIA
18	ITALY
19	NORTHERN IRELAND
20	**IRELAND**

President McAleese received recipients of the SFI President of Ireland Young Researcher Award (PIYRA) at a ceremony in Áras an Uachtaráin. Pictured were researchers - Dr Neil Ferguson, UCD, and Dr Natasa Mitic, of NUI Maynooth with President of Ireland Mary McAleese.

"cience" "Ireland 8th in the world for the quality of its research in Materials Science" "Ireland 8th in the world for the quality of its research in

CASE STUDY 04

DERI – Two new Spins Out

In 2010 the Digital Enterprise Research Institute (DERI) in NUIG launched two spin out companies. DERI, a SFI CSET, is the world's largest semantic web technology research centre and is a major force in the development of the next generation Internet.

Dr Laurentiu Vasiliu's Peracton Ltd (www.peracton.com) has developed an analytics platform which enables investment brokers and financial advisors to expand their portfolio from a few dozen to thousands of financial products and consistently make optimal selections based on the investment parameters (and weightings) that they have set. The system always returns a ranked list of "exact/best fit" results and provides a comprehensive suite of forensic capabilities.

Music is big business, and discovering great new music can be a rewarding, but extremely frustrating experience for consumers. Dr Alexandre Passant's Seevl Ltd (seevl.net) aims to reinvent music discovery using semantic technologies and linked data. It provides a new way for users to explore the cultural and musical universe of their favourite artists, and lets them discover new ones by understanding how they are connected.

www.deri.ie

Peracton seevl DERI

Research Frontiers Programme 2010 award recipients from the Tyndall National Institute Dr Eric Moore for a project on multi-sensing nano-structured sensor arrays for toxicity monitoring of cells relevant to human health and Dr Russell Duane for a project on Reliability of micrometer scale mechanical switches for radio frequency applications.

Engaging with Enterprise – Knowledge Transfer – Economic Benefit from Research

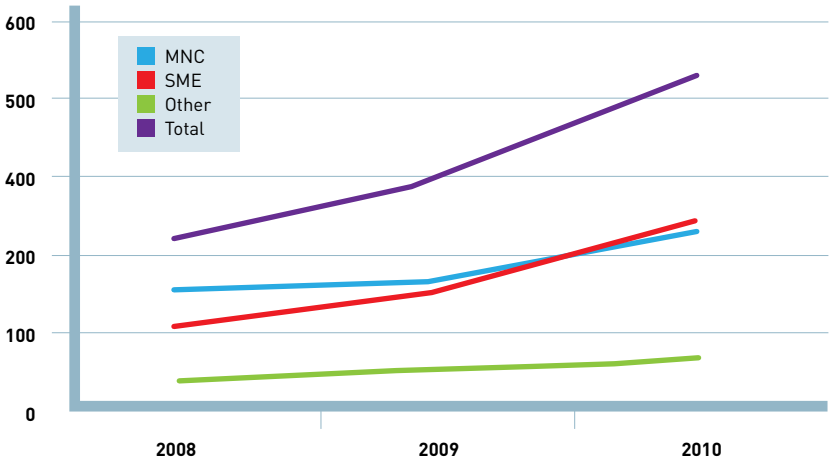
SFI was established to drive investment in academic research that would have a sustainable economic benefit. One of the methods for transferring this benefit is through academic-industry partnerships. SFI has a number of specific programmes that support this process, in particular the CSET and SRC programmes. **Over the years SFI has placed a strong emphasis on building these collaborations and the number of industry-academic collaborations has more than doubled in two years (402 in 2008 to 867 in 2010).**

In 2010 there were 534* companies working with SFI-funded researchers up from 311 two years ago. More than half of these collaborations are underlain by legal agreements.

" SFI researchers work with some 500 firms both MNC and SMEs" > " SFI researchers work with some 500 firms both MNC and SMEs" > " SFI res

*534 includes Government Department, State Agencies, Non-Governmental Bodies and Charities.

Number of Companies Collaborating with SFI Researchers 2008 - 2010



Over 82,761 people are employed in the companies that are linking with SFI researchers.

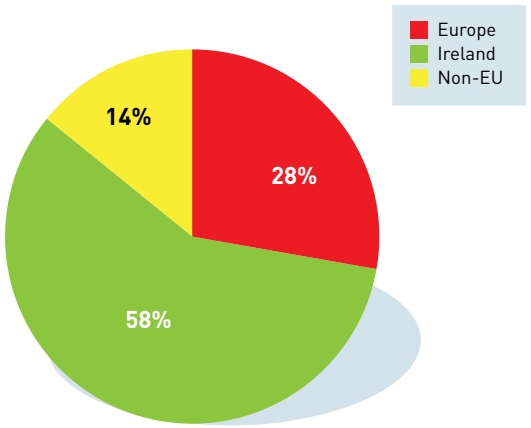
Moreover, they generate in excess of €73 billion in exports.

There were significant increases in the numbers of collaborations with industry in 2010, building on the strong growth that took place in 2009. Overall there was a 44% increase in the number of collaborations taking place with companies, i.e. 867 collaborations in total versus 601 in 2009. There was a corresponding increase (37%) in the number of companies collaborating with SFI-funded researchers. The number of collaborations with Multi National Corporations (MNC) is up 32%, with a 30% increase in the number of companies working with SFI-funded researchers, i.e. 237 MNCs.

A 63% increase in the number of collaborations with SMEs was reported (48% increase in distinct SMEs). The number of SMEs collaborating with SFI-funded researchers has overtaken the number of MNCs; 245 versus 237. There were also 82 collaborations reported with government departments/semi-state bodies and private foundations, charities and Non-Governmental Organisations (NGOs).

Over 82,761 people are employed in the companies that are linking with SFI researchers. Moreover, they generate in excess of €73 billion in exports. R&D-performing firms exhibit significantly stronger employment, gross value add and export figures than their non-R&D performing counterparts. The need to continue driving the R&D agenda is clear.

Industry-Academic Collaborations by Region



Industry-Research Collaborations in 2010 by Company Type

	Total Collaborations	
Multinational Corporation (MNC)	450	237
SME	335	245
Government Departments or Semi-State Bodies	55	28
Private Foundations/ Charities/ Non Government Organisations (NGO)	27	24
Total	**867**	**534**

SFI held a number of events to showcase supported research to industry in Ireland. In May 2010, SFI and Pharmachemical Ireland (PCI) hosted a collaborative forum with University College Cork's School of Pharmacy, which provided a platform for leading-edge research activity in areas such as process analytical technology (PAT), chemometrics, process modelling and converging technologies to be demonstrated to leading figures in Ireland's pharmaceutical industry. In October 2010, a special software industry-focused showcase was hosted by SFI and the Irish Software Innovation Network (ISIN).

earchers work with some 500 firms both MNC and SMEs > " SFI researchers work with some 500 firms both MNC and SMEs" > " SFI researchers

SFI CSETs and SRCs

9 SFI CSETs and 20 SRCs (by lead host institution) bring together academic researchers with 430 companies.

CSETs

Cork

- *Alimentary Pharmabiotic Centre (APC), UCC*

Galway

- *Digital Enterprise Research Institute (DERI), NUI Galway*

Dublin

- *Centre for Research on Adaptive Nanostructure & Nanodevice (CRANN), TCD*
- *Centre for Telecommunications Research (CTVR), TCD*
- *Biomedical Diagnostic Institute (BDI), DCU*
- *Next Generation Localisation (CNGL), DCU*
- *Systems Biology Ireland, UCD*
- *CLARITY, UCD*

Limerick

- *Lero - Irish Software Engineering Research Centre, UL*

Strategic Research Clusters (SRCs)

Cork

- *Efficient Embedded Digital Signal Processing for Mobile Digital Health (EEDSP), UCC*
- *Information and Communication Technology for Sustainable and Optimised Building Operation (ITOBO), UCC*
- *Photonics – Integration "From Atoms to Systems" (PiFAS), Tyndall NI*
- *FORME - Functional Oxides and Related Materials for Electronics, Tyndall NI*

Limerick

- *Solid State Pharmaceuticals Cluster, UL*

Galway

- *Network of Excellence for Functional Biomaterials (NFB), NUIG*
- *Alimentary Glycoscience Research Cluster (AGRC), NUIG*
- *Regenerative Medicine Institute (REMEDI), NUIG*

Maynooth

- *Strategic Research in Advanced Geotechnologies (StratAG) NUIM*

Waterford

- *Federated, Autonomic Management of End-to-end Communication Services (FAME) WIT*

Dublin

- *Reproductive Biology Research Cluster, UCD*
- *Advanced Biomimetics for Solar Energy Conversion, UCD*
- *BioNanoInteract, UCD*
- *The Irish Drug Delivery Research Network (IDDN), UCD*
- *Clique SRC UCD*
- *Financial Mathematics Computation Cluster (FMC2) UCD*
- *Immunology Research Centre (IRC), TCD*
- *Irish Separation Science Cluster, DCU*
- *Molecular Therapeutics for Cancer Ireland (MTCI), DCU)*
- *Precision, DCU*

"SFI researchers engaged in approximately 1,700 academic collaborations spanning 58 countries" "SFI researchers engaged in approximately 1,7

SFI Researchers

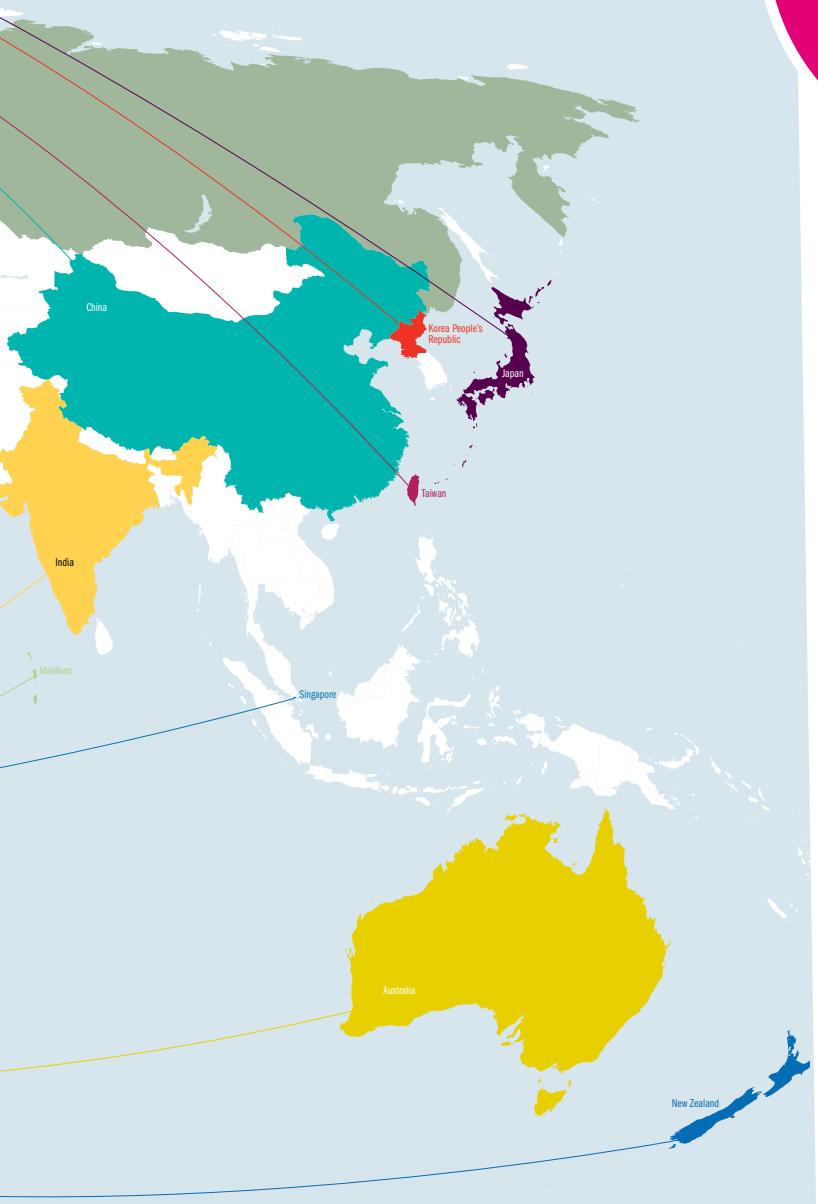
- Now collaborate with **237** MNCs
- Now collaborate with **245** SMEs
- The number of collaborations has **doubled** in two years

00 academic collaborations spanning 58 countries" > "SFI researchers engaged in approximately 1,700 academic collaborations spanning 58 count

SFI Researchers Global Connections

- SFI Researchers/teams participated in **5,251** international events
- SFI Researchers are collaborating with companies in **29** countries
- SFI Researchers are engaged in **1,700** international academic collaborations
- SFI Researchers partners are based in **58** countries

s supported 2,999 team members" › "SFI-funded awards supported 2,999 team members" › "SFI-funded awards supported 2,999 team members



CASE STUDY 05

Transforming the face of biomedical diagnostics

The Biomedical Diagnostics Institute (BDI) based at Dublin City University has been working on the development of technologies which will enable cost effective early diagnosis of illnesses such as cancer, meningitis and cardiovascular disease and is now moving on to translate these novel diagnostic devices into clinical and commercial reality.

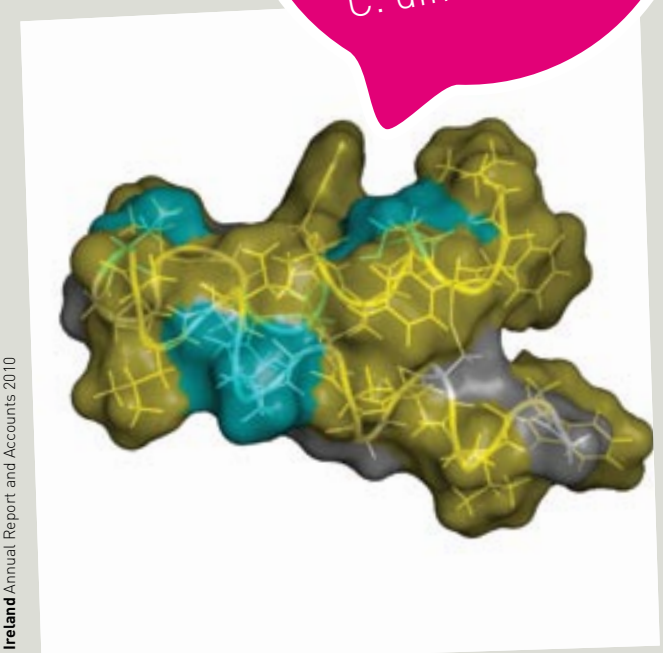
BDI is seeking to develop what might be termed smart one-stop-diagnostic-shops for use at point of care, or near point of care, by healthcare professionals. The concept is of a single, easy to use device which will take the sample, perform the test and deliver the result in what is effectively a single action.

"Our devices will be able to take fluids, such as blood, in very small quantities, process it and produce a result. For example, we might be interested in just one cell in that sample and we might have to analyse the DNA of that one cell. Our devices will be capable of doing this", says BDI Director Professor Michael Berndt.

DCU bdi

CASE STUDY 06

New treatment for hospital-acquired superbug C. difficile



Scientists working at the Alimentary Pharmabiotic Centre (APC) at University College Cork and Teagasc have identified a new antibiotic, thuricin CD, that is effective against the superbug Clostridium difficile, the most rapidly increasing hospital-acquired illness in the Western world and a major cause of death.

Given the importance of normal gut flora in preventing C. difficile growth, Professor Paul Ross and Dr Mary Rea at the Teagasc Moorpark Food Research Centre, and Professor Colin Hill from UCC analysed the very bacterial populations that keep C. difficile at bay in normal gut conditions, with the goal of finding a compound that could specifically eliminate this organism. The potent new antimicrobial peptide was discovered by screening over 30,000 bacteria isolated from the human gut. The new antimicrobial peptide is licensed to Alimentary Health Ltd, an Irish speciality biotechnology company. The research has led to two publications in the high profile journal, Proceedings of the National Academy of Sciences of the USA.

President McAleese visits Rusnano as part of official visit to Russia.

Ireland's International Reputation – the Contribution of Research

SFI researchers contribute significantly to building Ireland's international scientific reputation. In 2010, there were over 1,700 academic collaborations with international partners in 58 countries.

There has been a large increase in the number of collaborations with non-EU partners, and this has now surpassed the EU-non Irish category to become the largest cohort. Almost 90% of these collaborations are to facilitate joint research/publication.

SFI Undertook a Number of Significant International Events/Showcases During 2010:

- In November 2010 SFI and IDA Ireland held a showcase of Irish Research & Development at Stanford University in Silicon Valley, USA. The event featured 20 speakers from both academia and industry who described their research in key domains including nanotechnology, optical and wireless communications research, sensor web technologies, cloud and internet-scale computing, and converging technologies across a variety of applications. Speakers representing Irish Universities as well as Intel, IBM, Cisco, and Hewlett-Packard also participated.
- In May 2010, SFI, together with the IDA Ireland and Enterprise Ireland, attended the BIO International Convention in Chicago. The event is the world's largest gathering of the biotech community, showcasing and connecting the people, companies and biotech-based innovations that help to improve life for the future. The agencies attended BIO 2010 to showcase Ireland's world class research landscape, its clusters of biopharma, pharma and medical technology companies, and its business friendly environment.

Academic Collaborations in 2010 by Region

	Total Collaborations	
Irish	541	24.10%
EU Non-Irish	714	31.80%
Non-EU	991	44.10%
Total	**2246**	**100.00%**

Breakdown of Location and Researcher Role at International Events in 2010

	Ireland	EU (excl Ireland)	Outside EU	Total
Host	126	56	37	219
Programme Committee Member	78	175	112	365
Invited Speaker	298	593	383	1274
Paper Presented	309	703	397	1409
Poster Presented	427	485	346	1258
Meeting Participant	340	288	98	726
Total	**1578**	**2300**	**1373**	**5251**

- Dana-Farber/Harvard Cancer Center (DF/HCC) is the largest comprehensive cancer centre in the world, bringing together the cancer research efforts of seven member institutions: Beth Israel Deaconess Medical Center, Brigham and Women's Hospital, Children's Hospital Boston, Dana-Farber Cancer Institute, Harvard Medical School, Harvard School of Public Health, and Massachusetts General Hospital. In February 2010, SFI arranged a delegation of 13 SFI supported researchers to visit Dana-Farber and meet with senior administrative staff and researchers there to explore opportunities for collaboration.
- In October 2010, SFI participated in the organisation of a joint Irish-Finnish event, which was held during the Finnish Prime Minister's visit to Ireland entitled *"Overcoming Recession through Innovation: Combining Irish and Finnish Strengths."* The event was organised by Department of Enterprise Trade & Innovation, the Embassy of Finland, Finpro, Enterprise Ireland, IDA Ireland and SFI.
- The President of Ireland, Mary McAleese, undertook a state visit to Russia at the beginning of September 2010. On the occasion of this official state visit, and as part of President McAleese's programme, SFI arranged a seminar on the 8th September in Moscow to showcase Irish research. This event provided an opportunity to build links between Irish and Russian researchers and focussed in the area of nanotechnology. SFI was hosted in Moscow by RUSNANO: the Russian Corporation of Nanotechnologies.

CASE STUDY 07

Nanoscientist Ranked Amongst Best in World for Materials Science

Professor Jonathan Coleman, Associate Professor of Physics at Trinity College and Principal Investigator at the Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN), has been named among the top 100 materials scientists of the past decade by Times Higher Education.

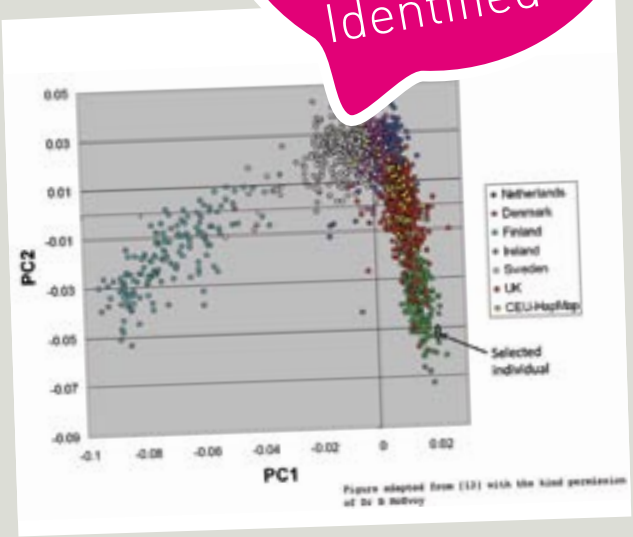
Professor Coleman is the only Irish scientist named in the top 100 and one of the youngest on the list. Ranked 61st in the world, Professor Coleman was chosen from a list of approximately 500,000 materials scientists, ranking him among the top 0.02 percent in the field.

CRANN

TRINITY COLLEGE DUBLIN
COLÁISTE NA TRÍONÓIDE, BAILE ÁTHA CLIATH
THE UNIVERSITY OF DUBLIN

CASE STUDY 08

The Genetic Code of an Irish Person Identified



Principal components analysis plot adapted from [15] illustrating the position of our Irish Individual with respect to other individuals of western European origin.

Unravelling the genetic structure of human populations is of fundamental interest to both the biological and medical sciences.

With its isolated geography, its ancestral impact on populations of other countries such the USA and Australia, and a high frequency of susceptibility alleles for a number of important diseases, the Irish population has long been of interest to biomedical researchers across the globe. In order to begin the process of unravelling the genetic import of Irish ancestry, the complete genetic code of an Irish person was sequenced for the first time by a team led by Prof. Brendan Loftus from the UCD Conway Institute. The findings were published in the journal Genome Biology and comparison with other human genomes revealed a surprisingly large number of novel sequence variants. Analysis provides insight into the population structure of this branch of the European lineage, provided a novel technique for SNP calling in human genome sequence using haplotype data and uncovered novel variants pointing towards likely causative risk factors for important diseases.

Leveraging Additional Funding

In 2010, SFI researchers reported securing €153 million of funding from non-SFI sources. While the amount of additional funding secured by SFI researchers has decreased slightly (4%) versus 2009, there are significant changes in the composition by source.

SFI-funded researchers secured €73 million from international sources, an increase of 36% versus 2009. EU funding in excess of €62 million was secured, a 63% increase on the level secured in 2009. In addition, funding secured from the private sector increased by 25%.

Amount of Leveraged Funding Reported by SFI-Funded Researchers in 2010

	Portion For Award €
EU	62,598,472
Private Enterprise	14,952,908
Enterprise Ireland	13,774,578
HEA	13,234,856
IRCSET	12,363,444
HRB	9,419,060
Other Irish Government Sources	6,925,399
Other International Government Source	4,100,500
Charity/Non-Profit Organisation (Irish)	3,497,365
EPA	2,522,852
DAFF	1,798,831
Charity/Non-Profit Organisation (International)	1,767,988
Wellcome Trust	1,719,882
Other International Interest Organisation	1,211,363
NIH	1,059,433
Teagasc	1,051,200
Marine Institute	435,345
NSF	366,470
Other Source (please describe)	360,447
DCENR	100,000
Total	**153,260,393**

reland is 3rd in the world for the quality of its research in Immunology" "Ireland is 3rd in the world for the quality of its research in Immunology"

€153m of research funding from non-SFI sources

€73m from international sources

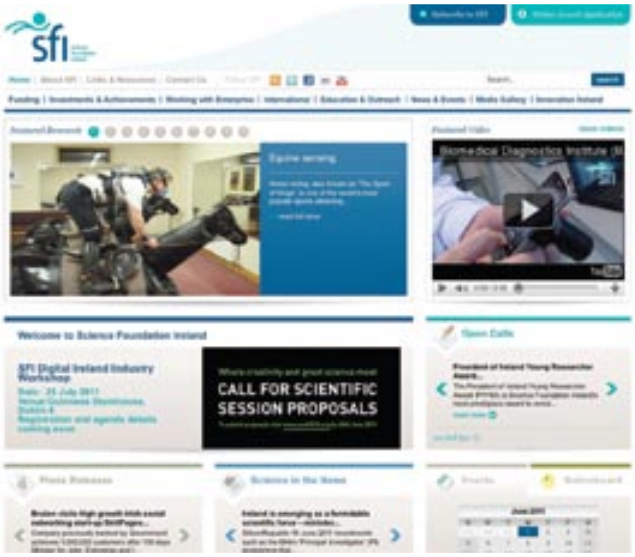
€61m from the Exchequer

Dr. Simon Elliott, Tyndall National Institute, one of the award recipients speaking at the announcement of €25.7 million for 27 research projects in areas such as wind energy, computer speech recognition, telecommunications, inflammatory disorders, genetic testing and animal health as part of the SFI Principal Investigator Programme.

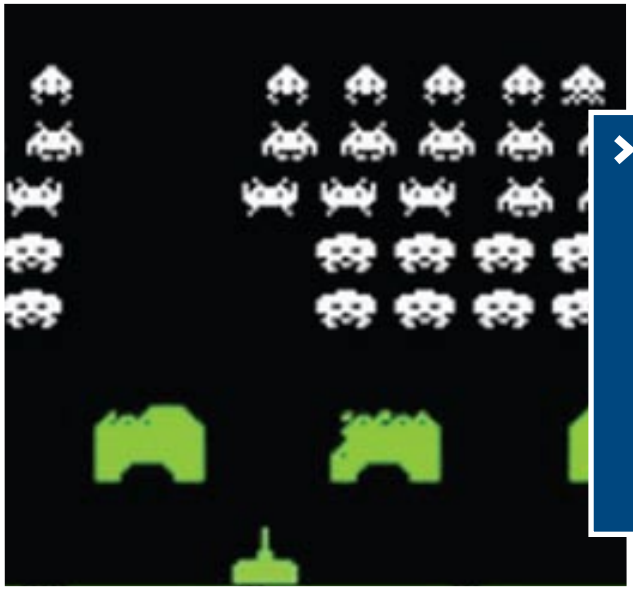
Communicating Science to a wider audience

SFI recognises the importance of communicating science to the general public and, in particular, young people. SFI as the leading science funding agency in Ireland actively encourages the researchers it funds to engage in outreach and education initiatives. In 2010, 293 SFI researchers engaged in public outreach activity. Actions undertaken included over 650 public demonstration/lectures, over 600 schools visits and over 1,000 media interactions.

SFI CSETs each have extensive education and outreach activities across different groups in society from primary pupils, to secondary pupils, to third level, to the general public and industry. Activities include schools competitions, computer games, websites, lab and school visits, public lectures and teaching packs. The SFI 'speakers for schools' programme provides free visits to schools where SFI researchers and team members deliver talks and give demonstrations to pupils. During 2010, 85 SFI researchers from 12 HEIs throughout the country were registered to give 178 different talks to school pupils.



A core communications action for SFI in 2010 was the upgrading of its website – www.sfi.ie. The new website went live in April 2010 and received over 78,000 visitors during the year. The website features significantly more content than the previous site including a database of all SFI-funded researchers, video features, profiles and highlighted stories on the work of SFI researchers. In addition, SFI introduced a new e-zine which is distributed on a monthly basis to over 5,000 individuals. SFI plans to build on this online presence going forward.



Ireland's Only Computer and Communications Museum

Located in the Digital Enterprise Research Institute (DERI) at NUI Galway, this collaboration with eGalway tells the fascinating story of key moments in the history of communications. It looks at the impact of the radio, has a section dedicated to computer gaming, considers the growth of new communications industries on Ireland and tracks the development of the portable computer, printer and microprocessor.

New Awards in 2010

160 new awards commenced in 2010, across 10 programmes, led by 14 research bodies. Total payments to research bodies in 2010 were €150 million. Since it was established SFI has received approximately 8,000 applications and funded approximately 2,000 awards (one in four applications are successful).

Examples of research projects supported in 2010:

- Allocation of €19 million to the Biomedical Diagnostic Institute (BDI) over the next five years. This is matched with a contribution of €5 million from BDI's industry partners Ortho, Clinical Diagnostics, Analog Devices, Becton Dickinson, Millipore, Biosurfit and Alere. Research projects include a disposable plastic chip that – from a few drops of blood – can categorise the risk of developing cardiovascular disease and thereby inform the optimal lifestyle or clinical approach for a patient.
- €8.5 million for 47 research projects across a range of areas including cystic fibrosis, genetics, bacterial and viral infections, environmental monitoring, food safety, and streaming media over wireless networks under the SFI Research Frontiers Programme to 11 research bodies.
- €25.7 million for 27 research projects in areas such as wind energy, computer speech recognition, telecommunications, inflammatory disorders, genetic testing and animal health as part of the SFI Principal Investigator Programme.
- €9.69 million funding allocated the Regenerative Medicine Institute (REMEDI) at NUI Galway, focusing on translating stem cell biology to regenerative therapeutics. The award will allow REMEDI to take research findings from the first phase of its operation and move towards clinical trials for new therapies and treatments for degenerative diseases.
- 37 awards were made under the SFI Conference & Workshops programme with a value of €258,972 in 2010. These awards have a very positive impact in enhancing Ireland's scientific reputation, raising the profile of SFI as a high-quality event sponsor, and the synergy of bringing together Industry with Academia at events .
- 29 Technology and Innovation Development Award (TIDA) Feasibility proposals jointly with Enterprise Ireland valued at €1.2million. These enable SFI-funded research groups to focus on the first steps of an applied research project which may have a commercial benefit if further developed.
- National Access Programme (NAP) at Tyndall National Institute, Cork received support of €4.6 million to continue to ensure that the extensive equipment-base and expertise in Tyndall are available to the wider research community. The NAP programme is highly rated with significant publication outputs, IP generation and contributions to scientific education. The NAP has already provided access to over 440 researchers around the country and with 241 ICT research projects carried out in the areas of Health, Energy, Environment, Communications and Computation. The projects undertaken by the eight Universities and seven Institutes of Technology in Ireland have included the molecular modeling of proteins in cancer cells, fabrication of nanostructures to make silicon photonics devices, and fabrication of microfluidic platforms for a range of bio-sensing applications.

Researcher in REMEDI at NUIG which focuses on translating stem cell biology to regenerative therapeutics. The Institute which received support in 2010 already has a successful collaborative relationship with Medtronic, a global leader in medical device technologies; while new partnerships have been established with indigenous SME companies including Creganna-Tactyx Medical, Procure, Ovagen, Proxy Biomedical, Ziel Biopharma and EnBIO.

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 for the Governance of State Bodies, as issued by the Department of Finance, both in its activities and in its use of committees. In accordance with these guidelines, SFI 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

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

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

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

4 Prompt Payment of Accounts Act, 1997

SFI 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 on 7 August 2002. It is the policy of SFI to ensure that all invoices are paid promptly. Specific procedures are in place that enable it 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. There were no late payments during 2010.

5 Employment Equality Acts, 1998 and 2004

SFI 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. SFI's commitment to implementing equal opportunities is reflected in its policies, practices and procedures, e.g. recruitment, promotion, training, use of non-discriminatory language in company 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 Safety, Health and Welfare at Work Act 1989

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

7 Clients' Charter

SFI 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 2010, no complaints were received under the Charter.

8 Energy Efficiency

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 Forfás. In each area relevant to energy usage and services to the building, SFI is satisfied that Forfás endeavours to employ the most energy efficient and environmentally friendly means available. In compliance with the SI, Forfás' annual report and statement of accounts 2010 includes details of energy usage in the building, actions undertaken in 2010 to improve the energy performance in the building and proposed actions for further improve in the energy performance in 2011.

9 Board Meetings/Attendance

The SFI Board consists of 12 members, appointed by the Minister for Jobs, Enterprise & Innovation, as set out in Section 8 of the Industrial Development (Science Foundation Ireland) Act 2003. The Quorum for the SFI Board is five members. Six SFI Board meetings were held in 2010 as follows:

Date	Number of Attendees
25/26 January 2010	12
29 March 2010	12
24 May 2010	11
19 July 2010	11
4 October 2010	11
6 December 2010	11

In December 2010, membership of the Board was reduced to 11 as a result of the retirement of the former Director General, Prof Frank Gannon, and the appointment of Board Member, John Travers, as interim DG.

Name of Director	Notes	Attendance at Board Meetings (6 meetings)	Fees €
Prof Pat Fottrell		6	21,600
Dr Jim Mountjoy		6	12,600
Mr Sean Aherne	This includes payment of arrears for 2009	6	13,463
Mr Tom Boland		6	0
Dr Rita Colwell	Participation by conference call from the US for 1 Board Meeting	6	12,600
Dr Pat Duane (b)	Eligible to attend 2 meetings	2	3,219
Prof Frank Gannon (c)	Eligible to attend 5 meetings	5	10,722
Ms Bernie Cullinan	This includes payment of arrears for 2009	6	13,463
Mr Peter MacDonagh		6	12,600
Dr Martina Newell McGloughlin		6	12,600
Mr Martin Shanagher (a)(b)		6	0
Mr John Travers		6	12,600
Dr Don Thornhill (a)	Eligible to attend 4 meetings	3	7,100

CASE STUDY 09

Disney Research And Clarity Sports Visualization Project

Disney and CLARITY, the SFI CSET, are undertaking research to explore ways in which use of multiple cameras, even dozens, can enhance the high-end broadcast of major athletic events.

The projects also examine how such systems can provide opportunities for less well-known sports to develop larger fan bases, for youth sports to be viewed remotely, and for how enhanced visuals and statistics can be used by coaches. The research could be applied widely in sports and broadcasting and could yield new opportunities for ESPN, the world's leading multinational, multimedia sports entertainment company which is 80% owned by The Walt Disney Company.

a) In accordance with the process set out in Sections 9(3) and 9(4) of the Industrial Development (Science Foundation Ireland) Act 2003 relating to Board Membership, the following Board Members were chosen for retirement as the longest serving members:

- Mr Martin Shanagher; and
- Dr Don Thornhill.

b) Mr Martin Shanagher was re-appointed effective from 25 July 2010 and a new appointment, Dr Pat Duane, was also made on 29th September 2010 by the Minister for Enterprise, Trade and Innovation.

c) Prof Frank Gannon retired as Director General of SFI effective 5 December 2010.

10 Members of Committees of the Board 2010

10. 1 Board Sub Group on Programme Grants

Dr Martina Newell-McGloughlin (Chairperson), Prof Frank Gannon, Mr Peter MacDonagh, Dr Gary Crawley, Dr Rita Colwell and Dr Eucharia Meehan.

10.2 SFI Audit Committee

Dr Jim Mountjoy (Chairman), Dr Don Thornhill, Mr Aidan Hodson, Mr Sean Aherne, Ms Bernie Cullinan, Dr Pat Duane and Mr Tom Boland.

10.3 Management Development and Remuneration Committee

Prof Patrick Fottrell (Chairperson), Mr Sean Aherne, Mr Martin Shanagher and Mr John Travers.

10.4 Board Sub Committee Meetings

1. The Audit Committee held six meetings.
2. The Board Sub Group on Programme Grants held five (virtual) meetings.
3. The Management Development and Remuneration Committee held four meetings.

11 Board Expenses

The total Board expenses for 2010 were €51,958. Broken-down in the table below.

Expenditure Heading	€
Foreign Travel (overseas members attending Board meetings)	€44,482
Domestic Travel	€4,183
Accommodation/Subsistence/ Vouched Expenses	€3,293

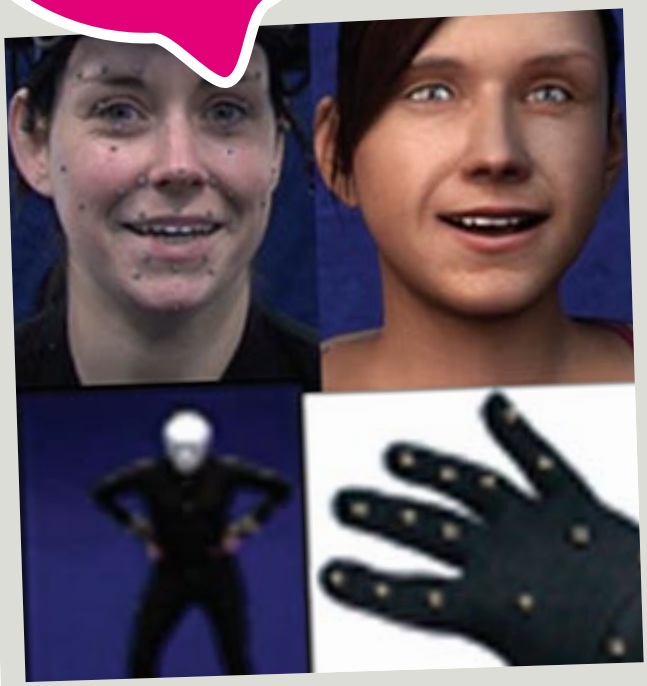
12 Director General Remuneration

Professor Frank Gannon retired as Director General of SFI with effect from 5 December 2010. Professor Gannon received a pension and lump sum in accordance with public sector entitlements. Forfás is responsible for the determination and payment of pension entitlements to all retired Science Foundation staff.

Professor Frank Gannon received a salary up to 5 December 2010 of €246,421 and a company car subject to benefit in kind of €1,169. No bonus or performance related payments were made in 2010.

Mr John Travers was appointed as Director General of SFI with effect from 6 December 2010, pending the appointment of a Director General on a more permanent basis. At 31 December 2010 no payments had been made to Mr Travers as the remuneration package in respect of this appointment remained to be determined.

CASE STUDY 10 Captavatar



There is an increasing demand for more realistic virtual characters, especially for games that involve interaction between the user and a virtual human, and entertainment applications designed to evoke intense emotions.

Within the Creative Industries, there is insufficient understanding about how the perceivable aspects of virtual characters (e.g., facial expressions, voice intonations or bodily gestures and their combinations) increase user engagement. This novel inter-disciplinary project led by Prof. Fiona Newell and Prof. Carol O'Sullivan, from TCD, combines computer graphics and social cognitive neuroscience, it looks at applying principles of human perceptual processing to endow virtual agents with maximum social appeal. By identifying preferred features and their multisensory combinations the research will then simulate these features in virtual agents, and create a 'morphable' social human. The TCD group are working with industry partners Intel and Disney Research to apply the work in the areas of games, health and entertainment.

TRINITY COLLEGE DUBLIN
COLÁISTE NA TRÍONÓIDE, BAILE ÁTHA CLIATH
THE UNIVERSITY OF DUBLIN

academic collaborations spanning 58 countries" > "SFI researchers engaged in approximately 2,000 academic collaborations spanning 58 countries

Organisation Structure

SFI **Board**

- Board Sub-Group on Programme Grants
- Management Development and Remuneration Committee
- Audit Committee

Head of Audit & Compliance
Mr Jeremy Twomey

Office of Director General

Director General
Mr John Travers

Finance and Operations

Chief Operations Officer
Mr Donal Keane

Lifesciences

Director
Dr Stephen Simpson

Enterprise & International Affairs

Director
Dr Ruth Freeman

Policy & Communications

Director
Dr Graham Love

Information, Communications & Emergent Technologies Directorate

Director
Prof Fionn Murtagh

Industry Collaborative Programmes

Director
Dr Paul Dodd

Board Members

1. **Prof. Patrick Fottrell**
   Chairperson,
   Science Foundation Ireland

2. **Mr. John Travers**[1]
   Director General,
   Science Foundation Ireland

3. **Dr. Jim Mountjoy**
   Deputy Chairman,
   Science Foundation Ireland

4. **Mr. Sean Aherne**
   General Manager,
   Nedra Medpharma Ltd

5. **Mr. Tom Boland**
   Chief Executive Officer,
   Higher Education Authority

6. **Dr. Rita R. Colwell**
   Chairman,
   Canon US Life Sciences, Inc.
   Distinguished Professor, University of Maryland College Park and Johns Hopkins University Bloomberg School of Public Health

7. **Ms. Bernie Cullinan**
   Chief Executive Officer, Clarigen

8. **Dr. Pat Duane**
   General Manager and VP Corporate Development, Creganna Tactx Medical

9. **Peter MacDonagh**
   Research Consultant

10. **Dr. Martina Newell-McGloughlin**
    Director,
    University of California Systemwide Biotechnology Research and Education Program, Co-Director, NIH Training Program in Biomolecular Technology

11. **Mr. Martin Shanagher**
    Assistant Secretary,
    Innovation and Investment Division,
    Department of Jobs, Enterprise and Innovation

1. John Travers was appointed as the interim Director General in December 2010 following the retirement of Prof Frank Gannon.

Annual Financial Statements 2010

31 December 2010

Report of Comptroller & Auditor General

Report for presentation to the Houses of the Oireachtas

I have audited the financial statements of Science Foundation Ireland for the year ended 31 December 2010 under the Industrial Development (Science Foundation Ireland) Act 2003. The financial statements, which have been prepared under the accounting policies set out therein, comprise the Accounting Policies, the Income and Expenditure Account, the Balance Sheet, the Cash Flow Statement and the related notes. The financial reporting framework that has been applied in their preparation is applicable law and Generally Accepted Accounting Practice in Ireland.

Responsibilities of the Board

The Board is responsible for the preparation of the financial statements, for ensuring that they give a true and fair view of the state of Science Foundation Ireland's affairs and of its income and expenditure, and for ensuring the regularity of transactions.

Responsibilities of the Comptroller and Auditor General

My responsibility is to audit the financial statements and report on them in accordance with applicable law.

My audit is conducted by reference to the special considerations which attach to State bodies in relation to their management and operation.

My audit is carried out in accordance with the International Standards on Auditing (UK and Ireland) and in compliance with the Auditing Practices Board's Ethical Standards for Auditors.

Scope of Audit of the Financial Statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements, sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of whether the accounting policies are appropriate to Science Foundation Ireland's circumstances, and have been consistently applied and adequately disclosed the reasonableness of significant accounting estimates made in the preparation of the financial statements, and the overall presentation of the financial statements.

I also seek to obtain evidence about the regularity of financial transactions in the course of audit.

In addition, I read all the financial and non-financial information in the Annual Report to identify material inconsistencies with the audited financial statements. If I become aware of any apparent material misstatements or inconsistencies I consider the implications for my report.

Opinion on the Financial Statements

In my opinion, the financial statements, which have been properly prepared in accordance with Generally Accepted Accounting Practice in Ireland, give a true and fair view of the state of Science Foundation Ireland's affairs at 31 December 2010 and of its income and expenditure for the year then ended.

In my opinion, proper books of account have been kept by Science Foundation Ireland. The financial statements are in agreement with the books of account.

Opinion on the Financial Statements

I report by exception if I have not received all the information and explanations I required for my audit, or my audit noted any material instance where moneys have not been applied for the purposes intended or where the transactions did not conform to the authorities governing them, or the information given in Science Foundation Ireland's Annual Report for the year for which the financial statements are prepared is not consistent with the financial statements, or the Statement on Internal Financial Control does not reflect Science Foundation Ireland's compliance with the Code of Practice for the Governance of State Bodies, or I find there are other material matters relating to the manner in which public business has been conducted.

I have nothing to report in regard to those matters upon which reporting is by exception.

John Buckley
Comptroller and Auditor General
19 June 2010

Statement of Board Members' Responsibilities

For 2010 Annual Financial Statements

Section 24 (2) of the Industrial Development (Science Foundation Ireland) Act, 2003 requires Science Foundation Ireland to keep, in such form as may be approved by the Minister for Enterprise, Trade and Innovation with the consent of the Minister for Finance, all proper and usual accounts of money received and expended by it and, in particular, to keep in such form as aforesaid all special accounts as the Minister may from time to time direct. In preparing those financial statements, Science Foundation Ireland 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 Science Foundation Ireland will continue in operation;
- disclose and explain any material departures from applicable Accounting Standards.

The Board is responsible for keeping proper books of account which disclose with reasonable accuracy at any time its financial position and which enable it to ensure that the financial statements comply with the overall requirements of Section 24 of the Industrial Development (Science Foundation Ireland) Act, 2003. These books of account are located at the Foundation's headquarters, Wilton Park House, Wilton Place, Dublin 2. 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.

On behalf of the Board:

Patrick Fottrell
Chairman

Date: 16 May 2011

John Travers
Director General

Date: 16 May 2011

Statement on Internal Financial Control

On behalf of the Board of Science Foundation Ireland I acknowledge our responsibility for ensuring that an effective system of internal financial control is maintained and operated.

The system can only provide 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 period.

The Board has taken steps to ensure an appropriate control environment is in place by:

- Clearly defining and documenting management responsibilities and powers
- Establishing formal procedures for monitoring the activities and safeguarding the assets of the organisation
- Developing a culture of accountability across all levels of the organisation

The Board has also established processes to identify and evaluate business risks by:

- Working closely with Government and various Agencies to ensure that there is a clear understanding of Science Foundation Ireland goals and support for the Agencies' strategies to achieve those goals
- Requiring senior management to put in place risk assessment and risk management processes for the Audit Committee
- Carrying out regular reviews of strategic plans both short and long term and evaluating the risks to bringing those plans to fruition
- Setting annual targets for each area of our business followed by regular reporting on the results achieved

The system of internal financial control is based on a framework of regular management information, administration procedures including segregation of duties, and a system of delegation and accountability. In particular it includes:

- A comprehensive budgeting system with an annual budget which is reviewed and agreed by the Board
- Regular reviews by the Board of periodic and annual financial reports which indicate financial performance against forecasts
- Setting targets to measure financial and other performance
- Formal project management disciplines
- Clearly defined capital investment control guidelines

Science Foundation Ireland has established an Internal Audit function, in accordance with the Framework set out in the Code of Practice on the Governance of State Bodies, which reports directly to the Audit Committee. An annual Internal Audit work plan is agreed by the Audit Committee. The work of internal audit is informed by analysis of the risks to which the body is exposed. The Audit Committee meets six times a year and reviews the outcome of the specific internal audits and the ongoing adequacy and effectiveness of the system of internal financial control. These reports highlight deficiencies or weaknesses, if any, in the system of internal financial control and the recommended corrective measures to be taken where necessary.

The Board's monitoring and review of the effectiveness of the system of internal financial control is informed by the work of the Internal Auditor and the Audit Committee which oversees the work of the Internal Auditor, the control exercised by the Executive managers within SFI who have responsibility for the development and maintenance of the financial framework, and comments by the Comptroller and Auditor General in his management letter.

I confirm that the Board conducted a review of the effectiveness of the system of internal financial controls for 2010.

Signed on behalf of the Board

Patrick Fottrell
Chairman

Accounting Policies

(1) Basis of Accounting

The Financial Statements have been prepared under the historical cost convention in the form approved by the Minister for Enterprise, Trade and Innovation with the consent of the Minister for Finance under the Industrial Development (Science Foundation Ireland) Act 2003. The Financial Statements are prepared on an accruals basis, except where stated below and are in accordance with generally accepted accounting practice. Financial Reporting Standards, recommended by the Accounting Standards Board, are adopted as they become effective.

(2) Income Recognition

Income from Oireachtas Grant represents actual cash receipts in the year.

(3) Fixed Assets

Fixed Assets are stated at cost less accumulated depreciation. Depreciation is calculated in order to write off the cost of fixed assets over their estimated useful lives (see Note 5).

(4) Capital Account

The Capital Account represents funds utilised for the acquisition of Fixed Assets and is written down in line with the depreciation policy for these assets.

(5) Foreign Currencies

Monetary assets and liabilities denominated in foreign currencies are translated at the exchange rates ruling at the Balance Sheet date. Revenues and costs are translated at the exchange rates ruling at the dates of the underlying transactions.

(6) Superannuation

Science Foundation Ireland is established as an agency of Forfás in accordance with Section 6 (1) of the Industrial Development (Science Foundation Ireland) Act, 2003. Staff employed at the Foundation are legally employees of Forfás and are seconded to the Foundation, consequently, under Sections 2 and 3 of the Second Schedule of the Industrial Development Act, 1993, Forfás is responsible for all employee pension entitlements. Forfás prepares and administers pension schemes for the granting of pension entitlements to its staff including staff seconded to Science Foundation Ireland. Forfás is also responsible for pension reporting requirements, including those set out under FRS 17.

(7) Operating Leases

The rentals under operating leases are accounted for as they fall due.

(8) Research Grant Payment

Amounts paid to Research Institutions on foot of research grants are charged to the Income and Expenditure account in the year of issue.

Income and Expenditure Account

For the year ended 31 December 2010

	Notes	2010 €'000	2009 €'000
Income			
Oireachtas Grant	1	**158,705**	180,398
Other Income	2	**148**	125
		158,853	180,523
Expenditure			
Pay	3	**4,328**	4,545
Administration Expenses	4	**3,925**	4,401
Depreciation	5	**121**	115
Grants	6	**150,135**	171,301
		158,509	180,362
Net Surplus for the Year		**344**	161
Balance at beginning of Year		**126**	115
Transfer (to) Capital Account	7	**(133)**	(150)
Accumulated Surplus at end of Year		**337**	126

There are no recognised gains or losses, other than those dealt with in the Income and Expenditure Account.
The Accounting Policies, Cash Flow Statement and Notes 1 to 14 form part of these Financial Statements.

On behalf of the Board:

Patrick Fottrell
Chairman

Date: 16 May 2011

John Travers
Director General

Date: 16 May 2011

Balance Sheet

As at 31 December 2010

	Notes	2010 €'000	2009 €'000
Fixed Assets			
Tangible Fixed Assets	5	**416**	283
Current Assets			
Cash at Bank		**538**	266
Accounts Receivable	8	**111**	64
		649	330
Accounts Payable	9	**312**	204
Net Current Assets		**337**	126
Net Assets		**753**	409
Represented By:			
Capital Account	7	**416**	283
Income and Expenditure Account		**337**	126
		753	409

The Accounting Policies, Cash Flow Statement and Notes 1 to 14 form part of these Financial Statements.

On behalf of the Board:

Patrick Fottrell

Patrick Fottrell
Chairman

Date: 16 May 2011

John Travers

John Travers
Director General

Date: 16 May 2011

Cash Flow Statement

For the year ended 31 December 2010

	Notes	2010 €'000	2009 €'000
Reconciliation of Surplus/(Deficit) for Year to Net Cash Flow from Operations			
Surplus for Year		**344**	161
Bank Interest	2	**(12)**	(16)
Depreciation Charge	5	**121**	115
(Increase)/Decrease in Accounts Receivable	8	**(47)**	91
Increase/(Decrease) in Accounts Payable	9	**108**	(95)
Net Cash Flow from Operations		**514**	256
Cash Flow Statement			
Net Cash Flow from Operations		**514**	256
Returns on Investment and Servicing of Finance			
- Bank Interest	2	**12**	16
Cash Flow before Capital Expenditure		**526**	272
Capital Funding			
- Purchase of Tangible Fixed Assets	5	**(254)**	(265)
Increase in Cash		**272**	7
Reconciliation of Increase in Cash to Cash at Bank			
Movement in Cash for the Year		**272**	7
Cash at Bank at 01 January		**266**	259
Cash at Bank at 31 December		**538**	266

Notes to the Accounts

For the year ended 31 December 2010

		2010	2009
		€'000	€'000
1	**Oireachtas Grant**		
	Pay	**4,503**	4,677
	Administration Expenses	**4,202**	4,540
	Research Grants	**150,000**	171,181
		158,705	180,398

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 Forfás and its Agencies, to enable them to discharge their obligations and liabilities shall not exceed €7,000,000,000. At 31 December, 2010 the aggregate amount so approved was €3,998,011,030

2	**Other Income**		
	Bank Interest	**12**	16
	EU Nano Science Fund	**-**	109
	Johnson & Johnson Services Inc - Co Fund of Healthcare Innovation Award Programme (HIPA)*	**73**	-
	Health Research Board - Co Fund US/Ireland R & D Partnership*	**63**	-
	Total	**148**	125

Contributions received as part of funding of HIPA and US/Ireland programmes supported by SFI.
These funds were expended as part of Total Grant payments in 2010 of €150,135,000.

3	**Pay**		
	Pay Costs comprise:		
	Wages and Salaries	**3,991**	4,184
	Social Welfare Costs	**327**	351
	Superannuation Costs	**10**	10
	Total	**4,328**	4,545
	Sanctioned Positions	**54**	54
	Full Time Employed (at year end)	**49**	54
	Temporary Staff Employed (at year end)	**-**	-
	Total	**49**	54

Science Foundation Ireland deducted pension levies from staff of €286,898 (2009: €263,115) which were paid over to the Department of Jobs, Enterprise & Innovation (D/JEI).

Notes to the Accounts

For the year ended 31 December 2010

		2010	2009
		€'000	€'000
4	**Administration Expenses**		
	Board Members' Remuneration and Expenses - (see below)	**186**	162
	Programme Management	**1,061**	1,245
	Facilities	**876**	834
	Professional Fees	**262**	419
	Marketing Promotion & PR	**739**	917
	IT Support & Infrastructure	**337**	325
	Travel & Subsistence Costs	**152**	121
	HR Management	**97**	157
	Office Furniture & Equipment	**16**	6
	General Office Expenses	**184**	194
	Audit Fee	**15**	21
	Total	**3,925**	4,401

4(a) Board Remuneration and Expenses

	2010	2009
	Emoluments	Emoluments
	€'000	€'000
Board Members		
Sean Ahearne	**13**	8
Tom Boland	**0**	0
Rita Colwell	**13**	13
Bernie Cullinan	**13**	0
Patrick Fottrell (Chairman)	**22**	22
Frank Gannon*	**11**	13
Helen Keelan	**0**	8
Pater MacDonagh	**13**	13
Martina Newell McGloughlin	**13**	13
James Mountjoy	**13**	13
Martin Shanagher	**0**	0
John Travers**	**13**	13
Don Thornhill***	**7**	13
Pat Duane***	**3**	0
Total	**134**	129
Board Members Expenses	**52**	33
	186	162

Notification was received in January 2011 that Board Fees were reduced by 5% backdated to 1 January 2010. The necessary adjustment was made in 2011. The total adjustment amounts to €7,090.

Board Members expenses in 2010 amounted to €51,958, broken down as €44,482 in respect of foreign travel, primarily in relation to three overseas Board members, two of whom are based in the United States, and €4,183 in relation to domestic travel and mileage. The balance of €3,293 relates to accommodation, subsistence and incidental expenses.

Notes to the Accounts

For the year ended 31 December 2010

4(a) Board Remuneration and Expenses continued

* Professor Frank Gannon retired as Director General of SFI with effect from 5 December 2010. Professor Gannon received a pension and lump sum in accordance with public sector entitlements. Forfás is responsible for the determination and payment of pension entitlements to all retired Science Foundation staff.

Professor Frank Gannon received a salary up to 5 December 2010 of €246,421 and a company car subject to benefit in kind of €1,169. No bonus or performance related payments were made in 2010.

**Mr. John Travers was appointed as Director General of SFI with effect from 6 December 2010 pending the appointment of a Director General on a more permanent basis. At 31 December 2010 no payments had been made to Mr. Travers as the remuneration package in respect on this appointment remained to be determined.

***Mr. Don Thornhill resigned from the Board on 25th July 2010 and was replaced by Mr.Pat Duane who was appointed on the 29th September 2010.

5 Tangible Fixed Assets

	Computer Equipment €'000	Computer Software €'000	Computer Software Development €'000	Motor Vehicles €'000	Fixtures & Fittings €'000	**Total €'000**
Cost						
At 1 January 2010	650	383	119	47	201	**1,400**
Additions	80	-	174	-	-	**254**
Disposals	(86)	-	-	-	(4)	**(90)**
At 31 December 2010	644	383	293	47	197	**1,564**
Depreciation						
At 1 January 2010	529	383	-	23	182	**1,117**
Charge for Year	101	-	-	12	8	**121**
Disposals	(86)	-	-	-	(4)	**(90)**
At 31 December 2010	544	383	-	35	186	**1,148**
Net Book Amount						
At 1 January 2010	121	-	119	24	19	**283**
Net Movement for Year	(21)	-	174	(12)	(8)	**133**
At 31 December 2010	100	-	293	12	11	**416**

The cost of Tangible Fixed Assets is written off in equal instalments over their expected useful lives as follows:

(i) Computer Equipment & Computer Software	3 years
(ii) Motor Vehicles	4 years
(iii) Fixtures & Fittings	5 years

Note: Computer Software in Development is only depreciated when ultimately commissioned.

Notes to the Accounts

For the year ended 31 December 2010

		2010	2009
		€'000	€'000
6	**Grants**		
	(a) Analysis of Grants Paid		
	Biotechnology Grants	**69,550**	76,494
	Information and Communications Technology Grants	**70,384**	66,485
	Research Frontiers Grants	**10,201**	22,710
	Charles Parsons - see Note 6 (c) below	**-**	5,612
	Total	**150,135**	171,301

Grants are payable to Irish third level institutions to carry out world class basic research projects.

(b) Grant Commitments (including Charles Parsons)		
Outstanding Grant Commitments as at 01 January	**399,686**	477,623
Grants Approved during the year	**122,898**	96,016
Charles Parsons Energy Awards (see 6 (c) below)	**-**	11,809
Decommitments during the year	**(10,975)**	(12,201)
Grant Payments made in the year	**(150,135)**	(165,688)
Charles Parsons Energy Award Payments (see 6 (c) below)	**-**	(7,873)
Outstanding Commitments as at 31 December	**361,474**	399,686

(c) Charles Parsons Energy Awards		
Original Award Commitments - 2006	**-**	19,682
Award Payments (Prior to SFI assuming responsibility)	**-**	(7,873)
Value of Charles Parsons' Awards taken over by SFI	**-**	11,809
Award Payments (December 2009 - Rep of Ireland) - Paid by SFI	**-**	(5,612)
Award Payments (December 2009 - Northern Ireland)*	**-**	(2,261)
Award Payments following acquisition by SFI	**-**	(7,873)
Outstanding Parsons Grant Commitments 31 Dec 2010**	**3,936**	3,936

*Paid by DETI
**€1,130,112 of this is payable to research bodies in Northern Ireland

The Charles Parsons Energy Awards were made in 2006 by the Department of Communications, Energy and Natural Resources (DCENR) to seven researchers in six research institutions. Two of the research institutions, University of Ulster and Queen's University Belfast, are located in Northern Ireland.

All awards were made in Euros.

In December 2009 responsibility for the Charles Parsons awards was assigned from DCENR to the DJEI. DJEI requested that SFI formally manage and administer the Charles Parsons awards for the remainder of their respective terms.

The second tranche of payments for the Charles Parsons awards was made in December 2009. DJEI paid the Northern Ireland research institutions and SFI paid the Republic of Ireland institutions.

There were no payments in 2010 as the next agreed instalments, amounting to €3,936,000 are due in 2013. These will represent the final payments with respect to these awards.

Notes to the Accounts

For the year ended 31 December 2010

		2010	2009
		€'000	€'000
7	**Capital Account**		
	At 1 January	**283**	133
	Transfer from /(to) Income & Expenditure Account		
	- To fund Fixed Asset acquisitions	**254**	265
	- Cost of Disposals	**(90)**	-
	- Amortised in line with asset depreciation	**(121)**	(115)
	- Depreciation on Disposals	**90**	-
	Net Movement	**133**	150
	At 31 December	**416**	283
8	**Accounts Receivable**		
	General Debtors	**14**	5
	Prepayments	**97**	59
	Total	**111**	64
9	**Accounts Payable**		
	General Creditors	**1**	1
	Accruals	**248**	185
	Interagency Balance	**63**	18
	Total	**312**	204

Interagency Balance relates to the balance owed by Science Foundation Ireland to Forfás at 31 December 2010, being the difference between the amount of money paid to Forfás by Science Foundation Ireland and the actual money spent by Forfás on behalf of Science Foundation Ireland.

10 Commitments under Operating Leases

Science Foundation Ireland are tenants of Forfás in Wilton Park House and currently has no commitments under operating leases on the building, but pays rent to Forfás as a contribution to the lease costs incurred by Forfás.

11 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 Income & Expenditure Account.

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

12 Board Members - Disclosure of Transactions

In the normal course of business, Science Foundation Ireland may enter into contractual arrangements with undertakings in which Science Foundation Ireland Board Members are employed or otherwise interested. Science Foundation Ireland has adopted procedures in accordance with the guidelines issued by the Department of Finance in relation to the disclosure of interests by Board Members and these procedures have been adhered to by Science Foundation Ireland during the year.

13 Contingencies and Legal Actions

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

14 Approval of Financial Statements

The Financial Statements were approved by the Board of Science Foundation Ireland on 16th May 2011.

Grant Commitments and Payments Analysis 2010

2010 Payments by Institution

	€'000
Trinity College Dublin	31,146
University College Dublin	30,473
National University of Ireland, Galway	19,238
Dublin City University	18,512
University College Cork	16,874
Tyndall National Institute	11,523
University of Limerick	8,224
National University of Ireland, Maynooth	5,851
Royal College of Surgeons in Ireland	4,147
Waterford Institute of Technology	1,677
Dublin Institute of Technology	1,181
Dublin Institute for Advanced Studies	429
Teagasc	417
Dundalk Institute of Technology	167
Institute of Technology Tallaght	165
Institute of Technology Sligo	111
Grand Total	**150,135**

Note certain awards made to NUIG are co-funded by the European Regional Development Fund and the National Strategic Reference Framework EU Structure Funds (NSRF).

EUROPEAN REGIONAL DEVELOPMENT FUND

2010 Grant Commitment by Programme

	€'000
Investigators	69,011
CSET	19,137
SRC	15,637
Research Frontier Programme	8,578
Centres	4,660
TIDA-HIPA	2,099
PIYRA	1,506
US Ireland R&D Partnership	1,114
PICA	631
Conference & Workshop	259
General Supplement	189
WISER - Summer Placement	44
Maternity Supplement	33
Grand Total	**122,898**

2010 Payments by Programme

	€'000
Investigators	53,098
CSET	36,891
SRC	21,019
Research Frontiers Programme	12,748
STOKES	9,238
Maths Initiative	3,409
PIYRA	2,587
Centres	2,922
TIDA-HIPA	1,892
Research Professorship	1,346
UREKA	1,274
Engineering -Professorship and Lectureship programme	832
US-Ireland R&D Partnership	769
SIRG	717
Supplements	584
PICA	287
Conference & Workshop	236
Walton	153
WISER	93
NanoSci-E+ Transnational Call	40
Total	**150,135**

2010 Number of Awards by Institution

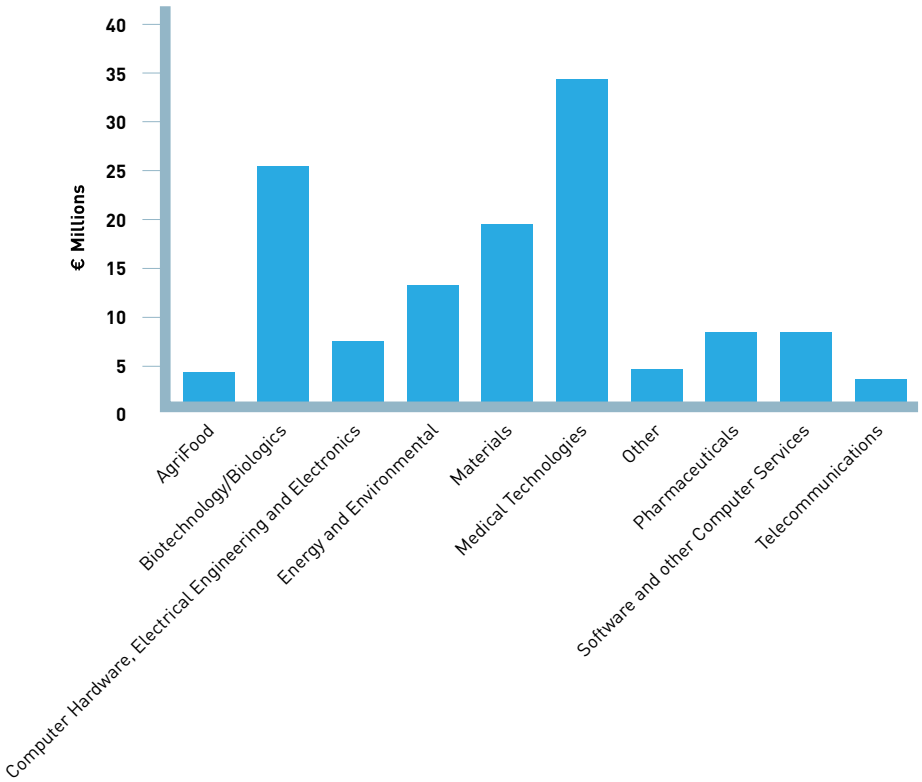
	No. of Grants
University College Dublin	52
Trinity College Dublin	49
University College Cork	26
National University of Ireland, Galway	21
Dublin City University	19
Royal College of Surgeons in Ireland	15
University of Limerick	15
Tyndall National Institute	12
National University of Ireland, Maynooth	11
Dublin Institute for Advanced Studies	2
Dublin Institute of Technology	2
Waterford Institute of Technology	2
Institute of Technology Tallaght	1
Teagasc	1
Grand Total	**228**

2010 Number of Awards by Programme

	No. of Grants
Investigators	70
TIDA-HIPA	53
Research Frontier Programme	47
Conference & Workshop	37
WISER - Summer Placement	8
US Ireland R&D Partnership	4
PIYRA	2
SRC	2
Centres	1
CSET	1
General Supplement	1
Maternity Supplement	1
PICA	1
Grand Total	**228**

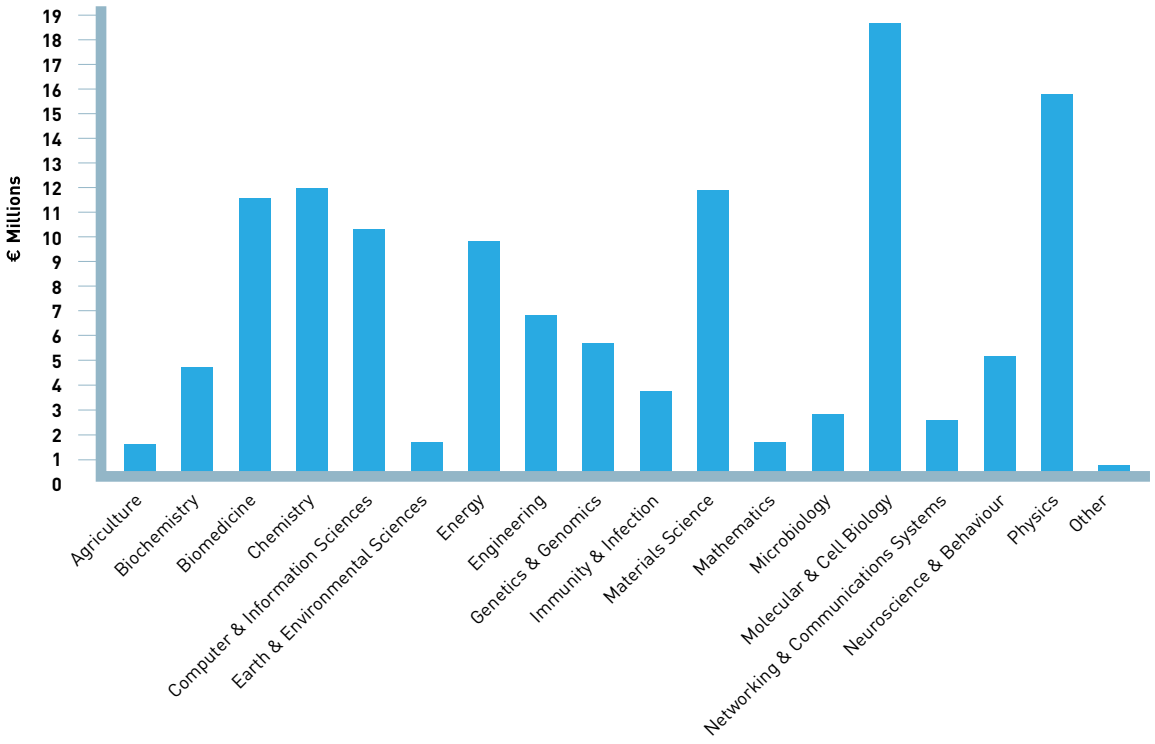
2010 Grant Commitments by Enterprise Sector

	€'000
Agri-Food	3,404
Biotechnology/Biologics	25,362
Computer Hardware, Electrical Engineering and Electronics	6,261
Energy and Environmental	12,458
Materials	18,976
Medical Technologies	34,508
Other	3,831
Pharmaceuticals	7,605
Software and other Computer Services	7,693
Telecommunications	2,800
Grand Total	**122,898**



2010 Grant Commitments by Scientific Area

	€'000
Agriculture	1,152
Biochemistry	4,349
Biomedicine	11,471
Chemistry	11,945
Computer & Information Sciences	10,149
Earth & Environmental Sciences	1,307
Energy	9,618
Engineering	6,618
Genetics & Genomics	5,422
Immunity & Infection	3,412
Materials Science	11,789
Mathematics	1,442
Microbiology	2,427
Molecular & Cell Biology	18,787
Networking & Communications Systems	2,186
Neuroscience & Behaviour	4,843
Physics	15,821
Other	160
Total	**122,898**



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Innovation Ireland

Science Foundation Ireland

EUROPEAN REGIONAL DEVELOPMENT FUND

NDP National Development Plan
Transforming Ireland