

Science on Stage

■ Alison Alexander

What do you get if you add together:

- 5 days at a world-leading science research establishment
- 300+ innovative science teachers from 7 European countries and
- 33 delegates from the UK?

This was the background for Science on Stage, a festival of science teaching, which took place at CERN, The European Organisation for Nuclear Research, in Geneva Switzerland in November 2005.

Science on Stage has grown out of the initiative started in 2000 as Physics on Stage by Euroforum, a consortium of seven leading European research facilities, to raise awareness of science teaching and to share good practice within and across European countries.

The UK delegation

In April 2005 a flyer containing the following questions was distributed in *EiS*:

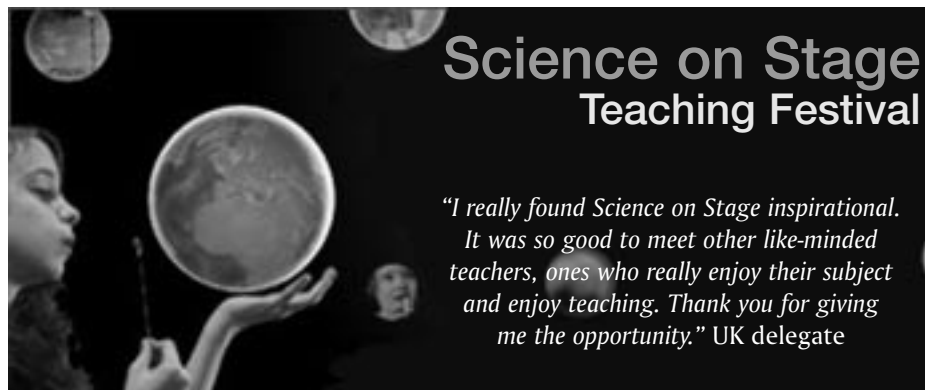
Are you interested in new ideas for teaching science?

Would you like to share your ideas with other science teachers from all over Europe?

If the answer to any of these questions is YES then read on!



Amanda Curtis from Woodfield Middle School, Redditch receives her award for raising awareness of science in her school.



"I really found Science on Stage inspirational. It was so good to meet other like-minded teachers, ones who really enjoy their subject and enjoy teaching. Thank you for giving me the opportunity." UK delegate

Many science teachers and educators responded to this flyer and applied to be part of the UK delegation.

In the light of the new emphasis of Science on Stage, the delegation represented all three main science disciplines with teachers from primary, secondary and tertiary education and also science advisers. The range of activities provided was also wide, from practical demonstrations to project and display work. It was interesting to see the greater use by pupils of ICT to enhance their science education, including the making of DVDs. We had examples of the teaching of science through the arts and languages, and also representation from technicians and a librarian who were all actively involved in their schools in making science exciting and informative.

We were all delighted when UK delegate Amanda Curtis, learning resource manager at Woodfield Middle School in Redditch, Worcestershire was awarded the prize presented by the ESO for her work in the library, which raised a whole school science awareness in celebrating Einstein Year with several events.

The festival

The Science on Stage Festival had three main features:

- an exhibition;
- on-stage presentations; and
- workshops.

In the **exhibition hall**, the 27 countries had stands on which they showed fun, exciting and innovative ways of teaching science. These ranged from a simple but very effective set of experiments demonstrating the laws of physics using a set of matchboxes or round cheese portion boxes to a large and extended project on hot air balloons. There were several examples from all around Europe (including on the UK stand) of experiments using neodymium magnets, this year's 'must-have' piece of apparatus.

The UK stand certainly put on a lively display. Everyone enjoyed experiments using an air bazooka, eggs, magnets and simple and engaging physics and chemistry experiments. Delegates could also construct a DNA molecule and look at projects in which students had explored space through the Faulkes and Bradford (see page 10) telescopes. We were pleased to display the winning posters from the Physics Across the World competition, along with examples of students' interpretations of science in picture, poetry, in a modern foreign language and on DVD. The science of toilets and disease attracted considerable interest, as did a simple yet effective way of demonstrating the photoelectric effect and the making of geodes with eggshells. In all, the UK stand received much positive interest.

Whereas the emphasis in the exhibition was on effective ways of teaching science in a classroom, the **on-stage presentations**

gave the opportunity for eye-catching ways to engage a larger audience. A group of jugglers certainly had us enthralled with their skill and artistry in juggling many coloured, illuminated batons.

Each day delegates attended a **workshop**. The UK provided four workshops:

- Using Ambassadors to enrich science in the classroom – based on SETNET's Science and Engineering Ambassadors Programme;
- Children Challenging Industry, in which Joy Parvin from the University of York showed how the programme motivated teachers and children through links between schools and science-based industries;
- An introduction to ASE's Science Across the World and its use as a tool for peer assessment, in which Jacquie Ashton introduced delegates to this extensive way to encourage their students to link with others across the world; and
- The Theatre of Science which was presented by representatives of Creative Partnerships in Plymouth and in which participants learnt how to use theatre in science teaching.

During the week, delegates also had an opportunity to learn about the education resources and opportunities provided by the seven research establishments (see later): it is well worth visiting their websites to explore this further.

Highlights

One highlight of the week was a tour into the depths of CERN where the Large Hadron Collider is being built. Another was the snow that fell on our last night that transformed the next day into a white wonderland and inspired many a snowball fight.

'WOW' moments for delegates

- Being in the middle of world class science;
- Meeting and making links with European science teachers;
- The live link with the International Space Station;
- Plasma coming off the tesla coil on the Spanish stand;
- Spectacular science presentations – juggling with light; and
- Learning how to make 3D pictures.



Some of the UK delegates who attended Science on Stage 2005.

And afterwards...

Needless to say, an inspiring time was had by all at Science on Stage 2005. Delegates are now in the process of disseminating what has been learned to UK science teachers. We did a small presentation at the ASE Annual Conference in January 2006. We are also preparing a booklet of interesting experiments from the main exhibition. This should be in secondary schools by the end of this year. Individual members of the delegation have already used the things they learnt for activities in their own schools or neighbouring schools. Several delegates have developed further experiments and models which they saw at the Festival.

The enthusiasm, which such an event engenders, is very infectious. Science teachers throughout the UK will hear about the exciting ideas the UK team brought back from this event.

The future

Science on Stage 2 will be held in Grenoble in April 2007. For details see the leaflet enclosed with this edition of *EiS*.

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What is Euroforum

The seven organisations involved are:

- The European Organisation for Nuclear Research (CERN);
- The European Space Agency (ESA);
- The European Southern Observatory (ESO);
- The European Molecular Biology Laboratory (EMBL);
- The European Fusion Development Agreement (EFDA);
- The European Synchrotron Radiation facility (ESRF); and
- The Institut Laue-Langevin (ILL).

Collectively these bodies represent the rapidly evolving frontline of European scientific and technological research.

For more information about **Science on Stage** and the UK contribution see www.scienceonstage.net or contact Alison Alexander at alisonalexander@aol.com.

Alison Alexander, a former head of science, is a member of the ASE 11-19 Committee. She was co-ordinator of the UK delegation to Science on Stage 2005 and will be co-ordinator for Science on Stage 2 in 2007.