

Science on Stage: recent international events

Autumn showers, shortening days, jet-lag... nothing could dampen the enthusiasm of teachers, students and journalists from around the world who took part in the Spanish and German Science on Stage events. **Sonia Furtado** reports.

On-stage performance of 'Harry Potter and the secrets of chemistry' at the Science on Stage festival, Germany

SCIENCE
on Stage



Image courtesy of Science on Stage Deutschland e.V.

Science in Action: Spain

Take the best projects from an international competition, add a couple of thought-provoking talks and a flight simulator, place them all in a science

Image courtesy of Ciencia en Acción



Image courtesy of Ciencia en Acción



museum for three days, and you have Ciencia en Acción^{w1} (Science in Action), Spain's Science on Stage event.

On 19-21 September 2008, the authors of the best projects in the Science in Action competition gathered in Valladolid, Spain. The 80 finalists were teams of teachers, students and journalists from all over Spain, plus Portugal, Argentina, Colombia, Mexico, Peru, Salvador and Uruguay. Having made it to the final, they were now competing for the ultimate prize: to come first in their category and win €1500.

Aiming to acknowledge, promote and reward teachers who help students get involved in science, students enjoying their first contact with scientific research, and journalists who help the general public engage with science, this is certainly a multi-disciplinary competition. Teams com-

peted in 14 categories, ranging from 'physics demonstrations' to 'didactic materials' and 'science films'. Plus there was the 'Catch a Star' competition, jointly organised by the European Association for Astronomy Education^{w2} and the European Southern Observatory^{w3}. The winners were granted a trip to the Calar Alto observatory in Almeria, Spain, and specially commended projects were awarded telescopes.

As if the buzzing and creative atmosphere generated by these contestants were not enough, the festival organisers offered a flight simulator,

as well as two original talks: Dr Jose Luis Fernández from the Universidad Autónoma de Madrid discussed economy and mathematics in 'Giacomo Casanova and subprime mortgages', and Dr Miguel Angel Alario from the Universidad Complutense de Madrid actively explored the main roles this liquid plays in our lives by asking 'Why is water different?'.

If you would like to find out more about the competition, including the entries in each category, visit the Ciencia en Acción website^{w1}.

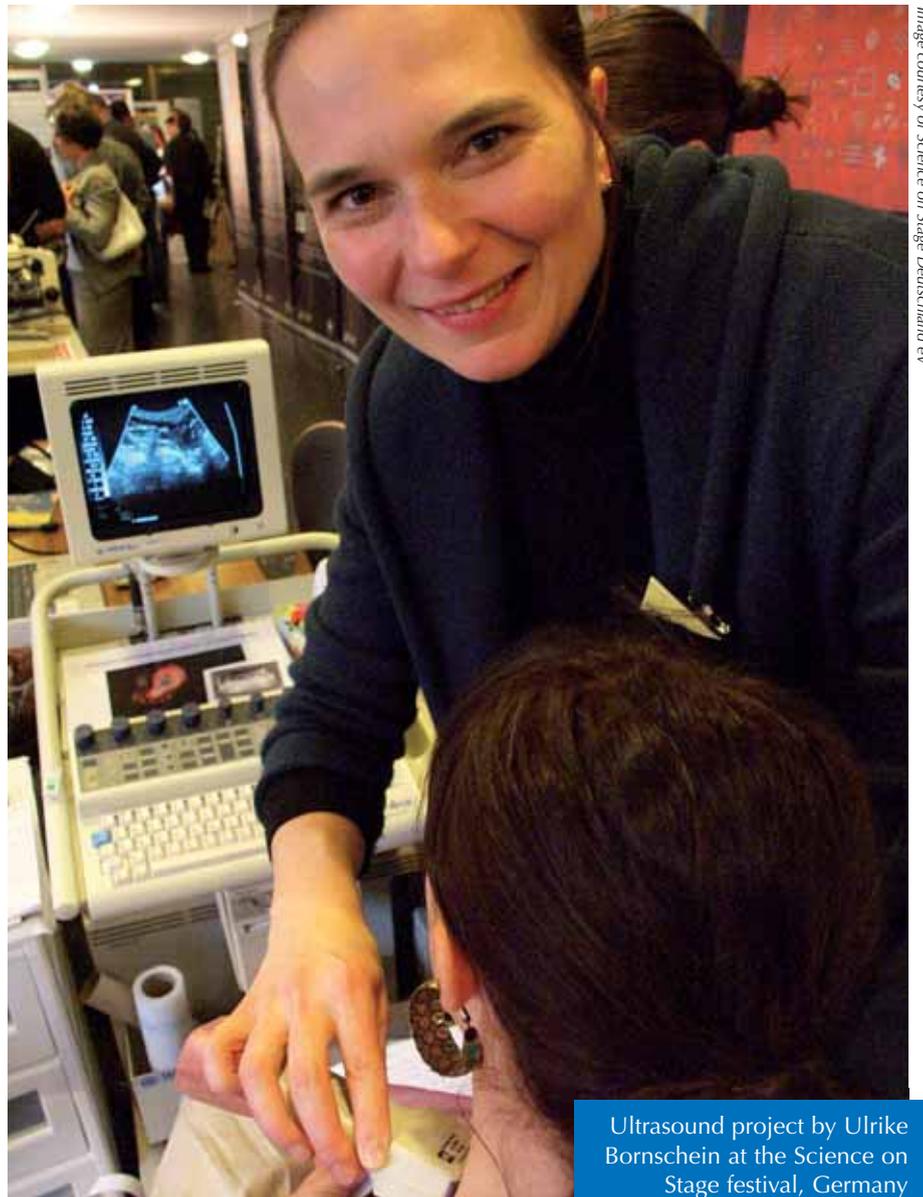


Image courtesy of Science on Stage Deutschland eV

Ultrasound project by Ulrike Bornschein at the Science on Stage festival, Germany

Image courtesy of Science on Stage Deutschland eV



Dietlind Jering, leader of the Representation of the European Commission, opens the fair at the Science on Stage festival 2008 in Berlin

Science on Stage festival, Germany

On 23-26 October 2008, the Urania exhibition hall in Berlin saw 230 teachers from 21 European countries and Canada enthusiastically take centre stage. And not only onstage, but also at stands, presenting projects for workshops, round tables and fairs. Each project was a contender at Germany's Science on Stage festival^{w4}, competing in one of six guiding themes: 'science in kindergarten and primary school', 'interdisciplinary teaching', 'hands-on experiments to boost motivation and cognition', 'self-perception in the teaching process', 'Are non-formal education initiatives always beneficial?', and 'Solo entertainer or moderator? The science teacher of the future'.

A jury selected teams from Hungary, Germany, Canada, Switzerland, Austria and the UK as winners of the Science on Stage award for each theme. As engaging as the competing entries were, audience participation wasn't limited to the opportunities provided by each individual project: the attending public was also called upon to vote for their favourite. The winner was 'latex motor', a motor powered by heating

and cooling latex condoms and gloves, created by one of the teams selected in April to represent Austria (Hayes, 2008). And there were still more prizes! The European societies for physics (EPS), biology (ECBA) and chemistry (EuChemS) each gave a special award to the best project on their subject.

Aside from the competition, there were other matters of interest. For instance, the festival served as the platform for Science on Stage Germany to launch its new handbook, 'Teaching Science in Europe 2'. Downloadable online^{w5}, this handbook stems from a project involving 100 teachers from 20 countries who discussed concepts and materials for science lessons under the guidance of Science on Stage Germany. It focuses on 'science in kindergarten and primary school', 'interdisciplinary teaching (scientific and non-scientific subjects)' and 'self-perception and self-evaluation'.

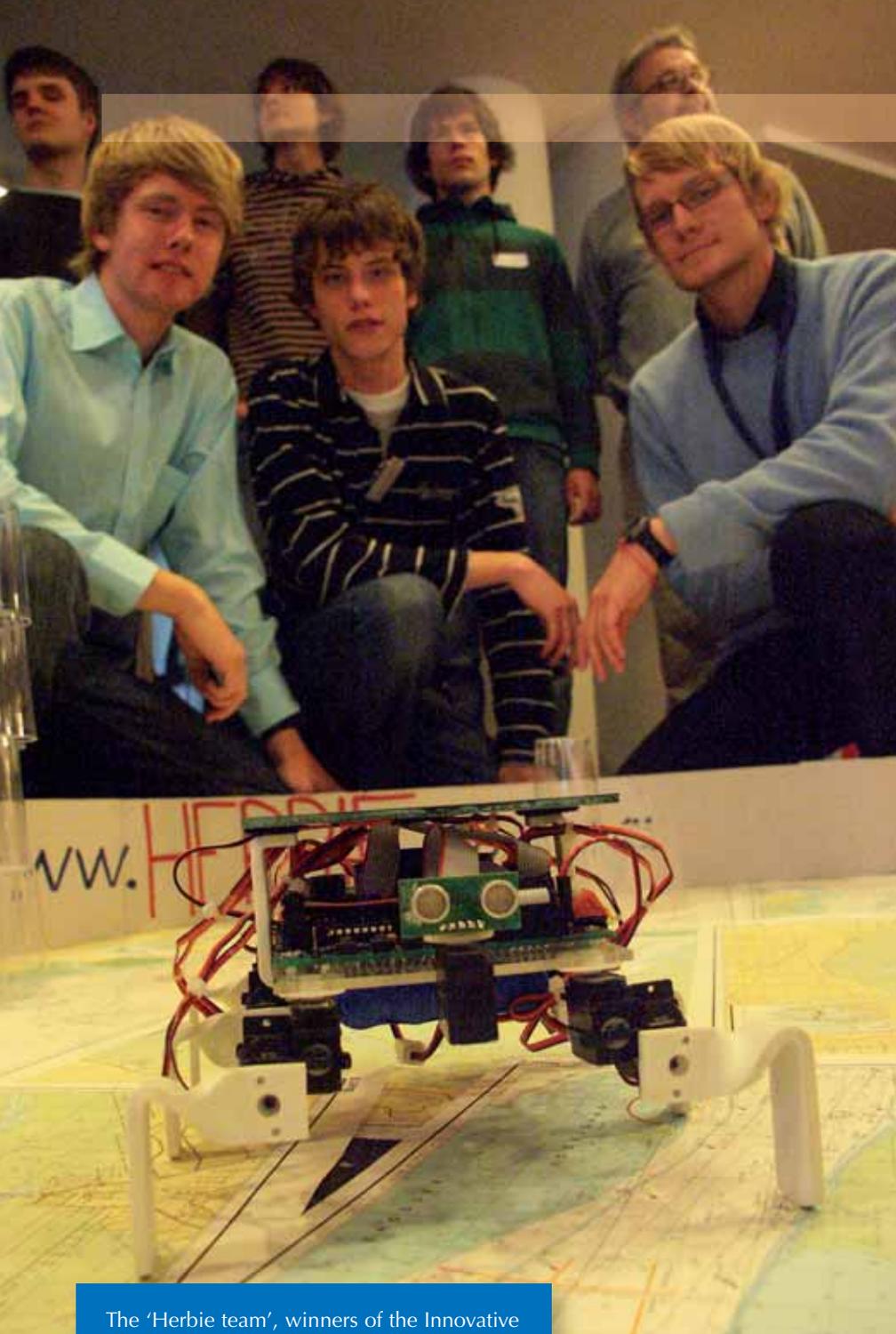
The festival was so successful that the organisers plan to continue four of its workshops during 2009 and 2010, in an effort to strengthen the network of European science teachers even more. The topics of 'self-perception in the teaching process', 'Are non-formal

education initiatives always beneficial?', 'Solo entertainer or moderator? The science teacher of the future' and 'science in kindergarten and primary school' will be discussed in further meetings, the first of which is scheduled for June 2009 (see events list on page 6). If you are interested, you can find more information online or contact Science on Stage Germany^{w4}.

Innovative Technologies move Europe III

In its 2008 edition, this international competition got European students and teachers moving to the theme of biomimetics. Students and teachers were encouraged to look to nature for inspiration – literally. The challenge was to create 'something that crawls', 'something that jumps' or 'something that flies', based on how animals do so. It was taken up by eight German teams, plus one each from the Czech Republic, the UK, Belgium and the Netherlands. At the final in Oberhausen, Germany, on 11 April 2008, a jury examined their entries, and the best crawler, jumper and flyer were awarded prizes.

Teams taking part in the 'Innovative Technologies move Europe' competition must engage in creative and



The 'Herbie team', winners of the Innovative Technologies move Europe III competition

Image courtesy of Science on Stage Deutschland eV

interdisciplinary problem-solving, while simultaneously mastering the technical aspects of actually building their moving 'somethings'. To help with the latter, students were given the opportunity to talk to engineers at Lenord, Bauer & Co. – Science on Stage Germany's partner in the competition – a company which specialises in automating motion. As well as the immediate benefits of this engagement with the engineers, i.e. help in making projects work in the best possible

way, this also gave students a valuable insight into the practicalities of scientific and technological professions. As for the teachers, they were encouraged to engage in an international discussion of the concepts and methods of science teaching.

If you've missed the competition so far, fear not: Science on Stage Germany has collated the results from its first three editions. Released in September 2008, the 'Innovative Technologies move Europe' booklet, a

guideline for teachers and other companies wishing to engage cooperatively in science education, is available online^{w6}.

The competition's fourth edition has already started: the theme for 2009 is 'Potentiometers – use your potential', and contestants are invited to build a model which modulates light or sound frequencies. You'll find additional information online^{w7}.

References

Hayes E (2008) Science on Stage: recent activities. *Science in School* 10: 4-7.
www.scienceinschool.org/2008/issue10/sos

Web references

- w1 – To find out more about Ciencia en Acción, the Spanish Science on Stage event, see: www.cienciaenaccion.org
- w2 – The European Association for Astronomy Education aims to improve and promote astronomical education in Europe. See: www.eaae-astro.org
- w3 – The European Southern Observatory builds and operates some of the world's most advanced ground-based astronomical telescopes. See: www.eso.org
- w4 – For more information on the German Science on Stage activities, see: www.science-on-stage.de
- w5 – The new handbook of Science on Stage Germany, Teaching Science in Europe 2, can be downloaded in English and German here: www.science-on-stage.de
- w6 – To download the latest 'Innovative Technologies move Europe' handbook (in German), see: www.science-on-stage.de
- w7 – To find out more about the 2009 competition 'Innovative Technologies move Europe' on the theme of potentiometers, see: www.schule-bewegt.de/en/wettbewerb/2008

