SCIENCE FOUNDATION IRELAND

SFI Investigators Programme 2016

Call for Submission of Proposals

Key Dates

Call announcement: **30th June 2016**
Deadline for submission of preliminary information: **30th September 2016, 13.00 Dublin local time**
Deadline for proposal submission: **9th December 2016, 13.00 Dublin local time**

Terms of Reference

While every effort has been made to ensure the accuracy and reliability of this document, it is provided for information purposes only and as a guide to expected developments. It is not intended, and should not be relied upon, as any form of warranty, representation, undertaking, contractual, or other commitment binding in law upon Science Foundation Ireland, the Government of Ireland, or any of their respective servants or agents. SFI Terms and Conditions of Research Grants shall govern the administration of SFI grants and awards to the exclusion of this and any other oral, written, or recorded statement.

All responses to this Call for Submission of Proposals will be treated in confidence and no information contained therein will be communicated to any third party without the written permission of the applicant except insofar as is specifically required for the consideration and evaluation of the proposal or as may be required under law, including the Industrial Development (Science Foundation Ireland) Act, 2003, the Industrial Development (Science Foundation Ireland) (Amendment) Act 2013 and the Freedom of Information Acts 1997 and 2003.

1   Introduction

The Science Foundation Ireland (SFI) Investigators Programme supports the development of world-class research capability and human capital in areas of science, technology, engineering and mathematics (STEM) that demonstrably support and underpin enterprise competitiveness and societal development in Ireland. To this end, SFI funds outstanding people with innovative ideas and strategic partnerships, recognising that excellence remains a paramount criterion in the research it funds. For the Investigators Programme, scientific excellence is both necessary and paramount but is not sufficient in isolation; applications must also be able to clearly articulate the potential for economic and societal impact, as outlined in SFI's strategy, Agenda 2020[1] which sets out a vision in which Ireland will, by 2020, be "*the best country in the world for both scientific research excellence and impact*".

Innovation 2020[2] is Ireland's five-year strategy on research and development, science and technology. This strategy sets out the roadmap for continuing progress towards the goal of making Ireland a Global Innovation Leader, driving a strong sustainable economy and a better society, underpinned by excellent research that is defined within six designated enterprise themes (ICT; Health and Medical; Food; Energy; Manufacturing and Materials; Services and Business Processes).

Since the publication of the report of the National Research Prioritisation (NRP) Steering Group in 2012,[3] which identified 14 priority research areas (that are now positioned within the six enterprise themes listed above), a more focused approach has been adopted in the public funding of research and innovation activity. Research prioritisation has concentrated the majority of Ireland's competitive funding on areas deemed likely to yield greatest economic and societal impact. For this call, proposals must either be aligned to one of the 14 priority research areas or to any other area under SFI's legal remit (see below) where there is convincing evidence that there will be significant potential for economic and/or societal impact.

The legal remit of SFI is to promote, develop and assist the carrying out of oriented basic and applied research in strategic areas of scientific endeavour that concern the future development and competitiveness of industry and enterprise in the State.[4] **Oriented basic research** is "*research that is carried out with the expectation that it will produce a broad base of knowledge that is likely to form the background to the solution of recognised, or expected, current or future problems or possibilities*". Additionally, **applied research** is defined as "*an original investigation undertaken to acquire new knowledge and is directed primarily towards a specific practical aim or objective. The results of applied research are intended primarily to be valid for a single or limited number of products, operations, methods, or systems*".

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[1] Agenda 2020, Published 2012
[2] Innovation 2020, Published 2015
[3] Report of the Research Prioritisation Steering Group, Published 2012
[4] About SFI – what we do

SFI is pleased to announce that the Investigators Programme 2016 (IvP 2016) call involves the participation of a number of Government Departments and funding agencies.[5] Co-funding Partners include Teagasc,[6] the Geological Survey of Ireland (GSI),[7] the Marine Institute (MI)[8] and the Environmental Protection Agency (EPA).[9] The research topics of interest to each Partner organisation under this call and the specific objectives of the Partnerships are described in Appendix A. In addition, further details concerning applications submitted under a given Partnership are provided below:

The IvP 2016 call includes a number of co-funding Partnerships. Lead Applicants <u>are not obliged</u> to apply under any of the Partnerships. Partnership and non-Partnership applications to this call <u>will be treated the same</u>, with respect to the review process.

By submitting an application to the Investigators Programme, an applicant is accepting that SFI has the right to share information (including the application and any post-award reports submitted to SFI) with co-funding partners, on a confidential basis, without the need to obtain any further consents from such applicants.

<u>SFI Partnerships with the GSI, the MI and the EPA</u>:

The Partnerships between SFI and the GSI, the MI and the EPA are based on alignments to research topics that are of particular significance to the Partners' respective research objectives. Following the close of the IvP 2016 call, SFI will reach agreement with each of these Partners on which proposals may be supported through the given Partnerships. All applications that potentially align to the research topics outlined for GSI, MI and the EPA in Appendix A will be considered for support under the relevant Partnership. There is no requirement for applicants to indicate specifically that funding through any of these Partnerships is sought.

<u>SFI-Teagasc Partnership</u>:

Applicants intending to apply under the SFI-Teagasc Partnership should pay particular attention to the following sections of this call document: Sections 3.6, 4.9 and 4.10, in addition to Appendix A. These sections and the appendix provide specific information concerning the preparation of proposals under this Partnership.

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[5] Certain awards made under this call may be co-financed by the European Regional Development Fund (ERDF) 2014-2020.
[6] http://www.teagasc.ie/
[7] http://www.gsi.ie/
[8] http://www.marine.ie/Home/
[9] http://www.epa.ie/

Objectives of the Investigators Programme

- To support excellent scientific research that has potential economic and societal impact aligned to Innovation 2020 enterprise themes
- To build capacity, expertise and relationships that will allow researchers based in Ireland to lead consortia and to win further support through various non-Exchequer funding schemes, such as Horizon 2020
- To support relevant collaborations and partnerships between academia and industry
- To maintain Ireland's top-20 position in international bibliometric rankings through an increase in the number and quality of journal publications
- To allow Ireland-based researchers to win top-tier international prizes (e.g., the Nobel Prize, the European Science Prize, the Lasker Award, etc.)
- To facilitate partnerships with other agencies
- To support researchers returning to active academic research after a prolonged absence through the Investigator Career Advancement (ICA) component of the call

2   Economic and Societal Impact

Each year the Irish Government spends in the region of €750M on scientific research, training and development. As with all public spending, it is necessary to demonstrate and articulate the potential impact and benefits of scientific research.

For the Investigators Programme, scientific excellence is both necessary and paramount but is not sufficient in isolation; applications must also be able to clearly articulate the potential for economic and societal impact. SFI regards clear and convincing impact statements as being fundamental components of competitive proposals. Applicants should be aware that proposals that are not seen to have the potential to deliver impact, or have not successfully articulated how this impact can be delivered, <u>will not be funded through this programme, regardless of scientific excellence</u>.

What is meant by Impact?

Impact can be described as *the demonstrable contribution that excellent research makes to the economy and society.* Impact embraces the diverse ways in which research-related knowledge and skills benefit individuals, organisations and nations by:
- Powering an innovative and enterprising economy
- Creating high-value jobs
- Attracting, developing and nurturing businesses, scientists and talented people
- Increasing the effectiveness of public services and policy
- Enhancing quality of life, health and creative output
- Developing the country's international reputation
- Educating and training the population
- Solving major national and global problems and challenges, such as food security and world hunger, climate change, energy security, ageing population, rural sustainability, and other sustainability challenges

How will impact be assessed and measured?

SFI recognises that some research projects may have immediate impact whereas other projects may take much longer to achieve impact. For example, an output such as a filed patent is unlikely to create an impact until the patent is licensed to develop a product, which can then generate revenue and jobs.

The adoption of a project output such as a new standard or protocol could improve the performance of an existing business, which could also impact revenue and jobs. The discovery of a new treatment or medical device will have obvious health impacts, as well as potential economic benefits. Researchers applying to IvP 2016 have an obligation to articulate how and when they believe ***their proposed research programme*** will deliver impact on Ireland's economy and society in the Impact Statement section of the application (see below).

Reviewers will be asked to assess the potential impact and the likelihood of the delivery of that impact, as described in the Impact Statement. The relevant impact review criterion is:

- *Quality, credibility and relevance of the impact statement, including the likelihood, scale and value of societal and/or economic effects on Ireland as a result of the proposed research, which may be realised in the short term or over a longer period.*

> **For more information and guidance on how to successfully articulate impact, detailed information is available on the SFI website.[10] A webinar[11] is also available. Applicants are advised to refer to this information in advance of preparing the Impact Statement in an IvP 2016 application.**

Impact Statement

An **Impact Statement** (**maximum of three pages**) is a requirement in applications to the Investigators Programme. The Impact Statement should articulate the planned and potential impact of the proposed research. SFI recognises that impact can take time and in many cases is unforeseen; as such, it is not possible to predict all impacts at the time of submission. However, considering that impact is a key review criterion, applicants are advised to make full use of the space provided to make a strong, unambiguous, and **realistic** impact case with appropriate emphasis and an objective view on how long it may require for the potential impact to be fully realised.

The statement should be as specific as possible and provide information that reviewers will find helpful in assessing the potential impact of the proposed research activity. Appropriate plans, milestones and deliverables associated with the potential impact should also be indicated. Plans to utilise appropriate alternative funding sources to assist with achieving impact should be included, where relevant. Applicants are encouraged, where relevant, to discuss their proposals and Impact Statements with Technology Transfer Offices and/or other institutional personnel with responsibility for the commercialisation of research, prior to submission.

The Impact Statement should be written primarily in lay, non-technical language. It should be as specific and comprehensive as possible and it should cover potential economic and societal impacts by answering the following overarching questions:

- **Who will benefit from this research?**

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[10] http://www.sfi.ie/funding/sfi-research-impact/
[11] http://www.sfi.ie/funding/sfi-research-impact/sfi-impact-webinar.html

- **What plans will you put in place to increase the chances of economic and societal impacts from the proposed research?**
- **Over what timeframe might the benefits from your research be realised?**

In order to best describe the possible impacts in an IvP 2016 Impact Statement, the following points should also be considered:

- What is the potential impact of the proposed research on the development of Ireland's industry, economy, competitiveness and development?

- Are there potential international beneficiaries or collaborations with international industry or partner organisations?

- IvP 2016 encourages industry collaborations where appropriate to the topic of the research. How will the Industry Collaborators contribute to increased impact? What supports/contributions are they offering? Have routes to commercialisation been considered?

- If a proposal includes plans to develop and validate new tests, models or approaches that actively seek to avoid the use of live animals and/or addresses the principles of the 3Rs (Replacement, Reduction and Refinement),[12] the Impact Statement should include details on the route to be taken to ensure acceptance and adoption of alternative methods and also include metrics demonstrating the impact of the approaches planned. In addition, reference should be made to relevant regulatory policy and details around engagement with local, national and international stakeholders should be provided.

- With whom might you partner to increase the likelihood of potential impacts? It may be valuable to include one or more Industry Collaborators in your application. Letters of support must be provided if Industry Collaborators are included. The letters should provide full details of the intended intellectual input and, where relevant, the level of financial (cash, in-kind or both) contribution to the research programme. Industry letters of support that do not originate from officially listed Industry Collaborators will be removed from the proposal, as will letters from listed Collaborators that merely provide theoretical or general support without specifically describing a meaningful and impactful contribution to the proposal.

- How will the proposed research impact on the education, training and career of students and research team members? Will there be infrastructural benefits for further research and education (e.g., facilities and instrumentation)? Applicants should note that all Investigators Programme grants will offer training opportunities of some degree, therefore it is important to highlight the added value from the training provided under your award; for example, highlight where past researchers/students have found employment in industry.

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[12] http://www.sfi.ie/funding/grant-policies/sfi-policy-on-the-use-of-animals-in-research.html

- Highlight industrial interest in past/current research (e.g., consultancy, projects funded, collaborative publications, licenses granted, companies formed, VC funding, problems solved, etc.).

- How will the potential impacts of your research be best realised?

- What benchmarks or metrics can be applied to clearly demonstrate in the future that the various impacts outlined in the Impact Statement are both realistic and achievable?

- How will the proposed research impact on society and the quality of life for Ireland's citizens?

- If relevant, how will the proposed research impact on the natural and built environment, together with societies, individuals or groups of individuals who benefit as a result?

- If relevant, describe how your research will impact policy or public service?

- Are there potential beneficiaries within the private sector, public sector, third-level sector or any others (e.g., professional or practitioner groups, charities or patient groups)?

Applicants submitting proposals under the Teagasc partnership, or who are aligning their proposed research to topics identified by GSI, MI or the EPA should consider the information provided in Appendix A before preparing the Impact Statement section in order to outline how the proposal will successfully meet the specific objectives or interests of the relevant funding partner(s).

3 Programme Details

Investigators Programme awards represent funding of significant scale, catering for researchers with innovative and ambitious research programmes with clear potential for societal and/or economic impact.

IvP 2016 requires the submission of a proposal in the format described in Section 4. Proposals will be assessed through a review process that combines postal and panel review stages, both carried out by international experts. Award duration is permitted to be **either four or five years**. The minimum direct costs requested in an Investigators Programme proposal will be **€400,000**, and the maximum will be **€2,000,000** for awards of either four or five years in duration.

3.1 Programme Remit

To be eligible for funding through the IvP 2016 call, all proposals must be aligned to SFI's legal remit (see Section 1) and must also either be aligned to one of the 14 priority research areas (see below) or to any other research area where there is convincing evidence that there will be significant potential for economic and/or societal impact in Ireland.

IvP 2016 Research Areas
• Future Networks and Communications
• Data Analytics, Management, Security and Privacy
• Digital Platforms, Content and Applications
• Connected Health and Independent Living
• Medical Devices
• Diagnostics
• Therapeutics – Synthesis, Formulation, Processing and Drug Delivery
• Food for Health
• Sustainable Food Production and Processing
• Marine Renewable Energy
• Smart Grids and Smart Cities
• Manufacturing Competitiveness
• Processing Technologies and Novel Materials
• Innovation in Services and Business Processes
• Other Research Areas with Significant Potential for Economic and/or Societal Impact

Applicants must select which research area best defines the content of their proposal, and are required to complete a brief statement justifying how the proposed research aligns with SFI's legal remit; see Section 4.3 for full details.

Co-Funding Partnerships

Details of the programme remit for applicants applying under the SFI-Teagasc Partnership are available in Appendix A. Applications under the SFI-Teagasc Partnership require at least one Co-Applicant to be an employee of Teagasc, as defined in Section 3.6.

In addition, the specific areas of interest for co-funding partners GSI, MI and the EPA are also outlined in Appendix A. These co-funding agencies will work with SFI to identify proposals that are aligned with their respective research topics of interest under this call, and will potentially fund these in partnership with SFI.

Support for Alternative Approaches to the Use of Animals in Research

As part of the SFI Investigators Programme 2016 call, SFI is providing applicants with the opportunity to seek funding to support the development and validation of new tests, models and approaches not involving the use of live animals and/or addressing the principles of the 3Rs. It is envisaged that this development and validation work related to the 3Rs would complement the hypothesis-driven research programme and would run alongside the main research programme. For further information, please see Appendix F.

3.2 Definition of Lead Applicant, Co-Applicant and Collaborator

The **Lead Applicant** will be responsible for the scientific and technical direction of the research programme and the submission of reports to SFI. The Lead Applicant has primary responsibility and accountability for carrying out the research within the funding limits awarded and in accordance with

the Terms and Conditions of SFI.[13] The Lead Applicant will serve as the primary point of contact for SFI on the grant, during the review process and, if successful, during the course of the grant.

The **Co-Applicant** has a well-defined, critical and continuing role in the proposed investigation. For the purposes of **eligibility**, **reviewing** and **monitoring**, a Co-Applicant applying for funding under the SFI Investigators Programme will receive equal evaluation to the Lead Applicant and will hold equal accountability for the delivery of the proposed research objectives. In this documentation, the terms and conditions for 'Lead Applicant' and Co-Applicant' are interchangeable.

An **Academic Collaborator** is an individual working in an academic institution who is committed to providing a valuable intellectual and/or technical contribution to the proposed research. As appropriate, Academic Collaborator(s) based in an SFI Eligible Research Body within the Republic of Ireland may receive funding through the grant (see Section 4.10), but the funding allocated should reflect the supporting role that such Collaborator(s) are expected to play in the research programme. Academic Collaborators may not be the primary supervisor/mentor of postgraduate students, postdoctoral researchers or research staff enrolled on the grant, but may be the local supervisor if these team members are based in a different institution to the Lead or Co-Applicant. CVs must be provided for Academic Collaborators. Academic Collaborators intending to act as a local supervisor to team members should be able to demonstrate a competitive track record of achievements and must have previously held a supervisory role in research programmes.

Industry partners are not obligatory, but are permitted and, where appropriate for the topic of the research, are encouraged. An industry partner should be listed within the documentation as an **Industry Collaborator**. CVs may be provided for Industry Collaborators; failure to provide CVs may disadvantage an application during the review process.

Collaborator letters of support: Each Academic or Industry Collaborator must provide a letter of support with the grant application and this must clearly outline the role of that Collaborator in the programme of research proposed. The role of the Collaborator must also be *referenced* in the main body of the research proposal (for example: *Will the Collaborators be supplying samples, data, etc.? Will the Collaborators be providing training in techniques or the use of equipment? Will the Collaborators directly participate in specific projects? Will Collaborators be acting in a purely advisory capacity?).* Please see Section 4.12 for more details on letters of support.

3.3   Eligibility of Research Body

The Research Body of the Lead Applicant is the body responsible for the overall financial and administrative co-ordination of research programmes supported by funding from SFI. In cases where

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more than one ROI-based applicant shares responsibility for a grant, the grant will be administered by the host Research Body of the Lead Applicant. A list of Eligible Research Bodies[14] is available on the SFI website.

3.4   Eligibility Criteria of Applicant and Co-Applicant(s)

As part of the submission procedure, the Lead Applicant will be required to complete an eligibility questionnaire on his/her own behalf as well as for all of the Co-Applicant(s), where applicable.

3.4.1   Employment Status

The Lead Applicant and any Co-Applicant(s) must be members of the academic staff of an eligible Research Body (permanent or with a contract that covers the period of the grant), **or**

A contract researcher with a contract that covers the period of the grant, who is recognised by the Research Body as an independent investigator and will have an independent office and research space at the host Research Body for which he/she will be fully responsible for *at least* the duration of the SFI grant, **or**

An individual who will be recognised by the Research Body upon receipt of the SFI grant as a member of the academic staff or as a contract researcher as defined above. The applicant does not necessarily need to be employed by the Research Body at the time of proposal submission.

Retired or Emeritus members of academic staff, meeting all other eligibility criteria, are eligible to apply if their institution makes the necessary commitments; further details are available on the SFI website.[15]

Research Body submission confirms that the Lead Applicant (and any Co-Applicant(s)) is either a member of the academic staff, a contract researcher, or awaiting appointment as defined above. A Co-Applicant may be located at a different eligible Research Body to the Lead Applicant. However, the grant will be administered through the Research Body of the Lead Applicant only. All Co-Applicants must comply with the same eligibility and evaluation criteria as the Lead Applicant.

3.4.2   Other SFI Awards

Applicants holding active SFI awards at the deadline for the submission of proposals to this call (9th December 2016), or who are under review in other SFI calls, should refer to the information below regarding eligibility for the IvP 2016 call:

Investigators funded through an existing award from the SFI programmes listed below may apply to the Investigators Programme 2016 call at any stage of their award and once all other eligibility criteria are met:

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[14] http://www.sfi.ie/funding/sfi-eligible-research-bodies/
[15] http://www.sfi.ie/funding/grant-policies/emeritusretired-eligibility-policy/

* **Research Frontiers Programme**
* **Investigators Programme Projects**
* **SFI ERC Development Programme**
* **US-Ireland R&D Partnership**
* **HRB-SFI Translational Research Award**
* **SFI-HRB-Wellcome Trust Biomedical Research Partnership**
* **Royal Society – Science Foundation Ireland University Research Fellowship**
* **SFI-Pfizer Biotherapeutics Innovation Award Programme**
* **SFI Strategic Partnerships Programme**
* **SFI Technology Innovation Development Award**
* **SFI Industry Fellowship Programme**
* **SFI Research Centres Programme**
* **SFI Spokes Programme**
* **BBSRC-SFI Joint Funding of Research**

Investigators currently funded by SFI as either a Principal Investigator (PI) or co-Principal Investigator (co-PI) under certain programmes may not apply to the SFI Investigators Programme 2016 call unless the deadline of the call (9th December 2016) is less than 24 months before the expiry date of the award. These programmes include, but are not limited to: SFI PI/PICA, SFI Investigators Programme Awards, SFI Investigators Programme (IvP), SFI PIYRA, SFI SIRG, SFI CDA, SFI Future Research Leaders and the SFI Research Professorship Programme. Such individuals must provide justification and rationale for how they would manage two or more major SFI grants under the heading: "Management of More Than One Major SFI Award" as part of the information concerning scientific overlap.

Applicants currently under review by SFI as either Lead Applicant or Co-Applicant under certain programmes are not entitled to apply to the SFI Investigators Programme. These programmes include, but are not limited to: SFI PIYRA, SFI CDA, SFI Future Research Leaders and the SFI Research Professorship Programme. Researchers are not permitted to apply to both the Investigators Programme 2016 and the SFI CDA 2016 call. Researchers currently under review as Lead Applicants or Co-Applicants in the 2016 Research Centres call may apply to this call assuming all other eligibility criteria are met.

SFI has stringent requirements for the reporting by awardees on the grants that it makes. Failure to satisfactorily participate in SFI reporting activities may result in an applicant being deemed ineligible for the Investigators Programme.

PIs/co-PIs under the SFI Research Centres Programme should note that their progress on the Research Centres grant(s) will be assessed if they submit an application to the SFI Investigators Programme 2016. Individuals who are funded as either a PI or co-PI under the Research Centres Programme must provide justification and rationale for how they would manage two or more major SFI grants under the heading: "Management of More Than One Major SFI Award" as part of the information concerning scientific overlap.

Applicants or Co-Applicants with submissions under review in the Investigators Programme 2016 will not be permitted to apply to certain other SFI programmes. These programmes include, but are not limited to: SFI SIRG, SFI CDA, SFI Future Research Leaders and the SFI Research Professorship Programme.

3.4.3   PhD Duration

The Lead Applicant and any Co-Applicant(s) must have held a PhD or equivalent qualification[16] for at least **five years** by the proposal deadline (9th December 2016).

- *Applicants holding an equivalent qualification may be eligible, but should nevertheless seek approval from SFI in advance of submitting a proposal.*

- *The official date of a PhD is defined as the year that the degree was conferred (i.e., the year printed on the official PhD certificate). The number of years is determined by calendar year. Therefore, only individuals with an official date of 2011 or earlier are eligible to apply to the IvP 2016 call.*

3.4.4   Senior-Author Publications

The Lead Applicant and any Co-Applicant(s) are all required to have demonstrated that they have been a **senior author** on at least **10 international peer-reviewed articles**. Only original research publications, and not review articles or other secondary research literature, are acceptable. Please note that 10 senior-author publications is a minimum eligibility criterion; applicants with higher numbers of publications are likely to be more competitive. For this programme, senior authors are defined as follows:

- An author that is listed as first or joint first author, reflecting the fact that he/she has provided the greatest intellectual contribution, has held the primary responsibility for collecting and analysing data, and for the writing of the manuscript and associated drafts.

- The last author will also be considered as a senior author, since this position generally reflects his/her overall responsibility for the study and suggests that a level of mentorship has been provided.

- It will be noted that different publishers have differing rules on how the senior authorship is indicated (e.g., by using asterisks, underlining, placing the name first or last in the list of authors, etc.); of overriding importance however is that the applicant should be able to convince and reassure reviewers that they are the key author on these publications. Joint first authorship may only be claimed **where the article clearly states** that two (or more) authors have provided equal and significant contributions to the work described. Please note that senior authorship does not necessarily mean that they were responsible for the finance associated with the research that was reported.

Certain **concessions** on the number of publications are possible if the Lead Applicant and/or Co-Applicant meets the criteria for the Investigator Career Advancement category (see Section 3.7).

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[16] Please see the SFI website for further details on equivalence - http://www.sfi.ie/funding/grant-policies/sfi-policy-on-phd-equivalence.html.

3.4.5   Research Independence

The Lead Applicant and Co-Applicants are required to have demonstrated research independence through securing at least one independent research grant as lead investigator or as co-investigator. Eligible research grants would be expected to support at least one full-time equivalent, excluding the applicant(s), and include research team costs (e.g., materials and consumables). This excludes smaller awards such as travel grants, equipment grants, postgraduate fellowships, postdoctoral fellowships, and awards of short duration (12 months or less). Laboratory fit-out/start-up funding, and awards that have not been subject to external international peer review are also excluded. Applicants may be required to provide evidence to support the validity of an award upon request. If you are uncertain regarding the eligibility of funding you have received, please contact SFI at investigators@sfi.ie.

3.4.6   Supervisory Experience

The Lead Applicant and any Co-Applicant(s) are required to demonstrate proven prior experience, capability and authority in the mentorship and supervision of postgraduate students and team members.

3.5   Application Eligibility

Individuals may only submit, as Lead Applicant or Co-Applicant, one proposal to an open call of the SFI Investigators Programme. If a Lead Applicant or Co-Applicant submits more than one proposal to an open SFI Investigators Programme call, both applications will be returned without review. Partnership and non-Partnership components are all part of the same call; individuals may not submit proposals to more than one component.

3.6   Eligibility Criteria for the SFI-Teagasc Partnership

In addition to the applicant eligibility criteria in Section 3.4 above, there are additional conditions for the SFI-Teagasc Partnership. Proposals submitted under this Partnership require a minimum of two Applicants and a maximum of three Applicants (i.e., one Lead Applicant and either one or two Co-Applicants). At least one of the Lead or Co-Applicants must be a Teagasc employee. In addition, at least one of the Lead or Co-Applicants must not be a Teagasc employee. The term "*Teagasc employee*" does not include researchers employed by other institutions, even if their research is funded by Teagasc. Applications submitted under the SFI-Teagasc Partnership must also satisfy specific conditions on the requested budget. Please see Section 4.9 for more details.

3.7   Eligibility Criteria for the Investigator Career Advancement (ICA) Category

Certain applicants to the SFI Investigators Programme may choose to be evaluated under the SFI Investigator Career Advancement (ICA) category. The aim of the ICA category is to support researchers returning to active academic research after a prolonged absence. ICA applicants must be eligible under all of the standard Investigators Programme criteria (with the exception of the publication number requirement) as outlined below.

To be eligible to be reviewed under the ICA criteria, the applicant must fall into one of the following categories:

Category 1: Any applicant who has taken consecutive documented eligible leave (minimum 12 weeks) since 1st January 2008 and has since returned to work. This can include, but is not limited to, the examples below:

- Statutory adoptive leave
- Statutory parental leave
- Statutory maternity leave
- Statutory paternity leave
- Carer's leave
- Long-term medical illness leave
- Conscription

Any queries in relation to eligible leave can be forwarded to investigators@sfi.ie. Part-time employment will be treated the same as full-time employment (two years of half-time work counts as two full-time years).

Category 2: Permanent or contract academic staff who have returned to an academic research position since 1st January 2011, having worked for a minimum of two years in a science- or engineering-related industry.

All applicants eligible for ICA under Categories 1 or 2 must include a short statement detailing that they are eligible and elect to be evaluated under the ICA criteria. Furthermore, they should state the Category (1 or 2) under which they are eligible, and the start and end dates of their eligible leave, if applicable.

Applicants who meet the ICA requirements must have <u>five or more international peer-reviewed articles as senior author, as defined in Section 3.4.4</u>.

In all cases, applicants wishing to be considered under the ICA criteria must produce documentary evidence of their eligibility from their host institution's Human Resources (HR) Department or, where applicable, the HR Department of their employer at the time of their eligible leave period(s).

ICA Category 1: Scanned copies of the relevant supporting documents from the HR Department of the applicant's host institution (or the relevant HR Department at the time of the applicant's eligible leave) demonstrating the applicant's eligible leave for the period.

ICA Category 2: Scanned copies of relevant supporting documents to verify time in industry and/or return to academic position since 1st January 2011.

PIs who have previously been funded under the SFI PICA/ICA categories are not eligible to apply for ICA status again.

Successful applicants funded under the ICA category will not be differentiated from the standard cohort of SFI Investigators once a grant has been made.

Teaching Buyout Component of ICA

In order to allow enhanced focus on research activities following eligible leave, successful ICA applicants under **Category 1** will be entitled to request funding for teaching buyout of **up to 50%** of their teaching load for a period of up to 24 months from the start of their grant. Such a request must

be made at the time of application, and should be included in the requested budget and detailed in the budget justification. Requests for teaching buyout post-application will not be considered by SFI.

If applicants have incurred significant career breaks but are not eligible under the ICA criteria, they are still encouraged to detail these breaks within their CV. Any queries in relation to eligible leave can be forwarded to investigators@sfi.ie.

3.8   Funding

IvP 2016 grants may be of four or five years in duration. The minimum direct costs requested in an Investigators Programme budget will be **€400,000** and the maximum will be **€2,000,000** for an award of either four or five years in duration. General overheads, currently 30% of 'modified' total direct costs, should not be included in the requested budget (see Section 4.9). Larger grants may be subject to additional review mechanisms, for example site review, as determined by SFI.

3.9   Proposal Review Procedure and Criteria

The submission of an application to SFI shall be construed as consent by the applicant(s) to participate in the peer-review process. SFI reserves the right to return applications without review where they do not meet the eligibility criteria.

Proposals will be assessed through a review process that combines postal and panel review stages, both carried out by international experts. The process is defined below and also described in the form of a flow diagram here.

Postal Review Stage

All eligible proposals will be forwarded to distinguished international experts for evaluation of scientific excellence and potential economic and societal impact. SFI Programme Managers will solicit reviews of proposals from at least three peers with expertise in the substantive area of the proposed research and the associated impacts. The applicant may specify up to three individuals who should not act as reviewers for his or her application due to the competitive and confidential nature of the research programme. SFI shall not refer the application to any of these selected individuals. Otherwise, the selection of reviewers shall be at the discretion of SFI.

Reviews received from peers will be collated and forwarded to applicants. Applicants will then be afforded the opportunity to submit a response to the reviewers' comments. Applicants will be given a defined period of time in which to respond (advanced notice of dates and guidelines relating to the response will be indicated to applicants)*. Depending on the number of proposals submitted to the call, a triage step may follow the postal review and applicant response stages. If the number of proposals under review is within a range that is manageable at the Panel Review, all proposals will progress to this stage.

> **The Postal Review applies the following review criteria:**
> - *Quality, significance, and relevance of the recent research record of the proposed investigator(s), taking into account the career stage of the Applicant(s), performance on recent awards, and the Applicant's (and Co-Applicant's) record of securing relevant funding over the previous ten years.*
> - *Quality, significance, and relevance of the proposed research, including value for money and the potential to advance knowledge and understanding within its own field and/or across different fields.*
> - *Quality, credibility and relevance of the impact statement, including the likelihood, scale and value of societal and/or economic effects on Ireland as a result of the proposed research, which may be realised in the short term or over a longer period.*

Panel Review Stage

International panel members will be selected with appropriate experience and will not have been involved in the Postal Review stage. The panel members will exhibit a broad range of expertise relevant to the proposals under review and the criteria under which they will be assessed. In addition to briefing material, the panel members will receive the proposal, anonymised postal reviews and the Applicant's response to the postal reviews. Panel members will assess the inputs of the postal reviews and the overall merit and priority of applications. Panels will be invited to rank proposals and to make recommendations on which applications should be given consideration for funding by SFI. The same review criteria will be applied at this stage as used for the Postal Review.

The identity of international experts who conduct either the Postal or Panel reviews shall remain confidential and will not be disclosed to the applicants. However, decisions resulting from the evaluation will be given to the applicant(s), including the postal reviews, the panel reviews and the scribe notes taken by SFI Scientific Staff at the panel meeting. SFI shall not be liable for the release of information concerning proposals to third parties by those international scientists involved in the merit review process.

Other Review Information

Pre-award site visits, conducted by SFI staff, to examine infrastructure may take place, where appropriate. The performance of applicants on previous SFI grants, as determined through site visits and/or annual reports, will be taken into consideration in the decision-making process. **The final funding decisions are at the sole and exclusive discretion of SFI**, which are arrived at following consideration and approval by the SFI Executive Committee and the SFI Grant Approval Committee.

SFI reserves the right to modify the review process. Applicants will be notified of any relevant modification to the review procedure.

4   Application Procedure

Preliminary Information Request

Researchers intending to act as a Lead Applicant on a proposal to the SFI Investigators Programme 2016 call must first contact the Research Office of the intended host institution and provide their staff with preliminary information through a completed version of the form found in Appendix B of this call document. This form provides a provisional title for the proposal and a brief scientific abstract (max. 200 words) that describes in high-level detail the main objectives of the research to be carried out.

Research Offices must provide SFI with a list of the Lead Applicants from their institution, and the associated titles and abstracts (as a single PDF document) by email **(investigators@sfi.ie)** no later than the 30th September 2016, 13:00 Dublin, Ireland local time. Details regarding Co-Applicants and Collaborators are not required at this stage.

The preliminary information requested is mandatory and is required by SFI for planning purposes. No assessment of the eligibility of applicants or proposals will be carried out at this stage.

The detail in the preliminary information may be modified when completing the proposal to this call. However, SFI expects the details in the proposal to be consistent with the preliminary information submitted to the host institution Research Office. SFI reserves the right to withdraw applications where the preliminary information differs significantly from the proposal.

Only Lead Applicants that have submitted the requested preliminary information through their host institution Research Office will be permitted to submit a proposal to the call. Any information submitted directly to SFI, and not through the host institution Research Office, will not be accepted, and submission of a proposal will not be permitted.

SESAME

For IvP 2016, proposals will only be accepted through SESAME, SFI's grants and awards management system.

All Lead Applicants and Co-Applicants are required to have their SESAME Research Profiles linked to an ORCID iD before an application can be submitted. See Section 4.1 for more information.

Access to SESAME is controlled by staff at the Research Office of your host Research Body. Please follow your internal organisational process to request this access.

Once you have been registered by your Research Office, **you will receive an email** containing your:

1. Username
2. Password
3. SFI PIN
4. SESAME website address

Your **username** and **password** are needed to log in to SESAME. The Co-Applicant's PIN must be provided to the Lead Applicant, in order to be associated with the same application. This PIN is also stored in your **contact profile** on SESAME.

SESAME is accessed using the internet; no additional software needs to be installed. You can access SESAME online from any location. The configuration of some browsers and internet infrastructure (popup blockers, firewalls, etc.) can restrict an individual's access to the internet and as a result to the SESAME system. If you are having any such difficulties, please contact your organisation's internal IT support team.

The SESAME system is accessed using the following Internet address:
https://grants.sfi.ie

Please see the SESAME Researcher User Guide[17] for more detailed information.

Once submitted by the host Research Body to SFI through SESAME, an application cannot be withdrawn and subsequently modified for resubmission in the same call, regardless of the date of submission.

Proposals must be submitted online through SESAME to SFI by the Research Office of the Lead Applicant's Research Body <u>before the call deadline</u>.

Applicants should carefully follow the instructions below and in the SESAME Researcher User Guide to complete the various sections of the application. In addition, a checklist of requirements is provided in Appendix G of this call document.

   Proposal submission requirements:

- **All text in uploaded PDFs** should be provided in Times New Roman font or similar, with minimum font size of 11, and at least single-line spacing as well as a minimum margin size of 2.5cm. Text in diagrams may be in any clearly legible font.
- Uploads in SESAME must be submitted in **Adobe or Microsoft PDF format only**.
- The number of pages in uploads <u>must not</u> exceed the specifications for any given section. **Applications that do not comply with these requirements will be deemed ineligible and will be returned without review**.
- Appendices or other unsolicited documentation are not permitted. **Applications that include such unsolicited documentation will be returned without review.**
- File sizes of attachments should be **<u>less than 5MB</u>**.
- Applicants and Co-Applicants must complete all mandatory Sesame profile fields (marked in red) before submitting an application. It is not possible to submit an application without this information.

Applications not adhering to these requirements, or with incomplete content, will be deemed ineligible and will not be accepted for review, regardless of the date of submission.

It is the responsibility of the applicant to ensure that eligible proposals are received by SFI on, or before, the deadline indicated. In order to safeguard against ineligibility, applicants are reminded to adhere rigorously to the guidelines in the call documentation and to review the proposal document prior to submission in SESAME.

Applications cannot be withdrawn and subsequently modified for re-submission in the same call.

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[17] http://www.sfi.ie/funding/award-management-system/ams-user-guides.html

4.1 ORCID ID

ORCID[18] provides a unique identifier for all researchers, which can then be linked to their different research works across different platforms. In December 2015, SESAME integrated with ORCID to make it possible for researchers with a SESAME Research Profile to connect directly to an ORCID iD from their profile. There are a number of benefits to creating an ORCID iD, which include the following:

- ORCID allows you to pull information from different platforms, creating a centralised reference to your different works (e.g., publications, patents, awards) in one location using a single sign in.
- Your ORCID iD is a unique identifier, which distinguishes you from other researchers with a similar name.
- Using the ORCID iD helps to make your research works more visible to funders and publishers. You are able to build a complete picture of your research in one location.

As part of the integration of SESAME with ORCID, it is possible for researchers to import publication data from ORCID directly into their SESAME Research Profile. For the Investigators Programme 2016 call, both **Applicants and Co-Applicants** are required to link their SESAME Research Profiles to an ORCID iD **before an application can be submitted**.

4.2 Eligibility Questionnaire

Lead Applicants are required to complete the eligibility questionnaire upon commencing an application to the IvP 2016 call (see Section 3.4 for eligibility details).

Please note that the Lead Applicant completes the eligibility questionnaire on his/her behalf as well for the Co-Applicant(s), where applicable.

4.3 Proposal Summary

- **Proposal Title (max. 30 words)**
  The Research Proposal title should clearly convey the nature of the research to be undertaken and should not contain confidential details, given that the titles of funded proposals are published by SFI.

- **Resubmission Statement**
  Applicants must declare whether a new submission relates to a previously submitted application to any SFI scheme. If the application is a resubmission, a statement referencing the previous application and explaining the differences must be provided and make reference to reviewer comments where relevant. This statement will assist SFI Scientific Staff in the assessment of eligibility of a revised application and will not be shared with reviewers. See Section 5 for further details.

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[18] http://orcid.org/

- **Duration of Award Requested**
  SFI Investigators Programme awards are funded for a period of either 48 or 60 months.

- **SFI-Teagasc Partnership**
  Indicate whether the proposal is to be submitted under the SFI-Teagasc Partnership.

- **Primary NRP Area**
  Applicants should select one of the 14 priority research areas from the drop-down menu, which best describes the proposed research. Alternatively, applicants should select "Other" if their proposal aligns to any other research area where there is convincing evidence that there will be significant potential for economic and/or societal impact in Ireland.

- **Alignment to SFI Legal Remit (max. 250 words)**
  This section must be used to describe how the proposed research aligns to SFI's legal remit, as defined in Section 1. This statement will be used to determine the eligibility of the application. Applicants to the SFI-Teagasc partnership should also use this section to identify the Foresight Technology Area[19] to which the proposed research aligns and provide a brief explanation of this alignment.

- **Research Area (Primary)**
  Applicants should select a primary SFI research area from the drop-down menu, which best describes the proposed research.

- **Research Area (Secondary)**
  Applicants should select a secondary SFI research area from the drop-down menu, which in combination with the primary SFI research area already selected best describes the proposed research.

- **Ethical Issues**
  Applicants are required to answer the questions related to Ethical Issues.

4.4   Lead Applicant Details

- **Investigator Career Advancement (ICA) Criteria**
  If applicable, indicate whether the Lead Applicant is applying under the ICA criteria and then select the category (1 or 2) under which they are eligible (see Section 3.7).

- **ICA Documentation (upload)**
  Applicants eligible under ICA categories 1 or 2 must upload the information requested in Section 3.7 of this call document.

- **Time Commitment to Project**
  Indicate the Lead Applicant's time commitment to the proposed research project as a percentage of his/her total working time. The time committed should reasonably reflect the amount of funding being requested. Reviewers are likely to question time commitments that are lower than 30% of the Lead Applicant's total available time.

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[19] http://www.teagasc.ie/publications/2016/3897/Teagasc-Technology-Foresight-Report-2035.pdf

- **Lead Applicant CV (upload; max. 5 pages)**
  A CV of the Lead Applicant, using the template provided in Appendix C, must be completed and uploaded.

- **Publications and Supervisory Experience**
  Provide summary information on the total numbers of publications to date and also provide supervisory experience to date for the Lead Applicant.

4.5 Co-Applicant Details

To add Co-Applicants to a proposal, **enter their surname and SESAME SFI PIN**. This will allow them access to the draft proposal.

The Co-Applicant(s) must login to SESAME to provide details relating to ICA (if applicable), the summary of publications, and the supervisory experience, as is the case for the Lead Applicant; in addition, they must agree to the Terms and Conditions of the proposal, as part of this login procedure.

SESAME does not permit two individuals to concurrently modify a proposal. The Lead Applicant must close the proposal to allow the Co-Applicant to make modifications, and vice versa.

- **Investigator Career Advancement (ICA) Criteria**
  If applicable, indicate whether the Co-Applicant is applying under the ICA criteria and then select the category (1 or 2) under which they are eligible (see Section 3.7).

- **ICA Documentation (upload)**
  Applicants eligible under ICA categories 1 or 2 must upload the information requested in Section 3.7 of this call document.

- **Time Commitment to Project**
  Indicate the Co-Applicant's time commitment to the proposed research project as a percentage of his/her total working time. The time committed should reasonably reflect the amount of funding being requested. Reviewers are likely to question time commitments that are lower than 30% of the Co-Applicant's total available time.

- **Co-Applicant CV (upload; max. 5 pages)**
  A CV of the Co-Applicant, using the template provided in Appendix C, must be completed and uploaded.

- **Publications and Supervisory Experience**
  Provide summary information on the total numbers of publications to date and also provide supervisory experience to date for the Co-Applicant.

Please note that the Co-Applicant and/or the Lead Applicant may choose to complete fields or upload documentation that are common to both applicants (e.g., scientific summaries, research descriptions, etc.); **however, only the Lead Applicant can submit an application**.

4.6 Expired, Current and Pending Support of Lead Applicant and Co-Applicant(s)

The Lead Applicant and Co-Applicant(s) must report on expired, current and pending funding.

- The applicant should include details of any financial support pending, or received over the previous ten years. This should include competitive research funding received from funding agencies (international and national), charities, industry, etc.

- The applicant must include details of any financial support currently provided, or currently being sought. SFI will not support research currently being funded through another source.

- For each current and pending grant listed, the applicant should provide a brief description of the research. Applicants must also indicate their time commitment to these other projects, as a percentage of their total working time.

- For pending grants, please include the expected decision date in the description box.

- Please complete the requested details for each expired, current, or pending financial support. Fields coloured red are mandatory. Certain field labels are underlined and contain further information concerning the details that are required; hover the mouse pointer over these labels to view this information.

- If the applicant is solely a Collaborator on a research project, the grant should not be included here; only awards where the applicant is either the Principal Investigator or Co-Investigator should be listed.

- The portion of research funding claimed in an applicant's name must be an accurate and fair reflection of their responsibility in the projects listed and will be verifiable as such. SFI may conduct audits to verify such claims and reserves the right to reject proposals where the above principle of proportionality is not observed.

- This section of the proposal will be reviewed as part of the applicant's track record. Applicants with extremely large numbers of expired grants over the previous ten years may be selective with which funding grants to include in this section. The most prestigious grants and those most relevant to the proposed research should be included.

Research funding may be added directly to the application or added from the applicant's profile (see the SESAME Researcher User Guide).[20] If this section is left blank it will indicate that the applicant has NO expired, current or pending funding. Both the Lead and Co-Applicant(s) need to complete this section within SESAME.

Please ensure that research funding added to the profile of the Lead Applicant, or the profile of the Co-Applicant, has actually been included in the application.

The applicant must complete the textbox detailing potential overlap between current and pending funding and the proposed research in this application. For each current and pending grant listed

above, the applicant <u>must clearly indicate any scientific overlap with this application, based on the methodologies being employed and the stated objectives of the funded project(s)</u>. Also within this textbox, under the sub-heading "Management of More Than One Major SFI Award" applicants should provide justification and rationale for how they would manage two or more concurrent major SFI grants, where applicable.

4.7 Collaborator(s) Details

Include the name, contact information and other requested details of Collaborator(s), if any. Please indicate whether Collaborators are based in academia or industry; only Academic or Industry Collaborators will be considered for IvP 2016 applications (see Section 3.2 for further information).

CVs (max. 2 pages) for all Academic Collaborators **must** be uploaded. CVs may also be provided for Industry Collaborators; failure to provide Industry Collaborator CVs may disadvantage an application during the review process. A template is not provided for Collaborator CVs.

4.8 Main Body of Proposal

- **Keywords (max. 15)**
  These should be descriptors that best characterise the proposed research.

- **Scientific Abstract (max. 200 words)**
  This should be a succinct and accurate summary of the proposed work when separated from the application.

- **Lay Abstract (max. 100 words)**
  This should be a succinct and accurate summary in lay, non-technical language of the proposed work when separated from the application.

- **Impact Statement (upload; max. 3 pages)**
  The Impact Statement should be as specific as possible and provide information that reviewers will find helpful in assessing the potential impact of the proposed research activity. Appropriate milestones and deliverables associated with the potential impact should be indicated; see Section 2 for further details. Where appropriate for the topic of the research, industry collaborations including co-funding through cash and/or in-kind contributions should be discussed.

- **Research Description (upload; max. 15 pages)**
  Applicants are requested to provide sufficient detail for peer reviewers to comment on the quality of the ideas and proposed implementation.

  The following points should be considered when describing the proposed research:

  - Describe clearly and concisely the specific aims and objectives of the proposal. They should be coherent, well-planned and should be linked with real deliverables.

  - Explain the background and significance of the problem – does the study address an important research problem? Is it strategically important? What is the current state of the art in the area? Describe and explain how the proposed work, if successful, will advance the state of the art. The background section should reference the state of the art in this research field.

- o Are the concepts described novel? Ensure that the novelty of the approach is clearly explained, again with reference to the state of the art.

- o The methodology of the proposed programme should be well developed, and how this proposed methodology advances the current state of the art should be described in detail. Is the proposed scientific approach (including the competencies and activities of the team members) feasible and realistic?

The application should also include:

- o Appropriate timelines, milestones and expected outputs for the proposed research (e.g., a Gantt chart), and the roles of the Lead Applicant, Co-Applicant(s), Collaborators and Team Members in the work programme need to be clearly described.

- o Relevant preliminary data, which may either take the form of (a) supporting reference(s) from the applicants' previous research, or (b) a summary of results where the data has yet to be published. In the latter case, this should be included within the 15-page research description as evidence that the applicant team has a track record in the field of the proposed research.

> **Within the Sesame application, all Applicants are required to answer questions related to Ethical Issues. These questions are outlined in Appendix D. Those applicants proposing research that involves animal and/or human subjects must also provide the information requested in Appendix E within the description of their proposed research and methodology**

- **References (upload; max. 5 pages)**
  Appropriate references and citations for the proposed research must be provided in a separate PDF document. A five-page limit is allowed for uploaded references.

4.9 Proposed Budget

> **The budget requested should be appropriate to the proposed work, and should take into account the applicant's experience and recent research funding record. Value for money is explicitly part of the review criteria; applicants are strongly advised to consider the scale of their requests.**

SFI funding supports the research programme costs of the applicant(s) and their research group(s). Eligible costs include:
- Contributions to salaries/stipends for staff hired specifically to carry out the research programme. Lead PI/co-PI salaries are not eligible costs. Please consult the SFI website for more information on the SFI Grant Budget Policy (GBP: Version July 2016).
- Relevant research expenses, including equipment, consumables and travel.
- Access charges for use of large items of infrastructure or test-bed facilities may be requested in certain situations; see the GBP (version July 2016) for details.

In addition to direct costs, SFI also makes an indirect or overhead *contribution* to the host Research Body, which is reflected as a percentage of the direct costs (excluding equipment). Overheads are payable as a contribution *to the Research Body* for the indirect costs of hosting SFI-funded research programmes and are intended to enable the Research Body to develop internationally competitive research infrastructure and support services.

The costs eligible for grant support by SFI under the SFI Investigators Programme are those costs which can, uniquely and unambiguously, be identified with the proposed research programme. Applicants must give details of all relevant costs, including staff, equipment, materials and travel. Ensure that the final total provided includes all costs requested from SFI. Costs which will be covered by industry partners should not be included. All grants are made directly to the Lead Applicant's Research Body. Please also refer to the SFI Grant Terms and Conditions[21] and also the GBP (version July 2016).

Costs that will be covered by industry contributions should not be included in the proposed budget.

See notes for completion of the budget in the Sesame Researcher User Guide[22] and within SESAME.

SFI-Teagasc Partnership Budgets

The Lead Applicant and the Co-Applicant(s) in proposals submitted under the SFI-Teagasc Partnership must have responsibility for a minimum of 30% of the direct costs within the total requested budget.

4.9.1   Staff: Salaries and Benefits

SFI Investigators Programme grants do not fund the core salary or benefits of either the Lead Applicant or Co-Applicant(s). Contributions to team-member salaries, and fees and stipends for postgraduate students (PhD and MSc by research) may be requested. Salaries for Collaborators are not permitted. All information required to complete the Staff section of the Investigators Programme budget can be found in Section 4.1 of the GBP (version July 2016) and the associated SFI Grants Team Member Budgeting Scale (version July 2016). Please note that the submission of an application by the host Research Body must only take place once salaries requested have been approved by the relevant Research Office(s).

4.9.2   Equipment

All information required to complete the Equipment section of the Investigators Programme budget can be found in Section 4.2 of the GBP (version July 2016).

4.9.3   Materials and Consumables

All information required to complete the Materials and Consumables section of the Investigators Programme budget can be found in Section 4.3 of the GBP (version July 2016).

4.9.4   Travel

All information required to complete the Travel section of the Investigators Programme budget can be found in Section 4.4 of the GBP (version July 2016).

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[21] http://www.sfi.ie/funding/grant-terms-conditions/
[22] http://www.sfi.ie/funding/award-management-system/ams-user-guides/

4.9.5   Ineligible Costs

Under the Investigators Programme, lead PI/co-PI salaries are not eligible costs. Information regarding ineligible costs can be found in Section 5 of the GBP (version July 2016).

4.10   Budget Justification (upload, max. 3 pages)

All information required to complete the Budget Justification can be found in Section 7 of the GBP (version July 2016).

If cash and/or in-kind industry contributions have been agreed, provide details and describe how they complement the requested budget from SFI. Similarly, provide details of cash and/or in-kind contributions from International Academic Collaborators. Costs that will be covered through leveraging of funds from Industry or Academic Collaborators should not be included in the proposed budget.

Clear indication should be given where funding is apportioned to Collaborators. Please note that Collaborators outside the Republic of Ireland or those not located within eligible Research Bodies in the Republic of Ireland are not eligible to receive funding through the Investigators Programme.

Applicants to the SFI-Teagasc Partnership must summarise how the responsibility for direct costs is divided between the Lead Applicant and Co-Applicant(s) in the budget justification. This will enable the budget-related eligibility criteria for such applications, as described in Section 4.9, to be verified.

4.11   Infrastructure and Services Provided by Research Body (upload; max. 1 page)

The Applicant(s) must describe the infrastructure, facilities and space to be provided by the Research Body/Bodies. This should include details of the office, laboratory, computing, animal or other facilities as necessary, where the research will be carried out, including all of the equipment that will be available, but excluding equipment requested in this application. Indicate what IP/technology transfer services are provided by the Research Body. A separate letter of support must be included from the Lead Applicant's Research Body and from the Research Body of the Co-Applicant, if different (see Section 4.12).

4.12   Letters of Support (uploads; max. 2 pages for each letter)

The following letters of support **must** be included:

- A letter of support from the **host Research Body of the Lead Applicant**, which should comment on the infrastructure and services available, as outlined by the Applicant (see Section 4.11). This letter should contain a brief description of the institutional policy regarding the management of conflicts of interest (see Section 11).
- A letter of support from the **host Research Body of any Co-Applicant**, where different to the Research Body of the Lead Applicant. This letter should comment on the infrastructure and services available to the programme and, in addition, should include the endorsement of eligibility of the Co-Applicant as detailed below. This letter should contain a brief description of the institutional policy regarding the management of conflicts of interest (see Section 11).
- A letter of support from **each Academic and Industry Collaborator**. Letters from Academic Collaborators should provide full details of the intended intellectual and/or technical input to the proposal. In addition, Academic Collaborators seeking funds through the award must

describe how these funds will be utilised. Letters from Industry Collaborators should provide full details of the intended intellectual input and, where relevant, the level of financial (cash, in-kind or both) contribution to the research programme. Similarly, letters of support from International Academic Collaborators should provide details of any cash and/or in-kind contributions. Letters of support that do not originate from officially listed Collaborators will be removed from the proposal, as will letters from listed Collaborators that merely provide theoretical or general support without specifically describing a meaningful and impactful contribution to the proposal.

Letters of support may be **a maximum of two pages**; extraneous pages will be removed from the letter and the proposal. Letters of support may not be included from other bodies and individuals who are not Collaborators. Such letters of support will be removed from the proposal.

Submission of an application through SESAME serves as the Research Body's endorsement of the eligibility of the Lead Applicant as well as approval of the budget requested, the infrastructure to be provided by the Research Body, and furthermore, confirms the validity and accuracy of the details provided in relation to the current, pending and expired grants as detailed in the application. However, in the case of the Research Body of the Co-Applicant, a letter of support is required, which is a formal letter on headed notepaper and is signed by an authorised institutional representative and must include the following declaration:

[Research Body name - insert name], **which is the host Research Body of** *[Co-Applicant – insert name],* **confirms its association and support of the application entitled** *[Application title – insert title]* **and endorses that the Co-Applicant meets the eligibility criteria of the SFI Investigators Programme and is either a member of the academic staff, a contract researcher or a researcher awaiting appointment as defined in Section 3.4.1.**

4.13 Excluded Reviewers

Up to three individuals may be excluded from acting as reviewers of proposals for reasons of competition.

4.14 Research Body Approval

Submissions may only be made by an authorised representative of the Research Body of the Lead Applicant. In particular, the Research Body is approving:

- The eligibility of the applicants
- That the applicants are, or will be upon receipt of the grant, recognised as employees of their Research Body for the duration of the grant
- That the requested budget including salaries/stipends, equipment, travel and consumables are in line with accepted institutional guidelines
- The availability of infrastructure within the institution, as outlined by the applicant in the research proposal
- That the proposed research programme has not been funded by other sources
- That relevant ethical approval has been or will be sought and must be granted prior to the award commencing
- That the relevant licences will be in place at the time of award

- That the details provided in relation to research funding history (i.e., current, pending or expired grants, as detailed in the application) are valid and accurate

4.15 Applicant Agreement to Terms and Conditions

It should be noted that submission of an application represents an agreement to SFI Terms and Conditions of Research Grants.[23]

4.16 Proposal Submission

A PDF of the proposal is available in SESAME and should be reviewed prior to submission to enable validation of an application. The responsibility for verifying that the proposal is ready for submission lies with the Applicant(s) in this regard. A submission is made initially to the Research Office of the Lead Applicant for approval, prior to final submission by the Research Office to SFI.

Proposals must be received by SFI no later than **13:00 (Dublin time) on 9th December 2016**.

Please contact the Research Office well in advance in order to obtain registration details for SESAME and to become familiar with any internal Research Body submission deadlines.

> **After the submission deadline, applications will not be accepted by SESAME. Therefore, they will not be reviewed by SFI.**

Applicants will receive a notification from SESAME periodically when the status of their proposal changes. Alternatively, the status of a proposal (e.g., where a proposal is pending Research Office approval or is under review at SFI) is displayed in SESAME.

5   SFI Resubmission Policy

Applications to any call that are based primarily on unsuccessful submissions (following peer review) to any SFI programme must demonstrate that the review comments resulting from the initial application have been taken into account in the preparation of the new submission. SFI will not review resubmissions that have not clearly taken into account the major comments or concerns resulting from the prior review and these proposals will be withdrawn without review. Please see SFI Policy on Resubmission of Grant Applications[24] for further information. Applicants to an SFI call for proposals must declare whether a new submission relates to a previously submitted application to any SFI scheme. If the application is a resubmission, a statement referencing the previous application and

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[23] http://www.sfi.ie/funding/grant-terms-conditions/
[24] http://www.sfi.ie/funding/grant-policies/sfi-policy-on-resubmission.html

explaining the differences must be provided and make reference to reviewer comments where relevant. This information can be provided within the relevant section of the Sesame application. This statement will assist SFI Scientific Staff in the assessment of eligibility of a revised application and will not be shared with reviewers.

6   Doctoral Education

For postgraduate students funded by SFI, the host Research Body is expected to adopt the principles, standards and good practice for doctoral education as described in the National Framework for Doctoral Education (2015),[25] which SFI has endorsed.

7   Research Integrity

SFI places high importance on ensuring research integrity and endorses the **National Policy Statement on Ensuring Research Integrity in Ireland**.[26] All applicants and institutions are expected to abide by the aforementioned Irish Policy on Research Integrity and the **European Code of Conduct for Research Integrity**.[27] SFI plans to audit compliance by its award holders and relevant research bodies with the principles laid down in these guidelines that are relevant to the agency's activities and the awards it makes.

8   Ethical Issues

All investigators and research bodies must ensure that, before the research commences and during the full award period, all the necessary ethical, legal and regulatory requirements in order to conduct the research are met, and all the necessary licences and approvals have been obtained. All research bodies are responsible for ensuring that a safe working environment is provided for all individuals associated with a research project.

All applicants submitting a proposal are required to provide the information requested regarding Ethical Issues (Appendix D). This information must be provided within the relevant section of the Sesame application. Those applicants proposing research that involves animal and/or human subjects must also provide the information requested in Appendix E within the description of their proposed research and methodology.

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[25] http://www.hea.ie/sites/default/files/national_framework_for_doctoral_education_0.pdf
[26] http://www.iua.ie/wp-content/uploads/2014/06/National-Policy-Statement-on-Ensuring-Research-Integrity-in-Ireland-2014.pdf
[27] http://www.esf.org/fileadmin/Public_documents/Publications/Code_Conduct_ResearchIntegrity.pdf

SFI will require evidence that relevant ethical and regulatory approval has been granted for studies involving human or animal subjects prior to an award commencing. In exceptional cases where such research may not commence until a late stage of an award, SFI may permit submission of ethical and regulatory approvals following the award start date but prior to commencement of the research involving animal and/or human subjects.

9 Non-Compliance

Proposals will only be accepted through the SESAME Award Management System. Proposals not in compliance with any details specified in this document, or in the SFI Terms and Conditions of Research Grants[28] will not be eligible for a grant and will be returned without review.

10 Confidentiality

Science Foundation Ireland takes all reasonable steps to ensure that information provided in the application is treated as confidential, subject to submission to the members of its committees and merit review and to any obligations under law.

By submitting an application to the Investigators Programme, an applicant is accepting that SFI has the right to share information (including the application and any post-award reports submitted to SFI) with co-funding partners, on a confidential basis, without the need to obtain any further consents from such applicants.

Please note that proposal titles and abstracts should only include details that are non-confidential.

11 Conflict of Interest

Conflict-of-interest rules are applied rigorously and apply to both reviewers and applicants.

Reviewers engaged by SFI are required to adhere to SFI's conflict-of-interest policy and immediately declare to SFI where a conflict of interest exists or arises so that an alternative reviewer may be appointed. International peer reviewers will not provide comments or scores on any application on which they have declared a conflict of interest.

Reviewers must adhere to high standards of integrity during the peer-review process. They must not compromise the intellectual property integrity of the application and may not appropriate and use as their own, or disclose to any third party, ideas, concepts or data contained in the applications they review.

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[28] http://www.sfi.ie/funding/grant-terms-conditions.html

SFI recognises that applicants may have a prior relationship with an Industry Collaborator engaged in an application for funding to SFI (e.g., industry consultancy role, founder of an academic spin-out company), which may be perceived as a conflict of interest. Where a potential conflict of interest exists, SFI requires that it is disclosed by the applicant to the Foundation and Research Body and is managed by the Research Body in accordance with the principles and mandates laid out in the National Intellectual Property Guidelines.

Potential conflicts of interest with respect to Industry Collaborators named in the Investigators Programme application should be directly declared within the applicant CV. Furthermore, the Host Research Body Letter of Support (Section 4.12) should contain a brief description of the institutional policy regarding management of such conflicts.

12 Award Management

12.1 Reporting Requirements

The progress reporting requirements for all awards made under the Investigators Programme 2016 call must be adhered to, that is, those awardees that fail to comply will risk having their grant payments suspended and/or the processing of any applications under review in other SFI Programme funding calls paused, until their reporting status is rectified. Reporting is inclusive of annual reporting, completion of the annual stocktake of **SFI Research Outputs** (formerly referred to as the *SFI Census*) and the completion of a Researcher Snapshot.

The SFI Grants and Awards Management System, SESAME, is the primary conduit for annual reporting. IvP 2016 awardees will be requested to submit their annual report by 31st January every year to reflect the activity of the previous calendar year (January – December). The annual report template, which is available on SESAME, must be used. An additional final report, prepared with a template that is also available on SESAME, must be submitted within three months of the expiration date of the award. In addition to the annual report, awardees are also obliged to keep their SESAME Research Profile updated since the annual stocktake of SFI Research Outputs is drawn directly from the data entered into the Research Profile; this must also be updated and completed by 31st January every year. SFI reporting procedures are detailed on the SFI website,[29] and webinars describing the entry of data into the Research Profile are also available.

By submitting an application to the Investigators Programme, an applicant is accepting that SFI has the right to share information (including the application and any post-award reports submitted to SFI) with co-funding partners, on a confidential basis, without the need to obtain any further consents from such applicants.

The annual report is used to monitor progress of the individual awards against the overall objectives of the Investigators Programme and associated Key Performance Indicators (KPIs), as set out in SFI's

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[29] http://www.sfi.ie/funding/sfi-reporting-procedures/

Strategic Plan, Agenda 2020. Each of the Investigators Programme 2016 call objectives, with expected outputs, is discussed in turn below:

Objective: *To support excellent scientific research that has potential economic and societal impact*
Expected Outcomes: Awards are made under the SFI IvP 2016 call with reference to both scientific excellence and impact. In the Strategic Impact section of the annual report, awardees are provided with a list of 10 impact statements or declarations and are asked to prioritise those that are relevant to the outputs on their award. Narrative must then be provided with additional details justifying the options chosen, with cross reference to relevant metrics included in the Research Profile. This data will help towards quantifying the types of impacts arising from the awards SFI has made under the IvP 2016 call.

Objective: *To build capacity, expertise and relationships that will allow researchers based in Ireland to lead consortia and to win further support through various non-Exchequer funding schemes, such as Horizon 2020*
Expected Outcomes: SFI expects that researchers based in Ireland will obtain research funding from as wide a range of sources as possible. This success is not only pertinent to the Irish Government, which has set a target of securing €1.25bn in research funding under Horizon 2020, it is also essential for meeting and exceeding targets set against relevant Key Performance Indicators (KPIs) in Agenda 2020. Innovation 2020 notes that "*our current engagement at EU level focuses on contributing to the creation of the European Research Area and on maximising Irish participation in Horizon 2020*". SFI's expectation is that awards made under the IvP 2016 call will provide the support necessary for awardees to build capacity, expertise and relationships to a point where they can compete successfully for funding in Horizon 2020, including the European Research Council (ERC). In their annual report, awardees are asked to report on the funding opportunities that they have pursued and won and also to report on the position held by the PI on successful awards. This will allow SFI to track this progress on an annual basis. Awardees are also asked to report on the position held by the PI on successful funding awards.

Objective: *To support relevant collaborations and partnerships between academia and industry*
Expected Outcomes: In the Strategic Impact section of the report, awardees are asked to enter details of any relevant collaborations with industry. A key objective of the Investigators Programme 2016 call is to foster and support these collaborations and, as such, it is SFI's expectation is that Investigators Programme 2016 awardees will have the capacity to develop such relationships. Data gathered in support of this metric will enable SFI to report against the following KPI targets: 1) A measureable increase in joint funding instruments with key agencies by 2020; 2) Demonstrable increase in collaborations with Ireland's strategic partners by 2020.

Objective: *To maintain Ireland's top 20 position in international bibliometric rankings[30] through an increase in the number and quality of journal publications.*

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[30] Based on Thomson Reuters InCites data (https://incites.thomsonreuters.com/#/analytics)

Expected Outcomes: To date, SFI funding has produced high-quality, high-impact publications that have resulted in Ireland rising to the top 20 in international bibliometric rankings of repute. Agenda 2020 sets a target for Ireland to maintain its position in these rankings. SFI's expectation is that the grants made in the Investigators Programme will contribute significantly to this target. Awardees are asked to report on all refereed journal and conference publications and international presentations directly supported by the grant. This support must be acknowledged in all publications.

Objective: *To allow Ireland-based researchers to win top-tier international prizes (e.g., the Nobel Prize, the European Science Prize, the Lasker Award, etc.)*
Expected Outcomes: Agenda 2020 also sets a clear target for an SFI-funded researcher to win a top-tier international prize by 2020. SFI's expectation is that awards made under the Investigators Programme 2016 will contribute to the likelihood of this target being attained and hence in the academic outputs section of the annual report, awardees are asked to report on all prestigious prizes or awards received during the reporting period.

Objective: *To support researchers returning to active academic research after a prolonged absence through the Investigator Career Advancement (ICA) component of the call*
Expected Outcomes: Applicants to the Investigators Programme 2016 call may choose to be evaluated under the SFI Investigator Career Advancement (ICA) criteria. Awardees under the ICA category are asked to report on progress in the same way as other Investigators Programme awardees using the same annual report template. In the annual report, the awardees under the ICA category must emphasise how their grant has enabled them to advance their academic career following a period of absence. It is expected that awards made under the ICA category will contribute to the following Agenda 2020 KPI: 25% of SFI awardees should be female by 2020.

These reporting guidelines are relevant to *all* awards made under the SFI Investigators Programme 2016 call. All awardees carrying out projects that are relevant to the co-funding partner agencies are encouraged to update their Research Profiles in order to report on any new collaborations and joint funding applications or awards that are relevant to the programmatic and/or partnership objectives of the Investigators Programme 2016 call.

12.2   Progress Reviews

Each award will be subject to a progress review in the form of a site visit conducted by international peer reviewers during the period of the grant. These progress reviews are typically held at the midway point on the award, and may be attended by representatives of the co-funding partner agencies. A review panel comprising two to three international reviewers is used. The panel are asked to review the progress and direction of the research, the quality of the team and partnerships (including the gender balance of the team), the management of the budget and the impact being generated. In relation to the latter, the panel will be guided to review progress against the impact statement provided by the applicant(s) in their original proposal. The outcome of the review will be taken into consideration in the assessment of future applications made to SFI. As stated in the SFI Terms and

Conditions of Research Grants,[31] SFI reserves the right to terminate a grant if, in the reasonable opinion of SFI, progress is not deemed to be satisfactory.

13 Intellectual Property Management

Intellectual Property (IP) should be managed according to the policies set out in the Government publication 'Inspiring Partnership - the National IP Protocol 2016'.[32] In cases where additional guidelines are specified by SFI they must also be followed. The IP arrangements are the responsibility of the Research Body and shall reflect the collaborative nature of the project, the level of cash and in-kind commitment made by the Industry Partner and compliance with State Aid Regulations.

14 Further Information

FAQs are available from the IvP 2016 webpage:

http://www.sfi.ie/funding/funding-calls/open-calls/science-foundation-ireland-investigators-programme-2016.html

For all additional queries please contact: investigators@sfi.ie

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[31] http://www.sfi.ie/funding/grant-terms-conditions.html
[32] http://www.knowledgetransferireland.com/ManagingIP/KTI-Protocol-2016.pdf

Appendix A: IvP 2016 Co-Funding Partnerships

The SFI-Teagasc Partnership aims to strengthen and accelerate research and innovation in the agri-food sector through the funding of joint grants between scientists from the agriculture and food disciplines and scientists from other scientific and engineering disciplines.

The main objectives of this collaborative funding initiative are:

- To strengthen research and innovation in Ireland's agri-food sector through the convergence of a broad range of disciplines and technologies so as to underpin profitability, competitiveness and sustainability in line with the targets set out in Food Wise 2025 and future agri-food sector strategies.
- To contribute to the strategic research opportunities identified in NRP Area H: Food for Health and Area I: Sustainable Food Production and Processing and to deliver on the actions identified by the Prioritisation Action Working Group which are outlined in the Sustainable Healthy Agri-Food Research Plan (SHARP) published by the Department of Agriculture, Food and the Marine.
- To offer scientists in a range of disciplines the opportunity to find new outlets and applications for their work.

SFI-Teagasc Partnership Remit

Proposals submitted through the SFI-Teagasc Partnership should bring together, in a single multi-disciplinary team, scientists from the agriculture and food disciplines with scientists from other STEM disciplines. SFI-Teagasc Partnership proposals should align with one of the five technology areas described in the Teagasc Foresight Report:

1. Plant and Animal Genomics and Related Technologies
2. Human, Animal and Soil Microbiota
3. Digital Technologies
4. New Technologies for Food Processing
5. Transformation in the Food Value Chain System.

Applicants under the SFI-Teagasc Partnership should use the Impact Statement to explain how the proposed research will achieve impact as outlined in Section 2, primarily in the agri-food industry. Applicants may also discuss how the proposed research will assist in achieving the objectives of the SFI-Teagasc Partnership. The Impact Statement may also outline how existing agricultural knowledge and information systems could be used to achieve agricultural impact and/or how established channels for food industry innovation could be used, as

	appropriate. The European Commission's concept of "multiactor approach"[33] may be useful in this regard.
	The co-funding partnership with the Geological Survey of Ireland aims to support excellent scientific research that has potential economic and societal impact and to stimulate and catalyse strong participation by Ireland's Geoscience and related researchers in H2020. The SFI-GSI Partnership applies to the topic areas listed below: • Mineral resources and raw materials • Geo-energy • Marine geology & coastal research • Geohazards • Geochemistry • Geophysics • Groundwater resources • Earth observation • Geotechnical engineering • Spatial information/geomatics • Superficial deposits • Paleoclimatology
	The co-funding partnership with the Marine Institute aims to support excellent scientific research that has potential economic and societal impact in the marine area. The partnership applies to the topic areas listed below: • Advanced marine technologies • Marine food webs, biodiversity and ecosystems approach • Marine bio resources (including algae and fish) • Subsea resources • Ocean observation • Marine Renewable energy

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[33] An explanation of "multi-actor approach" is available on page 11 of this document:
http://ec.europa.eu/research/participants/data/ref/h2020/wp/2016_2017/main/h2020-wp1617-food_en.pdf

	The overall aim of the SFI-EPA Partnership for IvP 2016 is to co-fund research projects that use knowledge to protect and improve our natural environment and human health. The partnership is structured around three pillars: Water, Sustainability and Climate. The remit areas of the SFI-EPA Partnership are listed below: **Water Pillar** • Safe Water • Ecosystem Services and Sustainability • Innovative Water Technologies • Understanding, Managing and Conserving our Water Resources **Sustainability Pillar** • Resource Efficiency • Natural Capital and Ecosystem Services • Socio-Economic Aspects of a Sustainable Environment **Climate Pillar** • Management of Greenhouse Gas Emissions and removals • Socio-economic and Technological Solutions and Opportunities

Application Process when Applying to IvP 2016 under a Partnership

Only **one** of the four SFI Partnership agreements require applicants to indicate their intention to apply under the relevant Partnership criteria as part of the SESAME application process (see Section 4.3):

- Applications under the SFI-Teagasc Partnership require a minimum of two applicants and a maximum of three applicants per proposal (one Lead Applicant and either one or two Co-Applicants). At least one of the Lead or Co-Applicants must be a Teagasc employee. In addition, at least one of the Lead or Co-Applicants must not be a Teagasc employee. Applicants **must** tick the appropriate box in SESAME for proposals to be eligible for review under this Partnership.

- Applicants who are aligning their proposed research to topics identified in the table above by GSI, MI or the EPA **are not required to tick a box in SESAME to indicate this alignment**. Proposals approved for funding through the IvP 2016 call that align to these research topics may be co-funded by SFI and the relevant co-funding partner, where an agreement to do so is reached, or may be funded in their entirety by SFI.

Appendix B: SFI Investigators Programme Abstract Sheet

PROGRAMME NAME:	CLOSING DATE FOR RECEIPT OF ABSTRACTS
SFI Investigators Programme 2016	30th September 2016, 13:00 Dublin, Ireland local time
PROPOSAL TITLE (up to 30 words):	
NAME OF HOST INSTITUTION:	**FULL NAME OF LEAD APPLICANT:**
SCIENTIFIC ABSTRACT (up to 200 words):	

Appendix C: Applicant/Co-Applicant CV Template

Applicant CV Template

To be used for applications to the SFI Investigators Programme 2016 call. Please note that Applicant's and Co-Applicant's full research funding track record should be uploaded via SESAME and should not be included in this CV.

<u>*5 PAGES MAX:*</u>
Section 1 (max. 2 pages) + Section 2 (max. 3 pages)

SECTION 1 – Required Details (up to 2 pages maximum)

NAME AND CONTACT DETAILS

CAREER PROFILE (Education and Employment)
If you wish you may provide details of any career breaks or periods of part-time work, for example parental or long-term sick leave.

HISTORY OF MENTORING AND SUPERVISION
Please include numbers of current and completed MSc and PhD students, <u>directly under your supervision</u>, as well as details of previous and current post-doctoral staff.

INNOVATION/COMMERCIALISATION ACTIVITY (e.g., relevant industry collaborations, invention disclosures, patents, spin-outs)
Please distinguish between patents applied and under review versus patents granted

OTHER INFORMATION AS APPROPRIATE
Please include details of key achievements including measures of esteem, invited presentations, principal scientific activities and responsibilities, as well as a statement demonstrating the applicant's accomplishments as an independent PI.

SECTION 2 – Publication Listing (up to 3 pages maximum)

FULL LIST OF PUBLICATIONS (or up to maximum space allowed)

Please **highlight below with an asterisk** each of your <u>senior-author publications</u> (as per the eligibility criteria).
Please **underline your name** on each publication listed.

Appendix D: Ethical Issues Table

Within the Sesame application, Applicants are required to answer questions related to Ethical Issues. These questions are outlined in the table below.

Section	Ethics Issues Table	
	Use of Animals in Research	
1	Does your research involve the use of animals?	Yes ☐ No ☐
2	Please confirm that Ethical approval will be obtained for the study prior to commencement of any research	Yes ☐ No ☐
	Human Participants / Material / Data	
3	Does your research involve human participants, human biological material, or identifiable/potentially identifiable data?	Yes ☐ No ☐ If No, please review entire checklist but do not complete Sections 4-21. If Yes, complete all remaining sections.
4	Please confirm that Ethical approval will be obtained for the study prior to commencement of any research	Yes ☐ No ☐
	Human Embryos/Foetuses	
5	Please confirm that your research <u>does not</u> involve Human Embryonic Stem Cells (hESCs)?	Yes ☐ No ☐
	Humans	
6	Does your research involve human participants?	Yes ☐ No ☐
7	Are they vulnerable individuals or groups, patients or persons unable to give informed consent (including children/minors)?	Yes ☐ No ☐
8	In the course of your research programme, do you propose to use Clinical Research Facility/Centre (CRF/C) facilities?	Yes ☐ No ☐
9	Is a formal sponsor required for the research programme?	Yes ☐ No ☐
10	Does your research involve physical interventions on the study participants?	Yes ☐ No ☐
11	Does your research involve a clinical trial or investigation?	Yes ☐ No ☐

12	Is the clinical trial or investigation covered by the EU Clinical Trials Directive?	Yes ☐ No ☐
13	If yes, please confirm that HPRA approval will be obtained prior to study commencement.	Yes ☐ No ☐
14	Please confirm that an independent Trial Steering Committee (TSC) will be established.	Yes ☐ No ☐
15	Please confirm that the trial or investigation will be registered in a publicly available, free to access, searchable clinical trial or investigation registry	Yes ☐ No ☐
16	Please confirm that the requisite insurance cover will be sought for the clinical trial or investigation and evidence of cover submitted to SFI prior to trial initiation.	Yes ☐ No ☐
17	Does this clinical trial or investigation involve activities outside of the Republic of Ireland or partnerships with international Collaborators?	Yes ☐ No ☐
Human cells/Tissues		
18	Does your research involve human cells or tissues?	Yes ☐ No ☐
19	Does your application include an element of biobanking?	Yes ☐ No ☐
Personal Data		
20	Does your research involve personal data collection and/or processing?	Yes ☐ No ☐
21	If any potentially commercially exploitable results may be based upon tissues or samples derived from human participants, please confirm that there has been appropriate informed consent for such use.	Yes ☐ No ☐

Appendix E: Guidance on Ethical and Scientific Issues

Animal Studies

Where animals are to be used in research projects, applicants must comply with the SFI Use of Animals in Research Policy[34] and the Health Products Regulatory Authority's (HPRA)[35] position on the use of animals in research. SFI will only support research using animals that is fully compliant with the requirements of the HPRA, has been independently peer reviewed and where consideration has been given to the use of alternative approaches not involving the use of live animals and addressing the principles of the 3R's (replacement, reduction, refinement).

Additional external sources of guidance include the HPRA and ARRIVE[36] (Animal Research: Reporting In Vivo Experiments) guidelines produced by the UK National Centre for the Replacement, Refinement & Reduction of Animals in Research (NC3Rs).

In order to allow for the appropriate evaluation of the scientific merit of applications for funding involving animal use, applicants submitting proposals must provide the information outlined in Table 1 below *within the description of their proposed research and methodology*. In addition, within the Sesame application, Applicants are required to answer questions related to Ethical Issues. These questions are outlined in Appendix D.

Table 1[37] – Information required for research involving the use of animals

Information	Details to be provided in the main body of your Grant Proposal
Ethical Statement	Indicate the nature of the ethical review permissions, relevant licences and national or institutional guidelines for the care and use of animals that cover the research. **SFI will require evidence that relevant ethical and regulatory approval has been granted prior to the award commencing.**
Study Design	For each experiment, give brief details of the study design including: a) The number of experimental and control groups. b) Any steps taken to minimise the effects of subjective bias when allocating animals to treatment (e.g. randomisation procedure) and when assessing results (e.g. blinding).

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[34] http://www.sfi.ie/funding/grant-policies/sfi-policy-on-the-use-of-animals-in-research.html
[35] https://www.hpra.ie/homepage/veterinary/scientific-animal-protection
[36] https://www.nc3rs.org.uk/arrive-guidelines
[37] Table adapted from the NC3Rs ARRIVE Guidelines

	c) The experimental unit (e.g. a single animal, group or cage of animals). d) The number of times each animal will be measured.
Experimental animals	a) Provide details of the animals used, including species, strain, sex, developmental stage and weight. Include a sound scientific reason for these choices. b) Provide further relevant information such as the source of animals, international strain nomenclature, genetic modification status (e.g. knock-out or transgenic), genotype, health/immune status, drug or test naïve, previous procedures, etc.
Sample size	a) Specify the total number of animals used in each experiment, and the number of animals in each experimental group. b) Explain how the number of animals was arrived at. Provide details of any sample size calculation used. c) Indicate the number of independent replications of each experiment, if relevant
Experimental outcomes	Details regarding the experimental outcomes to be assessed.
Planned statistical analysis	An explanation of how the number of animals was arrived at, including power calculations, if appropriate, or other supporting information to demonstrate that the findings will be robust. A brief overview of the planned statistical analyses in relation to the choice of sample size, along with details of any statistical advice available.

Human Studies

For studies involving humans, ethical approval must be obtained from the relevant national or local ethics committee prior to the start of the project. SFI only permits early stage regulated clinical trials (Phase I or combined Phase I/II) and investigations to be undertaken under the scope of the following SFI programmes: SFI Research Centres, Spokes, and Strategic Partnerships in addition to SFI Research Professorship where the successful candidate will become a Co-Principal Investigator within an SFI Research Centre.[38] Clinical trials and investigations requiring approval by the Health Products

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[38] http://www.sfi.ie/funding/grant-policies/sfi-clinical-trial-and-clinical-investigation-policy.html

Regulatory Authority (HPRA) will not be permitted through other SFI funding programmes, including Investigators Programme 2016.

Funding requests for early stage research involving human volunteers and/or human samples that does not require regulatory approval are permitted under Investigators Programme 2016. Where there is any doubt, applicants are advised to contact the HPRA prior to submission to ensure eligibility and are required to indicate in their application that the proposed study does not require HPRA approval.

Furthermore, in line with a current directive from its parent Government Department, research funded by SFI must not comprise any component of the following:

- Research intended to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer
- Research using human embryonic stem cells or tissues.

In order to allow proper evaluation of the scientific merit of applications for funding, applicants who propose research involving human participants and/or biological material must provide the information requested in Table 2 below *within the description of their proposed research*. In addition, within the Sesame application, Applicants are required to answer questions related to Ethical Issues. These questions are outlined in Appendix D.

Table 2- Information required for research involving the use of human subjects

Information	Details to be provided in the main body of your Grant Proposal
Ethical Approval	Ethical approval is required for all research work funded by SFI that involves human participants or human material (including tissue). Applicants should state by whom and when the research programme will be reviewed and specify any other regulatory approvals that have been obtained, or will be sought. Applicants should allow sufficient time to obtain Ethical approval. **SFI will require evidence that relevant ethical and regulatory approval has been granted prior to the award commencing.**
Study Recruitment	Applicants are asked to provide specific details on study recruitment procedures including inclusion and exclusion criteria and informed consent procedures. These should include relevant, additional details for specific groups including children/minors, patients and vulnerable groups.
Clinical Research Infrastructure	Applicants are asked to provide specific details where they have access to, or plan to access, the support/services of a Clinical Research Facility/Centre (CRF/C) at study design and/or implementation phase. The following information must be provided: • Name and address of the CRF/C • Information on the nature and stage/s of the input/advice/collaboration/service • Rationale for the choice of facility/centre

	• Information on the costs of providing the service/input, setting out where this is provided in-kind, from additional funding or requested from the project budget Evidence of this support/service must be provided to SFI in the form of a letter from the Director of the facility at the time of application for funding.
Physical Interventions	Applicants are asked to address any potential risk and/or harm to the safety of the patients or human participants in the study, if relevant, and highlight any potential ethical concerns during this study and/or at follow-up stage, even if not part of this application and how you propose to deal with them.
Clinical Trials	SFI will only support trials that are fully compliant with the SFI Clinical Trial and Clinical Investigation Policy[39] and the requirements of the HPRA. For applications including clinical studies that fall within the scope of the EU Clinical Trials Directive, approval from the HPRA is required. Necessary authorisations for trials involving medical devices differ depending on the device. Applicants are responsible for ensuring that all necessary approvals are in place and provided to SFI prior to study initiation. • **Sponsor:** Plans for appropriate sponsorship arrangements must be included in the application i.e. Letters of Support must be provided from sponsors or potential sponsors. Please note that SFI cannot act as sponsor. • **Steering Committee:** Applicants should provide details on the establishment and membership of an independent Trial Steering Committee. If any other type of independent monitor is to be implemented, please indicate and provide any relevant details. • **Study Registration:** Applicants are asked to outline plans for the registration of their trial or investigation on a publicly available, free to access, searchable clinical trial or investigation registry such as the International Standard Randomised Controlled Trial Register (ISRCTN) or ClinicalTrials.gov. • **Multi-Jurisdictional Studies:** Subject to pre-approval from SFI, applicants should provide relevant details in relation to clinical research activities outside of the Republic of Ireland or partnerships with international Collaborators.
Human Cells/Tissues	Applicants are asked to provide details on the cells or tissues types, including the source of the material.

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[39] http://www.sfi.ie/funding/grant-policies/sfi-clinical-trial-and-clinical-investigation-policy.html

Biobanking	Applicants are asked to describe how they will comply with international best practice for biobanking components in this research programme[40][41][42][43], with particular regard to quality of sample collection, processing, annotation and storage, and describing data protection measures where appropriate. Please also reference relevant guidelines/standards you will use.
Protection of Personal Data	Compliance with legislation and EU rules on data protection is required. Applicants are asked to provide that appropriate safeguards will be put in place and provide examples e.g. details of their procedures for data collection, storage, protection, retention, transfer, destruction or re-use (including, collection methodology (digital recording, picture, etc.), methods of storage and exchange.

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[40] http://www.oecd.org/science/biotech/44054609.pdf
[41] http://www.isber.org/?page=BPR
[42] http://www.molecularmedicineireland.ie/page/g/t/103
[43] http://biospecimens.cancer.gov/bestpractices/2011-NCIBestPractices.pdf

Appendix F: Support for Alternative Approaches to the Use of Animals in Research

As outlined in SFI's Policy on the Use of Animals in Research,[44] and as detailed in Appendix E, the Foundation aims to improve the welfare of animals used for scientific purposes and to promote the principles of the 3Rs – Replacement, Reduction and Refinement. Applicants are expected to adhere to the general principles and best practice outlined in the guidance provided by the HPRA[45] and are advised to consult the ARRIVE guidelines[46] (Animal Research: Reporting In Vivo Experiments) produced by the UK National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs).

SFI will support research using animals providing that it is fully compliant with all regulatory and ethical guidelines, it has been independently peer reviewed and consideration has been given to the use of alternative approaches not involving the use of live animals and addressing the principles of the 3Rs.

As part of the SFI Investigators Programme 2016 call, SFI is providing applicants with the opportunity to seek funding to support the development and validation of new tests, models and approaches not involving the use of live animals and/or addressing the principles of the 3Rs. It is envisaged that this development and validation work related to the 3Rs would complement the hypothesis-driven research programme and would run alongside the main research programme. Applications that include a request for funding the development and application of such alternative approaches will be evaluated using the same review criteria as other applications under the Investigators call.

In the research description, applicants should include details on which aspect(s) of the 3Rs is/are to be addressed - how the research will directly replace, reduce and/or refine the use of animals in research or testing. It is important to provide metrics about the potential impact on the 3Rs and how the alternative approach proposed compares with current approaches. It would be expected also that the Impact Statement would include information on the route to be taken to ensure acceptance and adoption of the alternative methods including an awareness of regulatory policy and engagement with local, national and international stakeholders.

Given the experience of the UK NC3Rs in funding research in this area, SFI may consult with this body in the identification of appropriate peer reviewers for applications that seek to incorporate such approaches.

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[44] http://www.sfi.ie/funding/grant-policies/sfi-policy-on-the-use-of-animals-in-research.html
[45] https://www.hpra.ie/homepage/veterinary/scientific-animal-protection
[46] https://www.nc3rs.org.uk/arrive-guidelines

	Research Description – Refer to Appendix E for research involving animals or human subjects.	Max. 15 pages
	References	Max. 5 pages
	Impact Statement	Max. 3 pages
Infrastructure	Description of the infrastructure, facilities, services and space provided by Research Body	Max. 1 page
Proposed Budget	Details of all relevant costs	Budget Table in SESAME
Budget Justification	Upload the budget justification	Max. 3 pages
Letters of Support	Collaborators, including industry	Max. 2 pages
	Host Research Body of the Lead Applicant	Max. 2 pages
	Host Research Body of Co-Applicant(s) if in a different Research Body	Max. 2 pages
Excluded Reviewers	Up to three individuals may be excluded from reviewing the Stage 2 proposal	

Viewing the PDF of your application prior to submission allows you to verify content.

There is no system validation on multiple upload file fields as the number of documents required may vary for each application.

It is the responsibility of the Lead Applicant to ensure that all documentation is included and that page lengths are not exceeded.