
ANNUAL REPORT

**Annual General Meeting
9 March 2008
Nuremore Hotel, Carrickmacross**



A year with physics in Ireland

Industry, education, outreach and research are just some of the areas into which the Institute, through its broad membership, has brought expertise and enthusiasm. From physics busking on Grafton Street to lobbying for CERN membership, the Institute of Physics in Ireland (IOPi) has significantly raised the profile of physics at every level throughout 2007 and it aims to raise the bar even higher during the coming year.



<<< She deserves a medal. Iris Choi is presented with the inaugural Rosse Medal by Sir Brendan Parsons.

Physics and radar.

A student gets the speed of his kick measured at the Institute's stand at the BT Young Scientist and Technology Exhibition. >>>



Annual activities and outreach

A particular highlight this year was the 2007 **Spring Weekend Meeting**, entitled “Fission impossible? a discussion on climate change and energy”. This remarkable meeting set a very high standard, not least due to the success of the inaugural presentation of the **Rosse Medal**. This award involved the research efforts of 48 postgraduates from 10 institutions from across the island of Ireland. **Iris Choi**, based at UCC’s Tyndall Institute, was the first recipient of the medal, for communicating her poster about quantum cryptography. The presentation of the award by **Sir Brendan Parsons**, the seventh Earl of Rosse, in the magnificent rooms at Birr Castle, was a very special moment for all present.

An excellent forum for physicists and historians to get together was provided by the **Kelvin and Ireland Meeting** held at the Great Hall at Queens University Belfast in December to commemorate the centenary of Kelvin’s death in December 1907. The wealth of Kelvin’s contributions to science and his connections with Ireland, past and present, were highlighted in a fascinating set of lectures.

There was a new dimension this year to the traditional annual **Lecture Programme**. In a break with the usual series of academic seminars, a number of the universities and institutions invited just one speaker, with a general science theme rather than a close subject specialisation. These changes aimed to attract a wider audience from across the host institution and also from the membership and the public. “Climate change” by an author from the IPCC, “Physics and computer gaming” by the “father” of the Xbox and the “Future for E learning” by a vice-chancellor in Australia were some of the variety of topics chosen for these lectures.

The **BT Young Scientist and Technology Exhibition** continues to provide a spectacular forum for science outreach. “Physics and radar” at the Institute’s stand proved remarkably popular, with thousands coming to measure the speed of their “kicks” at goal and find out about radar. “Let rip the physics of perforations” by three girls from Colaiste Choilm Cork won not only the Institute’s special physics prize at the exhibition but also the highly prestigious Intel Travel Award.

External relations and policy

As part of the **Institute’s Strategic Plan** to increase the influence of the organisation, the IOPI worked extensively both to listen to the voices of physicists and to bring them to bear on government policy on physics issues.

Prof. Keith Mason, chief executive of the Science and Technologies Facilities Council in the UK, and Dr Pat Nolan from the Department of Enterprise Trade and Employment in Ireland addressed the annual Heads of Physics Departments Meeting on 27 April. There was considerable discussion about the system of **funding physics research** both in Ireland and at international facilities. The IOPI has pursued strongly the case for **Irish membership of CERN**, including meeting with the newly appointed government chief science adviser, Prof. Patrick Cunningham, to discuss this. A written case was prepared and has been given to him and the minister for enterprise, trade and employment, Micheál Martin. Following this, the policy officer was invited to participate in **two workshops** organised by the Advisory Science Council, which is currently considering how the Irish government should best make decisions relating to international research.

The Institute is participating in a number of **research studies**, including a long-term follow-up on the progression of the careers of physics graduates in the UK and Ireland and the state of physics teacher training throughout Europe.

Responses have been prepared for a number of **consultations and representations** made to government on various issues, including the Careers Education, Information, Advice and Guidance Strategy for Northern Ireland; extending the additional HEFCE funding for university physics teaching to Northern Ireland; measures to support physics teaching in schools; and Irish membership of the ESO.



<<< **Ireland needs physics.** Minister Micheál Martin at the launch of the Physics and the Irish Economy report.

Living with a star. Students admiring the solar images just before the Tyndall Lecture at University College Cork. >>>



Links with industry and other partners

Considerable effort this year has been made to promote **Institute links** with business and other significant science organisations, such as Engineers Ireland, Enterprise Ireland, the Royal Dublin Society, IBEC, the RSC, the Institution of Engineering and Technology, the American Chamber of Commerce Education and Research Group, and Forfas. In particular, the Institute has both initiated measures and co-operated with a range of bodies to call for **enhanced government support** for science subjects in schools.

The expertise of the Institute has been recognised with the appointment of the IOPI chair to the Health Service Executive National Steering Committee for the **Training of Physicists in the National Plan for Radiation Oncology**.

A Key Insight Business Briefing on **nuclear power** was held in partnership with the Royal Dublin Society in May. The meeting was attended by around 55 senior policy makers from industry, government and academia.

The launch of the **Physics and the Irish Economy** report in October by Minister for Enterprise, Trade and Employment Micheál Martin shone a spotlight on the key business area of physics-based industry. With more than 85 000 Irish jobs in this sector and a contribution of €15 billion annually to the Irish economy, the essential nature of physics and business is very clear.

Farther afield there was specific Irish input into the IOP **“Physicists think” promotion**, aimed at HR managers of non-traditional employers of physics graduates. Visually captivating, this campaign provoked decision makers to “think physicist” in terms of recruitment.

Education

Education has been at the heart of a major part of the work of the IOPI. “Living with a star” was the title of this year’s **Tyndall Lecture** from solar physicist Dr Robert Walsh. A record nine venues and twelve lectures around Ireland hosted the lecture and students were treated to a selection of spectacular images of the Sun brought to life with the aid of 3D glasses.

Those placed first in physics examinations at A-level and in the Leaving Certificate were honoured with **Institute silver medals**, which were presented locally, and the Earnshaw Prize for the best final-year undergraduate physics project in Ireland was presented to a student from Cork IT.

A new publication and portal for the IOPI website called **Transition Year Physics** was designed this year. This provides links to webpages of those institutions offering transition-year weeks and work placements, a list of physics modules for transition year (e.g. astronomy, medical physics and the Virtual Physics Laboratory) and a suggested Physics Book Club reading list.

The **Virtual Physics Laboratory** has been rolled out to a large number of physics teachers through the IOPI Teacher Network coordinators and at **teachers conferences**. More than 100 physics teachers attended the one-day conferences – “Frontiers in physics” held at Cork Institute of Technology/Blackrock Castle Observatory and “Physics in practice” held at Queens University Belfast. These meetings provided a day of reinvigoration, information and communication opportunities for teachers, including feedback on the Leaving Certificate physics examinations, which was sent to the State Examinations Commission.

Science on Stage 1&2: Demonstration and Teaching Ideas Selected by the Irish Teams, the third publication of a series, was distributed free of charge to more than 2000 science teachers in Ireland. This invaluable classroom resource, offering more than 100 teaching and demonstration ideas, is a credit to the dedication of the physics teachers involved.

Welcome funding was received from Discover Science and Engineering for a reprint of the highly successful **“Day in the life”** career profiles.



<<< **Taking physics to the general public.** A physics busking session on Grafton Street attracts a family audience.



An opportunity for reinvigoration, information and communication. A demonstration at the QUB Teacher's Conference. >>>



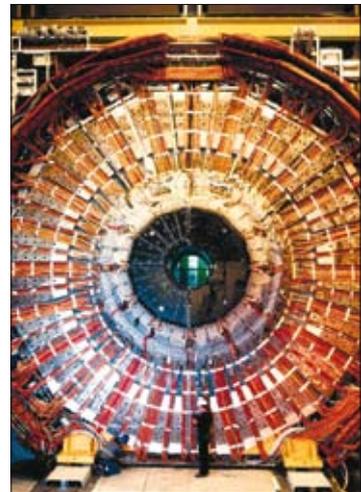
<<< **Alternative energy.** Wind turbines featured in "A day in the life of a wind analyst" career profile.

Magnetic attraction. Teachers at Blackrock Castle in Cork where the "Frontiers in physics" conference was held. >>>



<<< **Dwarfed by a molecule.** Alison Hackett and Minister Micheál Martin with a 200 million times actual size model of a carbon nanotube.

What's it like to work at CERN? The DELPHI particle detector featured in "A day in the life of a particle physicist" career profile. >>>



For the future

The continued excellence of events and activities run professionally by the IOPI has meant that we are becoming the **first port of call for all matters relating to physics in Ireland**. With a current membership of 1762 (resident in Ireland or abroad), 2000 is a realistic membership target for the Institute through which it can strengthen and enhance the profile of physics. Our aim is to provide a strong forum for members, to underpin the excellent physics research and innovation that are currently growing in Ireland.

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