

# Institute of Physics Teacher Network: London Area

## Winter 2008 Newsletter

Have you passed this round?

### International news

#### 15 million gigabytes

When the new Large Hadron Collider (LHC) at CERN operates, its four massive detectors are expected to produce up to 15 million gigabytes of data every year.

A tiered computing structure, the LHC Grid, was constructed to handle its huge data rate. CERN (Tier-0) is connected by superfast fibre links to eleven Tier-1 centres at places like the Rutherford Appleton Laboratory in the UK and Fermilab in the USA. The data rate these links will carry is over 700 MB a second.

Tier 1 centres then feed down to another 250 regional Tier-2 centres that are in turn accessed by individual researchers through university computer clusters and desktops and laptops (Tier-3).

[www.iop.org/News/news\\_32028.html](http://www.iop.org/News/news_32028.html)

### Regional news

#### £7 million supercomputer

In May 2008, the University of Bristol opened its BlueCrystal supercomputer facility, to aid research in areas such as climate change, drug design and aerospace engineering. BlueCrystal is able to carry out more than 37 trillion calculations a second.

[www.scientific-computing.com/news/news\\_story.php?news\\_id=444](http://www.scientific-computing.com/news/news_story.php?news_id=444)

These are just two examples of the nature & importance of scientific computing today.

## **IOP** Institute of Physics

Physics Teacher Network

**A national network to support all those who teach physics in schools.**

Together we work two days a week as London's Teacher Network Coordinators.

#### Our main aims are to

- Establish ways for London physics teachers to communicate.
- Support non-specialists teaching physics at KS3 and especially KS4.
- Set up university and industry contacts that help with physics education and encourage students to continue studying physics.

There are over 400 secondary schools in the London area.

**We therefore try and work with clusters of schools.**

Peter Campbell

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**Subscribe** – free of charge – to the print magazine *Scientific Computing World*, and/or its monthly e-newsletter, *SCnewsline* [www.scientific-computing.com/subscribe.php](http://www.scientific-computing.com/subscribe.php)

### Teacher events CPD

#### An Evening of General Relativity

Department of Physics,  
Queen Mary, University of London  
Thursday 11 December  
5.30–8:00 pm

FREE, illustrated talk by Dr David Berman, a member of the QMUL Theoretical Physics group, followed by a question

and answer session. An opportunity to meet other physics teachers informally.

Food and wine provided, reasonable travel expenses reimbursed, thanks to generous support from the IOP London & South East Branch.

Places are limited. Register with Laura Jackson.

Email: [l.f.jackson@qmul.ac.uk](mailto:l.f.jackson@qmul.ac.uk)

Tel: 0207 882 3020.



**Science**  
LEARNING CENTRES

### London courses

#### Science Newswise

Thursday 11 Dec *or* Tuesday 9 June 2009

#### Physics for Non-specialists

Tuesday 10 Feb, Tuesday 17 Mar 2009 & Wednesday 13 May 2009

#### New Practical Techniques in Physics

Wednesday 25 Feb 2009

#### Cutting Edge Science: Climate Change

Tuesday, 10 March 2009

#### Girls in Physics

Wednesday 11 Mar 2009

All of these SLC courses qualify for an Impact Award £200 cash back.

Further information:

[www.sciencelearningcentres.org.uk/?page=5](http://www.sciencelearningcentres.org.uk/?page=5)

Teacher events CPD continues over ...

Bookmark the IOP Teacher Network London webpage, so you can download electronic copies of the Newsletters.

[www.iop.org/activity/education/Teacher\\_Support/Teachers\\_Network/London/page\\_5267.html](http://www.iop.org/activity/education/Teacher_Support/Teachers_Network/London/page_5267.html)

Make accessing URLs simple.

## IOP Physics Update

3rd - 5th April 2009  
University of Manchester

For practising teachers of physics and science.

- lectures on innovations in physics, both pure and applied, and on curriculum matters.
- 'Hands-on' workshops enabling you to try new equipment and develop new skills.

Contact: Leila Solomon  
Tel: 020 7470 4800  
Email: [leila.solomon@iop.org](mailto:leila.solomon@iop.org)



The Association for Science  
Education

## ASE Annual Conference

University of Reading  
Thurs 8 - Sat 10 January 2009

The best CPD you can find in the world of science education. A huge programme of talks, major exhibition of publishers, apparatus suppliers etc. Worth any effort involved in getting there. A great meeting place too!

Details: [www.ase.org.uk](http://www.ase.org.uk)

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## Events for students

### Facing Science in Health and Life:

Kensington Town Hall W8 7NX  
Thursday 12 March 2009  
9.30am-3.30pm

6th Annual Schools Science Conference: short lectures, workshops & interactive hands-on demonstrations.  
[www.science4u.info/ssc2008/](http://www.science4u.info/ssc2008/)  
Places limited - book now!  
Contact Sharon Gage:  
[sharon.gage@srgprojectmanagement.co.uk](mailto:sharon.gage@srgprojectmanagement.co.uk)

Tel: 07989 692 675  
Fax: 020 8744 1055

**Science Centre, UCL**

Massey Theatre, Dept of Physics & Astronomy, UCL  
6:30 pm on Friday evenings  
Lectures for A-level Physics students (and teachers). Free admission, no booking or tickets needed.

Further information at  
[www.phys.ucl.ac.uk/department/science\\_centre.html](http://www.phys.ucl.ac.uk/department/science_centre.html)

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## Teaching resources

### CERN and the LHC

A series of films following a team of physicists working at the LHC, plus associated teaching resources:

[www.collidingparticles.com/](http://www.collidingparticles.com/)  
Supports 'How Science Works' at Key Stage 4.

Episode 1: *Codename Eurostar*  
How the team develops ideas on searching for the Higgs particle.  
Episode 2: *Big Bang Day*  
Adam describes life at CERN, media excitement when the first beams of protons sped round the full 27 kilometres of the LHC, and what it's like to discover one day that you're the 'expert'.

Scroll down  
[www.stfc.ac.uk/PMC/PReI/STFC/LHCSchools.aspx](http://www.stfc.ac.uk/PMC/PReI/STFC/LHCSchools.aspx) for a full list of LHC educational resources and activities.

### International Year of Astronomy 2009 (IYA)

The IYA commemorates the 400<sup>th</sup> anniversary of Galileo's use of a telescope to study the night sky, plus other important dates in the history of science, including the first Moon landing.

[www.astronomy2009.co.uk](http://www.astronomy2009.co.uk) has events listings, information of many kinds, a newsletter, useful weblinks and resources.

### 'Super-microscope' ISIS

A report from BBC News, with great explanations and video

clips:

<http://news.bbc.co.uk/2/hi/science/nature/7686622.stm>

## School reports



For more photos of this event, see next page

On Thursday 13th November, French astronaut Jean-François Clervoy visited Alexandra Park School, Haringey. He came to launch a new DVD with associated teaching resources, produced by the European Space Agency. *The Ingredients for Life: On Earth and in Space* examines the scientific and technical challenges of enabling humans to live in space.

Mike Terry, Alexandra Park School

Order your free copy now!  
<http://esa-hme-education.org/>

Downloadable lessons, short videos  
<http://www.esa.int/esaHS/education.html>

## Contribute

Please contribute items for future newsletters:

- forthcoming events
- useful teaching resources
- report of a classroom activity or school event

The Spring issue of this newsletter will be published in March 2009. Please send copy by Friday 20<sup>th</sup> February.

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Information on the many services available from the IOP Education Department:  
[www.iop.org/activity/education/index.html](http://www.iop.org/activity/education/index.html)

More photos from Alexandra Park School on 13 November, by courtesy of David Tothill and the ESA.

