
ANNUAL REPORT

**Annual General Meeting
5 April 2009
Whites of Wexford, Wexford**



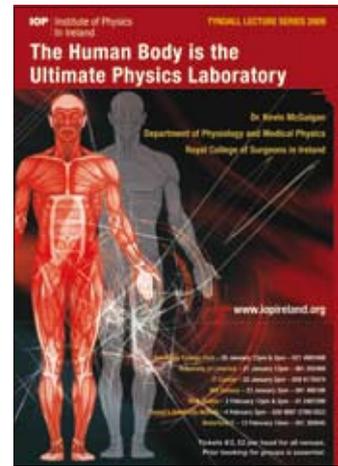
Physics at the heart of Irish science

The launch of the world's largest scientific experiment, CERN's Large Hadron Collider, in 2008 and the International Year of Astronomy this year were particularly welcomed by the Institute of Physics in Ireland as physics increases its visibility in the public domain. Our activities and influence continue to grow, with more than 2000 members in Ireland due to the inclusion of hundreds of new students who have taken up free electronic membership of the Institute.



<<< Getting down to business.
Dr Hermann Hauser focuses on the key elements for start-up companies during his Spring Weekend Meeting lecture.

Tyndall Lecture.
Dr Kevin McGuigan's fascinating talk entertained 1500 Irish students during the lecture series tour. >>>



<<< Intersvarsity Physics Quiz.
Alison Hackett (left) with the winning team from University College Cork.

Scicast Physics.
The St Joseph's College Lucan team, which reached a shortlist of 5 from 90 entries, pictured with their teacher, Declan Doherty. >>>



Annual activities and outreach

The **Spring Weekend Meeting** marks our “new year” and last March’s event, entitled “Is physics any of your business?”, was fortunate to have the highest calibre of speaker in Dr Hermann Hauser, venture capitalist from Amadeus Capital Partners Ltd and one-time physicist. Both inspirational and realistic, he looked at the essential elements required for any start-up company, from initial concept through to end-product, while emphasising that venture capitalists seek to fund not just the right product but also the right team.

Two Irish entries were nominated last year to attend the Hollywood-style red-carpet awards ceremony of the inaugural **Planet SciCast** (www.planet-scicast.com/films.cfm) competition, which is sponsored by the National Endowment for Science Technology and the Arts and the Institute, among others. The competition involves making a science film of up to two-and-a-half minutes in length, which provides a powerful online video resource for the promotion and understanding of science.

In support of our young researchers, the Institute and the Irish Research Council for Science, Engineering and Technology selected three physicists: Shane Bergin (Trinity College Dublin), Jim O’Doherty (University of Limerick) and Iris Choi (University College Cork/Tyndall National Institute) to represent Ireland at the **58th Meeting of Nobel Laureates** in Lindau, Germany, where they met some of their heroes in lively round-table discussions and plenary sessions.

“Physics is taken for granted and often undervalued compared to its two ugly sisters – chemistry and biology” – provocative words from this year’s **Tyndall Lecture** speaker, Dr Kevin McGuigan, physicist from the Royal College of Surgeons in Ireland. This most entertaining lecture, entitled “The human body is the ultimate physics laboratory”, was presented to almost 1500 students throughout Ireland. We were also fortunate to be able to include Prof. Anton Zeilinger, winner of the Institute of Physics Isaac Newton medal in 2008, among the 10 speakers for our **annual lecture programme**.

The excitement of the hands-on activity at the Institute’s stand at the **BT Young Scientist and Technology Exhibition** thrills thousands, and this year was no exception, with more than 58 physics volunteers engaging with the public through spectacular demonstrations, such as a flame tube of burning sound waves, fibre-optic spectroscopy, high-temperature superconductors, fuel cells and laser optics. “Music strings: an investigation into the effect of temperature on pitch/frequency” by Sharon Howley from Scoil Mhuire Co Clare won the Institute’s special prize at the exhibition.

The inaugural Institute of Physics in Ireland (IOPI) and Nexus **Intersvarsity Physics Quiz**, held in February this year resulted in a closely fought contest. This saw the National University of Ireland, Galway battle it out in the final head-to-head showdown with University College Cork, who, in a last-question decider, became the first winners of the perpetual trophy. Teams of five entered from eight universities and institutes from across Ireland, making it a truly “all-Ireland” intersvarsity event.



<<< Scientists meet Nobel laureates.

Shane Bergin, Iris Choi, Prof. Douglas Osheroff (shared winner of the 1996 Nobel Prize in Physics, Stanford University, California, US) and Jim O'Doherty.

A day in the life.

A selection of IOPI popular science careers profiles supported by Discover Science and Engineering. >>>



External relations and policy

Throughout the year the Institute has focused on the uptake of science in Northern Ireland (NI). A high-level Key Insight Business Briefing (KIBB) was held in Belfast in May 2008 on the **NI Science, Technology, Engineering and Maths (STEM) Review**. This report, jointly commissioned by the Department of Employment and Learning, and the Department of Education, was chaired by well known physicist Dr Hugh Cormican, co-founder of Andor Technologies, who spoke at the Belfast KIBB. It aims to set a blueprint for increased uptake of science at all levels. The IOPI has contributed to it, particularly calling for the appointment of a government chief scientist for NI as a first step towards implementing the STEM agenda. The Institute is also working with business leaders through the Institute of Directors and the Confederation of British Industry to ensure that the momentum associated with the STEM review isn't lost.

As part of this drive there has been a series of **political meetings**, including those with Education Minister Cairiona Ruane, Minister for Employment and Learning Reg Epey, and a joint meeting of the three committees for Enterprise, Education and Employment, and Learning. Following on from this, a proposal has been put to the Department of Education in NI for matched funding to increase the number of **Teacher Network coordinators**.

Farther afield, the IOPI contributed to the UK consultation on "Putting science and engineering at the heart of government policy" and on STEMNET coordination in the devolved regions.

The annual **Heads of Physics Departments Meeting** also considered the question of numbers taking physics at third level. Prof. Ian Williams of Queen's University Belfast outlined measures that Queen's had put in place over the past four years to address the issue.

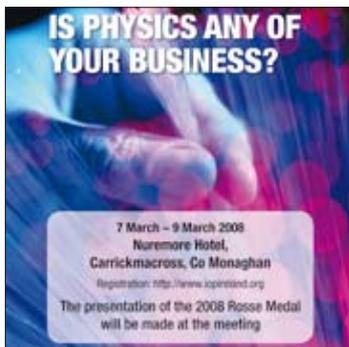
Institute representatives met with Dr Jimmy Devins, Minister for Science in the Republic of Ireland (ROI), in November 2008. The main thrust of the meeting was towards **enhanced research spending for physics**. Membership of CERN and the European Southern Observatory was discussed, although, in the current economic climate, there seemed little appetite for the costs involved. However, given the potential for industrial returns with both of these facilities, the case for Irish membership is still strong.

Links with industry and other partners

Discussions and meetings with **Discover Science and Engineering** secured €5000 for the development and reprint of the **"Day in the life"** careers profiles used by all of those who promote and teach physics in Ireland. The complete set of 23 profiles has proved extremely popular, even extending to many outside organisations linking to the online versions at www.iopireland.org/activity/careers/A_day_in_the_life/page_18953.html.

The Institute provided the initial impetus and significant input to Ireland's successful bid for **European City of Science 2012**.

There have been ongoing discussions and contacts with organisations such as the Association of Physical Scientists in Medicine, Engineers Ireland, Forfás, Google Ireland, the Institution of Engineering and Technology, the Irish Academy of Engineering, the Irish Universities Association, the Royal Irish Academy Astronomy Committee, the Royal Society of Chemistry, and Science Foundation Ireland, while internationally the IOPI has been represented at the **IUPAP General Committee meeting** and at the **European Physical Society**. Just some of the issues raised include Ireland's energy infrastructure, the supply pipeline for physicists, research funding for physics, and public engagement in science. With many bodies, both public and private, sharing a common agenda, it is clear that co-operation, particularly in government lobbying, is essential.



<<< **IOPI Spring Weekend Meeting.**
Last year's flyer captures the key theme of the event.

Frontiers of Physics.
The audience enjoys Rory Geoghegan's "Some of my favourites" presentation. >>>



<<< **Rosse medal.**
Judges discuss the poster competition at the IOPI Spring Weekend Meeting. The Rosse medal was awarded to John McClure from Queen's University Belfast.

Leaving Certificate silver award.
Paul Fitzgerald pictured with his teacher, Frank Cotter, receiving his silver medal from Dr Síle Nic Chormaic at University College Cork. >>>



Education

From working with the Second Level Support Service to reporting back to the Exams Commission, the Education Group is extremely active. This year the Institute was very sad to say "goodbye" to Vida Given, who retired from her excellent work as the **Teacher Network coordinator** for NI, but we warmly welcomed the two new coordinators: David Keenahan from Gonzaga College, who has joined Paul Nugent working in the ROI, and Sue McGrath, who has replaced Vida. Both have joined Paul in many activities, such as attending physics conferences, presenting workshops, and communicating and networking with teachers. One activity that had instant uptake was the design and implementation of a **new course** to support recently qualified and returning physics teachers at second level. Held at University College Dublin (UCD) the course placed the 24 mandatory Leaving Certificate experiments at the centre of the scheme and it explored the physics concepts at the core of the experiments.

Gear mechanisms from ancient Greece, searching for the essence of matter and observing supernovae remnants were just some of the topics discussed at **Frontiers of Physics** hosted by the School of Physics at UCD. Wendy Sadler from science made simple (<http://www.sciencemadesimple.co.uk>) held teachers from NI spellbound at the **35th Annual Conference for Physics Teachers** held at Queen's University Belfast with her wonderful science show, which incorporated a variety of demonstrations that have been developed for use in the classroom.

Institute silver medals were presented to the students who came first in the 2008 physics examinations at GCE A-level (Matthew Nicholl from Foyle and Londonderry College) and in the Leaving Certificate (Paul Fitzgerald from Christian Brothers College in Cork, James Long from the Crescent College Comprehensive in Limerick and Fionnuala Connolly from the Dominican College in Galway). The **Earnshaw medal** for the best undergraduate final-year project was awarded to Eoin Carley from the National University of Ireland, Maynooth, and the **Rosse medal** for postgraduate research was won by John McClure from Queen's University Belfast.

The **39th International Physics Olympiad** took place last July in Hanoi, Vietnam. The Irish team won honours with a bronze medal awarded to Mark Moriarty, and Alan Bloomer, Stephanie Hyland and Jonathan McKenzie received an Honourable Mention Award in this challenging competition.

For the future

The future for physics is without a doubt strong, but the Institute is fully aware of the support that physics departments need in these challenging times with all of the sciences competing for resources and students. The tremendous work of all of those involved in physics, from outreach through to research and development, forms the backbone of our society and it helps us to choose the pertinent areas on which to focus in the coming years.

Contact details

Institute of Physics in Ireland

c/o School of Physics, Science Centre North, University College Dublin, Belfield, Dublin 4
 Tel 01 7162216. Fax 01 2837275. E-mail alison.hackett@iop.org. Web www.iopireland.org.