

World Year of Physics Report

IRELAND

23 Jan 2006

In Ireland the World Year of Physics was mainly co-ordinated by the Irish branch of the Institute of Physics and was celebrated as Einstein Year. During the year many of the events and activities that were organized or initiated by the Institute of Physics headquarters in London, were also presented in Ireland.

In Ireland the 2005 World Year of Physics coincided with 'Hamilton Year celebrating Irish Science' which marked the bicentenary of the birth of the famous Irish mathematician William Rowan Hamilton in 1805. The Hamilton aspects of the year were mainly coordinated by the Royal Irish Academy (RIA).

*** Which structure (national committee, etc.) has been implemented for WYP**

The Institute of Physics in Ireland had an active committee working on the Einstein Year programme for the year.

A joint steering committee to celebrate both years, called Science 2005, was also established with both RIA and IoP representation and a coordinator was hired for the year.

*** Which funding did you get (amount, origin - government, industry...), and the various types of sponsoring**

The IOP in Ireland received €18,000 funding from IOP headquarters to promote WYP.

The joint RIA/IoP Science 2005 programme received €100,000 from Discover Science and Engineering, the Irish Government's umbrella body for promoting public interest in science. This amount included the funding to pay for the joint co-ordinator.

*** The activities and their *success*: exhibits, actions in schools, physics outreach, open doors in universities, interactive experiments, etc.**

Activities included competitions, lectures, seminars, plays, art, exhibitions, debates, experiments, demonstrations, poetry, radio, television, cartoons, sports, radar, robots, lectures, comedy, museum exhibits, astronomy, medical physics, a human equation, computer games, web sites and more. From the education sector to the public arena, from young to old, from north to south and from local to international – there was a wealth of outreach activities highlighting physics, science and our scientific heritage in Ireland. The 2005 Einstein and Hamilton events provided the most comprehensive span of science outreach events that has ever been presented in Ireland.

World Year of Physics events

Esat BT Young Scientist and Technology Exhibition 13-15 Jan, including the premiere of the specially written play '*Albert Einstein meets Dr Who*'.

Historic display of Scientific Instruments made in Ireland, including the Coelostat which was first used by astronomers in the expedition to Brazil in 1919 providing the first confirmation of Einstein's theory of relativity. On display at the IOP stand and with hands on interactive exhibits. Attendance: **35,000** at the overall exhibition and **2,500** Attendance at the play. Einstein Year poster competition for primary schools included. **25** entries.

Tyndall Lecture for Schools Inside Einstein's Universe Dr Simon Steele Harvard Smithsonian Centre for Astrophysics 25 Jan-2 Feb at Carlow IT, Waterford IT, University College Cork, NUI Galway, RDS, Queens University Belfast Attendance: **2000**

Paperclip Physics branch final 8th Feb UCD Physics demonstration competition for school students using items from the home to explain physics to a non scientist. 43 teams consisting of **176** students participated.

Tick, Tick, Tick Pulsating Star, How We Wonder What You Are lecture by Prof Jocelyn Bell, 14-17 Feb University of Limerick, University College Dublin, Queens University Belfast and Dublin City University. Attendance: **500**

The Life of Galileo by Bertolt Brecht produced by Rough Magic at the Project Arts Centre, Dublin 17 Feb – 5 march Attendance: **2,700**

'And yet it moves': a pre-show talk on Galileo and his legacy in association with 'The Life of Galileo'. Prof Iggy McGovern, Dr Michael John Gorman and Dr Ian Elliott presented discussion. Attendance: **150**

'Science Friction: a panel discussion on science, politics and the state' in association with 'The Life of Galileo'. Panel included: Attendance: **150**

Inside Einstein's Universe Tyndall Lecture for schools. 25 Jan-2 Feb Carlow IT, Waterford IT, University College Cork, NUI Galway, RDS, Queens University Belfast. Attendance: **2000**

Café Scientifique 'Physics through Pictures', 14 March Professor Sir Michael Berry, University of Bristol, Cafe Glucksman, Lewis Glucksman Gallery, University College Cork. Attendance: **100**

An Post issued three stamps on 14 march: 48c (William Rowan Hamilton) 60c (International Year of Physics); 65c (Albert Einstein) available at all post offices, first issued on 14 March, Einstein's birthday. An Post distributed **42,000** leaflets with the information on World Year of Physics, Einstein and Hamilton.

Einstein Show 12 - 18 March 2005, W5 interactive Science Centre, Belfast where you can 'hop onboard the light beam of knowledge as we discover his amazing theories about light, time and gravity which made him one of the greatest scientists of all time'

Celebrating Einstein and Hamilton IoP in Ireland annual conference Newbridge Co Kildare. Bose-Einstein Condensation and Relativity; Optics and Spectroscopy; Hamilton / Computational Physics. Attendance: **100**

Irish Science Teachers Association Meeting AGM Carlow Institute of Technology. 8th to 10th Apr. Gerald Fleming of Met Éireann was the keynote speaker and presented 'The most important forecast of the century: will our climate change?' Lecture on 'Einstein's Relativity and Modern Physics' by Dr. Emil Prodonov, Dept of Physics, Dublin City University also presented. Attendance: **270** conference **20** at Einstein lecture

'Albert Einstein - his life and times' 11 April Institute of Physics in Ireland in association with Astronomy Ireland, lecture by Professor Petros Florides of TCD. Attendance: **200**

'Einstein's Century of Physics' Thursday 19 May 2005 lecture Dr Raymond O'Neill, National University of Ireland Maynooth. Attendance: **25**

A production of 'Calculus' by Professor Carl Djerassi First staged reading of new play by Djerassi at Trinity College, Dublin University, School of Physics. Dublin 17, 19, 20 May. Set in 1712, it tells the story of how Sir Isaac Newton set out to defend his claim to have invented the calculus against that of Gottfried Leibniz. Attendance: **600**

Soap Opera by Tim Durham Art meets physics exhibition: First floor gallery, Draíocht 26 May-2July This exhibition was supplemented with demonstrations and information on soap films and bubbles by Dr Stefan Hutzler, Physics Dept Trinity College, Dublin University. Exhibition also presented at Trinity College Dublin during BA festival.

Lab in a Lorry Northern Ireland tour <http://www.labinalorry.org.uk/> Touring mobile interactive Lorry with Physics demonstrations for young students (11-14 years). **4000** students participated

11 - 13 May Balmoral Show Sentinus,
14 May Ulster Air Show, Newtownards Sentinus
21 May Northwest 200, Coleraine
28 - 29 May National Country Sports Fair,
3-4 June Ballymoney Agricultural Show
11 - 12 June Irish Country Lifestyles Festival, Shanes
16 - 17 June ECOS Centre, Ballymena Alastair Walker
18 - 19 June Greenmount Country Show, Antrim
23 June Young Innovators Exhibition, Odyssey Arena, Belfast Sentinus
24 - 26 June Corporate Games, Belfast

Save the Robots at the Ark, Temple Bar Dublin 22June - 30 Sept
Festival, Exhibition, Workshops www.robots.ie

Physics and sports 9 June

Kit Kat All-Ireland Track & Field Championships at Tullamore A physics, radar and sports demonstration stand was set up at the Harriers Stadium, Tullamore on June 4th Saturday 9am - 6pm. Very successful event where postgraduate students from University College Dublin demonstrated the basics of radar and recorded the speeds of various struck objects. Thousands of speeds were recorded over an 8 hour period and explanations of how radar works was given by the demonstrators. Attendance: **1000**

'Einstein and the Nobel Prize' public lecture DCU 3 Aug

Public Lecture by Anders Barany (Stockholm) the senior curator of the Nobel Museum. Part of 37th European Group for Atomic Spectroscopy (EGAS) conference (www.egas37.org). Attendance: **200**

BA festival 3-12 Sept Trinity College Dublin Dublin

Lab in a Lorry; Lectures/presentations included Kung Fu Physics, The Legacy of Hamilton, The top spin of a quark: a puzzle?, Dublin and the new physics; Why we should love the photon; Einstein's legacy; Albert Einstein: a 20th century icon; Particle plays: Physics in 3 minutes; Einstein and astronomy; Irish innovators in science; physics outreach programme for young people. Festival Attendance: **39,000**

Lab in a Lorry Republic of Ireland Tour <http://www.labinalorry.org.uk/> **2000** students participated

5-9 September BA festival
12-18 September Waterford IT
19 – 25 September National University of Ireland Cork
24 Sept University of Limerick, Frontiers in Physics Teachers Conference
26 Sept – 1 Oct NUI Galway

The Einstein Experience' 22/23 Sept University of Limerick in association with Analog Devices Attendance: **850** over the two days.

'Zoom Out Zoom in' including : 'Eyes to the Universe' by Phil Samways, University of Limerick How telescopes let us really see what's out there and 'A small view of a large Universe' by Ed Coyne, Analog Devices How studying the smallest structure enables us to understand our Universe.

'Invention Intrigue and the Triumph of Science' by Martin Leahy, University of Limerick and Neil Rankin, Analog Devices

'Quantum Reality – a Close Encounter of the Strange Kind' An exploration of some weird aspects of reality that contradict everyday life experience and intuition Vincent Casey, University of Limerick Patricia Horrigan, Analog Devices

Schools Poster Competition University of Limerick in association with IoPI 'Science in our Life' with a special prize being awarded for the best entry with an Einstein Focus in honour of Einstein Year - two categories - Primary School and Secondary School. **98** posters; **21** with Einstein focus. Posters were displayed at Limerick Science Fair which had an attendance of **15,000**

Various activities in the town of Fermoy initiated by a local physics teacher David Rea, including a display of Einstein and Hamilton posters, books and memorabilia in the Credit Union in Fermoy; essay competitions and special classes and presentations to transition year students.

Frontiers in Physics conference for Physics Teachers at University of Limerick. Lectures and workshops on teaching and learning Physics. Attendance: **45** teachers

Our Beautiful Sun – a Neighbour from Hell by Dr Peter Gallagher 22 Nov IOPI lecture in association with the RDS for students (aged 14-16) at the RDS as part of Einstein Year and Science Week. Attendance: **500** students

web site for discussion about WYP Irish United Nations Association (IUNA)
<http://groups.yahoo.com/group/IUNA-WYP2005/>

Quantum Leap RTE radio programme – Oct – Dec Many physics items included as part of Einstein Year.

Making time at Farmleigh: an art exhibition marking Einstein Year October 2005 Exploring how artists cope with representing time in their work, in the new gallery space at Farmleigh House in Dublin's Phoenix Park. Originally curated for the Errigal Arts Festival, in Donegal, it includes a retrospective by French artist and theoretical physicist Jacques Mandelbrojt (b 1929), honorary editor of Leonardo Journal of Arts and Science, plus work by numerous other artists. www.farmleigh.ie

Launch of Physics on Stage 3 booklet of demonstrations and teaching ideas by Minister for Education, Mary Hanafin T.D. Dec 12th. The booklet is being distributed free of charge to thousands of science teachers and physics teachers in Ireland, north and south. Free downloads also available at <http://ireland.iop.org/sos/pos3book.html> Minister met with physics teachers, physicists and supporters to discuss issues of concern to the physics community. Attendance: **50** and **5000** teachers receiving the booklet.

Move over Einstein W5 Centre, Belfast 26 November to 7 January 2006 Fascinating exhibition using brilliant hands-on exhibits that takes you inside some of the latest projects Einstein's successors are working on. Sponsored by UK Research Councils.

Hamilton Year Events

Hamilton's 200th Birthday celebrations, 4th August 2005

A birthday party and barge trip on the canal to the celebrations at the famous Broome Bridge where Hamilton carved his famous quaternion equation. Attendance: by Minister for State and four members of parliament and a huge crowd of local, national and international visitors. Paul McCrory of "Think Differently" entertained the children with exciting science demos. Attendance: **400**

Screening of Science-related films at the Irish Film Institute A series of science related films were shown to school children and adults. Attendance: **600**

200th "Hamilton Walk" A re-enactment of Hamilton's famous walk from the observatory at Dunsink to the Royal Irish Academy, crossing Broome Bridge at the crucial moment where he carved his groundbreaking formula into the stone parapet of the bridge. Attendance: **200**.

Lecture Series, January 2006 A series of four lectures at the National Museum of Ireland as part of the exhibition, Light and Time: an exhibition to mark Hamilton Year. January 2006, ongoing. Attendance so far: **120**

*** did you make videos, cinematographic material...**

Scope television series science programme for young people on the national broadcasting channel included an Einstein item shown on Tues 22nd of March at 7pm on RTE 2.

*** involvement of press, media, TV, radio...**

Quite extensive radio and press coverage throughout the year.

On 27th February, the 100th anniversary of the date that Einstein's paper on Special Relativity was published, the National Broadcaster, RTE, televised Dublin City University students forming the human shape of $E=mc^2$ with accompanying coverage. This was broadcast nationwide on the 9pm and 11pm evening news on RTE 1 and 2.

*** advertising material, stamps, coins...**

Three special stamps issued by the Irish postal service (Einstein; UNESCO WYP, and Hamilton).

Great Irish Scientists posters exhibited at Dublin Airport Pier A for the duration of 2005.

Einstein Posters, Einstein Year bios, flashing planet badges, IoP CD physics demonstration pack: 'Physics to Go'.

*** contact with policy-makers**

Minister for Education launched the demonstration booklet Physics on Stage 3 demonstrations and teaching ideas Dec 12th and met with physics teachers and physicists.

Meeting co-ordinated by IoP for heads of Physics Departments and the Government Chief Science advisor. Oct 13th

*** statistics - did you already get information on the influence of WYP on student enrolling?**

Information not available until Sept 2006.