

Invest NI / DEL

Guidelines for Northern Ireland applicants requesting funding from Invest NI/DEL through NSF programs under the auspices of the US-Ireland R&D Partnership

INTRODUCTION

The United States of America, Northern Ireland and the Republic of Ireland have come together for a unique initiative to increase the level of collaborative R&D amongst researchers across the three jurisdictions that will generate innovations to the marketplace and lead to improvements in healthcare, disease prevention and other technologies.

A number of thematic areas have been identified initially as representing a unique opportunity in terms of research interests, health care and economic development, and reflect the potential for the island of Ireland to play a meaningful role in research areas internationally recognised to be of pivotal significance for the 21st century.

Invest NI/DEL's objective is to encourage the development of three-way, transnational and collaborative peer-reviewed research projects that address the exciting research challenges in the prioritised thematic areas of **nanotechnology, sensors, telecommunications, and energy / sustainability**.

APPLICATION PROCEDURE

Invest NI/DEL have agreed to consider funding requests from Northern Ireland Higher Education Institutions wishing to engage in tri-jurisdictional collaborative research projects in the areas identified by the Partnership.

All successful projects will be funded by DEL which is able to provide research funding, for the Northern Ireland universities only, under Article 30 of the Education and Libraries (NI) Order 1993.

A minimum of one Principal Investigator from each jurisdiction must be named on the proposal to be deemed eligible for funding under the Partnership. The scientific application with supporting materials will be jointly prepared by the co-investigators.

To facilitate a 'single-proposal, single-review' mechanism, the National Science Foundation (NSF) has agreed to accept submissions from tri-jurisdictional teams to a number of their existing funding programs. Consequently applicants should design their proposal (including the total requested budget) based on the guidelines and criteria outlined in the relevant

NSF program call and associated documentation. The Principal Investigators from Northern Ireland and the Republic of Ireland will be designated as co-investigators on the application, or as Multiple PIs, as appropriate to the project.

Invest NI/DEL (and SFI) will operate a 2-stage application process.

Stage 1 – Outline Proposals

Northern Ireland applicants are required to submit outline proposals (max 3 pages) and outline budget requests to Invest NI/DEL **6 weeks in advance of the formal NSF submission deadline**. Budget requests should contain details relating to each of the three jurisdictions on 3 additional separate pages.

Invest NI/DEL will consider funding requests from Northern Ireland Higher Education Institutions and check for eligibility before the full proposal document is formally submitted to NSF. Note that any Northern Ireland applicants who have been awarded an Invest NI Planning Grant, and who have submitted their post-award report to Invest NI, are not required to submit a summary proposal, but should contact the Invest NI Program Manager to discuss their budget request in advance of submission of the final proposal. This draft proposal should contain:

- an outline of the research programme with specific reference to the tasks to be undertaken by partners in each jurisdiction
- an update on the current status of the proposed collaborators' funding request

Summary proposals should be submitted electronically to both the Invest NI and DEL Programme Managers. Invest NI/DEL will respond with a decision regarding eligibility within 2 weeks.

Important Notes:

(i) **Upper limit on the requested budget:** *The budget for full applications from applicants in Northern Ireland is capped at £320,000 per proposal, equating to an average of around £107k per annum for a 3 year award.*

(ii) **Only one award per person:** *If an applicant has been successful in securing a US-Ireland R&D Partnership award, they will not be entitled to apply for a second award until the last 18 months of their first award. The Department will not accept a second application whilst the first application is still under review by the US National Science Foundation.*

Stage 2 – Full Proposals

Applicants will submit their proposals in conformance with the guidelines specified in the NSF Grant Proposal Guide (GPG) at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg or the NSF Grants.gov Application Guide at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide .

All proposals must be submitted to NSF via use of the NSF FastLane System or Grants.gov.

Proposals must include the full project description across all three jurisdictions, and must include details on each of the three budgets on 3 separate pages. The names of the corresponding Program Managers from Northern Ireland, the Republic of Ireland and the US must be provided on the respective budget sheet and will be used as a contact reference by the NSF Program Officer.

Proposals to NSF will be submitted to those programs funding nanoscale science and engineering and sensors research and education (see Attachment A and B), telecommunications research (Attachment C), energy and sustainability (Attachment D) or to the Office of International Science and Engineering (see Attachment E).

Invest NI/DEL will accept requests for funding under the auspices of the Partnership from Northern Ireland university researchers who should submit an electronic copy of the full proposal to both the Invest NI and DEL Program Managers. **Co-investigators from the US and the Republic of Ireland will simultaneously submit identical copies of proposals** to their respective funding organisations via the relevant Program Managers.

In addition to the requirements outlined in the NSF documentation, proposals sent to Invest NI/DEL from Northern Ireland university researchers and seeking funding from Invest NI/DEL should include:

(1) an Invest NI/DEL coversheet signed by the applicant and signed and stamped by both a) the relevant Pro Vice Chancellor AND b) the relevant Dean/Head of School. Invest NI/DEL require the coversheet containing **original signatures to be scanned** for electronic submission.

(2) an appendix outlining the Northern Ireland applicant's budget request to Invest NI/DEL on an Invest NI/DEL budget template, giving details of, and justification for the budget requested. This appendix should be no longer than **3 pages** in total.

Invest NI/DEL expect that the funding requested from Invest NI/DEL by Northern Ireland applicants will be commensurate with the work proposed, and that it will be similar in scale and duration to that requested by Ireland and US-based applicants from their respective funding agencies.

APPRAISAL PROCESS

NSF will review research proposals from tri-jurisdictional teams in their entirety. Proposals received at NSF will be evaluated in accordance with the standard NSF merit review criteria of intellectual merit and broader impacts. The review will be conducted using the NSF merit review process, including conflict of interests and confidentiality policies. The process may include use of *ad hoc* mail reviewers, as needed, in combination with review panelists who meet, discuss the proposals, and make recommendations to NSF. Review procedures also may include provision for summary rankings by the panel.

The NSF will review documents for each proposal, i.e. written reviews; panel summaries, if any; and panel rankings, if any, (without reviewer identities).

NSF will share this information with the Program Managers and funding organisation officials in Invest NI/DEL and SFI for the purpose of coordinating funding of research under this joint initiative.

Consideration of requests for funding of the Northern Ireland and the Republic of Ireland elements of each proposal will be dependent upon receipt by Invest NI/DEL and SFI of a positive assessment by NSF of the technical merits of the entire project as well as confirmation by NSF of their agreement to fund the US element of the proposal.

AWARD PROCESS

Invest NI/DEL will advise Northern Ireland applicants of the NSF decision and, for successful applicants, of their provisional funding allocation within 2 weeks of receiving the NSF decision.

The issuance and administration of awards in the three jurisdictions will be carried out by the respective funding organisations. Each award will contain an acknowledgement of this joint NSF/SFI/Invest NI/DEL initiative.

For Northern Ireland applicants seeking funding from Invest NI/DEL, funding will be conditional upon the acceptance by the relevant University of a Letter of Offer issued by DEL.

POST-AWARD MONITORING

Co-investigators in all three jurisdictions will be required to submit identical annual written progress reports to the relevant Program Managers in each of the four funding organisations.

Any comments or concerns on the part of any one of the funding organisations with respect to the progress reported will be mutually shared.

Decisions on discontinuation of funding will be made jointly by agreement between the four funding organisations.

Invest NI/DEL reserve the right to assess the progress of any project, at any time of their choosing, during the lifetime of awards made under the auspices of the US-Ireland R & D Partnership.

Invest NI/DEL Contact Details for NI Program Managers in both Nanotechnology and Sensors:

Invest NI/DEL Contact Details for NI Program Managers:

Invest NI Program Manager
Paul Malcomson
paul.malcomson@investni.com
tel: 90 698836

DEL Program Manager
Boyd McDowell
boyd.mcdowell@delni.gov.uk
tel: 90 257749

Attachments

A. National Nanotechnology Initiative, FY 2011

For fiscal year 2011, the National Science Foundation budget request for the National Nanotechnology Initiative (NNI) is approximately \$400 million. All participating research and education directorates and the Office of International Science and Engineering (OISE) accept proposals with an international component following a competitive selection process. NSF grants generally support only expenses made by the U.S. universities for research and education, for U.S. participants in international interactions such as workshops, and for research visits abroad by U.S. students and faculty.

The participating directorates and offices are: Biological Sciences (BIO), Computer and Information Sciences and Engineering (CISE), Engineering (ENG), Geosciences (GEO), Mathematical and Physical Sciences (MPS), Social, Behavioral and Economic Sciences (SBE), Education and Human Resources (EHR), and Office of International Science and Engineering (OISE).

General information about NNI specific programs can be found on www.nsf.gov/nano, on NSF's core programs on http://www.nsf.gov/funding/research_edu_community.jsp, and on OISE programs on <http://www.nsf.gov/div/index.jsp?div=OISE>.

NSF supports nanoscale science and engineering in FY 2011 through various programs. The following program directors may provide further information:

BIO: Alan Tessier, atessier@nsf.gov
CISE: Sankar Basu, sbasu@nsf.gov
ENG: Clark Cooper, ccooper@nsf.gov
GEO: Enriqueta Barrera, ebarrera@nsf.gov
MPS: Tom Rieker, trieker@nsf.gov
SBE: Michael Gorman, mgorman@nsf.gov
EHR: John Bradley, jbradley@nsf.gov
OISE: Cassandra Dudka, cdudka@nsf.gov

International supplements: Awards made in previous fiscal years for individual investigators, groups, centers, and user facilities can be supplemented by the programs. The NSF award database can be accessed from www.nsf.gov/nano.

B. Sensors and Wireless Sensor Networks, FY 2011

The participating directorates and offices are: Biological Sciences (BIO), Computer and Information Sciences and Engineering (CISE), Engineering (ENG), Geosciences (GEO), Mathematical and Physical Sciences (MPS), Social, Behavioral and Economic Sciences (SBE), Education and Human Resources (EHR), and Office of International Science and Engineering.

NSF grants generally support only expenses made by the U.S. universities for research and education, for U.S. participants in international interactions such as workshops, and for research visits abroad by U.S. students and faculty.

General information on NSF's core programs can be found at http://www.nsf.gov/funding/research_edu_community.jsp , and on OISE programs at <http://www.nsf.gov/div/index.jsp?div=OISE> .

NSF supports sensor and wireless sensor network research and education in FY 2011 through various programs. The following program directors may provide further information:

BIO: Elizabeth Blood, eblood@nsf.gov
CISE: Alhussein Abouzeid, aabouzei@nsf.gov
ENG: Bruce Hamilton, bhamilto@nsf.gov
GEO: Cliff Jacobs, cjacobs@nsf.gov
MPS: Zeev Rosenzweig, zrosenzw@nsf.gov
SBE: Sandra Schneider, sschneid@nsf.gov
EHR: Russell Pimmel, rpimmel@nsf.gov
OIA: Henry Blount, hblount@nsf.gov
OISE: Cassandra Dudka, cdudka@nsf.gov

International supplements: Awards made in previous fiscal years for individual investigators, groups, centers, and user facilities can be supplemented by the programs. The NSF award database can be accessed from www.nsf.gov.

C. Telecommunications Research, FY 2011

The National Science Foundation supports a variety of programs directed towards telecommunications research and education. Areas of interest include: wireless devices, components, and networks; optics and photonics devices and networks; sensor devices and networks; signal processing; network architecture design, modeling and simulation; security; packaging, thermal management and energy; and future internet technology. Participating directorates and offices are Engineering, (ENG) Computer and Information Sciences and Engineering, (CISE), Office of Cyberinfrastructure (OCI), and Office of International Science and Engineering (OISE). Participating directorates and offices accept proposals with an international component following a competitive selection process. NSF grants generally support only expenses made by the U.S. universities for research and education, for U.S. participants in international interactions such as workshops, and for research visits abroad by U.S. students and faculty.

General information on NSF's core programs can be found at http://www.nsf.gov/funding/research_edu_community.jsp , and on OISE programs at <http://www.nsf.gov/div/index.jsp?div=OISE> .

NSF supports telecommunications research and education in FY 2011 through various programs. The following program directors may provide further information:

ENG: Samir El-Ghazaly, selghaza@nsf.gov

CISE: Victor Frost, vsfrost@nsf.gov

OCI : Manish Parashar, mparasha@nsf.gov

OISE: Cassandra Dudka, cdudka@nsf.gov

International supplements: Awards made in previous fiscal years for individual investigators, groups, centers, and user facilities can be supplemented by the programs. The NSF award database can be accessed from www.nsf.gov.

D. Energy and Sustainability, FY 2011

The National Science Foundation supports fundamental research and education that underpins the development of innovative solutions to pressing problems in sustainability, especially research on sustainable and renewable energy technologies. Research will investigate the fundamental role that social, economic, and political systems play in creating and addressing major issues in sustainability. It will include conceptual, theoretical, empirical, and computational research needed to further develop the basic science, engineering, education, and policy knowledge base, as well as address the coupled problems of sustainability - dealing directly with the energy-economy-environment dilemma - at both the individual factor and systems level. NSF's unique mandate to support all areas of science, engineering and science education allows it to fund research that will tackle complex system level problems of sustainability.

All participating research and education directorates and the Office of International Science and Engineering (OISE) accept proposals with an international component following a competitive selection process. NSF grants generally support only expenses made by the U.S. universities for research and education, for U.S. participants in international interactions such as workshops, and for research visits abroad by U.S. students and faculty.

The participating directorates and offices are: Biological Sciences (BIO), Computer and Information Sciences and Engineering (CISE), Engineering (ENG), Geosciences (GEO), Mathematical and Physical Sciences (MPS), Social, Behavioral and Economic Sciences (SBE), Education and Human Resources (EHR), , and Office of International Science and Engineering (OISE).

General information about Energy and Sustainability specific programs can be found on http://www.nsf.gov/pubs/2010/nsf10040/nsf10040.jsp?WT.mc_id=USNSF_80, on NSF's core programs on http://www.nsf.gov/funding/research_edu_community.jsp , and on OISE programs on <http://www.nsf.gov/div/index.jsp?div=OISE> .

NSF supports energy and sustainability in FY 2011 through various programs. The following program directors may provide further information:

BIO: Charles Liarakos, cliarako@nsf.gov
CISE: John Cozzens, jcozzens@nsf.gov
ENG: Greg Rorrer, grorrer@nsf.gov
GEO: Pam Stephens, pstephens@nsf.gov
MPS: Linda Sapochack, lsapocha@nsf.gov
SBE: Robert O'Conner, roconner@nsf.gov
EHR: Osman Shinaishin, oshinai@nsf.gov
OIA: Henry Blount, hblount@nsf.gov
OISE: Cassandra Dudka, cdudka@nsf.gov

International supplements: Awards made in previous fiscal years for individual investigators, groups, centers, and user facilities can be supplemented by the programs. The NSF award database can be accessed from www.nsf.gov.

E. Office of International Science and Engineering (OISE)

NSF's Office of International Science and Engineering (OISE) serves as NSF's focal point for international science and engineering activities. OISE supports – either through its own programs or working with the other NSF directorates and offices – innovative awards and supplements that promote research excellence through new international collaboration and that develop the next generation of globally engaged scientists and engineers. OISE funds international research and education activities in all NSF-supported disciplines involving any region of the world. Researchers interested in international collaboration should consult both disciplinary and OISE program officers. The OISE Home Page is <http://www.nsf.gov/div/index.jsp?div=OISE>

NSF grants generally support only expenses made by the U.S. universities for research and education, for U.S. participants in international interactions such as workshops, and for research visits abroad by U.S. students and faculty.

Relevant OISE programs in FY 2011 include:

International Research and Education: Planning Visits and Workshops (NSF 04-035):

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12815&org=OISE&from=home

- **International Planning Visits:** Travel to plan collaborative research with prospective foreign partners. (No deadlines apply. Proposals may be submitted at any time.)
- **International Workshops:** Meetings to identify common priorities and approaches for collaboration on specific, well-defined research areas. Note: OISE does not support US participation in international conferences. (Target Dates: September 20, 2010, February 20, 2011, May 20, 2011.)

Developing Global Scientists and Engineers (NSF 04-

036): http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=12831&org=OISE&from=home

- **International Research Experiences for Students:** Enable faculty at US institutions to organize international research experiences for US undergraduate and graduate students. (Target Dates: September 15, 2010 and Annually Thereafter.)
- **Doctoral Dissertation Enhancement Projects:** Support dissertation research by US graduate students at a foreign site. (No deadlines apply. Proposals may be submitted at any time.)

International Research Fellowship Program (IRFP, NSF 06-582):

http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5179&org=OISE&from=home

- Support for US citizens or permanent residents with a recent PhD to conduct research at institutions outside the United States. (Target Date: September 14, 2010 and second Tuesday in September Annually Thereafter.)

Additional support: In addition to its own programs, OISE will continue to co-fund proposals submitted to NSF's disciplinary programs and will consider highly meritorious requests for international supplements to current NSF awards. For more information on these funding opportunities, please see OISE's home page: <http://www.nsf.gov/div/index.jsp?div=OISE>