



# PHYSICS IN IRELAND

The newsletter of the Institute of Physics in Ireland

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## Schools illustrate science in our life



Winning entries: primary school (top); secondary school (bottom).

A schools poster competition with the theme "Science in our life" was organized by the University of Limerick in association with the Institute of Physics in Ireland.

The competition, which had an entry deadline of 4 November, was open to both primary and secondary schools. Prizes were awarded to the best entries with an Einstein focus.

The primary school winner was class 6 of CBS School in Summerhill, Nenagh, Co. Tipperary. Transition year class 712 of St Colmans College, Fermoy, Co. Cork, was the secondary school winner.

The judges were Dr George McClelland, Department of Physics and Dr Peter Childs, Department of Chemical and Environmental Sciences, both from the University of Limerick.

## Celebrations for Einstein Year took place in Fermoy

In Fermoy, Co. Cork, a number of events took place to mark 2005 as Einstein Year. Fermoy, built on the River Blackwater, is located on the crossroads between the Rosslare to Killarney and Dublin to Cork routes. It is a small modern industrial town of approximately 5000 people.

In February an  $E = mc^2$  presentation was held in transition year class 711 in St Colman's College. The whole class participated in listening to an audio tape interview with the late Prof. E T S Walton of Trinity College Dublin, reading an article by Prof. William Reville of University College Cork, and working through numerical problem worksheets.

In March the An Post stamps of Einstein, Hamilton and World Year of Physics (see the May 2005 newsletter) were circulated in class 711, and the lives and work of Einstein and Hamilton were discussed.

In April an on-stage event highlighted geometries other than Euclidean, viz. flat and curved space-time and Riemann geometry. Two accomplished actor-students, Arlen Aherne and Brian Fenton, staged "The great escape" (how to remove one's waistcoat without removing one's jacket!) and "The return of Houdini" (a dramatic re-enactment of an escape from rope fetters/bondage).

During September a window display in the Fermoy Credit Union showed books, notes, cartoons, posters, apparatus



Brian Fenton (left) and Arlen Aherne demonstrate "The great escape" — how to remove someone's waistcoat without removing their jacket.



The Einstein Year display in the window of the Fermoy Credit Union.

(magnet, compass, mirrors, atomic lattice model, etc) and magazines, all with an Einstein link. The theme of the display, which ran for four weeks, was celebrating Einstein Year. This provided wide community exposure, as the Credit Union exhibition window is prominently visible in the centre of Fermoy.

In November an Einstein Year college competition was held in St Colmans College. Transition year students participated with essays, paintings, posters, poetry, sculptures, collages, puppets, etc. Adjudication was set for December. **David G Rea** St Colmans College, Fermoy

# Limerick experiences Einstein



Elizabeth King (left) and Sara Hannon from Scoil Carmel in Limerick play the stringless harp, which was provided by Analog Devices.



Siobhan Harty (left), Matthew O Meara and Jenny Critchley try to get their heads round a fibre-optic demonstration.

On 22–23 September, 800 students and 50 teachers from schools in the Munster region attended the “Einstein experience”, which was organized by the Department of Physics at the University of Limerick (UL) and Analog Devices.

George McClelland for the physics department and Bill Hunt for Analog Devices coordinated the event. The students were treated to

exciting lecture–demonstrations and were fascinated by interactive display stands set up by Analog and UL departments.

The lectures, entitled “Zoom out, zoom in” and “Quantum reality, a close encounter of the strange kind”, were jointly presented by Phil Samways and Vincent Casey from UL, and Ed Coyne and Patricia Horrigan from Analog Devices.

As well as the daytime events for schools, a lecture–demonstration entitled “Invention, intrigue, and the triumph of science”, presented by Martin Leahy of UL and Neil Rankin from Analog, was held during the evening and attended by members of the public and their families.

The “Einstein experience” was part of UL’s contribution to the celebration of 2005 as Einstein

and Hamilton Year. It also aimed to present modern physics and physics-based technology to a wide audience in an engaging and entertaining way.

College of science administrator Bernie Quilligan said: “The event was a great success and the feedback from students and teachers was extremely positive.”

**George McClelland** University of Limerick

## LAB IN A LORRY TOUR DATES

### 11–15 January

BT Young Scientist and Technology Exhibition, RDS Dublin

E-mail: henry.bacik@dkit.ie; tel: 042 9370266

### 16–20 January

Intel, Leixlip  
E-mail: rachel.dennedy@intel.com; tel: 01 6066754

### 13–15 February

Ballynahinch  
E-mail: JulieCor@aol.com; tel: 02897 563631

### 23–27 January

Dublin Institute of Technology  
E-mail: cathal.flynn@dit.ie; tel: 01 4024787

### 16–18 February

Lisburn  
E-mail: JulieCor@aol.com; tel: 02897 563631

### 30 January – 3 February

Dublin City University  
E-mail: grace.hickey@dcu.ie; tel: 01 7005063

### 20–25 February

Sligo Institute of Technology  
E-mail: fleming.paddy@itsligo.ie; tel: 071 9155256

### 6–7 February

Tallaght Institute of Technology  
E-mail: Aine.Allen@it-tallaght.ie; tel: 01 4042818

### 27 February – 3 March

Tralee Institute of Technology  
E-mail: john.treacy@ittralee.ie; tel: 066 7145600

### 8–10 February

Dundalk Institute of Technology

### 6–7 March

Intel, Shannon  
E-mail: noel.t.murphy@intel.com

### 8–10 March

Clonakilty Community College, Co. Cork  
E-mail: valynch56@hotmail.com; tel: 023 33877

### 13–16 March

Cork Institute of Technology  
E-mail: ebutler@cit.ie; tel: 021 4326636

### 20–24 March

Carlow Institute of Technology  
E-mail: norman.mcmillan@itcarlow.ie; tel: 059 9170554

### 25 March

Irish Science Teacher’s Association AGM  
Athlone Institute of Technology  
E-mail: sbdonnelly@eircom.net

### 27–31 March

University College Dublin  
E-mail: padraig.dunne@ucd.ie; tel: 01 7162224

## Dublin gets a new school of physics

As part of the University College Dublin’s new image, physics has had a makeover. It is now known as the UCD School of Physics and is part of the College of Engineering, Mathematical and Physical Sciences located in the Science Centre North.

As of 1 September the academic structure consists of 5 colleges and 35 schools. The new school of physics is being marked by the publication of a lively newsletter called *Fizz*. The contents will include brief information about research groups and developments in the school, campus companies, seminars, “Did you know?” and the Fizz quiz. In the first issue the Fizz quiz question is: “In which 1985 Nicholas Roeg film did Marilyn Monroe explain relativity to Albert Einstein?”

The newsletter can be found at <http://www.ucd.ie/physics/fizz.htm>.

# Ireland wins prestigious award

The Irish Science on Stage delegation was awarded an EIROforum Science Teaching Award for their outstanding presentation of “Teaching science as a process” at the European Science Teaching Festival in CERN, Geneva, which was held on 21–25 November 2005. The EFDA award was given to the Irish team in recognition of “teaching excellence, inspiration and motivation of young people in a contribution to the Science on Stage festival”.

The Irish team of nine delegates was led by Dr Eilish McLoughlin from the physics department at Dublin City University and included two Institute teacher network coordinators – Paul Nugent from Dublin and Siobhan Crowe from Wicklow; vice-chairman of ISTA, Seamus O’Donghaile from Roscommon; Alison Graham from Dublin; Sean Fogarty from Wexford; Rachel Linney from Kildare; Damien Letmon from Dublin; and second level support service physics coordinator, Tim Regan from Kerry. These enthusiastic science teachers were selected as national delegates for their excellence in teaching and motivating young people in science. The them “Teaching science as a process” was initiated by team member Alison Graham. The UK Science on Stage team included the third Irish Institute teacher network coordinator, Vida Given, who is based in Northern Ireland.

Science on Stage is organized by the seven intergovernmental European research organizations within the EIROforum partnership (a collaboration



*The Irish Science on Stage delegation (left to right): Sean Fogarty, Seamus O’Donghaile, Siobhan Crowe, Rachel Linney, Eilish McLoughlin, Alison Graham, Damien Letmon, Paul Nugent and Tim Regan.*

between CERN, ESA, ESO, EMBL, ESRF, ILL and EFDA). The festival is an integral part of the EIROforum European Science Teachers’ Initiative (ESTI), supported by the European Commission in the context of the new NUCLEUS project for science education.

The festival aims to strengthen the awareness and interest of young people in science and technology, and to foster a renewal of science teaching in Europe, by encouraging the exchange of new concepts and best practices among teachers from all over the continent. It follows on from the success of the three editions of the Physics on Stage programme 2000–2003.

Science on Stage was the final event of a two-year-long programme of events in 29

participating countries and brought together around 500 science educators. More information can be found on the Irish Science on Stage website at <http://ireland.iop.org/sos/> and via the links provided there.

Each day of the festival had its specific topic, around which presentations, demonstrations and workshops were themed. The topics were Einstein Day; Sustainability Day (e.g. environment, climatology, oceanography, energy); Space and Astronomy Day; Life Sciences Day (e.g. health, biotechnology, genetics); and Science and Technology in Society Day.

“At the festival, teachers have the chance to view things from a new perspective, to be entertained and enchanted by science,” said Rolf Landua, head of education at CERN and

chairman of the event. “As well as taking to the stage, they set up stalls in fair-like surroundings to share their most successful teaching tricks.”

EIROforum, Discover Science and Engineering, the Institute of Physics in Ireland and the Department of Education and Science through the Second Level Support Service provided the support for the Irish Science on Stage delegation. The team plans to publish a compilation of the best of the demonstrations and teaching ideas from the festival, which will be distributed to all Irish science teachers. This will be the third in the series and will also be downloadable from <http://ireland.iop.org/sos/>. A series of workshops based on demonstrations from Science on Stage will also be presented nationwide over the coming year.

## NASA scientist delivers a fascinating lecture on the wonders of the Sun

As part of Science Week, 500 school students attended an excellent lecture at the RDS in Dublin entitled “Our beautiful Sun – a neighbour from hell!”. The talk was presented by Dr Peter Gallagher who is a lecturer in space science at University College Dublin and senior scientist at NASA Goddard

Space Flight Center.

This wonderfully clear and fascinating lecture described how the Sun – normally a quiet star of great natural beauty – can sometimes unleash violent solar storms. When storms occur, massive explosions in the Sun’s atmosphere unleash huge clouds of hot gas into

interplanetary space.

Occasionally these storms come hurtling towards the Earth at millions of kilometres per hour to produce spectacular auroral displays, cause havoc for radio communication and expose astronauts to lethal doses of radiation.

This viewer is definitely

hooked and has enthused her extended family about the wonders of solar physics.

For anyone who would like to find out more information or to see real-time pictures of the Sun from several NASA and ESA spacecraft, visit the website at [www.SolarMonitor.org](http://www.SolarMonitor.org).

**Alison Hackett**

# University of Limerick hosts

Frontiers of Physics took place at the University of Limerick (UL) on 24 of September 2005, hosted by Dr George McClelland and the Department of Physics. Many teachers, mainly from the Munster region, were in attendance and all were highly satisfied with the programme.

The day commenced at 9.30 a.m. with a welcoming speech by Dr Eric Finch, the chairman of the National Commission for the Teaching of Physics and the Institute of Physics in Ireland Educational Subgroup. Finch welcomed all physics teachers present and commented on their dedication to the teaching profession. He thanked both the University of Limerick and McClelland for the great work and effort that they contributed to Frontiers of Physics throughout 2005. He highlighted what an important year 2005 has been for Physics and introduced Prof. Siddhartha Sen, who spoke on the life of Hamilton.

Sen gave an interesting talk on William Rowan Hamilton, the content of which was appropriate to the audience. He spoke on his life in Dublin and his contribution to physics. His speech also highlighted the importance of informing second-level students about the huge

contribution that this Irish scientist has given to the world of physics and science. The teachers present found this talk very interesting as some were not aware of Hamilton's work.

Before the break, Finch and Sen individually promoted two different books with a friendly banter in relation to their prices. The books were:

- *Perplexingly Easy: Selected Correspondence between William Rowan Hamilton and Peter Guthrie Tait*, edited by David R Wilkins, Trinity College Dublin Press;
- *Ernest Walton: an Irish Scientist*, by Vincent McBrierty, Trinity College Dublin Press.

Both were available for purchase during the coffee break and can be ordered from the School of Physics at TCD (tel: 01 608 1675).

The teachers present were provided with a large number of resources from the Institute of Physics stand and the University of Limerick. These included a new series of handouts produced by the Institute in Ireland called *A Day in The Life of...* (see <http://ireland.iop.org/careers.html>). They were received by the teachers present with great enthusiasm. It was a useful resource that will be used in future transition year physics

classes in schools around Ireland.

After the coffee break, the teachers were divided into two groups to attend different workshops. One hopped onboard the "Lab in a Lorry" and experienced the mobile science lab that aims to develop enthusiasm for science within students and help to generate the next generation of scientists and engineers. The teachers were not asked to participate in investigations but two competent students from the university demonstrated the great experience that students gain when they go onboard.

Teachers were informed that the lab is free and is visiting schools, festivals and other public venues across Ireland (see Lab in a Lorry tour dates on p2). The experiments demonstrated included the resonating wine glass, scattering, and the Hele-Shaw cell, which explores tribology and lubrication theory by using glycerine between two perspex sheets. These experiments left teachers with plenty of ideas to use in their own, immobile, laboratories.

The rest of the teachers spent their time with Ian Lawrence at a workshop to introduce teachers to SPT 11-14, a new teaching



Dr Eric Finch and Prof. Siddhartha Sen in debate

resource for non-specialist physics teachers. SPT 11-14 is an initiative to support teachers who teach physics to junior certificate science students. It has been designed by teachers for teachers, to help them to gain a better understanding of physics, to allow them to experience physics for themselves, and to develop greater confidence in their teaching of physics.

Lawrence introduced teachers to the principles of the resource and they were given the

## Young Physicists' Conference 2005 comes to Ireland

For the first time the Institute's annual Young Physicists' Conference came to Ireland on 25-27 November. About 90 students and recent graduates from all over Ireland and Britain met for a weekend based at Trinity College Dublin.

The current issue of *Interactions* carries a full report on the large range of activities, which included four guest lectures, student poster and lecture competitions, skills workshops, careers advice, a debate and a visit to Newgrange. The lectures were:

- "A special welcome from



Prof. Denis Weaire, Trinity College Dublin, as Prof. Fitzgerald presenting the opening lecture.

- G F FitzGerald" by Prof. Denis Weaire (TCD);
- "Hamilton, Lloyd and conical refraction" by Prof. James Lunney (TCD);
- "Physics of beer" by Prof. Bill Graham (Queen's University, Belfast);
- "Rock guitar in 11 dimensions:



Dr Stefan Hutzler (centre) leads physicists in the Irish music session

strats, strads and superstrings" by Dr Mark Lewney (Channel 4 *Fame Lab* winner).

There was a packed social schedule, with two dinners; a reception hosted by the Department of Education and Science, which was attended by former Taoiseach Dr Garret

FitzGerald; and a traditional Irish music session provided by various multitasking physicists. The weekend was most successful thanks to the hard work of Sarah Connolly and her team, who came over from Portland Place for the occasion. **Eric Finch** Trinity College Dublin

# Frontiers of Physics 2005



Prof. Siddhartha at Frontiers in Physics (left) and Prof. Siddhartha experiments in the Lab in a Lorry (right). Photo: Sean Curtis, Press 22.



opportunity to use essential features of the package – a set of CD-ROMs. All teachers were highly impressed with the CDs and could see them as a helpful resource in aiding the numbers of physics students in second-level schools. At this stage it was aptly agreed that the individuals present would need to be refuelled with lunch in preparation for the second half of their day.

In the afternoon a number of short talks were given, informing teachers of other

useful resources that are currently available, or will be in the future.

Prof. Niall Smith from Cork Institute of Technology gave an interesting presentation about the work that Cork IT is doing in conjunction with Blackrock Castle in producing and organizing the Blackrock Castle Observatory. He also highlighted the useful educational activities that are going to be run at the observatory.

Robert Hill from Armagh Planetarium gave a lively

presentation on the Faulkes telescope and the website [www.faulkes-telescope.com](http://www.faulkes-telescope.com). He showed how useful this website could be in introducing astronomy to Irish students. He announced unofficially that teachers will now be able to book time on the telescopes free of charge and take images from outer space under certain criteria.

The final talk was given jointly by the Institute of Physics teacher network coordinator Paul Nugent and Dr Jen Harvey

from DIT Life Long Learning on the website [www.starphysics.dit.ie](http://www.starphysics.dit.ie). The audience was informed that STAR Physics is a resource for all physics teachers, developed by physics teachers. The site reviews a number of physics resources that are available on the Internet according to a star rating. If a site receives five stars it means that the website is considered to be top of the class. The group is currently exploring ways to take the project further and asked delegates present for feedback via a questionnaire.

Following this the teachers reformed into their groups and attended the workshop that they had missed in the morning.

The day came to an end with delegates leaving tired and excited about the new ideas that they had developed over the course of the day.

This year's Frontiers of Physics was another great success, following on from Dublin City University. The next event will be organized at Dublin Institute of Technology. It is due to take place in September 2006 and we would like to wish the organizers every success in its planning and execution.

**Siobhan Crowe** Institute of Physics teacher network coordinator

## Two professors from Trinity College Dublin receive RIA Gold Medals

Prof. Michael Coey (School of Physics, Trinity College Dublin) has been awarded the RIA Gold Medal in the Physical and Mathematical Sciences. A professor of experimental physics and SFI researcher, Coey is a world-leading expert in magnetism and magnetic materials (see the September 2005 newsletter). He is ranked 309th in a list of the 1100 most cited physicists in the world.

In a ceremony held on 2 November, president Mary McAleese presented the two inaugural Royal Irish Academy (RIA) Gold Medals.

The RIA Gold Medal in Humanities went to Prof. John Dillon, also from Trinity College. He is a leading authority in classical philosophy after Plato. The RIA has established six gold medals to acclaim Ireland's leading scholars in the humanities, social sciences, physical and mathematical sciences, life sciences, engineering sciences and environment and geosciences.

The medals are awarded by the RIA and sponsored by the Higher Education Authority and the Irish *Independent*.



Royal Irish Academy gold medalist Prof. Michael Coey being presented with his medal by president Mary McAleese.

## Discover exciting inside story online

Have you ever wondered what happens to your brain when you fall in love, or questioned how a tumour is treated, or imagined what it looks like inside a bottom?

Discover the answers to these bodily questions with the fantastic new multimedia website, [www.insidestory.iop.org](http://www.insidestory.iop.org), from the Institute of Physics and the Medical Research Council, which has been developed as part of Einstein Year.

You can complete a series of tasks, solve puzzles and play games to discover how physics is being used to find out about the human body.

# Physics meets medicine in Athlone

Cutting-edge Irish research in physics is contributing strongly to developments in the country's medical devices sector. This was most apparent during a recent one-day conference organized jointly by the Institute of Physics in Ireland and the Irish Medical Devices Association (IMDA) called Where Physics Meets Medicine. The event in Athlone on 13 October profiled some of the most innovative research in Ireland and brought together both academics and the business community in this area.

According to the IMDA the sector is considered to be a cornerstone of the Irish economy with 130 companies involved in developing, manufacturing and marketing a diverse range of products from disposable plastic and wound-care products to precision metal implants, including pacemakers, microelectronic devices, orthopaedic implants, diagnostics, contact lenses and stents. In fact, 15 of the world's top 25 companies have manufacturing plants in Ireland, employing more than 22 000 staff, many with high-level skills, as evidenced by the fact that 40% have third-level qualifications. In



Left to right: Dr Neil O'Hare, medical physicist, St James' Hospital Dublin, Prof. Chris Dainty, NUI Galway and Prof. Jim McLaughlin, UUU, who presented talks at the Institute of Physics/Irish Medical Devices Association meeting "Where Physics Meets Medicine", held in October.

addition, almost 60% of the companies in Ireland are involved in R&D.

Prof. James McLaughlin, director of the Nanotechnology Research Institute at the University of Ulster, reviewed the current status of nano-based materials that are being applied to medical device solutions in areas such as drug-delivery systems, sensors and implant therapeutic aids. Outlining the wide range of applications of high-power lasers in medical device manufacturing, Prof. Thomas McGlynn of the National

Centre for Laser Applications at NUI Galway discussed a number of case-studies where the centre had found highly innovative solutions to specific industry problems.

Dr Neil O'Hare of the Medical Physics and Bioengineering Department of St James' Hospital commented that the major issue for medical physics in the hospital setting is its ability to contribute at the required level in the areas of technical and scientific innovation and product development. He said that to do

this would require greater links with academia and the medical devices sector. Such links were emphasized by Dr Hugh Cormican of Andor Technologies, who outlined ongoing research at Belfast's Royal Victoria Hospital into macular degeneration in the eye, which utilized the company's latest electron multiplying CCD.

Vision science was also highlighted by Prof. Chris Dainty of the Applied Optics Group in NUI Galway. He speculated that the adaptive optics systems of the largest ground-based astronomical telescopes could be used to enhance retinal imaging if the costs of the systems could be reduced.

Feedback from the 40 or so participants was highly positive and it is likely that further cross-business/academic meetings will be held. The event was supported by BioMedIreland, an all-island health and biotechnology business network, and by the Atlantic Lasers and Optics Forum, a cluster of companies using lasers and advanced optics in their products and processes. **Sheila Gilheany** Institute policy officer

## Students perform experiments in microgravity

Four theoretical physics undergraduate students from Trinity College Dublin have returned from Bordeaux having completed a physics experiment in zero gravity with the European Space Agency (ESA) in July. David Barrett, Mathew Dolan, Seán Kelly and E J Daly are the first Irish team to be selected by ESA, which gives 30 student teams from Europe and Canada the opportunity to experiment in zero gravity. The students' research experiment was chosen from more than 90 proposals submitted to ESA for selection.

The group flew in a 30-year-old Boeing Airbus A300 prototype, which performed a parabolic manoeuvre. This involves pulling the plane up to

a 47° angle at maximum speed before free-falling from the sky through 4000 ft. During this drop there is a 20 s period of weightlessness onboard, allowing the students to perform their experiments, which are the first microgravity experiments of their kind. This period of weightlessness is repeated 30 times per flight.

The students formed a soap film in a cubic wire frame and injected liquid into the Plateau borders (film intersections) during microgravity. This allowed them to observe the transition from a dry film configuration to a wet configuration. The research is the continuation of wire frame experiments conducted by Belgian physicist Plateau in the 1840s. These were recently extended by the Foams Group in TCD, which looked at the structural changes in these dry soap films with wetting. The students' results were recorded



Students David Barrett, Mathew Dolan, Seán Kelly and E J Daly in front of the Airbus A300 in which they performed their zero-gravity experiments.

on video camera by observing the soap film under gravity, zero gravity and its reaction with wetting.

The students are studying wet soap films as part of a wider programme of foam physics research. Wet foams are not well understood because they are nearly impossible to study under gravity because of gravity-driven drainage of liquid

between the bubbles. Wet foams are important in the materials industry – metallic wet foams have a high strength-to-mass ratio – 10 times greater than steel.

For further details of the experiments, a diary of the students, experiences, results, and further photos, visit <http://www.maths.tcd.ie/~dbarr ett/Microgravity/Home.htm>.

# Irish student receives award at IPhO in Spain



Dr Eilish McLoughlin, Alix Murphy, Ady Abdelhaq, Marie-Therese Hall, Geoffrey Shiel, Nina Hanzlikova and David G Rea at the 36th International Physics Olympiad in Salamanca, Spain, last July.

The 36th International Physics Olympiad took place in July in the historic city of Salamanca in Spain. Ady Abdelhaq from Clonmel is to be congratulated on being awarded an honourable mention in this challenging competition.

Around 80 national teams from countries all over the world took part in the IPhO event. Ireland's participation began in 1998 in Reykjavik, Iceland. This competition is for secondary-school physics students and, since it began in Warsaw in 1967, has been held in a different country each year. Each national team consisted of five students who were trained and supported by two leaders. The competition takes the form of a 5 h theoretical exam involving three physics problems and a 5 h experimental exam consisting of either one or two tasks.

The beautiful golden city of Salamanca is one of the glories of Spain, where the ancient buildings of yellow stone turn orange and then red in the evening sun (can one ever get away from Rayleigh scattering?). Situated on the River Tormes, overlooked by the twin cathedrals side by side, the university, churches, monasteries, convents and the palaces all stand in Parthenon-coloured stone. Nor has the rain of centuries obliterated from these golden walls the handiwork of students in the Middle Ages, who, when they had taken their degrees, also took a ladder and inscribed their names in red ochre on the walls of their lodgings.

It was in this exotic setting that the Irish students competed with around 350 world-class young physicists. On the Irish team were Marie-Therese Hall (Derry), Nina Hanzlikova (Athlone), Geoffrey Shiel (Dublin), Alix Murphy (Newry) and Ady Abdelhaq (Clonmel).

The questions this year focused on the orbital variations of an ill-fated satellite subjected to an engine thrust in a radial direction. This was followed by three case-studies of work done by Kelvin, Rayleigh and Sidgwick between 1861 and 1912 to settle the values of the ohm and the ampere and measurement of the absolute values of these electrical quantities. A 2002 article from *Nature* on quantum states of neutrons in the Earth's gravitational field formed the basis for theoretical Q3. The laboratory task involved the determination of the value of Planck's constant using a filament lamp, a light-dependent resistor and a liquid dye optical filter. The questions were, as always, challenging but also interesting and stimulating for the students.

Residential training took place in DCU during the spring and early summer, directed by Eilish McLoughlin and David Rea, and assisted by staff from the School of Physics. Practice in problem-solving took place by e-mail. The Institute of Physics in Ireland is pleased to have supported the students and congratulates all involved in this national success in physics.

David G Rea

## SPRING WEEKEND MEETING

The 35th Annual Spring Weekend Meeting of the Institute of Physics in Ireland, will be held on 31 March – 2 April 2006 in the Great Northern Hotel, Bundoran, Co. Donegal. The topic will be physics education – a new wave.

The meeting is a social and scientific event and will include the Institute of Physics in Ireland Annual General Meeting. The full programme and AGM agenda will be mailed to branch members with the February issue of *Physics World*. It will also be posted on the website at <http://ireland.iop.org/weekend.html>. A book of abstracts, containing summaries of all lectures and posters, will be made available at the conference.

### Lectures

There will be three sessions, as follows:

- activity-based learning;
- enlivening physics in school;
- broadening the picture: community and industry.

### Posters

Students and postdoctoral researchers are invited to submit posters on any topic in physics. All contributors are asked to e-mail an abstract of a maximum of 200 words in Microsoft Word or PDF format to Sheila.Gilheany@dcu.ie. The deadline for the receipt of abstracts is 10 March 2006.

### Registration

Delegates are encouraged to register online at <http://ireland.iop.org/weekend.html> or to contact Sheila Gilheany to

arrange for a form to be posted to them. The conference fee is €40 for Institute members and €50 for non-members. Students bringing posters will not be charged for the conference dinner or registration.

### Accommodation

The conference venue is the Great Northern Hotel, Bundoran, Co. Donegal (<http://www.greatnorthernhotel.com>) which is four star and has an 18-hole golf course and leisure centre. Delegates are requested to make their own reservations for accommodation.

The Great Northern Hotel rate for the weekend of 31 March and 1 April is €140 for each person sharing, and this price includes breakfast. Delegates wishing to stay there should make their own reservations by contacting the hotel direct, and remembering to quote the Institute of Physics in Ireland Spring Weekend (e-mail: [reservations@greatnorthernhotel.com](mailto:reservations@greatnorthernhotel.com); tel: +353 71 984 1204).

Delegates wishing to find alternative accommodation can obtain further information from the website at <http://www.donegaldirect.com/>.

For more information about the Spring Weekend Meeting, contact Sheila Gilheany, Institute of Physics in Ireland, School of Physical Sciences, Dublin City University, Dublin 9 (tel: +353 1 700 7789; e-mail: [Sheila.Gilheany@dcu.ie](mailto:Sheila.Gilheany@dcu.ie)).

**NB: This year the weekend will not be held on the traditional weekend before Easter.**

## Physics graduate wins Rose festival

To the delight of all physicists in Ireland, even the Rose of Tralee festival appears to acknowledge the World Year of Physics.

This year's winner of the festival (<http://roseoftralee.ie>) is the Rose of Mayo, Aoibhinn Ní Shúilleabháin, who recently graduated from University College Dublin with a first class honours degree in theoretical physics. However, since Ireland also celebrates Hamilton Year,

it's more than appropriate that a second physics graduate was among the finalists. The Rose of Kildare, Gillian Doyle, graduated in experimental physics, also from University College Dublin.

Both Roses want to take up postgraduate studies in biophysics and the Institute of Physics in Ireland wishes them all the best for the future. **Stefan Hutzler**, Trinity College Dublin

# Trinity College Dublin hosts award of honorary degrees to Earl of Rosse and Lord Alec Broers

Brendan Parsons, the seventh Earl of Rosse, and Lord Alec Broers were among five recipients of an honorary degree at Trinity College Dublin on 5 September. The special commencements ceremony marked the British Association Festival of Science, which was being hosted by the college.

A former chancellor of the university, Lord Parsons, was conferred with a Doctor in

Letters, LL.D. He has nurtured a notable resurgence in public interest in astronomy in Ireland, particularly with regard to the giant telescope situated on the grounds of Birr Castle, Co. Offaly, which was designed by his great-great-grandfather, the third Earl of Rosse. Lord Parsons served with the United Nations from 1963 to 1980, including an appointment as UN disaster relief coordinator in Bangladesh.

He was also an adviser to the government on development cooperation.

Lord Alec Broers, FRSScD, is president of the Royal Academy of Engineering and was vice-chancellor of the University of Cambridge from 1996 to 2003. He spent 20 years in research with IBM at the Thomas J Watson Research Center in New York, US, the East Fishkill Development Laboratory and at corporate

headquarters. On his return to Cambridge, Broers established a nanofabrication laboratory to extend the technology of miniaturization to the atomic scale. He also developed his research into using electrons, X-rays and ultraviolet light in microscopy and on making microelectronic components. He was knighted for services to education in 1998 and was created a life peer in 2004.

## Poetry and physics come together

Associate professor Iggy McGovern (School of Physics, Trinity College Dublin) recently celebrated the publication of his first collection of poems, *The King of Suburbia*, published by Dedalus Press. His poetry has been widely published in anthologies and journals in Ireland and abroad, as well as in the popular "Poetry in Motion" series on trains in the Dublin suburban rail system (DART).

Well-known for his witty, playful and emotionally engaging poems, McGovern is the recipient of the McCrae Literary Award and the Hennessy Literary Award for poetry.

*The King of Suburbia* can be ordered online from <http://www.dedaluspress.com/poets/mcgovern.html> or from Books Upstairs (36 College Green, Dublin) for €10. Three of



*Prof. Iggy McGovern reading a poem from The King of Suburbia at the book launch which was held 9 November in the Douglas Hyde Gallery, Trinity College Dublin.*

McGovern's poems can also be read on the Dedalus Press website at <http://www.dedaluspress.com/samples/mcgobern-poems.html>.

## Transition Year Physics Experience generates an enthusiastic response

The School of Physics at Trinity College Dublin has launched a new initiative to concentrate the minds of transition-year students on life in a research-led physics environment. The idea of the programme is to offer transition-year students the opportunity to experience what it is like to be a physicist by giving them the opportunity to spend a whole week in Trinity's School of Physics.

The first Transition Year Physics Experience (TYPE) event was a resounding success with a very attractive, student-friendly programme that filled the week with lots of activities. The event took place on 21–25 November and gathered 30 students from five different schools in Dublin.

During the week the students

attended introductory lectures, took part in experimental work in different teaching and research labs and were assigned short research projects. They also had the opportunity to brush up on their computational skills by spending a few hours every day in the school's computer labs. Their science communication skills were given an opportunity to shine when they gave presentations on their assigned research topics.

The TYPE programme was created by Prof. Eithne McCabe, director of teaching and learning for the School of Physics. It was heavily over-subscribed due to the enthusiastic response from many teachers and schools and it is set to become a regular feature in the school's calendar.

**The deadline for your contributions to the May 2006 issue of this newsletter is:**

**Friday 31 March 2006**

**Please e-mail your materials to [Peter.vanderBurgt@nuim.ie](mailto:Peter.vanderBurgt@nuim.ie)**

**NB: digital photographs should be submitted as separate files and should at the very least be 1024 × 768 pixels.**

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The Institute of Physics,  
76 Portland Place,  
London W1B 1NT, UK.  
Tel: 020 7470 4800.  
Fax: 020 7470 4848.