

SCIENCE

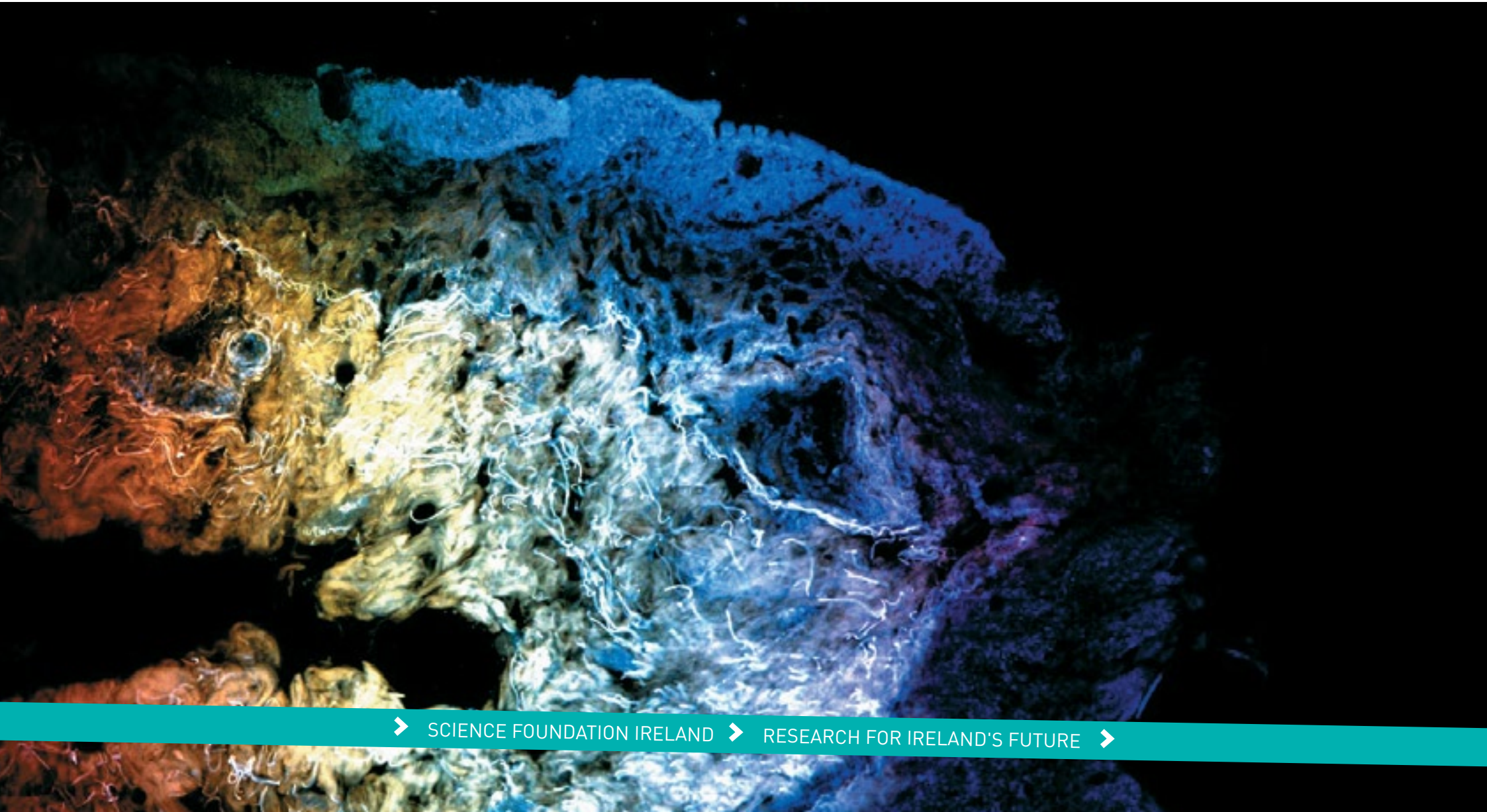


TECHNOLOGY



INNOVATION

Annual Census 2010





Cover Image is entitled **'The Art of Detecting Cancer'**.

The image won the SFI Research Image Competition 2010 and is by Professor Malini Olivo, NUJ 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, from a large blood vessel in oral cancer tissue or endogenous auto-fluorescence. 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 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) Census 2010

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Executive Summary

The SFI Census of the holders of SFI's major grant categories* is conducted annually and provides information on research outputs, team compositions, collaborations and funding. This is the fourth year that the census has been conducted and the key findings are summarised below:

- Forms were returned for 548 active¹ awards and these directly supported 2,999 individuals in 2010.
- A total of 4,978 peer reviewed publications were reported in 2010. This is an increase of 22% over 2009. These publications are critical in the dissemination of research output and for ensuring Ireland remains in the Top 20 country ranking for scientific quality**.
- A number of pre-commercial outputs were produced in 2010:
 - 150 invention disclosures
 - 59 patent filings
 - 8 patents awarded
 - 22 licence agreements
 - 4 early stage spin out companies
 - 18 standards
- There were significant increases in the numbers of collaborations with industry in 2010, building on the strong growth that took place in 2009. There was a 44% increase in the number of collaborations with companies. More than half of these collaborations have legal agreements in place. There were 534 companies working with SFI researchers in 2010 (up from 389 companies in 2009). These figures indicate that the number of collaborations between SFI researchers and industry have more than doubled in two years.

- Academic to academic collaborations also grew by 14%. The vast majority of these collaborations are with international partners and span 58 countries. These international networks are very important for raising international awareness and recognition of Irish science and high quality research.
- SFI researchers were successful in leveraging funding from international sources and the private sector in 2010.
 - In total, €153 million was secured, a slight decrease on the amount of funding secured in 2009 (€159 million). Within this, the funding secured from the EU increased by 63% and the funding secured from the private sector increased by 25%.
 - Funding from the exchequer decreased by 24%. Overall, there has been a notable shift towards securing additional funding from non-exchequer sources.

The next section contains a short report on the key highlights of this year's census, which is followed by a section containing detailed tables.

* SFI Principal Investigator (PI), SFI President of Ireland Young Researcher Award (PIYRA), SFI Principal Investigator Career Advancement Award (PICA), SFI Maths Initiative (MI), SFI Research Frontiers Programme (RFP) SFI Centres for Science, Engineering & Technology (CSET), SFI Strategic Research Clusters (SRC), SFI Research Professor Recruitment Award (RP), SFI Charles Parsons Energy Research (CP), SFI US Ireland R&D Partnership Programme (USIrI) and the SFI Starting Investigator Research Grant Programme (SIRG).

** Essential Science Indicators, Thompson Reuters.

1. Note: This year's response rate for active awards was 92%, (548 awards), compared to 100% in 2009 (666 awards). The data presented in this report is based on the information supplied by these 548 awards, unless otherwise stated. Inferences on the remaining 8% of active awards have not been made. Active awards refer to awards that received funding from SFI in 2010 and will continue to receive funding from SFI in 2011. Inactive awards are considered "expired" by SFI, i.e. on the 31/12/2010 they were no longer receiving funding from SFI.

Census Report

SFI People and Awards

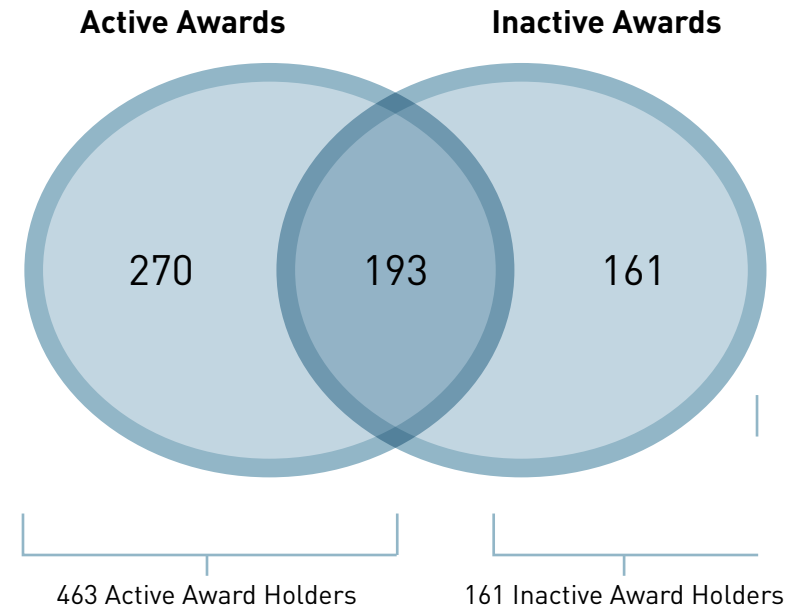
Census Response Rates

Table I: *Response Rates*

	People			Awards		
	Total	Active	Inactive	Total	Active	Inactive
Form Sent	837	501	336	1300	595	705
Form Returned	624	463	161	1022	548	474
Response Rate	75%	92%	48%	79%	92%	67%

- This year the total number of researchers surveyed was expanded to include “inactive” or “expired” awards². This resulted in the form being sent to 837 individuals representing 1,300 active and inactive awards. The overall response rate was 75% for individuals and 79% for awards.
- For active awards, the response rate was 92% for individuals and awards.
- The results of the census are therefore based on 624 respondents representing 1,022 awards, broken out as 463 active award holders³ and 161 inactive award holders⁴.

Figure I



- The 1,022 awards are made up of 548 active awards and 474 inactive awards.
- 270 individuals hold active awards only
- 193 individuals hold active and inactive awards
- 161 individuals hold inactive awards only

2. Active awards refer to awards that received funding from SFI in 2010 and will continue to receive funding from SFI in 2011. Inactive awards are considered “expired” by SFI, i.e. on the 31/12/2010 they were no longer receiving funding from SFI.

3. Note active award holders may also hold inactive awards in their portfolio.

4. These award holders only hold inactive awards and are no longer on SFI’s “books”.

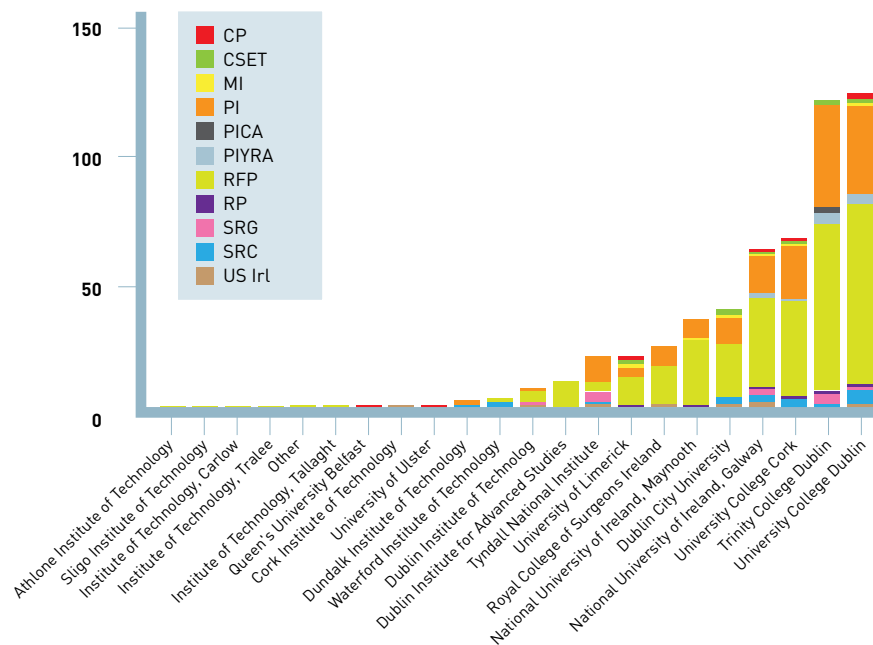
Respondents and Awards

➤ The 501 active award holders and 595 active awards represent a net loss of 28 individuals and 71 awards versus 2009.

Table II: Comparison of Active Awards 2010 and 2009

	Total Number of Active Awards 2010	Total Number of Active Awards 2009	Difference	Difference %
CP	7	7	0	0%
CSET	9	10	-1	-10%
MI	6	6	0	0%
PI	186	149	37	25%
PICA	3	8	-5	-63%
PIYRA	13	15	-2	-13%
RFP	326	428	-102	-24%
RP	3	6	-3	-50%
SIRG	14	15	-1	-7%
SRC	20	19	1	5%
US Irl	8	3	5	167%
Total	595	666	-71	-11%

Figure II Number of Active Awards of each type held by Higher Education Institute (HEI)



➤ 45% of active awards are held in Trinity College Dublin (TCD) and University College Dublin (UCD).

Research Team Compositions

- Forms were returned for 548 active awards and these directly supported 2,999 team members in 2010. Support for a further 2,619 team members was secured from other sources of funding.

Table III: *Research Team Composition (SFI Funded Team Members) as at 31/12/2010*

	Number	Category as % of Total
Award Holder	463	15%
Co-Investigators	73	2%
Postdoctoral Researchers	781	26%
PhD Students	1251	42%
Masters Students	81	3%
Technicians	52	2%
Research Assistants	107	4%
Administrators	72	2%
Other Staff	119	4%
Total	2999	100%

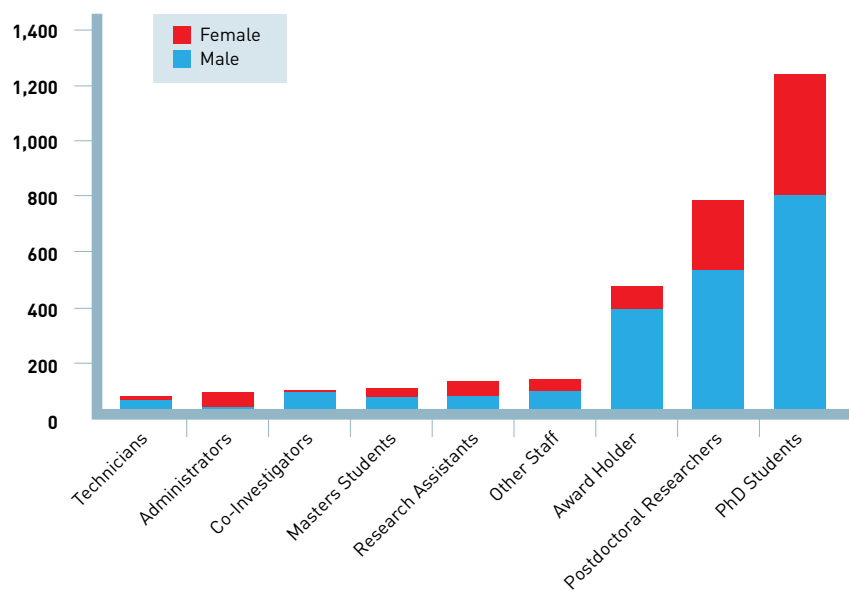
Table IV: *Research Team Composition (All funding sources)*

	Total	Category as % of Total
Award Holder	463	8%
Co-Investigators	88	2%
Postdoctoral Researchers	1475	26%
PhD Students	2538	45%
Masters Students	276	5%
Technicians	131	2%
Research Assistants	204	4%
Administrators	122	2%
Other Staff	321	6%
Total	5618	100%

Gender

- The ratio of male to female award holders is approximately 80% male: 20% female, as observed in previous SFI censuses.
- In the context of the overall SFI-funded team, the ratio is approximately two thirds to one third. This shows that there is a loss of female researchers in the progression from postdoctoral research level to award holder.

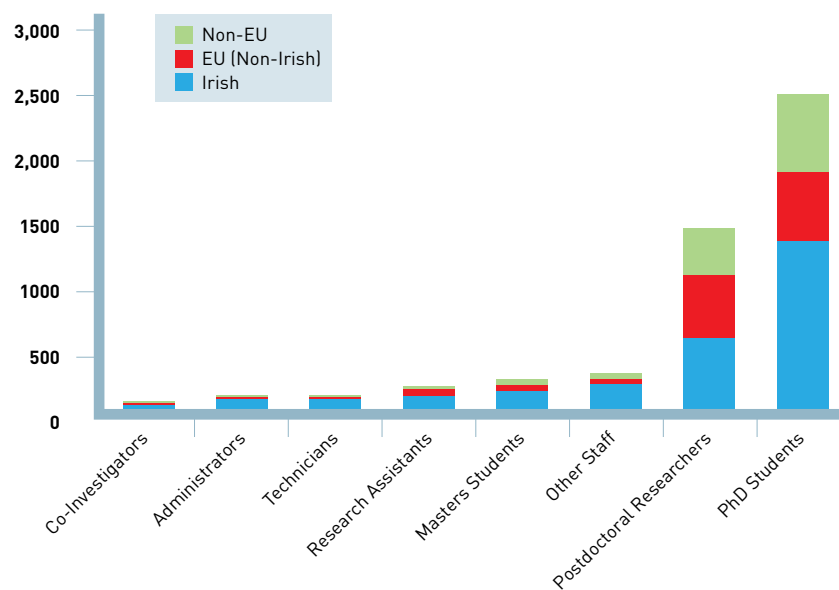
Figure III Gender Breakdown of SFI Funded Research Team Members as at 31/12/2010



Nationality

- Almost 40% of award holders are non-Irish, and as a group are made up of 35 nationalities.
- Almost half of SFI funded teams (excluding award holders) are non-Irish.
- Within this cohort, almost 60% of SFI funded Postdoctoral Researchers and 50% of PhD students are from overseas.

Figure IV SFI-Funded research Teams by Nationality (excluding Award Holders)



First Destination of Departing Team Members⁵

A total of 472 team members left SFI funded research groups in 2010. 53% of these leavers remained in Ireland while 47% left the country. This is reversal of the percentages from 2009. A closer look reveals that:

- 200 Postdoctoral Researchers departed in 2010. Approximately half of these Postdoctoral Researchers left the country, primarily to conduct postdoctoral research in a Higher Education Institute (HEI). The Postdoctoral Researchers who left Ireland were mostly non-Irish (85%). Of the half that remained in Ireland, 40% went directly to industry (compared to just 9% of those who went abroad). In 2009, 43% of postdoctoral researchers, who left research groups, continued postdoctoral research in a HEI, while 20% went directly to industry. In 2010, the corresponding figures are 37% for postdoctoral research in a HEI and 24% for industry as a first destination.
- 139 PhD students graduated SFI funded teams in 2010. Almost 58% of these left Ireland in 2010, and almost half of these (43%) were Irish. The big draw for those who left Ireland is postdoctoral research positions in research institutes abroad. 20% of (all) PhD graduates went directly to industry. Similarly to the postdoctoral researcher figures, this was mostly in Ireland.
- 59 Research Masters students graduated or left SFI funded teams in 2010. 76% of these found employment in Ireland. The split between continuing to PhD level or going directly to industry is almost equal, with industry tipping the post at 30%.

Academic Outputs

A total of 4,978 peer reviewed publications were reported in 2010 by SFI funded researchers from active awards. This is an increase of 22% on 2009. This year, researchers were obliged to attribute their publications to an SFI award associated with the publication or to a non-SFI source of funding. The result is that of the total 4,978 publications reported from active awards, 2,762 have been attributed to SFI funding and the remaining 2,216 to non-SFI funding sources. Of the total number of publications:

- 37% have a named co-author with an address other than Ireland
- 34% are available in open-access repositories

Table V: *Publication Output in 2010*

	Total from SFI Funding	Other Funding Sources	Total Publications	% of Total
Outputs with a non-Irish co-author	1008	842	1850	37%
Outputs available in Open Access Repositories	1050	630	1680	34%
Total Research Outputs	2762	2216	4978	100%

5. Note that the numbers used in calculating the percentages in this section are very small and this should be considered in the interpretation of the results.

Figure V Publication Output in 2010 by HEI (Active Awards)

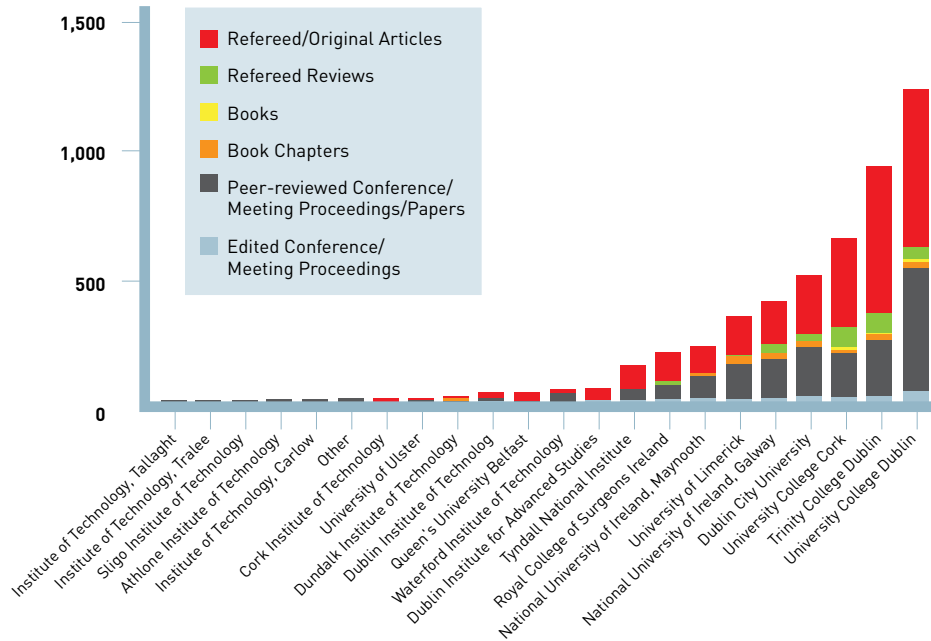


Table VI: Publication Output attributed to SFI in 2010 by Award (Active and Inactive Awards)

	CP	CSET	MI	PI	PICA	PIYRA	RP	RFP	SIRG	SRC
Refereed/Original Articles	46	207	79	605	21	88	8	562	15	213
Refereed Reviews	3	39	1	74	0	7	2	52	4	46
Books	1	9	0	4	0	0	0	2	1	2
Book Chapters	2	36	4	28	1	5	0	27	1	22
Peer-reviewed Conference/ Meeting Proceedings/Papers	28	249	20	330	6	47	5	303	12	278
Edited Conference/ Meeting Proceedings	8	12	9	57	3	12	0	60	2	6
Total Publications	88	552	113	1098	31	159	15	1006	35	567

In addition to publications reported from active awards, there were 909 publications reported from inactive awards, that are linked to SFI funding. This highlights the time lag associated with research, i.e. that a significant number of papers are published after the award is expired. If these 909 publications are included, then the total number of publications for 2010 was 5,887, and these 909 publications account for 15% of the total. It is worth bearing in mind, that the response rate for inactive awards was 67%, so the true number of publications post-award is likely to be somewhat greater than 909.

Pre-Commercial Outputs⁶

Table VII: *Summary of Pre-Commercial Outputs (Active Awards)*

	Total
Spin-Outs Reported ⁷	4
Licensed Technologies	22
Invention Disclosures	150
Patents Awarded	8
Patents Filed	59
Standards Contributed To	18

Spin Outs

- There were 4 spin outs reported in this year's census compared to 6 last year.
- In addition, there was also a spin out reported from an expired PI award.

Licensed Technologies

- There were 22 licensed technologies reported this year for active awards compared to 20 last year.
- There were 6 additional licences reported for inactive awards.

Invention Disclosures

- There was approximately a 10% increase in the number of invention disclosures in 2010 (150) reported.
- There were 13 additional invention disclosures reported for inactive awards.

Patents

- There was a significant decrease in the number of patents filed this year, 59 compared to 108 in 2009.
- The number of patents awarded has not varied significantly, 8 in 2010 compared to 10 in 2009.

Standards⁸

- The number of standards contributed to was 18 in 2010, compared to 13 in 2009. SFI researchers chaired two of these and were members of the remaining 16.

6. Although Invention Disclosures, Patents, Spin Outs and Licences are reported here as arising from SFI-funded research, it is important to stress that SFI does not produce these outputs directly. They are the product of the research and commercialisation ecosystem and are dependent upon Enterprise Ireland (EI), the HEI Technology Transfer Offices (TTOs) and other stakeholders.

7. Includes one spinout from an inactive award.

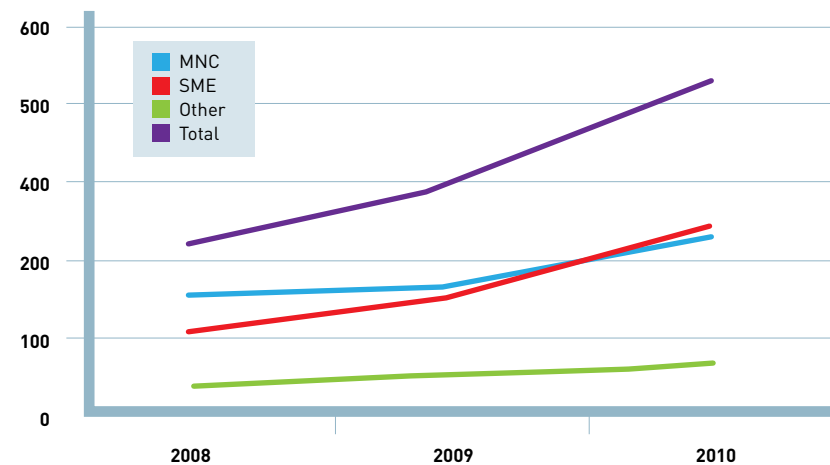
8. A standard is an agreed way of working for all members of the standards community to facilitate interoperability. A goal of standardization can be to avoid monopolization by single suppliers (commoditization), and instead to facilitate compatibility, interoperability, safety, repeatability, or quality. An example is the internet protocol; we all implicitly agree to work within the IETF standard description every time we use the internet. These contributions are peer reviewed by the standards organization and members before being accepted into a standard, although the process is not as formal as in journal and conference proceedings.

Industry-Academic Collaborations

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 with companies, i.e. 867 collaborations in total versus 601 in 2009.
- There was a corresponding increase of 37% in the number of companies collaborating with SFI funded researchers, i.e. 534 companies.
- The number of collaborations with MNCs increased by 32%; with a 30% increase in the number of companies working with SFI funded researchers, i.e. 237 MNCs.
- There was a 63% increase in the number of collaborations with SMEs (48% increase SMEs i.e. 245 companies). It is also worth noting that the number of SMEs increased by 53% in 2009, so that in effect there has been an increase from 108 SMEs in 2008 to 245 SMEs in 2010 working with SFI funded researchers.
- There were also 82 collaborations reported with government departments/semi-state bodies and private foundations, charities and NGOs. This sector has also increased significantly, 50% since 2009.
- The number of industry-academic collaborations has more than doubled in two years (402 in 2008 to 867 in 2010). There are 534 companies working with SFI funded researchers (311 two years ago) to conduct joint research (63%) and other activities. More than half of these collaborations have legal agreements in place.

Figure VI Number of Companies Collaborating with SFI Researchers 2008 - 2010



Internationalisation of Research

Nationality of Award Holders and Teams

- Almost 40% of respondents are non-Irish and 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.
- Almost half of SFI funded teams (excluding award holders) are non-Irish.
- Within the SFI-funded team, almost 60% of SFI funded Postdoctoral Researchers and 50% of PhD students are from overseas.

Figure VII SFI-Funded Research Teams by Nationality (excluding Award Holders)

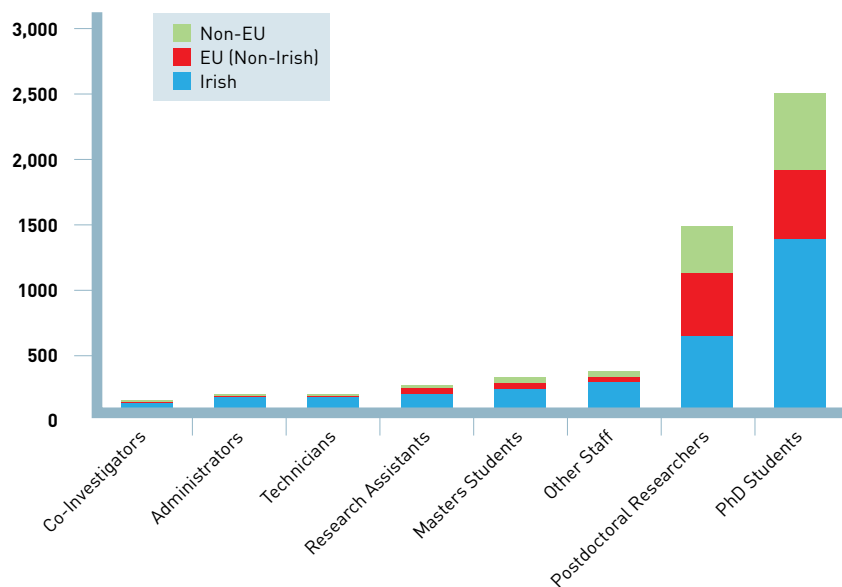
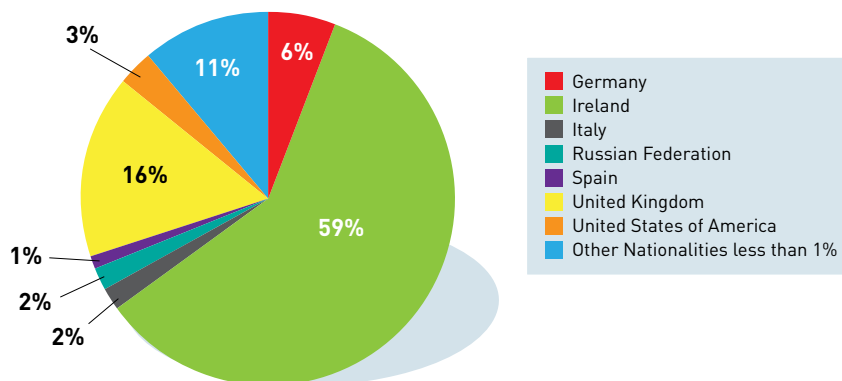


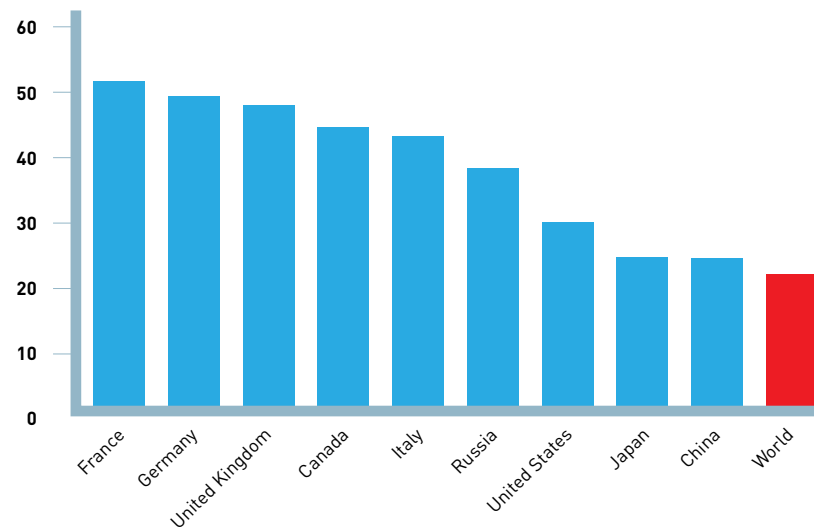
Figure VIII Nationality of Respondents in 2010



Publications

- ▶ 37% of publications (1,850) from active awards have a named co-author with an address other than Ireland. The OECD reported in the 2009 Science, Technology and Industry Scoreboard that in 2007, 21.9% of scientific articles worldwide involved international co-authorship, a figure three times higher than in 1985, pointing to a rapid growth in importance in international collaboration.

Figure IX OECD Science, Technology and Industry Scoreboard 2009^a Share of internationally co-authored scientific articles, 2007

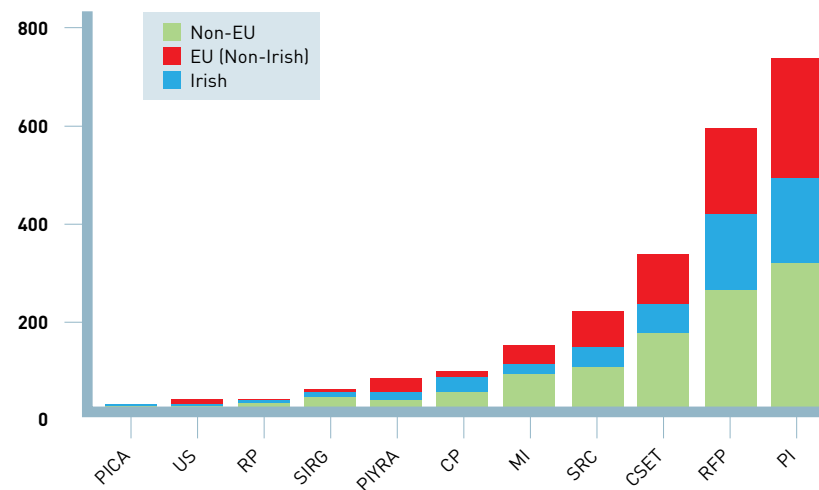




Academic-Academic Collaborations

- There were 2,246 academic-academic collaborations in 2010, an increase of 14% on 2009.
- 76% of these collaborations are with international partners in 58 countries.
- Within these international collaborations, there has been a very 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 collaborations are to facilitate joint research/publication.

Figure X Academic Collaborations in 2010 by Award Type and Region



International Events

- There was a decrease (12%) in the number of international events attended; however the number still remains high at 5,251 events.
- SFI funded researchers/teams were still invited as speakers and to present papers and posters but hosted fewer events in 2010, especially outside Ireland.

Funding

- SFI funded researchers secured ~€73 million from international sources in 2010¹⁰. This represents almost 50% of the total external funding secured by SFI researchers.

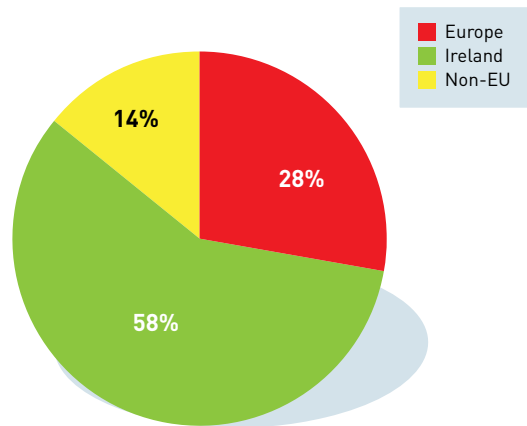
International industry collaborations

- SFI funded researchers are collaborating with companies based in 28 countries¹¹.

10. Note this does not include approximately €15 million reported from private enterprise which may include international enterprise.

11. Includes Ireland

Figure XI *Industry-Academic Collaborations by Region*



This graph shows that 58% of the industry-academic collaborations are with companies based in Ireland, 28% with companies based in Europe (excluding Ireland) and 14% with companies based outside Europe.

In summary, these indicators of internationalisation show that:

- ▶ Ireland is a very open country for research. This is becoming increasingly important in the competition for business expenditure on R&D. According to an OECD report¹² on the internationalisation of business R&D, multinationals seek not only to exploit knowledge generated at home, but also to source technology internationally and to tap into worldwide centres of knowledge.
- ▶ International researchers are an integral part of the Irish research system
- ▶ The internationalisation of Irish research is evident in terms of co-authorship with international partners, international collaborations and networks, international events attended and competitive funding received from international sources.

External Funding

While the amount of leveraged additional funding by SFI researchers has decreased slightly (4%), there are significant changes in the composition by source.

- ▶ Funding secured from the Irish exchequer has decreased by 24%¹³, while funding secured from international sources has increased by 36%.
- ▶ Funding secured from the EU has increased by 63%
- ▶ Funding from the private sector increased by 25%
- ▶ Funding from EI decreased to €14 million from €21 million in 2009.

In spite of the decrease in exchequer funds available in 2010, SFI researchers were successful in securing funding from international sources and the private sector.

12. OECD (2008): The Internationalisation of Business R&D: Evidence, Impacts and Implications.

13. Note: This could be due to the decrease in respondents replying to the census.

Table VIII: Amount of Funding Reported by SFI Funded Researchers in 2010 by Source (amounts in €s)

	External Funding Leveraged €	% change from 2009
EU	62,598,472	63%
Private Enterprise	14,952,908	25%
EI	13,774,578	-34%
HEA	13,234,856	-22%
IRCSET	12,363,444	-16%
HRB	9,419,060	-22%
Other Irish Government Source	6,925,399	-50%
Other International Government Source	4,100,500	-26%
Charity/Non-Profit Organisation (Irish)	3,497,365	-28%
EPA	2,522,852	n/a in 2009
DAFF	1,798,831	n/a in 2009
Charity/Non-Profit Organisation (International)	1,767,988	41%
Wellcome	1,719,882	-57%
Other International Interest Organisation	1,211,363	-18%
NIH	1,059,433	16%
Teagasc	1,051,200	8%
Marine Institute	435,345	n/a in 2009
NSF	366,470	n/a in 2009
Other Source	360,447	-95%
DCENR	100,000	-94%
Total Funding from External Sources	153,260,393	-4%

Table IX: Amount of External Funding secured by SFI-funded researchers in 2010 by source

	Irish Exchequer	Non-Irish Exchequer	National	International
EU		62,598,472		62,598,472
Private Enterprise*		14,952,908		
EI	13,774,578		13,774,578	
HEA	13,234,856		13,234,856	
IRCSET	12,363,444		12,363,444	
HRB	9,419,060		9,419,060	
Other Irish Government Source	6,925,399		6,925,399	
Other International Government Source		4,100,500		4,100,500
Charity/Non-Profit Organisation (Irish)		3,497,365	3,497,365	
EPA	2,522,852		2,522,852	
DAFF	1,798,831		1,798,831	
Charity/Non-Profit Organisation (International)		1,767,988		1,767,988
Wellcome		1,719,882		1,719,882
Other International Interest Organisation		1,211,363		1,211,363
NIH		1,059,433		1,059,433
Teagasc	1,051,200		1,051,200	
Marine Institute	435,345		435,345	
NSF		366,470		366,470
Other Source*		360,447		
DCENR	100,000		100,000	
Total by Source	61,625,565	91,634,828	65,122,930	72,824,108
% of Total Amount	40%	60%	42%	48%

*Private Enterprise and Other Source cannot be categorised as National or International.

SFI Census 2010 Tables and Graphs

Tables of results are presented in the following sections:

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7. Academic - Academic Collaborations	37
8. External Funding	38
9. Other	39

Notes for reading the tables:

Award holders were asked to fill in one census form only if they held one or more awards from the following categories: PI, PIYRA, PICA, MI, RFP, RP, CP, US Irl, SIRG.

SRC and CSET award holders were requested to fill out a separate census form for the SRC or CSET.

For example: If an award holder held a PI-like award and an SRC or CSET award, he/she was requested to fill in two separate census forms.

If an award holder held a PI and RFP award, he/she was requested to only fill in one census form with information for both awards.

For collaborative awards, such as CSETs or SRCs, which are conducted across multiple HEIs, outputs are assigned to the primary/host HEI.

1. SFI People and Awards¹

Table 1.1: *Response Rates*

	People			Awards		
	Total	Active	Inactive	Total	Active	Inactive
Form Sent	837	501	336	1300	595	705
Form Returned	624	463	161	1022	548	474
Response Rate	75%	92%	48%	79%	92%	67%

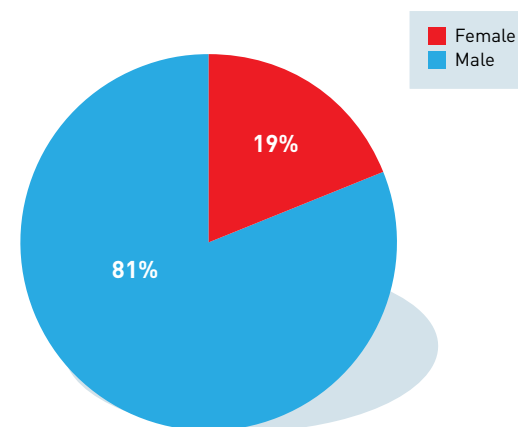
Table 1.2: *Number of Awards by Award Type*

	Total Number of Awards	Number of Active Awards 2010
CP	7	7
CSET	9	9
MI	6	6
PI	262	155
PICA	9	3
PIYRA	19	13
RFP	656	311
RP	13	3
SIRG	14	14
SRC	20	20
US Irl	7	7
Total	1022	548

Table 1.3: *SFI Award Holders 2010*

	Award Holders		Number of Active Awards		Number of Awards [Active + Inactive]	
	Total	%	Total	%	Total	%
Female	119	19%	101	18%	185	18%
Male	505	81%	447	82%	837	82%
Total	624	100.00%	548	100.00%	1022	100.00%

Figure 1.1 *Award Holders 2010*



1. Active awards refer to awards that received funding from SFI in 2010 and will continue to receive funding from SFI in 2011. Inactive awards are considered "expired" by SFI, i.e. on the 31/12/2010 they were no longer receiving funding from SFI.

Table 1.4: SFI Active Award Holders 2010

	Active Award Holders		Number of Active Awards	
Female	85	18%	101	18%
Male	378	82%	447	82%
Total	463	100.00%	548	100.00%

Table 1.5: SFI Active Award Holders by HEI in 2010

	Number of Active Award Holders	% of Active Award Holders by HEI
University College Dublin	114	24.60%
Trinity College Dublin	96	20.70%
University College Cork	57	12.30%
National University of Ireland, Galway	54	11.70%
Dublin City University	31	6.70%
National University of Ireland, Maynooth	30	6.50%
Royal College of Surgeons Ireland	21	4.50%
University of Limerick	18	3.90%
Tyndall National Institute	17	3.70%
Dublin Institute for Advanced Studies	8	1.70%
Dublin Institute of Technology	7	1.50%
Waterford Institute of Technology	3	0.60%
Dundalk Institute of Technology	2	0.40%
University of Ulster	1	0.20%
Queen's University Belfast	1	0.20%
Other	1	0.20%
Institute of Technology, Tallaght	1	0.20%
Cork Institute of Technology	1	0.20%
Total	463	100.00%

Figure 1.2 Active Award Holders 2010

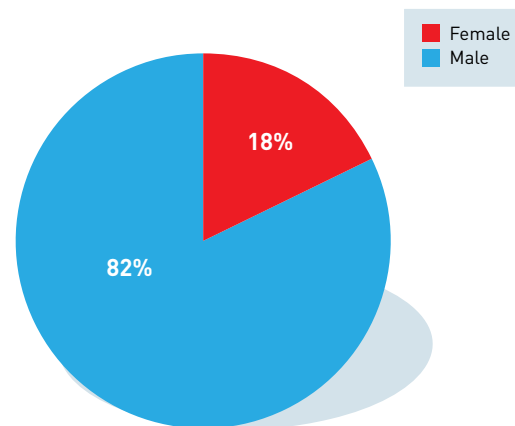


Figure 1.3 SFI Active Award Holders by HEI in 2010

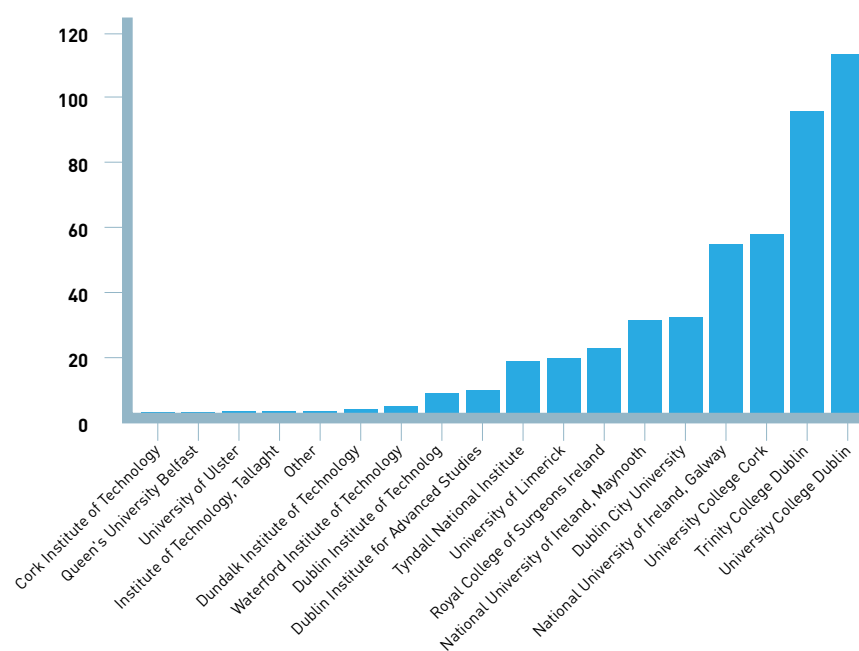


Table 1.6: Total Number of Active Awards of Each Award Type held by Respondent and by HEI in 2010

	CP	CSET	PI	MI	PICA	PIYRA	RFP	RP	SIRG	SRC	US Irl	Number of Active Awards
University College Dublin	2	2	36	1	0	4	73	1	1	6	1	127
Trinity College Dublin	0	2	41	0	2	5	68	1	4	1	0	124
University College Cork	1	1	21	1	0	1	39	0	1	3	0	68
National University of Ireland, Galway	1	1	15	1	0	2	36	1	2	3	2	64
Dublin City University	0	2	11	1	0	0	21	0	0	3	1	39
National University of Ireland, Maynooth	0	0	6	0	1	1	26	0	0	1	0	35
Royal College of Surgeons Ireland	0	0	8	0	0	0	15	0	0	0	1	24
University of Limerick	1	1	4	2	0	0	11	0	0	1	0	20
Tyndall National Institute	0	0	10	0	0	0	4	0	4	1	1	20
Dublin Institute for Advanced Studies	0	0	0	0	0	0	10	0	0	0	0	10
Dublin Institute of Technology	0	0	1	0	0	0	4	0	1	0	1	7
Waterford Institute of Technology	0	0	0	0	0	0	1	0	1	1	0	3
Dundalk Institute of Technology	0	0	1	0	0	0	1	0	0	0	0	2
University of Ulster	1	0	0	0	0	0	0	0	0	0	0	1
Queen's University Belfast	1	0	0	0	0	0	0	0	0	0	0	1
Other	0	0	0	0	0	0	1	0	0	0	0	1
Institute of Technology, Tallaght	0	0	0	0	0	0	1	0	0	0	0	1
Cork Institute of Technology	0	0	1	0	0	0	0	0	0	0	0	1
Total	7	9	155	6	3	13	311	3	14	20	7	548

For example, there were two active CSET awards where the host HEI was University College Dublin.

Figure 1.4 Number of Active Awards of each type held by Higher Education Institute (HEI)

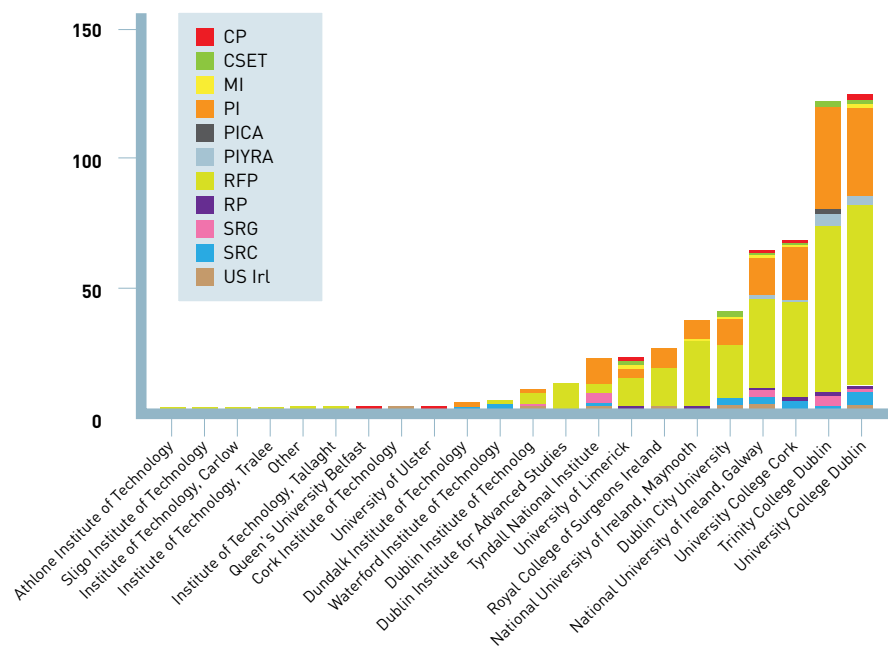


Table 1.7: SFI Active Awards by Nationality of Award Holder in 2010

	Number of Active Award Holders	% of Active Award Holders of this Nationality
Ireland	274	59.20%
United Kingdom	73	15.80%
Germany	30	6.50%
United States of America	16	3.50%
Italy	10	2.20%
Spain	6	1.30%
Russian Federation	5	1.10%
Netherlands	4	0.90%
India	4	0.90%
France	4	0.90%
Australia	4	0.90%
Denmark	3	0.60%

	Number of Active Award Holders	% of Active Award Holders of this Nationality
Canada	3	0.60%
Switzerland	2	0.40%
Sweden	2	0.40%
Israel	2	0.40%
Greece	2	0.40%
China	2	0.40%
Zimbabwe	1	0.20%
Trinidad & Tobago	1	0.20%
South Africa	1	0.20%
Slovenia	1	0.20%
Singapore	1	0.20%
Samoa (USA)	1	0.20%
Romania	1	0.20%
Portugal	1	0.20%
Poland	1	0.20%
Norway	1	0.20%
New Zealand	1	0.20%
Iceland	1	0.20%
Hungary	1	0.20%
Bulgaria	1	0.20%
Belgium	1	0.20%
Austria	1	0.20%
Algeria	1	0.20%
Total	463	100.00%

Table 1.8: Total Number of Active Award Holders by Region of Nationality in 2010

	Active Award Holders	
Irish	274	59.20%
EU (Non-Irish)	142	30.70%
Non-EU	47	10.20%
Total	463	100.00%



Figure 1.5 Nationality of Award Holders in 2010

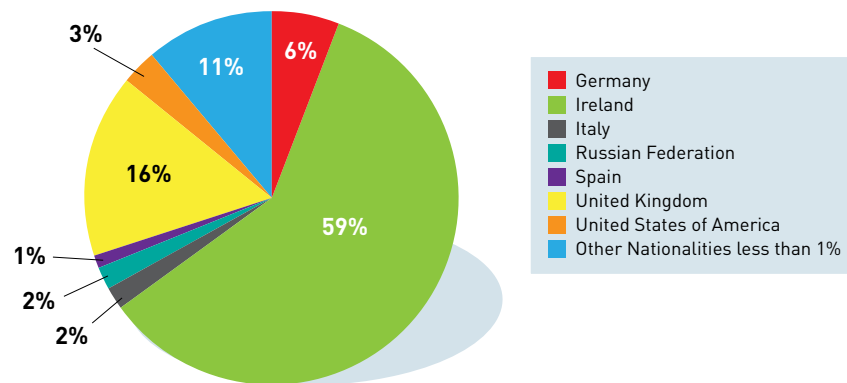
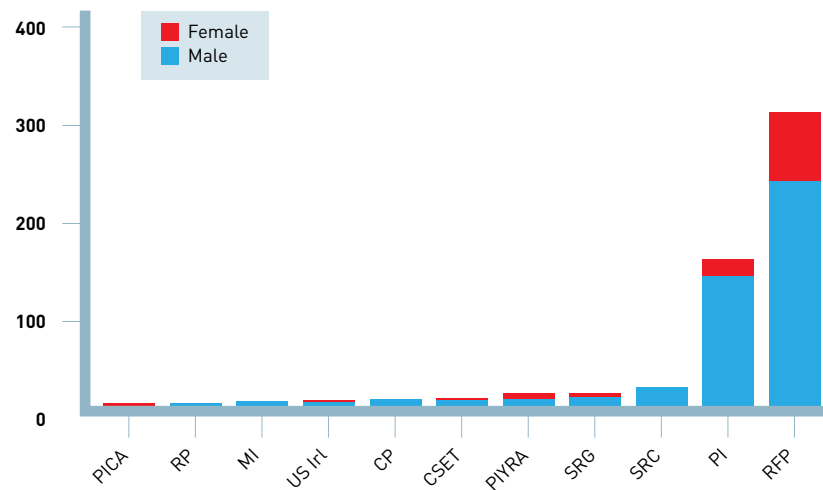


Table 1.9: Total Number of Active Awards by Award Holder and Gender in 2010

	Active Total	Female	Male
CP	7	0	7
CSET	9	1	8
MI	6	0	6
PI	155	16	139
PICA	3	3	0
PIYRA	13	5	8
RFP	311	72	239
RP	3	0	3
SIRG	14	3	11
SRC	20	0	20
US Irl	7	1	6
Number of Active Awards	548	101	447

Figure 1.6 SFI Awards held by Gender in 2010



2. Research Team Compositions

Table 2.1: *Research Team Composition (SFI Funded Team Members) as at 31/12/2010*

	Number	Category as % of Total
Award Holder	463	15%
Co-Investigators	73	2%
Postdoctoral Researchers	781	26%
PhD Students	1251	42%
Masters Students	81	3%
Technicians	52	2%
Research Assistants	107	4%
Administrators	72	2%
Other Staff	119	4%
Total	2999	100%

Table 2.2: *Research Team Compositions (SFI Funded Team Members) as at 31/12/2010 by Gender*

	Male	Male as % of Total	Female	Female as % Total	Total
Award Holder	378	82%	85	18%	463
Co-Investigators	67	92%	6	8%	73
Postdoctoral Researchers	524	67%	257	33%	781
PhD Students	799	64%	452	36%	1251
Masters Students	51	63%	30	37%	81
Technicians	38	73%	14	27%	52
Research Assistants	53	50%	54	50%	107
Administrators	10	14%	62	86%	72
Other Staff	75	63%	44	37%	119
Total	1995	67%	1004	33%	2999



Table 2.3: *Research Team Compositions (SFI Funded Team Members) as at 31/12/2010*

	Irish	EU (Non-Irish)	Non-EU	Total
Award Holder	274	142	47	463
Co-Investigators	48	17	8	73
Postdoctoral Researchers	323	256	202	781
PhD Students	645	287	319	1251
Masters Students	56	9	16	81
Technicians	39	7	6	52
Research Assistants	72	25	10	107
Administrators	62	7	3	72
Other Staff	78	16	25	119
Total	1597	766	636	2999

Table 2.4: *Research Team Composition (All funding sources)*

	Total	Category as % of Total
Award Holder	463	8%
Co-Investigators	88	2%
Postdoctoral Researchers	1475	26%
PhD Students	2538	45%
Masters Students	276	5%
Technicians	131	2%
Research Assistants	204	4%
Administrators	122	2%
Other Staff	321	6%
Total	5618	100%

Table 2.5: *Research Team Composition (All funding sources) by Gender as at 31/12/2010*

	Male	Male as % of Total	Female	Female as % Total	Total
Award Holder	378	82%	85	18%	463
Co-Investigators	81	92%	7	8%	88
Postdoctoral Researchers	995	67%	480	33%	1475
PhD Students	1577	62%	961	38%	2538
Masters Students	173	63%	103	37%	276
Technicians	84	64%	47	36%	131
Research Assistants	106	52%	98	48%	204
Administrators	22	18%	100	82%	122
Other Staff	225	70%	96	30%	321
Total	3641	65%	1977	35%	5618

Table 2.6: *Research Team Composition (All funding sources) by Region of Nationality as at 31/12/2010*

	Irish	EU (Non-Irish)	Non-EU	Total
Award Holder	274	142	47	463
Co-Investigators	58	21	9	88
Postdoctoral Researchers	605	497	373	1475
PhD Students	1371	558	609	2538
Masters Students	167	54	55	276
Technicians	105	19	7	131
Research Assistants	138	46	20	204
Administrators	106	12	4	122
Other Staff	230	44	47	321
Total	3054	1393	1171	5618

3. First Destination of Departing Team Members

The tables and graphs below indicate the destinations of team members who left SFI-funded research teams in 2010.

Table 3.1: Departing Postdoctoral Researchers in 2010

Destination	Outside Ireland	% Outside Ireland	Within Ireland	% Within Ireland	Total	% of Total Leavers
Postdoctoral Research in HEI	47	64%	27	36%	74	37%
Industry	9	19%	39	81%	48	24%
Lecturers/Permanent Researchers in HEI	26	60%	17	40%	43	22%
Other	16	57%	12	43%	28	14%
Teachers (primary/secondary)	1	50%	1	50%	2	1%
Specialist Courses	2	100%	-	0%	2	1%
Technicians in HEI	1	33%	2	67%	3	2%
Total	102	51%	98	49%	200	100%

Table 3.2: Departing PhD Researchers in 2010

Destination	Outside Ireland	% Outside Ireland	Within Ireland	% Within Ireland	Total	% of Total Leavers
Postdoctoral Research in HEI	56	70%	30	51%	86	62%
Industry	11	14%	18	31%	29	21%
Other	12	15%	11	19%	23	17%
Technicians in HEI	1	1%	-	0%	1	1%
Total	80	58%	59	42%	139	100%



Table 3.3: *Departing Masters Students in 2010*

Destination	Outside Ireland	% Outside Ireland	Within Ireland	% Within Ireland	Total	% of Total Leavers
Industry	3	21%	15	33%	18	31%
PhD Research in HEI	5	36%	11	24%	16	27%
Other	4	29%	11	24%	15	25%
Specialist Courses	2	14%	3	7%	5	8%
Administrators	-	0%	3	7%	3	5%
Teachers (primary/secondary)	-	0%	2	4%	2	3%
Total	14	24%	45	76%	59	100%

Table 3.4: *Departing Research Assistants in 2010*

Destination	Outside Ireland	% Outside Ireland	Within Ireland	% Within Ireland	Total	% of Total Leavers
Other	9	28%	23	72%	32	46%
PhD Research in HEI	5	33%	10	67%	15	21%
Industry	5	50%	5	50%	10	14%
Technicians in HEI	1	17%	5	83%	6	9%
Masters Research	3	60%	2	40%	5	7%
Administrators	-	0%	1	100%	1	1%
Specialist Courses	-	0%	1	100%	1	1%
Total	23	33%	47	67%	70	100%

Table 3.5: *Departing Technicians in 2010*

Destination	Outside Ireland	% Outside Ireland	Within Ireland	% Within Ireland	Total	% of Total Leavers
Other	1	33%	2	67%	3	75%
Technicians in HEI	-	0%	1	100%	1	25%
Total	1	25%	3	75%	4	100%



Table 3.6: *All Departing Team Members in 2010*

	Outside Ireland	% Outside Ireland	Within Ireland	% Within Ireland	Total	% of Total Leavers
Postdoctoral Research in HEI	103	64%	57	36%	160	34%
Industry	28	27%	77	73%	105	22%
Other	42	42%	59	58%	101	21%
Lecturers/Permanent Researchers in HEI	26	60%	17	40%	43	9%
PhD Research in HEI	10	32%	21	68%	31	7%
Technicians in HEI	3	27%	8	73%	11	2%
Specialist Courses	4	50%	4	50%	8	2%
Masters Research	3	60%	2	40%	5	1%
Administrators	-	0%	4	100%	4	1%
Teachers (primary/secondary)	1	25%	3	75%	4	1%
Total	220	47%	252	53%	472	100%

Table 3.7: *Departing Members by Nationality by Destination in 2010*

	Irish			EU (Non Irish)			Non-EU		
	Within Ireland	Outside Ireland	Total	Within Ireland	Outside Ireland	Total	Within Ireland	Outside Ireland	Total
Postdoctoral Researcher	51 76.10%	16 23.90%	67 100.00%	34 50.00%	34 50.00%	68 100.00%	13 20.00%	52 80.00%	65 100.00%
PhD Student	42 56.80%	32 43.20%	74 100.00%	12 34.30%	23 65.70%	35 100.00%	5 16.70%	25 83.30%	30 100.00%
Masters Student	36 80.00%	9 20.00%	45 100.00%	4 80.00%	1 20.00%	5 100.00%	5 55.60%	4 44.40%	9 100.00%
Research Assistant	40 85.10%	7 14.90%	47 100.00%	3 25.00%	9 75.00%	12 100.00%	4 36.40%	7 63.60%	11 100.00%
Technician	2 100.00%	- 0.00%	2 100.00%	1 50.00%	1 50.00%	2 100.00%	- 0.00%	- 0.00%	- 0.00%
Total	171 72.80%	64 27.20%	235 100.00%	54 44.30%	68 55.70%	122 100.00%	27 23.50%	88 76.50%	115 100.00%



4. Academic Outputs

Table 4.1a: *Publication Output in 2010 (Active Awards)*

	Publications attributed to SFI by Award											Total from SFI Funding	Publications funded from Other Funding Sources
	CP	CSET	MI	PI	PICA	PIYRA	RP	RFP	SIRG	SRC	US Irl		
Refereed/Original Articles	46	207	79	439	9	34	1	250	15	213	4	1297	1315
Refereed Reviews	3	39	1	59	0	4	2	26	4	46	0	184	139
Books	1	9	0	4	0	0	0	2	1	2	0	19	16
Book Chapters	2	36	4	24	1	1	0	10	1	22	0	101	81
Peer-Reviewed Conference/ Meeting Proceedings/Papers	28	249	20	246	0	16	3	169	12	278	0	1021	587
Edited Conference/ Meeting Proceedings	8	12	9	50	0	8	0	42	2	6	3	140	78
Total Research Outputs	88	552	113	822	10	63	6	499	35	567	7	2762	2216

Table 4.1b: *Publication Output in 2010 (Active Awards)*

	Publications attributed to SFI by Award											Total from SFI Funding	Other Funding Sources
	CP	CSET	MI	PI	PICA	PIYRA	RP	RFP	SIRG	SRC	US Irl		
Total Research Outputs	88	552	113	822	10	63	6	499	35	567	7	2762	2216
Outputs with a non-Irish co-author	8	164	69	342	4	17	2	205	2	191	4	1008	842
Outputs available in Open Access Repositories	2	249	56	328	6	23	1	226	5	151	3	1050	630

Table 4.1c: *Publication Output in 2010*

	Total from SFI Funding	Other Funding Sources	Total Publications	% of Total
Outputs with a non-Irish co-author	1008	842	1850	37%
Outputs available in Open Access Repositories	1050	630	1680	34%
Total Research Outputs	2762	2216	4978	100%

Table 4.2a: *Publication Output in 2010 (Inactive Awards)*

	PI	PICA	PIYRA	RP	RFP	Total from SFI Funding
Refereed/Original Articles	166	12	54	7	312	551
Refereed Reviews	15	0	3	0	26	44
Books	0	0	0	0	0	0
Book Chapters	4	0	4	0	17	25
Peer-reviewed Conference/ Meeting Proceedings/Papers	84	6	31	2	134	257
Edited Conference/ Meeting Proceedings	7	3	4	0	18	32
Total Research Outputs	276	21	96	9	507	909

Table 4.2b: *Publication Output in 2010 (Inactive Awards)*

	PI	PICA	PIYRA	RP	RFP	Total from SFI Funding
Outputs with a non-Irish co-author	108	11	40	4	200	363
Outputs available in Open Access Repositories	54	10	18	3	227	312
Total Research Outputs	276	21	96	9	507	909

Table 4.3: *Publication Output by HEI in 2010 (Active Awards)*

	Refereed/Original Articles	Refereed Reviews	Books	Book Chapters	Peer-reviewed Conference/ Meeting Proceedings/Papers	Edited Conference/ Meeting Proceedings	Total by HEI
Athlone Institute of Technology	4	0	0	0	2	0	6
Cork Institute of Technology	11	1	0	0	0	2	14
Dublin City University	234	29	1	31	191	27	513
Dublin Institute for Advanced Studies	38	1	0	0	5	11	55
Dublin Institute of Technology	26	0	0	1	5	5	37
Dundalk Institute of Technology	7	0	0	6	9	0	22
Institute of Technology, Carlow	1	2	0	1	1	2	7
Institute of Technology, Tallaght	0	0	0	0	0	0	0
Institute of Technology, Tralee	0	0	0	0	0	0	0
National University of Ireland, Galway	170	38	1	23	156	18	406
National University of Ireland, Maynooth	106	2	0	10	82	20	220
Other	5	0	0	0	8	0	13
Queen's University Belfast	38	0	0	0	0	0	38
Royal College of Surgeons Ireland	114	19	1	3	49	11	197
Sligo Institute of Technology	1	0	0	0	0	0	1
Trinity College Dublin	592	82	7	25	224	25	955
Tyndall National Institute	92	2	0	3	35	12	144
University College Cork	359	84	9	19	170	24	665
University College Dublin	635	54	12	29	491	48	1269
University of Limerick	159	8	4	30	140	9	350
University of Ulster	8	1	0	0	7	0	16
Waterford Institute of Technology	12	0	0	1	33	4	50
Total Publication Output	2612	323	35	182	1608	218	4978

Active Awards in 2010

5. Pre-Commercial Outputs

Table 5.1: *Summary of Pre-Commercial Outputs (Active Awards)*

	Total Number
Invention Disclosures	150
Patents Filed	59
Patents Awarded	8
Standards Contributed to	18
Spin-Outs Reported	4
Licensed Technologies	22

Table 5.1a: *Summary of Pre-Commercial Outputs (All Awards)*

	Total Number
Invention Disclosures	163
Patents Filed	66
Patents Awarded	10
Standards Contributed to	19
Spin-Outs Reported	5
Licensed Technologies	28

Table 5.2: *Summary of Pre-Commercial Outputs in 2010 by HEI (Active Awards)*

	Invention Disclosures	Patents Filed	Patents Awarded	Standards Contributed to	Award Holders
Cork Institute of Technology	0	0	0	0	1
Dublin City University	21	9	2	1	31
Dublin Institute for Advanced Studies	0	0	0	0	8
Dublin Institute of Technology	1	0	0	1	7
Dundalk Institute of Technology	0	0	0	3	2
Institute of Technology, Tallaght	0	0	0	0	1
National University of Ireland, Galway	19	7	0	9	54
National University of Ireland, Maynooth	1	0	0	0	30
Other	0	0	0	0	1
Queen's University Belfast	0	0	0	0	1
Royal College of Surgeons Ireland	1	4	0	0	21
Trinity College Dublin	22	10	0	1	96
Tyndall National Institute	6	5	0	0	17
University College Cork	40	11	0	2	57
University College Dublin	33	12	1	0	114
University of Limerick	5	0	5	1	18
University of Ulster	1	1	0	0	1
Waterford Institute of Technology	0	0	0	0	3
Total	150	59	8	18	463

Table 5.3: *Non-Award Specific Pre-Commercial Outputs in 2010 by HEI*

	Total Licensed Technologies	Total Spin-Offs Reported
Dublin City University	7	0
Dublin Institute of Technology	1	1
National University of Ireland, Galway	0	1
National University of Ireland, Maynooth	0	1
Royal College of Surgeons Ireland	1	0
Trinity College Dublin	2	1
University College Cork	7	0
University College Dublin	4	0
Total	22	4

Table 5.4: *Invention Disclosures arising from SFI Funding in 2010 - by HEI and Award Type*

	CP	CSET	PI	PICA	RFP	RP	SIRG	SRC	Total by HEI
University College Cork	0	3	11	0	7	0	0	19	40
University College Dublin	0	5	12	0	2	0	0	14	33
Trinity College Dublin	0	10	8	0	4	0	0	0	22
Dublin City University	0	16	1	0	1	0	0	3	21
National University of Ireland, Galway	0	10	3	0	0	0	0	6	19
Tyndall National Institute	0	0	3	0	0	0	1	2	6
University of Limerick	0	5	0	0	0	0	0	0	5
University of Ulster	1	0	0	0	0	0	0	0	1
Royal College of Surgeons Ireland	0	0	0	0	1	0	0	0	1
National University of Ireland, Maynooth	0	0	1	0	0	0	0	0	1
Dublin Institute of Technology	0	0	0	0	0	0	1	0	1
Total by Award	1	49	39	0	15	0	2	44	150



Table 5.5: *Number of Patent Filed arising from SFI Funding in 2010 - by HEI and Award Type (Active Awards)*

	CP	CSET	PI	PIYRA	RFP	RP	SRC	Total by HEI
Dublin City University	0	5	3	0	1	0	0	9
National University of Ireland, Galway	0	3	1	1	0	0	2	7
Royal College of Surgeons Ireland	0	0	3	0	1	0	0	4
Trinity College Dublin	0	5	4	0	1	0	0	10
Tyndall National Institute	0	0	5	0	0	0	0	5
University College Cork	0	2	4	0	3	0	2	11
University College Dublin	0	2	3	0	1	0	6	12
University of Ulster	1	0	0	0	0	0	0	1
Total by Award	1	17	23	1	7	0	10	59

Table 5.6: *Number of Patents Filed arising from SFI Funding in 2010 - by Patent Office and Award Type*

	CP	CSET	PI	PIYRA	RFP	RP	SRC	Total by HEI
Irish	0	0	6	0	3	0	5	14
EU	1	8	14	0	2	0	2	27
US	0	9	3	1	1	0	3	17
Other	0	0	0	0	1	0	0	1
Total by Award	1	17	23	1	7	0	10	59

Table 5.7: *Number of Awarded Patents arising from SFI Funding in 2010 - by HEI and Award Type (Active Awards)*

	CSET	PI	RFP	Total by HEI
Dublin City University	1	1	0	2
National University of Ireland, Galway	0	0	0	0
Trinity College Dublin	0	0	0	0
University College Dublin	0	1	0	1
University of Limerick	5	0	0	5
Total by Award	6	2	0	8



6. Industry-Research Collaborations

Table 6.1: *Industry-Research Collaborations in 2010 by Company Type (Active Awards)*

	Total Collaborations	Companies
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

Table 6.2: *Industry-Research Collaborations in 2010 by Award Type (Active Awards)*

	Multinational Corporation (MNC)	SME	Government Departments or Semi-State Bodies	Private Foundations/Charities/ Non Government Organisations (NGO)	Total by Award Type
CSET	115	109	14	9	247
PI	139	85	9	6	239
SRC	101	76	4	2	183
RFP	45	23	7	5	80
CP	27	19	15	4	65
MI	13	9	3	1	26
SIRG	5	8	2	0	15
US Irl	0	3	1	0	4
PIYRA	3	1	0	0	4
PICA	2	2	0	0	4
RP	0	0	0	0	0
Total	450	335	55	27	867

Table 6.3: *Industry-Research Collaborations in 2010 with Legal Agreements*

	Legal Agreement in place	
	Total Collaborations	Companies
Multinational Corporation (MNC)	247	127
SME	202	147
Government Departments or Semi-State Bodies	23	14
Private Foundations/Charities/ Non Government Organisations (NGO)	7	5
Total	479	293

Table 6.5: *Breakdown of Objective of Industry-Research Collaborations in 2010*

	Collaborations	% of Collaborations of this Nature
Assist the company achieve a research objective	439	51.10%
Building networks & relationships	362	42.10%
Joint publication	251	29.20%
Licence development	200	23.30%
Other (please specify)	99	11.50%
Start-up development	55	6.40%

Table 6.4: *Breakdown of Nature of Industry-Research Collaborations in 2010*

	Collaborations	% of Collaborations of this Nature
Joint Research	546	63.30%
Access to/provision of material, equipment, software, data	328	38.00%
Contract research	122	14.10%
Financial support to postgraduate students	73	8.50%
Training and Career & Professional Development (CPD)	69	8.00%
Event sponsorship	15	1.70%



Table 6.6: 2010-2009 Comparison of Industry-Research Collaborations

	Collaborations 2010	Collaborations 2009	% Change	Companies 2010	Companies 2009	% Change
Multinational Corporation (MNC)	450	340	32%	237	184	29%
SME	335	206	63%	245	165	48%
Other	82	55	49%	52	40	30%
Total by Award	867	601	44%	534	389	37%

Active Awards in 2010



7. Academic - Academic Collaborations

Table 7.1: *Academic Collaborations in 2010 by Region (Active Awards)*

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

Table 7.2: *Academic Collaborations in 2010 by Award Type (Active Awards)*

PI	747	33.30%
RFP	598	26.60%
CSET	327	14.60%
SRC	207	9.20%
MI	135	6.00%
CP	79	3.50%
PIYRA	64	2.80%
SIRG	40	1.80%
RP	20	0.90%
US	19	0.80%
PICA	10	0.40%
Total	2246	100.00%

Table 7.3: *Academic Collaborations by Award Type and Region (Active Awards)*

	Irish		EU Non-Irish		Non-EU		Total
PI	184	25%	254	34%	309	41%	747
RFP	162	27%	183	31%	253	42%	598
CSET	62	19%	104	32%	161	49%	327
SRC	45	22%	74	36%	88	43%	207
MI	22	16%	39	29%	74	55%	135
CP	31	39%	13	17%	35	44%	79
PIYRA	14	22%	30	47%	20	31%	64
SIRG	9	23%	5	13%	26	65%	40
RP	7	35%	2	10%	11	55%	20
US	2	11%	9	47%	8	42%	19
PICA	3	30%	1	10%	6	60%	10
Total	541	24%	714	32%	991	44%	2246

Table 7.4: *Academic Collaborations in 2010 by Objective (Active Awards)*

	Collaborations	% of Collaborations with this Objective
Joint Research/Publication	2006	89.40%
Access to/provision of material, equipment, software, data	831	37.00%
Training and Career & Professional Development (CPD)	310	13.80%
Licence development	61	2.70%
Start-up development	22	1.00%
Building networks & relationships	703	31.30%
Other	106	4.70%



8. External Funding

Table 8.1: *Amount of Funding Reported by SFI Funded Researchers in 2010 by Source (amounts in €s)*

	External Funding Leverage €
EU	62,598,472
Private Enterprise	14,952,908
EI	13,774,578
HEA	13,234,856
IRCSET	12,363,444
HRB	9,419,060
Other Irish Government Source	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	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

Active Awards in 2010

Table 8.2: *Amount of External Funding secured by SFI-funded researchers in 2010 by source*

	Irish Exchequer	Non-Irish Exchequer	National	International
EU		62,598,472		62,598,472
Private Enterprise*		14,952,908		
EI	13,774,578		13,774,578	
HEA	13,234,856		13,234,856	
IRCSET	12,363,444		12,363,444	
HRB	9,419,060		9,419,060	
Other Irish Government Source	6,925,399		6,925,399	
Other International Government Source		4,100,500		4,100,500
Charity/Non-Profit Organisation (Irish)		3,497,365	3,497,365	
EPA	2,522,852		2,522,852	
DAFF	1,798,831		1,798,831	
Charity/Non-Profit Organisation (International)		1,767,988		1,767,988
Wellcome		1,719,882		1,719,882
Other International Interest Organisation		1,211,363		1,211,363
NIH		1,059,433		1,059,433
Teagasc	1,051,200		1,051,200	
Marine Institute	435,345		435,345	
NSF		366,470		366,470
Other Source*		360,447		
DCENR	100,000		100,000	
Total by Source	61,625,565	91,634,828	65,122,930	72,824,108
% of Total Amount	40%	60%	42%	48%



9. Other

Involvement in Outreach Programmes in 2010 by HEI

	Engaged in Public Outreach Programmes for the promotion of Science in 2010		
	Yes	No	Total
University College Dublin	72	43	115
Trinity College Dublin	64	32	96
University College Cork	35	23	58
National University of Ireland, Galway	40	14	54
Dublin City University	20	13	33
National University of Ireland, Maynooth	14	15	29
Royal College of Surgeons Ireland	13	8	21
University of Limerick	8	10	18
Tyndall National Institute	13	5	18
Dublin Institute for Advanced Studies	5	3	8
Dublin Institute of Technology	3	4	7
Waterford Institute of Technology	0	3	3
Dundalk Institute of Technology	2	0	2
University of Ulster	1	0	1
Queen's University Belfast	0	1	1
Other	1	0	1
Institute of Technology, Tallaght	1	0	1
Cork Institute of Technology	1	0	1
Total	293	174	467

Active Awards in 2010

Attendance at International Events by HEI in 2010

	Yes	No	Total
Athlone Institute of Technology	0	0	0
Cork Institute of Technology	1	0	1
Dublin City University	28	8	36
Dublin Institute for Advanced Studies	8	0	8
Dublin Institute of Technology	4	3	7
Dundalk Institute of Technology	2	0	2
Institute of Technology, Carlow	0	0	0
Institute of Technology, Tallaght	0	1	1
Institute of Technology, Tralee	0	0	0
National University of Ireland, Galway	52	6	58
National University of Ireland, Maynooth	27	3	30
Other	0	1	1
Queen's University Belfast	1	0	1
Royal College of Surgeons Ireland	20	4	24
Sligo Institute of Technology	0	0	0
Trinity College Dublin	91	18	109
Tyndall National Institute	16	3	19
University College Cork	47	15	62
University College Dublin	100	20	120
University of Limerick	14	6	20
University of Ulster	1	0	1
Waterford Institute of Technology	3	0	3
Total	415	88	503

Active Awards in 2010

Breakdown of Location and Member Roles 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



Appendix A: List of Companies Collaborating with SFI Researchers

Note: These companies are reported to be collaborating with SFI researchers.

Companies

ABB	Alcon Laboratories Ireland Ltd	AustriaMicrosystems	Brandon Products Ltd	Cognex
Abbott	Alere International	Autodesk Research	Briglec Ltd	CognoPlus Ltd
Abem Instruments AB	Alimentary Health Ltd	Axellis Ltd	Bristol Myers Squibb	Collplant Ltd
Abtran Ltd	Allergan, Inc.	Axion Consulting	British Energy	Connexios
Acciona Infraestructuras SA	Allied Irish Beef Processors	B9 Energy Group	British Telecom (BT)	Conorzio Treesse
Achira	Almac Group Ltd	Bank of Ireland Group	Bruker Advanced Supercon GmbH	Copeland Ltd
ACRA Control	Alnac Diagnostics	Bausch & Lomb Inc	Calicojack	Covidien
Actelion Pharma	Alstom	Baxter Medical Corporation	Caliper LifeSciences Inc	CR Entertainment
Action Point	Amdocs ChangingWorlds	Bayer Group	Carbery	Cray Inc
Adama Innovation	Amgen	BD Biosciences Europe	Carbon Decisions	CreditExpo
Adaptive HVM Limited	Anachem Ltd	Becton Dickinson, Inc.	Carefusion Corporation	Cree
Adidas	Analog Devices Inc	Beemway	Carton Brothers	Creganna
Adnagen	Andor Technology Plc	Beiersdorf	Cayman Chemical Company	Crescent Diagnostics
Advanced Accelerator Apps	Anti Cancer Inc	BenchBio Ltd	Cellix Ltd	Critech Research
Aerogen Ltd	APEnvEcon	BHP-Billiton	Cellology	Critical Path
AeroSurgical Ltd	Apple Computers	BiancaMed	Celtic Catalysts Ltd	Cross VetPharm
AFchempharm	Applied Materials	Big River Streaming	Celtrak Ltd	CSEM S.A.
Agennix	Appsie	Bimeda Ltd	CERAM Research Ltd.	CSK
Analytic Graphics, Inc	Aquafact International Services Ltd	Bio Business	Charles Rivers Laboratories	CVD Technologies Ltd
Agile Sciences	Aquamarine	BioCEP	Christian Hansen	Cylon Controls
Agilent Technologies	Arch Therapeutics	Biofocus DPI Ltd	Chromotek	Cynar Plc
Airbus SAS	Argutus Medical Ltd	BioMerieux	CIP Technologies	Cyntelix Corporation Ltd
Airtricity	Ark Therapeutics Group Plc	Biomining Inc	Cisco Systems Inc	Danone
Aixtron AG	Armac Systems	Biospark	Citco Group Ltd	Danubia Nanotech
Ajinomoto, Inc.	Arup	Biosurf SA	Citigroup Inc	Datafusion
Akyuz Plastik A.S.	AstraZeneca	Biotrin International Ltd	Clarochem Ireland	DataHug
Alcatel-Lucent	Asylum Research Ltd	Boehringer Ingelheim	ClearSight Ltd	DataKraft
Alcatel-Lucent Bell Labs	AT&T	Bofinn Diagnostics	Clerici-Sacco Group	De Puy Inc
Alchemy Software	ATOS	Boliden Tara Mines Ltd	Coca Cola	DeBeers Group
Development Ltd	Audit Diagnostics	Boston Scientific Corporation	CODEX Discovery	Decawave
	Aughinish Alumina			Dell



Deloitte & Touche	Europlex	Heinz	Jam Media Ltd	Movidius
Denator AB	Evergreen Engineering	Hemcon Medical Technologies Inc	Janssen Pharmaceutical Ltd.	Moving Media
Depfa Bank Plc	EverSeen Ltd	Henkel Ireland Ltd.	JBA Goup	MP Biomedicals LLC
Deutsche Telekom	EXFO	Hewlett-Packard (HP)	Johnson and Johnson	Mylan Institutional Inc
Devro Ltd	Ezetop	Heystaks	K Systems	Mytec Gmbh
Diageo	Ezose	Histogen Inc	Kanichi	Nanosight
Diagnostica Stago	FairView Analytics Ltd	HMH (Houghton Mifflin Harcourt)	Kedco Ltd	Natural Motion
Diamond Detectors Ltd	Falk	Holfeld Plastic Ltd	Kepak	NaviExpert SP. Z.O.O.
Dionex UK Ltd	FEI Electron Microscopes	Honeywell Turbo Technologies	Kildare Chilling	Navteq Europe BA
Disney	Ferfics Ltd	Hospira Inc	Kugler Maag	Neat Sciences
DMC medical	Fiat Research ScPA	Hovione	Lake Region Manufacturing Inc	NeoSurgical
DNP	FibroGen, Inc.	HSG Zander GMBH	Lam Research	Nestle
DreamTec	Fidelity Investments (FISC)	Huawei Technology Co. Ltd	Landtech Soils Ltd	Netwatch
Dresser Rand	Fineos	Human Genome Science Inc	LefScienceHub	Nikon Europe
DriveRite	Fintrax Group	Hummingbird Scientific	Lexas Research Ltd	Nokia Siemens Networks
Dualsystems	Firecomms	IBM	Life Technologies	Norkom Technologies
EADS	Forschungszentrum Julich GmbH	IdentiGEN Ltd	Light Stream Animation	Nortel Networks Corporation
Eblana Photonics Ltd	France Telecom	Idiro	Logscreen	Noscira
Eboroil Udmartia Inc	FrieslandCampina	Imagine Eyes	Luxcel Biosciences Ltd	Novartis
eDaq Pty Ltd	Fugro-BKS	iMobile	M/A COM	Nowcasting International
Eircom	Fujitsu	Impedans Ltd	MagSense Life Sciences Inc	NTE SA
Eire Composites	Full Flight Technology	Infineon	Mainstream Renewable Power	Nujira
Elan Pharmaceuticals (Ireland)	G Telemetry	Innocoll	Mandat International	NXP
Elastin Specialties, Inc.	G.E.M Team Solutions Gdbr	Innolume, Inc.	Marigot Ltd	Occam Asset Management
Eli Lilly S.A. (Ireland)	Gaelectric Developments Ltd	Innova S.p.A	Marvell	Ocean Energy Ltd
EMC (Ireland) Ltd	Gasera Ltd	Innovalia	Mason Technologies	Oceanlinx
Emerson Process Management	GE Healthcare	Integra Life Sciences	Maxwell Technologies	OFS Denmark
EnBio Ltd	Gemalto (eGO)	Intel Corporation	mBio Diagnostics	OncoMark Ltd
Enfer Scientific Ltd	Genzyme Corporation	Intellectual Data Systems Inc	Medtronic	Openlink Software (USA) Ltd.
Enzolve Technologies Ltd	Gerbera Ltd	Intercept Pharma Inc	Meiji	Opsona Therapeutics
Epic Digital Media	GFM Systems	Intermune	Mendel Biotechnology, Inc.	Organis Spintronics srl
Epichem Pty Ltd	Glantreo	Intune Networks	Merck Group	Ortho Clinical Diagnostics
EPPRA SAS	Glas-seal Ltd	InvestorFirst	Metal Fabrication Ltd	Ovagen
Equateq	GlaxoSmithKline	Ipsen	MetaOme	Oxford Metrics Group
Equinome Ltd	Glebe Scientific Ltd	Irish Cattle Breeding Federation	Microsoft Corporation	PaddyPower
Ericsson	Glen Dimplex Ltd	Irish Response	Midatech Ltd	Paraytech
Erigal	G-Media	Itasca Consulting Group, Inc.	Millipore	Parexel International UK
Erin Energy Ltd	Grant Galvin (entrepreneur)	iTraffic	MITRE	PAS Technologies Ireland Ltd.
eSpatial	Groupe Archimen Active 3D	J&J Vistakon	Molecular Devices	Pavement Management Services Ltd.
Eudaemon Consulting Ltd	Halcyon Solutions		Mostostal Warszawa	PepsiCo Ireland

Pfizer	Royal DSM NV	SONI Ltd	Transver GmbH
Pharmatrin Ltd	S3 Group	SpeechStorm	Traslan
Pheonix Ltd	Saab Combitech Systems AB	Spokesoft Technologies Ltd	Trinity Biotech
Philips Group	SAES Getters S.p.A.	SpongeIT	Trinity Horne
PicoMetrics Inc	Sanofi-Aventis	Sports Index	Triveritas Ltd
Pilkington Glass (UK)	SAP AG	SQW Energy Scotland	Tullow Oil Plc
Pioneer Investments	Saudi Aramco	SSE Renewables	United Technologies Corporation
Piper Systems Ltd	Scandinavian Homes Ltd	St Gobain Glass	Unternehmensberatung Biogas
Plasmedica Ltd	Schering-Plough	ST Microelectronics	Unum
Plentex Ltd. (Blue Sundial Algae Project)	SDL Enterprise Technology (Ireland)	Stat Sports	Valio
PocketKings	Seagate Technologies LLC	Statistical Solutions Cork	Veolia
Polecat Ltd	Selective Antibodies Ltd	Stiefel GSK	Veryan Ltd
Polyplus Transfection	Senexis PLC	Storm Technology Ltd	VI Systems
Profactor	Seniormind	Stranger Testing Services Ltd.	Viridian Group
Progenik	Sensinode	Summit PLC	Vistakon Ireland
Prognosys Biosciences Inc	SensL	Superlum Ireland	VistaTEC
Prospect 23	Sentry Wireless	Sygnature Chemical Services Ltd	Vitalograph (Ireland) Ltd
Protagen	Seroba-Kernel Life Sciences	Symantec Corporation	Vitesse
Protneomix	Servier Laboratories	Synopsys International Ltd.	Vivasure Medical Ltd
Proxy Biomedical Ltd	Sheeran Ltd	T2M	Waters Corporation
Qiagen GmbH	Shimadzu Corporation	Taiho Pharmaceutical Co Ltd	Weedle
QinetiQ	Shupon	Tango Telecom SA	Western Digital
Quintiles	Siemens AG	TBC, Inc.	Willis Plumbing and Heating
Racktivity	Sigma Aldrich Corporation	Technicolor	Wirelite Sensors Ltd
Radisens Ltd	Sigmoid Pharma	Technology From Ideas Ltd	WIS
RealTime Technologies	Skyware Global	Telabs	Xilinx Research Labs
Recitell Ltd	Slattery Communications	Telefonica R&D	Zamano
RedBoxDirect Ltd	SLR Consulting Ltd	Tell Lab	Zeus Inc
Renault Group	Smartex	Temis	Ziel
Renishaw Ltd	Smith & Nephew	Tenesol SA	Signals
ReResearch Ltd	Snap-On Inc	Teva Pharmaceuticals Ireland	
Resource Kraft Ltd	SOCOWAVE	Thales Group	
Ricerca sul Sistema Energetico (RSE)	Softedge Systems LLC	The Walt Disney Company	
Rio Tinto Minerals	Software Mind	ThermoFisher Scientific	
Roche Group	Solae	Theta Chemicals	
Rolls-Royce Group PLC	Solaprint Ltd	TiGenix Inc. (Orthomimetics)	
Rovsing Ireland Ltd.	Solexpers AG	Tmtfactory	
	Solvay	Toray Industries Inc	



Government Departments or Semi-State Bodies

BBC
BBCC
Bord Gáis
Bord na Mona
BreastCheck
Centre d'Immunologie Pierre Fabre
Centre Scientifique et Technique du Bâtiment
Coillte Teo
Commission for Energy Regulation (CER)
Competence Centre For Biorefining and Bioenergy
Deutsche Welle
Dublin City Council
EirGrid
Electricity Supply Board (ESB)
Environmental Systems Research Institute, Inc. (Esri),
Environmental Protection Agency
European Investment Bank
European Space Agency (Netherlands)
Fraunhofer Institute
Fundacion Labein
Health Service Executive (HSE)
INRIA Inventeurs du Monde Numerique
Irish Navy / Department of Defence
Met Éireann
National Institute for Bioprocess Research & Training
National Institute of Standards & Technology (NIST)
National Oceanic and Atmospheric Administration (NOAA)
National Roads Authority
Nerviano Medical Sciences
Netherlands Institute for Sound and Vision (NISV)
Northern Ireland Electricity Plc
Scottish Association for Marine Science
Teagasc
The National Institute for Bioprocessing Research and Training (NIBRT)

Private Foundations/Charities/Non Government Organisations (NGO)

Carers Ireland
Centre for Inclusive Technology
Crosscare
DEBRA Ireland
Electric Power Research Institute (EPRI)
Environmental Systems Research Institute, Inc. (Esri),
European Ocean Energy Association
Fondazione Bruno Kessler (FBK)
European Research Consortium for Informatics and Mathematics (ERCIM)
Inagh Valley Trust R&D Enterprise Ltd
Incubaid
Information Retrieval Facility
Irish Hockey Association
Manchester University
National Cattle Breeding Centre (NCBC)
National Digital Research Centre (NDRC)
National Museum of Ireland
Neurosky
Pat Falvey Foundation
Tennis Ireland
Utility Wind Integration Group (UWIG)
VTT Finland
WiSen - Wireless Sensors Enterprise Led Network



Appendix B: Glossary

CP	Charles Parsons Award
CSET	SFI Centres for Science, Engineering and Technology
DAFF	Department of Agriculture, Fisheries and Food
DCENR	Department of Communications, Energy and Natural Resources
DETI	Department of Enterprise, Trade and Innovation
EI	Enterprise Ireland
EPA	Environmental Protection Agency
EU	European Union
FDI	Foreign Direct Investment
HEA	Higher Education Authority
HEI	Higher Education Institutions
HRB	Health Research Board
HSE	Health Service Executive
IDA	Industrial Development Authority, Ireland
IRCSET	Irish Research Council for Science, Engineering and Technology
MI	SFI Mathematics Initiative
MNC	Multi-National Corporation
NIH	National Institute of Health, USA
PI	SFI Principal Investigator Programme
PICA	SFI Principal Investigator Career Advancement Award
PIYRA	SFI President of Ireland Young Researcher Award
RD&I	Research, Development and Innovation
RFP	SFI Research Frontiers Programme
RP	SFI Research Professor Recruitment Award
SIRG	SFI Starting Investigator Research Grant
SME	Small-Medium Enterprise
SRC	SFI Strategic Research Clusters
SSTI	Strategy for Science, Technology & Innovation 2006 - 2013
Teagasc	The Irish Agriculture and Food Development Authority
US Irl	US Ireland R&D Partnership Programme
Wellcome	Wellcome Trust, UK



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