STIMULATING PHYSICS NETWORK

IOP Institute of Physics

Science LEARNING CENTRES

Please turn over for upcoming events and courses

Regional Matter

Yorkshire and the Humber
Spring 2012

Engaging girls in physics

Despite the pleasing increase last year in the number of students sitting exams in the STEM subjects (science, technology, engineering and mathematics), recent reports from the CBI still identify a significant gap between the number of students pursuing STEM subjects and the number of skilled employees needed in the UK economy: "Science, technology, engineering and maths (STEM) skills underpin the UK's ability to compete and grow in a range of industries... STEM skills shortages are widespread – 43% of employers currently have difficulty recruiting staff, rising to more than half of employers (52%) expecting difficulty in the next three years."
(CBI/EDI education and skills report, 2011)

If you match this shortage with the figures published on the number of women pursuing STEM, it is possible to identify how we might begin to reduce the gap in supply and demand, as detailed in 'Women and men in science, engineering and technology: the UK statistics guide 2010' from the UKRC: "While girls were half or nearly half of all students in most STEM GCSE subjects in 2009, this proportion declines when they reach A-level. This decline is particularly large for physics and combined sciences (science subjects). The proportions of girls in these subjects taking A-levels roughly halved in comparison to GCSEs. It is an illustration of the first and biggest leak in the gender and STEM 'leaky pipeline'."

To try to help close this gap, the Stimulating Physics Network is working with schools to engage more girls in physics. Our team of Teaching and Learning Coaches (TLCs) establish close, direct relationships with the selected SPN Partner Schools; so they have the time to work with the whole science department and the whole school. This gives our TLCs both the chance to implement activities aimed at engaging girls with physics and the time to review the impact of different approaches.

One TLC reports on work they have done in a large, mixed school: "I planned activities to encourage the girls to continue with physics.

This included a special focus on Year 11 girls doing Triple Science, we provided relevant careers information and created a girls-only setting for some special events, such as a SEPNet practical activity and a meeting with a potential mentor - a female physicist from the Rutherford Appleton Lab. It is still too early to have solid data on the impact of this activity but the response from the girls has been very enthusiastic."

The Stimulating Physics Network is working with several SPN Partner Schools to pilot more activities to engage girls and we will use the results to produce guides and resources that could be used by teachers in any school. There is already a growing portfolio of publications, resources and tools produced for teachers and students, focused on inspiring girls.

The Institute of Physics has published a review of the current research into girls participation in physics and has used the lessons learned to produce a teachers' guide for action as well as videos to be used by departments to review their practice. These resources can be accessed free at: **iop.org/education/teacher/support/** - select the Girls in Physics section.

The WISE Campaign led by the UKRC offers free student resources including games, postcards and interactive tools, as well as guides on work experience useful links for teachers and parents and profiles of inspirational women. To explore the WISE resources, visit: **theukrc.org/get-involved/wise**

Physics Update

As part of its active involvement in supporting physics in schools and colleges, the Institute of Physics runs termly Physics Update courses to update your knowledge of recent developments in physics and let you explore new practical activities and resources for use in the classroom.

Spring Physics Update: Royal Holloway, University of London, 30 March-1 April 2012
Summer Physics Update: University of Birmingham, 6-8 July 2012

There are a limited number of places available at each Physics Update. Each course costs £140 for a residential place and £80 for a non-residential place; or even less if you or your school/college/ITE centre is a member of the IOP.
For more information, visit: **iop.org/education/teacher/cpd/** and select Physics Update.

Free practical workshops are run by the Yorkshire & Humber Physics Network Co-ordinators (PNCs), usually in the evening or at weekends. For the latest events in your region contact the External Liaison Officer (ELO) for Yorkshire & Humber, Sharon Findlay, e-mail: enquiries@yorkshumber.slcs.ac.uk or visit: stimulatingphysics.org/regions

You can also contact the PNC in your area if you would like to be sent details of their planned events or would like to host an event at your school:

York Andrew Rogerson: aw.rogerson@tiscali.co.uk

Doncaster David Buckingham: dbuckingham63@gmail.com

West Yorkshire Mike Shovlin: shovlim1@leedslearning.net

National home for science

The University of York is home to both the National Science Learning Centre and the National STEM Centre, offering teachers access to a wealth of courses and free resources. The National Science Learning Centre runs a wide programme of science CPD courses, highlights from this term include:

Success in Teaching 11 – 16 Physics for Specialists

A two-part course for experienced physics teachers to explore the factors that enable all pupils to be successful in their physics learning.
Dates: 22 – 24 Feb 12 and 03 – 04 Jun 12
Cost: £1,143 - ENTHUSE Award of £2,343

Inspiring Post-16 Physics

This two part course is aimed at teachers and lecturers who want to update their own knowledge and understanding of contemporary physics.
Dates: 29 Feb – 02 Mar 12 and 18 – 19 Jun 12
Venue: National Science Learning Centre, York
Cost: £1,014 - ENTHUSE Award of £2,014

For more information on these and further courses, visit: sciencelearningcentres.org.uk/centres/national

The National STEM Centre is now home to the largest collection in the UK of STEM teaching and learning resources – all of which is free to access. Drop-in to explore their library of resources from practical toys to multi-media activities or explore their eLibrary at: **nationalstemcentre.org.uk**

In addition Science Learning Centre Yorkshire & Humber offers several physics-related courses:

Impact Awards of up to £200 per day may be available

O Active Approaches in A Level Physics	2 February	Course fee: £150
O Technicians Supporting A Level Physics	28 February	Course fee: £110
O Regional Science Leaders' Conference: Excellence in Science	2 March	Course fee: £150
O Earthquakes and other Natural Hazards	15 March	Course fee: £150
O Physics for Non-specialists	26 April & 19 June	Course fee: £400
O Moving Forward with the New Curriculum	13 June	Course fee: £150
O Practical Work in Physics	21 June	Course fee: £150 Teachers / £110 Technicians
O Masterclass for A Level Physics	2 July	Course fee: £150
O New Materials and Nanotechnology	10 July	Course fee: £150
O Physics for Non-specialists	16 July	Course fee: £400

To book and for details about more courses please contact us: