

Introduction

Enclosed with this newsletter is a synopsis of what the Institute is currently doing for schools and colleges. I hope this will help you to take full advantage of the various resources and support on offer.

The enclosed questionnaire is intended to help us make sure the affiliation scheme meets your needs. It should not take you long to complete and will be very valuable in helping us plan what we do for schools in the future. We genuinely want to know what we can do to help support physics in your school or college, so feel free to write on the back of the form or send in additional information.

Enclosed with this newsletter is *The Best Pocket Physics Handbook in the Galaxy Ever ...* - otherwise known as a revision leaflet for post-16 students. If you would like copies for your students there is an order form at the end of the questionnaire.

A PPARC resource pack on Mars Express was sent out with the last affiliated schools mailing. PPARC would very much like your feedback on the Mars Express pack as they are considering producing a resource to support the Cassini Huygens mission which will be approaching Saturn this summer. If you have any comments on the pack please send them to me and I will pass them on.

Daniel Sandford Smith daniel.sandfordsmith@iop.org

New practical physics website

Experiments 'sharpen students' powers of observation, stimulate questions, and help develop new understanding and vocabulary. The Institute of Physics and the Nuffield Curriculum Centre are working together on a new website <http://www.practicalphysics.org/>. Here teachers can find out how to set up and manage practical work - both demonstrations and class experiments.

The website will cover the whole range of physics topics for students aged 11 – 19 although at present only waves has been covered in detail. The site is being designed to help all teachers of physics to share their skills and their experience of making experiments work in the classroom, so please visit the site and review the experiments that are listed there or add your own favourites.

Education Group Conference

An alternative style of Education Group Conference. Forget the expensive, air-conditioned conference centres with tables of notepads, boiled sweets and fizzy water. If we really want to think radically about physics teaching and consider what we do (and why), hear about the latest ideas in physics teaching and curriculum development, or just network with other physics teachers, what better place than in the fresh Welsh air of Brecon? Some say that there is a positive correlation between a liking for hill-walking and physics teaching. This hypothesis will be tested, but large group walks will not be mandatory!

We have invited some great speakers in the sphere of Physics Education to stimulate, educate and even entertain you. Topics, to be confirmed, will range from the beauty and wonder of Chladni's Plate (one that actually works), through how GPS navigation aids work

Preparing for Salters Horners Advanced Physics

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. All the workshops take place on campus at the University of York.

Dates for 2004 are given below. Full details and booking forms are available on the SHAP website: <http://www.york.ac.uk/org/seg/salters/physics/>. Choose 'support' from the menu on the home page, and follow the links to 'residential courses'.

Technicians: AS and A2	March 24th-25th
Teachers: preparing for A2	March 29th-31st
Teachers: preparing for AS	July 5th-7th

Physics Teachers@ CERN 2004

If you have ever wanted to visit one of the world's leading laboratories, this is your opportunity. Physics Teachers @ CERN 2004 (30th April to 2nd May) is the third conference for teachers organised by CERN. Previous conferences have proved to be a great opportunity to meet colleagues from other countries, keep up-to-date with physics today and experience the stimulating atmosphere of science at the frontiers of knowledge. They have also been a lot of fun! For reports on the events, see Physics Education (May 2002 and July 2003) and <http://www.innotts.co.uk/morrison/>.

The programme includes talks on particle physics and visits to experiments. Details are on the web at <http://www.cern.ch/education>. The closing date for applications is 29th February 2004. Support from PPARC will be available for teachers from the UK. For details contact the PPARC Schools Officer Andrew Morrison, 75 Arundel Drive, Bramcote Hills, Nottingham NG9 3FN. Tel: 0115 9164691 E-mail: morrison@innotts.co.uk

Medical Physics (University of Sheffield)

This course studies particular aspects of physics and engineering applied in medicine. The course is based around the "A" level module, and includes practical demonstrations and tailor-made resource material. The course itself is free and there is no charge for food, accommodation or travel during the course, which runs from Sunday evening 18th to Friday 23rd July.

Further details are available by post or fax from: The Assistant Clerk, The Goldsmiths' Company, Goldsmiths' Hall, Foster Lane, London EC2V 6BN
Tel: 020 7606 7010 Fax: 020 7606 1511

For Students

School and Colleges Lecture Series 2004 - How do the rules of physics control sport?

How does a polevaulter appear to break the laws of physics? How does spin help David Beckham and Serena Williams fool their opponents? How is technology helping British Olympic hopes for gold in Athens 2004?

The Institute of Physics annual schools lecture will this year examine the role of physics in sport. Linked to the national curriculum and aimed at 11-16 year old science and technology pupils, this hour long lecture will examine how science and technology is helping athletes push the boundaries of what is possible in various Olympic events such as javelin, polevault, football and tennis, using simple experiments to bring the physics of sport to life. Supporting material for use in schools will be available as part of the lecture.

The lectures will be delivered in association with the etb as part of its Engineering in the Olympics campaign, by a team from the University of Sheffield's Sports Engineering Research Group (SERG). For details of dates and venues visit <http://education.iop.org/Schools/supteach/venues.html>

National Career Fairs and Exhibitions

The Institute works in conjunction with the Royal Society of Chemistry and a variety of Biological Societies/Institutions throughout the year to promote careers in science. This year the Institute and the other scientific bodies will be having a stand at various UCAS events throughout the country. All events are FREE, so please come along. Whether it's specific career information you're looking for or just general advice, our staff will be on hand to help. For more information contact Ian Cuthbert, Email: ian.cuthbert@iop.org

UCAS Events (2004)

Bath, 18th-19th March
Belfast, 20th-21st April
West London, 2nd July

Jarvis Events (2004)

Glasgow (SECC), 27th-29th February
Birmingham (NEC), 7th-8th March

The National Particle Physics Masterclasses

2004 is the 8th year of these popular events for Sixth Form students and their teachers. They will take place at universities and laboratories across the UK in March and April. The classes provide excellent support for the material on Particle Physics which is in many AS and A2 courses.

The programme will include talks by particle physicists which convey some of the excitement of working in a rapidly-moving field, where current experiments include a close study of antimatter and the search for the origin of mass. As well as hearing talks from scientists who work in the field, students will gain hands-on experience of the interactive graphical display programs that particle physicists use at the European Laboratory for Particle Physics, CERN, using software specially written for schools. Details of this year's programme are at <http://www.innotts.co.uk/morrison/masterclass.htm>

AS Revision Day

The programme will include:

- Four revision lectures - summarising the AS course material and giving students the opportunity to see the big picture.
- Exam technique - giving pupils a chance to practice their exam technique.
- Physics at University - encouraging students to continue their study into A2 and beyond.
- Physics@A2 - the final lecture will be a talk on fusion from JET in Oxford (to include audience participation!).

The revision day will be at Bristol University, 30th March 2004, see <http://advancingphysics.iop.org/teacher/news.html>

Year 9 Investigations

Stephen Hearn the Teacher Network Co-ordinator in Surrey is working with the Surrey setpoint to organise a KS3 investigations training programme. This will involve groups of year 9 students doing new physics investigations but with an emphasis on analysing the data and using models. Contact Stephen for more details - Email: sth@charterhouse.org.uk