



Information for the Media

What's happening in Einstein Year

January

Albert Einstein meets the Time Traveller

Dublin

'Albert Einstein Meets Doctor Who' takes a light-hearted look at what might have happened if Einstein had been visited by a traveller from another dimension. Especially written for Einstein Year, the show uses advanced stagecraft, sparkling dialogue, a fast-moving narrative and even a little magic to explain the science behind Relativity to portray the meeting of a great scientist and a great fictional character. It will be performed twice a day over the three days of 13th, 14th and 15th January in the Arena of the Royal Dublin Society. Open to all, the show will inspire and dazzle the audience and as well as the Theory of Relativity, it will address other curriculum related ideas about gravity, light and measurement.

Contact: Peter Broad, Esat BT Young Scientist & Technology Exhibition, Grand Canal Plaza, Upper Grand, Canal Street, Dublin 4, 01 432 5293 or mobile 086 806 4931, E-mail: peter.broad@esat.com

Physics Across the World Poster Competition

Deadline for entries: 31st May 2005.

Physics Across the World is an international poster contest for students aged 10-16 years. Celebrating Einstein Year in 2005, entrants will be asked to create colourful posters to show physics applications and how these make everyone's life better – how physics has a positive impact on our everyday life.

Organised by Science Across the World, a forum where thousands of schools around the globe exchange information, opinions and ideas on a variety of science topics with young people in every continent. Shortlisted entries will be displayed at **EPS13 (Beyond Einstein™ Physics for the 21st Century)** in Bern, Switzerland from 11-15th July 2005 and where an international panel of judges will decide on a winner and the runners-up.

<http://www.scienceacross.org>

Contact: Karen Shoebottom, saw@ase.org.uk.

UniVerse

Martians, multiverses and moons: the poetry of relativity (embargoed until 00.01 Friday 14 January 2005)

Writer Terry Pratchett, astronomer Sir Patrick Moore and the Muppet scientists Beaker and Dr Bunsen Honeydew are just some of the people to have submitted poems for a competition launched today to mark both Einstein Year and National Science Week (11-20 March 2005).

To mark this occasion, the BA (British Association for the Advancement of Science) has launched a poetry competition on the themes of time, space and energy, the themes of Einstein's *General Theory of Relativity*.

Budding poets are invited to submit poems on the themes of time, space and energy to this UK-wide competition. Poems may be in any style, from rhyme to sonnets, haiku to limericks, and must be no longer than 40 lines. There are five age groups: 4-7 years, 8-11 years, 12-15 years, 16-18 years and Adults.

The closing date for the competition is 11th February and the winners will be announced during National Science Week 2005.

www.the-ba.net/universe.

Contact: Craig Brierly, Craig Brierley, Press Officer, the BA, Tel: 020 7019 4947, Email: craig.brierley@the-ba.net

March

Einstein's Sporty Birthday Party

Ipswich Town Football Club, 17th March

Probably the biggest birthday party ever thrown in Einstein's honour, this celebration of physics will give over 400 school-children the chance to explore a variety of themes in physics including the physics of sport, of the body, of buildings and to take part in mini physics experiments.

On Ipswich's hallowed turf, school-children will be able to explore the physics of football and sport through hands-on practical demonstrations including a batak board which shows the speed of your hand-eye co-ordination, a radar speed cage which shows how fast you can kick a ball, and a photoelectric gate which shows you how fast you can accelerate.

Contact: Robert Boyd, Learn by Design, 01827 316297, robertboyd@bydesign-group.co.uk.

April

Einstein on the Big Screen

Watershed Arts Cinema, Bristol

Einstein on the Big Screen will be a weekend of screenings and events exploring the relationship between physics and the moving image. Films will include 2001: A Space Odyssey, Last year in Marinebad, and The Time Machine. Events will include a panel discussion on Einstein and the modernist aesthetic and a special lecture on the iconography of Einstein and his ideas.

Contact: Institute of Physics Public Relations, 020 7470 4815.

Physics 2005: A century after Einstein

University of Warwick, 10 - 14 April 2005

Physics 2005 will be the main gathering of the UK's physics community during Einstein Year. A large fraction of modern physics can be traced back to the three seminal papers on Special Relativity, Brownian Motion and the Photoelectric Effect published in 1905 by Albert Einstein in *Annalen der Physik*.

A hundred years later, **Physics 2005** will be a forward-looking conference highlighting developments at the cutting edge and transcending some of the traditional boundaries. This is a high-octane physics conference for practising professionals.

www.physics2005.iop.org

Contact: Alwyn Jones, Institute of Physics, 020 7470 4800, alwyn.jones@iop.org.

Move Over Einstein – the next generation is here

Touring Exhibition

Move Over Einstein is an interactive touring exhibition that will showcase six areas of cutting-edge research. Aimed at 11- to 14-year-olds, the exhibition will present contemporary research using hands-on, interactive exhibits. "Hands-on exhibits have been done before, and cutting-edge research has been presented before, but this is the first time that the two have been combined in this way," said Caitlin Watson, programme manager for Einstein Year. Each exhibit will highlight the young EPSRC and PPARC researchers who are involved in the work, while emphasising the importance of teamwork in modern scientific research.

The topics presented will include the search for dark matter; building a super-nose; the search for other planets; nanobot drug transporters; the search for the Higgs boson; and quantum cryptography. The exhibition will tour the UK and Northern Ireland, visiting eight venues in all, which will include the Science Museum, the Royal Museum of Scotland and some non-traditional venues, such as the Lakeside Shopping Centre in Thurrock. "We want the exhibition to reach as many people as possible, so we're taking it to places that are not normally associated with science, like shopping centres," said Watson.

Contact: John Williams, museumsconsult@aol.com

May

Lab In a Lorry

Lab in a Lorry is an interactive mobile physics laboratory that will tour the UK from May 2005. Staffed by volunteer physicists and engineers, Lab in a Lorry gives young people the opportunity to do experimental physics in the way it actually happens; exploratory, accidental, informed by curiosity and intuition, but also bounded and guided by the experience and insight of practising scientists. The Lorry is about expressing curiosity and creativity.

www.labinalorry.org

Contact: Ian Cuthbert, Institute of Physics, 020 7470 4800, ian.cuthbert@iop.org.

'Constant Speed'

World Première, Sadler's Wells Theatre, 24th May

Commissioned by the Institute of Physics, 'Constant Speed' is a new dance work from Rambert Dance Company inspired by Einstein's physics. Created by Mark Baldwin, *Constant Speed* is Mark's inaugural choreographic work as Artistic Director of Rambert. It takes its inspiration from the theory of **Special Relativity** and Einstein's investigations of **Brownian Motion** – two of Einstein's three seminal theories published in 1905.

Jerry Cowhig, Managing Director of the Institute's publishing company, who commissioned the work said, "We are very excited about this collaboration. Dance is an expressive medium and it will be ideal for abstract concepts like the theories of Einstein on everything from tiny atoms to the dynamics of the whole cosmos. I love the work of Rambert which is always innovative and thrilling and I am confident this new work will trigger many peoples' curiosity about physics in Einstein Year".

After the London premiere the work will form part of Rambert's touring and education repertoire.

www.rambert.org.uk

Contact: Francesca Eyles, press officer, Rambert Dance Company, 020 8630 0612, fe@rambert.org.uk (pictures available).

Visions of Science

In 2005, the Visions of Science competition will have a special award celebrating the centenary of Einstein's greatest discoveries. Visions of Science is a photographic awards scheme organised by Novartis Pharmaceuticals to encourage ongoing discussion about science. The Einstein Year Award will be given for the most creative image showing the wonder and ingenuity of contemporary physics. The subject can come from any area of physics, and can include physics effects visible with the naked eye (for example aerodynamic testing of cars, magnetic levitation of a superconductor) as well as images from astronomy, atomic force microscopy and mathematical modelling. Images can be taken by any standard or specialist photographic technique, scientific technique or can be computer generated.

<http://www.visions-of-science.co.uk/>

June

Einstein's Brain

Cheltenham Science Festival, 18-20th June 2005

Einstein's brain will be starring in a lecture series based on the documentary *Riddles of the Dead: the Secret of Einstein's Brain*, which was first aired on National Geographic last December and is due to be screened on Channel 4 in the autumn. During Einstein Year, nuclear physicist Jim Al-Khalili and neuroscientist Mark Lythgoe, who made the documentary, will be taking a model of Einstein's brain around the country as part of a talk for branches, schools and science festivals.

Their lecture is a dialogue between the presenters, based on themes from the documentary, including plenty of material that didn't appear in the final cut. Al-Khalili will talk about Einstein's theories; Lythgoe will focus on what was special about Einstein's brain. The lecture series – supported by an Einstein Year grant – is aimed at a variety of audiences: children, non-scientists, physicists and neuroscientists. The duo plan to tailor their double-act to each type of audience. "It will be a bit like a travelogue, but quite different from the documentary," said Al-Khalili. "We will talk about the fun side of filming and also about the science. The documentary was light on physics, but I will be able to go into more detail about Einstein's momentous discoveries, so it's not just a human interest story."

Contact: **Jim Al-Khalili**, [Department of Physics](#), University of Surrey, Guildford, Surrey GU2 7XH, UK, Tel: +44 1483 876808 , Fax: +44 1483 876781 , Email: j.al-khalili@surrey.ac.uk.

Heavenly Music

Royal Greenwich Observatory

Heavenly Music is a seminar on the link between space and sound, aimed at GCSE students and to be held at the Royal Greenwich Observatory in June.

Beginning with earth's natural frequencies, aurora chorus and meteor showers, extracts from pieces of electro-acoustic music will be listened to which draw upon the phenomena being discussed. Moving into space, an historical account of recording sounds from deep space and the instruments used will be used including listening to sounds from Voyager, pulsars, a magnetosphere and discussing the theory that black holes emanate musical sound.

Contact: Name Jade Hamilton, Email jadehamilton@hotmail.com, Telephone 020 7790 1124 .

Physics Busking at Music Festivals

Throughout the summer physicists and student "buskers" will be taking lively physics-based tricks and demonstrations to some of the UK's biggest music festivals.

http://www.einsteinyear.org/get_involved/

Contact: Institute of Physics Public Relations, 020 7470 4815.

July

Schools Lecture: Our Planet – Our Future

Royal Institution, London and throughout the UK

Our Planet – Our Future is an inspirational science lecture for school-children which will tour the UK during Einstein Year. The show will look at the ways in which physics and engineering are helping us understand the impact human life has on the planet using exciting demonstrations, cutting-edge research and technology, audience voting and an interactive "choose your own lecture" format.

Presented by Dr Karen Bultitude and Laura Grant.

Contact: Nicola Hannam, Institute of Physics, 020 7470 4800, nicola.hannam@iop.org

August

Einstein@home

Einstein@home is a screensaver that allows you to lend a hand in the search for gravity waves. If enough people take part, the project could unleash more computing power than the biggest super-computer yet built in the search for gravitational waves.

The screensaver has been developed to search data from the Laser Interferometer gravitational wave Observatory (LIGO) in the US and from the GEO 600 gravitational wave observatory in Germany for signals coming from rapidly rotating neutron stars, known as pulsars. Scientists believe that some pulsars may not be perfectly spherical, and if so, they should emit characteristic gravitational waves, which LIGO and GEO 600 will begin to detect in coming months.

Einstein@home is a distributed computing project, which means that it relies on computer time donated by private computer users to search for pulsars. Owners of PCs can donate computer time to the analysis of LIGO data. All you'll have to do is install a small, screen saver program to your computer. The screen saver will automatically download a tiny portion of the enormous data set that LIGO will collect. When your computer is otherwise idle, it will analyze the data and send it back to the LIGO scientists. The screen saver only runs when you're not using the computer, or when you choose to manually turn the program on.

The system is based on the pioneering project SETI@home, a revolutionary distributed computing program that searches data from the Arecibo radio observatory for signs of extraterrestrial life. The total computing power donated to SETI@Home currently far exceeds the capabilities of any super computer yet built.

Find out more and register to receive the screen saver and take part here:
<http://www.physics2005.org/events/einsteinathome/>

September

Debates with a Difference

Science Centres around the UK

During Einstein Year, *Debates with a Difference* will tour science centres in the UK to give school groups and members of the public the chance to investigate the energy debate and whether nuclear power is the best option for the UK.

Developed by sciZmic, a network of science and discovery clubs, *Debate with a Difference* will let participants meet some top scientists, people who might benefit from the research and some who are more cautious about it.

It will give participants the chance to ask 'experts' what they do, to ask others what they think about nuclear energy, to explore the Internet, and to see whether journalists have given the topic a fair hearing.

The resources for this will also be made available in PDF format to science and discovery centres (SDCs) and teachers via the sciZmic and ECSITE-UK websites. These resources can be downloaded from the Einstein Year website as well.

Contact: Dr Louise Webb, sciZmic Project Manager, ecsite-uk, 21 Clare Avenue Hoole, Chester CH2 3HT, T +44 (0)1244 313067, F +44 (0)870 770 7102, E louise@scizmic.net.

Re-creating 'The Georgia Wonder' with Richard Wiseman *September-November 2005*

In late 2005, Richard Wiseman will reveal the secrets behind one of the Victorian era's most astounding stage-shows *The Georgia Wonder* and also re-create this trick for the first time since the 1880s.

The Georgia Wonder, aka Lulu Hurst, was a diminutive fourteen-year old girl who appeared to possess a supernatural strength that enabled her to withstand the pushing of several men without budging or seeming to exert any appreciable counter force. With one hand she pushed renowned athletes around the stage and into the scenery. And she lifted a chair with three large men piled onto it six inches off the ground. All of this was accomplished without any hidden devices, using just a pool cue or cane, a chair, an umbrella-and a handful of remarkable secrets.

In 1897 she wrote her autobiography revealing for the first time that her tricks were based on a knowledge of physics: of forces and leverage. Using Hurst's autobiography, eyewitness accounts and reviews of her performances, and photographic and other visual material, Professor Wiseman, a psychologist from the University of Hertfordshire, will recreate the tricks with a professional actress and give a lecture revealing how they were done, and how physics helped Hurst amaze her audiences.

Contact: Prof Richard Wiseman, College Lane, Hatfield, Herts, AL10 9AB, 01707 284628, 01707 285073, R.Wiseman@herts.ac.uk.

**More information and a full listing
of events throughout the UK is
available here:**

www.einsteinyear.org