IOP | Institute of Physics In Ireland

Chairperson Dr. Kevin McGuigan

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Mr. Seán Sherlock, TD
Minister for Research and Innovation
DETI
23 Kildare St.
Dublin 2

15th July 2011

Re: Funding of basic physics research

Dear Minister,

You may recall we met in early June when you very kindly launched the IOPI Graduate Survey. The Institute of Physics in Ireland[1] very much appreciates your interest in the work of physicists in Ireland. Physics based industry supports over 85,000 jobs in the country and is a significant generator of wealth, particularly in such export lead areas as IT, medical devices and communications. Such industry is dependent on a strong supply of highly qualified physicists who obtain much of their basic training in the research labs of Ireland's third level colleges.

Recently Science Foundation Ireland announced their intention to merge the Research Frontier programme (RFP) with the Principal Investigator (PI) programme. Our understanding is that SFI is going to prepare the design of a new programme and then in September engage in stakeholder consultation. At the moment, though, there is no documentation available from SFI about these changes. The Institute is concerned that this move may represent a downgrading of the Research Frontier programme.

At present the RFP is the only funding option for those who carry out basic research outside the SFI-mandated areas of ICT, Biotechnology & Energy. This covers a large cohort of the physicists in the country who study such areas as particle physics, astrophysics, laser spectroscopy and quantum optics.

Economic Impact of Basic Research
The RFPs allow physicists in Ireland to use world-class facilities (international collaborations, telescopes, satellites, synchrotrons, lasers etc.) to do world-class science in areas of fundamental importance to the discipline and ultimately to the benefit of society. These facilities could typically not be developed by a single nation.

Such research, while described as ‘blue sky’ has lead to significant economic benefits. For example research in gamma-ray astronomy at UCD has been funded by the RFP programme but has led to a proof of concept proposal being funded by EI, through the potential medical application of this technology. In Cork research in microelectronics lead to the highly successful security and imaging company, Farran Technology. The Institute of Physics has highlighted many such examples about the impact of basic research in its case studies.[2]

Basic research produces a highly skilled workforce

There are fundamental areas (e.g. particle physics, astrophysics etc.) that attract some of the best students to the discipline in the first place. If we kill off research funding in those areas we run the risk of killing off the interest of the talented students that will go do something else, somewhere else.

Basic research is also a supplier of highly skilled and trained people for the whole economy. As academic research cannot absorb them all those who leave add value to other sectors.

Probably most importantly from an economic viewpoint, if Ireland does not carry out basic research it will not be in a position to make use of the technical advances coming from knowledge created in other countries such as the US, China, Japan and Korea.

Throughout Ireland the enormous state investment in ICT, Energy and Biotech is delivering strong scientific and innovation results. However, the much more modest investment in basic science through the RFP programme also delivers substantial impact and 'bang for buck' worldwide through publication in the most prestigious journals, such as Science and Nature. This is not just an academic argument - FDI companies make decisions about locating operations here based in part on our standings in these kinds of rankings. The RFPs allow Ireland to win that kind of achievement and profile at relatively modest cost.

For these reasons the IOP considers it essential that there is no downgrading of support for basic research funding in any re-organisation of the SFI funding instruments.

Yours sincerely,

Dr Kevin McGuigan

Chairperson
Institute of Physics in Ireland

1. The Institute of Physics in Ireland (IOPI) is the professional organisation for physics in Ireland, both Northern Ireland and the Republic. It is a key educational and research stakeholder and regularly produces reports and recommendations on many aspects of physics. It has over 2000 members in Ireland and is a branch of the UK based Institute of Physics, which has an extensive world-wide membership (currently over 40,000) and is a leading communicator of physics with all audiences from specialists through government to the general public. Its publishing company, IOP Publishing, is a world leader in scientific publishing and the electronic dissemination of physics.

2. http://www.iop.org/publications/iop/2011/page_47523.html