

Education Department Newsletter

-Introduction

So it's a new school year and we hope you all enjoyed your summer break. While teachers across the country were having a well earned rest we have been taking note of your responses to our questionnaire and working hard to improve our service to you.

Some of you may have spotted that our new education websites went live in August. To improve navigation and help us tailor the content to your needs education.iop.org has split into two sites:

TeachingPhysics - especially for those involved in teaching

<http://teachingphysics.iop.org>

LearningPhysics – info and advice for students studying physics at school or college

<http://learningphysics.iop.org>

Take a look at both sites and let us know what you think of them.

Nicola Hannam education@iop.org

-What's in this term's mailing?

Nobel Prize Poster

Enclosed in this term's mailing you will find the latest Physics Nobel Prize winners poster. It is nice to have a British winner this year - Anthony Leggett, a researcher at Oxford and Sussex universities before moving to America. Physicists did well this year; Sir Peter Mansfield, from Nottingham University's physics department, won the 2003 Medicine Nobel Prize and Robert Engle, who won the Economics Prize, studied physics originally; good examples of the importance of physics in many fields.

Einstein Year, 2005

Einstein Year is almost here and during 2005 the Institute is co-ordinating a series of high profile events including an interactive exhibition exploring issues in cutting-edge physics, an international poster competition, an Einstein inspired production by Rambert Dance Company, a film festival exploring Einstein's relationship with cinema, a physics poetry competition and many more.

But Einstein Year will only have a truly national impact if schools and community groups get involved and run their own activities. The Einstein Year website – www.einsteinyear.org – contains lots of information to help you organise your own Einstein Year event and over the coming months more resources will be added including a large selection of physics tricks and demos that bring physics to life.

The website also includes information on the Einstein Year grant scheme which has a maximum award of £1,500 – the closing date for applications to Round 2 of the scheme is 25 February 2005.

And as soon as you've organised your event, make sure you enter the details onto the website's events database so everyone else can find out about it.

For more information see the website, www.einsteinyear.org or email einsteinyear@iop.org.

Cassini-Huygens Resource Pack

It has taken the Cassini spacecraft 7 years to reach its destination, but it is finally in orbit around Saturn and sending back spectacular images of the planet and its rings. The spacecraft is scheduled to orbit Saturn for another four years, visiting many of its moons and studying the rings in great detail. Already the mission has gained much more detailed information about the system than was previously available.

After a good response to their Mars Express pack PPARC have now produced a similar pack for the Cassini-Huygens mission which we have included for you. The pack consists of two posters and a CD Rom with teaching activities suitable for age groups 7-11, 11-14, 14-16 and 16+. The activities on the CD Rom can also be accessed on the web at www.pparc.ac.uk/cassini.

For details of other free resources from PPARC see www.pparc.ac.uk. They can be ordered from: Science and Society Team, Particle Physics and Astronomy Research Council, Polaris House, North Star Avenue, Swindon SN2 1SZ.

Email: pr.pus@pparc.ac.uk Tel: 01793 442123 Fax: 01793 442125.

Seeing Science

You will also see that we have sent you information on a free CD Rom from the Council for the Central Laboratory of the Research Councils (CCLRC). Designed for KS3, it covers six topics, including the environment, space and light, with lesson plans, worksheets, images, games and more.

-Other News

Teachers Awards

Every year we celebrate the work of exceptional physics teachers with the Teachers' Awards. If you know a colleague, or a primary school teacher, who deserves recognition we would be delighted to hear from you.

For more details see the TeachingPhysics website or contact Ms Gita Tailor, Education Department, email: gita.tailor@iop.org. The closing date for nominations is 30 November 2004.

Physics Education Online

Did you know that, as an affiliated school, you can access Physics Education Online free of charge?

All you need to do is to go to <http://members.iop.org/> (can also be reached from the home page via member services) and click on the Log In button. You will be asked for:

- a username, which is your membership id number
- a password, which is the surname of the school contact (probably you!)

This will enable you to search the archive for articles by topics and author, you can download articles as well as accessing the increasingly frequent online enhancements. The September issue online includes an Excel spreadsheet for entropy simulation, a worksheet for Virtual Vistas and a series of Modellus models for Newtonian Games

National Schools Observatory

The Institute of Physics is pleased to be working with the National Schools Observatory (NSO). The NSO, established by Liverpool John Moores University (JMU), is an exciting and highly motivational internet-based project. The NSO provides students and teachers with the opportunity to use the world's largest robotic telescope, the Liverpool Telescope (LT), while at the same time demonstrating the excitement of science and technology in a very practical and "hands on" way.

In association with the Institute of Physics, Liverpool John Moores University is offering all IOP affiliated schools and colleges "free" membership of the National Schools' Observatory until 31st March 2005 to celebrate Einstein Year. This is a really good opportunity for you to experience using a professional research telescope and NSO software to assess the benefits for your teaching.

Further details, a password and software will be sent to all affiliated schools shortly.

-Events and Courses for Teachers and Technicians

Physics Update Course for Practising Teachers

Denys Wilkinson Building, University of Oxford.

The lecture component of the programme is devised to update participants on innovations in physics, both pure and applied, and in curriculum matters. "Hands-on" workshops afford teachers opportunities to try new equipment, develop new IT skills, learn new experimental techniques, try out novel investigations and engage with alternative teaching and learning strategies.

The course commences on Friday 10 December at 12.30 and finishes at lunchtime on Sunday 12 December.

There are 50 places available for those requiring accommodation (single en-suite in St Anne's College) and 20 places for non-residents.

For further information please contact Leila Solomon at the Institute of Physics,
email: leila.solomon@iop.org

INSET for Salters Horners Advanced Physics

Residential courses at the University of York

Each year, the project team at York runs a programme of residential in-service workshops for SHAP teachers and technicians. Participants find out about, and discuss aspects of, teaching and managing the SHAP course, try out some of the more novel practical and IT activities found in SHAP, and work with experienced SHAP teachers and technicians. The teachers' workshops also have some input from SHAP examiners.

Technicians: 14-15 April

Teachers preparing for A2: 18-20 April

Teachers preparing for AS: 13-15 July

Booking forms with details of course fees will be circulated to all known SHAP centres and posted on the SHAP website towards the end of the autumn term.

Contacts: project secretary Nancy Newton, nn2@york.ac.uk,
project director Elizabeth Swinbank, es14@york.ac.uk
www.york.ac.uk/org/seg/salters/physics

Advancing Physics INSET

AS Teachers INSET 5th July 2005, University of Birmingham

A2 Teachers INSET 6th July 2005, University of Birmingham

Featuring workshops led by experienced AP teachers, these will cover the content, management, teaching and assessment of the course.

Technician's INSET 7th July 2005, University of Birmingham

Featuring workshops led by experience AP technicians, the course covers practical activities, with a focus on construction. It is also a valuable opportunity to meet colleagues from other schools and ask questions of the tutors.

Advancing Physics AS Student Revision Day

12th April 2005, University of Bristol

20th April 2005, UCL

Contact: Kerry Hollins (IOPP)

Tel: 0117 930 1148 Email: kerry.hollins@iop.org

<http://advancingphysics.iop.org/>

Association for Science Education – Scotland Events

Forth Valley

Buzz - teaching electricity 5-14

09:30-15:00, Friday, 3 December 2004

Moray House, Edinburgh

Contact: Bob Kibble, 0131 666 2355(h) 0131 651 6612(w)

bobk@education.ed.ac.uk

Grampian

Fuel cells from hydrogen - 21st century energy, the demise of fossil hydrocarbons

19:30-21:00, Thursday, 30 Sept 2004

Dave McGrath, SiGEN, Harlaw Academy, Aberdeen

Supporting Science Teaching 10-14

10:00-15:00, Saturday, 13 Nov 2004

Day Conference

Robert Gordon's College, Aberdeen

Tayside and Fife

Technicians' Day Conference

10:00 - 15:00, Friday, 19 November 2004

Perth Grammar School

-Events For Students

Using your Physics

Friday 4 March 2005, 1.30-3.30pm, Wolverhampton Science Park

An afternoon meeting for students in years 11 and 12.

Three speakers illustrate the ways in which they use physics in their work – in research, industry and medicine.

The afternoon finishes with 'Fun Physics' – demonstrations of some intriguing experiments.

Further details from Clive Wormley 01543 432727 or c.wormley@physics.org

Using your Physics

Friday 11 March 2005, 1.30-3.30pm, Nottingham -Trent University

Content as above.

Further details from Godfrey Thomas 01509 268444 or godfrey.thomas@physics.org

Physics in Perspective 2005

A study course for 6th formers & college students that offers the opportunity to find out more about how our understanding of the universe continues to develop and how these insights are applied to improve our lives. The 2005 programme includes topics from the cutting edge of physics, up-to-date applications in various technological areas and some 'fun' physics.

Sunday 20 – Tuesday 22 February 2005, London

Talks include:

- MUSICAL SQUARES — ADVENTURES IN SOUND
Mike & Wendy Gluyas
- FOCUSING IN THE SKY
Professor Sir Michael Berry FRS
Physics Department, Bristol University

For further information contact Leila Solomon, Institute of Physics, email: leila.solomon@iop.org