Welcome to the Annual Conference 2017 special issue – Susie Burr

My life seems to go faster each year. It doesn’t seem like twelve months since I was reporting on the 2016 Conference and we have had another successful event at the University of Reading. My thanks go to everyone who contributed, the ASE staff, exhibitors, presenters, volunteers and the staff of the University.

We have built on the ideas from last year and introduced some new ones. The Schools Exhibition (see pages 10 and 11) has greatly expanded, through partnership with the Royal Society. We had over 20 schools, both primary and secondary, exhibiting and many of them will be going to Hungary later in the year for Science on Stage. The projects on display were brilliant, showing a wide range of exciting science work going on in schools. The schools had travelled from far and wide to exhibit. I have to mention the two Scottish schools, from Lockerbie and Dornoch – the teacher there is a former PGDE student of mine – so I felt a touch of pride.

This year, we had another interesting and challenging International Day (see page 9). We also expanded Thursday’s programme, by introducing sessions for FE practitioners and those interested in STEM careers. As with all new ventures, we hope that these areas will expand and grow at future conferences.

Another new idea was the pathways set out for a variety of teachers in the handbook – my thanks to the members who produced this.

Although I always find that I don’t have enough time to go to all the sessions, I want to mention one of my personal highlights – the workshop run by our ASE President, Professor Danielle George, with Lynne Bianchi from Manchester. This involved us making small robots and drawing pretty, if random, pictures on paper on the floor. We also played music with fruit – great fun was had by all!

The talk given by Danielle was thought-provoking and posed some interesting challenges for the science community and for ASE – see left for the questions she posed for all of us to think about.

Finally, my thanks as always go to the ASE community who helped in a variety of ways with the Conference, by organising sessions, putting together individual programmes, presenting, chairing and helping with the smooth running of the four days. People often thank me for a good conference, but it is the members who contribute that help to make the Conference such a memorable event. So, now, over to you to recruit as many of your friends and colleagues as you can to come and share with us at the University of Liverpool next January.

Susie Burr is ASE Annual Conference Secretary.

Questions posed by the ASE President for all to consider:

- **What if every politician had to first study science?**
- **WHERE would our STEM education curriculum be?**
- **WHO is working on the STEM skills shortage problem?**
- **WHY has each Learned Society got its own approach to the challenge?**
- **SHOULD we all be working more collaboratively?**
- **WILL the political position of Brexit mean that the future importance of science education is even lower in schools?**
- **WHEN will the Government start judging schools on more than numeracy and literacy?**
- **CAN we make teachers more valued in their profession?**
- **COULD we bring STEM and Arts together and still maintain subject integrity?**
- **WHICH of the projects that I have worked on in past year has tried to address the challenges?**
- **HOW can ASE help?**
4th–7th January
University of Reading

Top Tweets—a selection from the conference

ASE @The ASE
#STEM career choices in primary school with Dr Susan Burr & Mrs Kristine Hammond
"Activities that can be done as homework"

Linda Needham @NeedhamL56
Very busy in the schools exhibition @theASE #aseconf. Fantastic projects and enthusiasm for all things science

Isabel Thomas @raising chimps
Thank you to @theASE for a fab day at #ASEConf and these treats for Self-Destructing Science being shortlisted for the ASE Book Award

Dr Leigh Hoath @leighhoath
Made my first scribbler! @theASE @UoMSEERIH @EngineerDG

Science Teacher @iSciTeacher
#ASEConf success: obtaining a @CLEAPSS bunny! :-)

The ASE @the ASE
Sphere Science - working scientifically to deliver the curriculum, day 4 and still lots of practical fun going on in Palmer G02

Kathryn Horan @SciKathryn
Picking up lots of good ideas for a STEM week with @kulvinderj #ASEConf

Sarah Eames @sarahrpurplee
thanks #aseconf , I got to see and hear lots of inspiring things, but I know I also missed loads and this year I went for 3 days! Early2bed . .

Elizabeth Chambers @ellie_sci comm
So much fun at #ASEConf Great to catch up with people after a few years break, and have a lifetime first, holding a snake! Yay 2017
The Annual Conference returned to Reading University. It was under a blue cloudless sky that I walked across the campus to register in the Students’ Union. The weather throughout the four days was kind to us, with little rain and temperatures above the average for January. No need for the woolly hat or the gloves; indeed, I managed for most of the time without an overcoat. The Annual Conference handbook introduced a crowded programme with over 400 sessions and around 80 exhibitors. I spent some time on Thursday morning in the exhibitors’ marquee. There was a constant buzz with ‘Happy New Year’ greetings being exchanged. Bags were being filled with free goodies and there was time to catch up with friends over coffee. The marquee was the venue for the Members’ Reception, held early evening Thursday. It is important to remember that we are an Association made up of members – the Reception allows us to renew old friendships and make new ones.

The International Day
Over 200 delegates from over 30 countries were at Reading, all are welcome, as they provide an added dimension to our Conference. The International Day sets science education in a global context and enables us to appreciate that many of issues we are facing in the United Kingdom are shared with other countries. A keynote address was given by Dr. Mary Oliver (University of Nottingham). This focused on the promotion of inquiry-based science teaching and the need to connect science and mathematics teaching to the world of work. The day closed, as always, with the International Dinner, an event enjoyed by all both for the food and the bonhomie.

Experiencing frontiers new
On Thursday afternoon, I chaired one of the Frontier Lecture series, which are a firm favourite at Annual Conferences. The presenter was Dr. Faith Orchard from the School of Psychology and Clinical Language Sciences at Reading. She used her lecture to explore recent work on adolescent depression and its treatment. The impact on teaching and learning was grasped quickly by the audience and the subsequent question and answer session could have been extended into the evening. I joined delegates at another Frontier Lecture on Friday: inspired by nature: using weak bonds to make new materials. The talk described how chemists are now able to mimic nature to generate new polymeric materials. Again, the questions flowed. Our thanks go to staff from the University for their input into the Conference.

With the primary science folk
Friday and Saturday provided an exciting programme that featured sessions selected by the ASE Primary Science Committee. The number of primary teachers attending this year was better than ever and the buzz in the Palmer Building was wonderful. As one teacher said to me, ‘We are inspired by what we see and do, and this means we can go back to school with new ideas and renewed enthusiasm’. Well done to the Primary Committee for once again organising a very successful programme.

Hearing from the President
Professor Danielle George MBE is Associate Dean for Teaching and Learning in the Faculty of Engineering and Physical Sciences at the University of Manchester. She was President in 2016 and has agreed to continue this role into 2017. How lucky we are to have such a vibrant speaker and influential person as our President. We thank her for her advocacy on behalf of the Association.

Her address was inspiring; she provided illustrations of ways that have been used to engage more young people in Science and Technology (STEM) activities. She also reinforced the need for ASE to work in collaboration with other learned bodies to promote science in schools and colleges.

A dinner date
The informal buffet-style dinner that was so successful last year was repeated. Neil Monteiro was here with his ‘magic’ and again we were forced to ask – ‘how did he do that?’ What a lovely relaxed evening, rounded off with a few words from Shaun Reason, our wonderful Chief Executive. While the focus at Conference needs to be on science education, the social side is important.

Offering thanks and congratulations
The Conference was a great success. Much hard work had gone into the preparation and organisation. Congratulations to Shaun and his staff, with particular thanks to Susie Burr (Conference Secretary), and Nicola Hern and her conference team. To our Chair, Chris Colclough, we offer special thanks. She was everywhere over the four days and always with a smile on her face.

Thoughts turn to Liverpool
The venue for our Annual Conference in 2018 is Liverpool University. I hope to meet and greet you there. The Conference runs from 3rd – 6th January.

Roger McCune MBE is a past Chair of the Association and currently Honorary Treasurer. He is a Senior Manager at CCEA in Belfast.
ASE International Day 2017 – a review from Mary Whitehouse

The International Day on Wednesday 4th January provided an excellent start to the 2017 Conference – bringing together delegates who live or work in many countries beyond the UK – including France, Germany, Ghana, Ireland, Jordan, Netherlands, Norway, Switzerland, the USA and Uruguay. The theme of the day was Science Education without Borders and we heard about many projects that involve multinational collaborations between science education researchers and teachers.

There were two keynote talks during the day. In the first, Dr. Mary Oliver from the University of Nottingham spoke about Maths and Science for Life, an EU-funded project that aimed to connect inquiry-based teaching with the world of work. In describing inquiry-based learning, Mary used James Nottingham’s metaphor of the ‘learning pit’ (see www.james.nottingham.co.uk).

The second keynote, by Professor Justin Dillon, Moving from citizen to civic science, provided an opportunity to think about the kind of citizen science projects that provide opportunities for citizens to become involved in the science process, not just in crunching the data. Justin gave some great examples of schools and scientists getting together to solve local problems.

There were over 20 other sessions, ranging from global issues in science through outdoor learning to teaching science with picture books or research in schools – for abstracts from each, please visit: http://www.ase.org.uk/documents/ac17-international-abstracts/

As well as the exhibition, bookstall, International lunch and dinner – there is no space here to describe in detail other sessions that took place – for that, you will need to visit the abstracts pages above or look out for the publication of the proceedings of the International Conference later in the year.

Mary Whitehouse is a Chair of the ASE International Group.
Schools Exhibition
On the morning of Friday 6th January, the Students’ Union at the University of Reading was buzzing with the brilliance of 20 schools showcasing the science that goes on behind their doors, as the now regular Schools Exhibition opened its doors to conference delegates.
This was an expansion of last year’s inaugural event, with teachers and students from all across the UK showcasing the STEM work going on in their schools. This Exhibition also included the inspirational teachers who have been shortlisted to represent the UK at ‘Science on Stage’ in Hungary in 2017.
These pages showcase some of the schools exhibiting – some provided some text to explain their exhibits. Our thanks go to Science on Stage and to the Royal Society for their support for this exciting event.

Sandfield Close Primary School
Little did we realise when we began our project, Have you heard about our herd? #500recycledelephants, how it would capture the interest of everyone who found out about it. It began as a whole school recycling project at Sandfield Close Primary School to highlight the plight of endangered animals. Soon we had community groups making their own elephants and we ended up taking over an empty shop in our local city shopping centre. Children were eager to share their knowledge and research on endangered animals and we feel that it has made them more confident and caring citizens.

Gower College, Swansea
Tidal Lagoon design brief:
This award-winning project was an opportunity for bright and innovative A-level students to work with engineers, educators and researchers from both industry and academia in the development of a sustainable energy source that could be incorporated into the development of the Tidal Lagoon (Swansea Bay) in South Wales. The proposal was that seaweed grown in the lagoon could be used as an energy source in an anaerobic digester. The biogas could be collected and used in the lagoon visitor’s centre for many different uses such as energy generation, lighting and central heating.

Kendrick School
Girls inspiring girls in physics A-level:
Sixth formers run ‘Space Soc’ and ‘Engineering Soc’, providing activities, challenges and talks for like-minded friends, and mutually supporting each other’s aspirations for careers in engineering or space science. Kendrick School also showcased work from a Year 10 (age 15) Enterprise Day, when the brief was to design and make a science game during the day. These were then tested by Year 7 (age 12) students, before prizes were awarded.

Angmering School
Pykrete is a composite material consisting of a mixture of ice and sawdust. It was originally proposed in WWII in response to the demand for materials to make new battleships. AS physics students researched and designed their own materials tests for Pykrete. The school’s Science Club (all ages) also carried out their own research and tests. We have looked at different ratios of water to sawdust, and different types of sawdust. Our next step is to make different shaped samples.

The Thomas Hardye School, Dorset
Girls inspiring girls in physics A-level:
Sixth formers run ‘Space Soc’ and ‘Engineering Soc’, providing activities, challenges and talks for like-minded friends, and mutually supporting each other’s aspirations for careers in engineering or space science. Kendrick School also showcased work from a Year 10 (age 15) Enterprise Day, when the brief was to design and make a science game during the day. These were then tested by Year 7 (age 12) students, before prizes were awarded.
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Long Lane Primary School  
Lancaster University  
Abingdon Science Partnership  
Bolton School  
Boroughbridge High School  
Bordesley Green Girls’ School  
Dornoch Academy  
Dowdales School  
Gillespie Primary School  
Lockerbie Academy  
Westbridge Academy  
The King’s School, Canterbury  
St Mary’s College After School Chemistry Club  
Liverpool Life science  
Aldro School  
St Mary’s Primary School
Beyond the Frontier – expert lectures at Reading

Every year, a variety of scientific lectures are put on at the Annual Conference, given by leading experts from the host university. Here we feature some of these from 2017 – our thanks go to all contributors for such a varied programme!

How does multilingualism reshape the brain?

Dr. Christos Pliatsikas, School of Psychology and Clinical Language Sciences

Research by Christos Pliatsikas has shown that knowledge and usage of more than one language reshapes structures that are located deep in the brain, called the basal ganglia, which underlie phonological processing, among other functions. The affected structures are illustrated in the above image. Notably, these effects emerged in participants that did not acquire their two languages simultaneously, but learned their second language much later in life. At the same time, these effects replicate earlier findings in simultaneous bilinguals, suggesting that it is active usage and not necessarily early acquisition of two languages that causes this reshaping of the brain. These findings add to recent suggestions about bilingualism having a protective role against degeneration of the brain in older age.

Tiny cells in the progression of the world’s number 1 killer disease

Dr. Sakthivel Vaiyapuri, Department of Pharmacy

This scanning electron microscope image shows a resting platelet that has discoid shape with the size of 2-4 micrometer. This is the condition in which platelets normally circulate in the blood; however, upon vascular damage, they get activated and change their shape substantially to initiate blood clotting.

This is a confocal image of an activated platelet at a fully spread stage. Upon vascular damage, platelets get activated and they change their shape and spread extensively to initiate blood clotting and subsequently prevent bleeding. This image was obtained using a confocal microscope.
Who owns the plants?
Sarah Cook: Lecture sponsored by the Institute of Food Science and Technology

This lecture covered current issues and concerns around the type of intellectual property rights that exist for plant breeders. Concerns regarding market consolidation and monopolisation of desirable traits, particularly those beneficial for public health, were highlighted. The balance between an open access system for plant breeders and patents on these traits is under scrutiny, as recent decisions by the European Patent Office render products of conventional breeding methods not exempt from patentability.

Touching the virtual world: 3D learning in a rich co-operative haptic environment
Dr. Faustina Hwang, School of Systems Engineering

ASE delegates had an unusual opportunity to touch the virtual world during hands-on demonstrations of a 3D haptic learning system developed at the University of Reading. Haptic technologies provide touch feedback, and can create a convincing illusion that virtual objects have properties such as hardness and weight, thereby enabling more natural interaction with a 3D virtual world. Professor William Harwin and Dr. Faustina Hwang from Reading’s Biomedical Engineering Section presented a lecture about their latest work on developing the system for science education as part of a project titled ‘3D Learning in a Rich Co-operative Haptic Environment’ funded by The Leverhulme Trust.

Personal care products and breast cancer
Professor Philippa Darbre, School of Biological Sciences

Professor Darbre described how her background in biochemistry had led her into breast cancer research and into investigating whether there might be a link between the use of underarm cosmetics and the rising incidence of breast cancer. Since more than half of breast cancers start in the upper outer quadrant of the breast, which is the region adjacent to the underarm where antiperspirant/deodorant products are applied, her lecture described her research into investigating the extent to which chemical constituents of these cosmetics are entering human breast tissues and, using human cell culture models, how those chemicals might cause hallmarks of cancer to develop in human breast epithelial cells.

Neuroscience and children’s literature
Professor Karin Lesnik-Oberstein, CIRCL

Karin’s talk explains the perhaps very unexpected links between children’s literature studies and certain fundamental problems in neuroscience, especially imaging studies, in relation to founding assumptions in both areas about visuality, reading, perspectives and agency.

In essence, both fields assume that viewers (of brain-images or children for instance) are not themselves implicated in what they see, and that what they see is therefore, according to them, an ‘objective’ truth, not a pre-defined, self-fulfilling prophecy, produced by their own assumptions as embedded in their research-methodology.

(Bennett et al, 'Neural Correlates of Interspecies Perspective Taking in the Post-Mortem Atlantic Salmon: An Argument For Proper Multiple Comparisons Correction', Journal of Serendipitous and Unexpected Results, 2010)

Dead salmon study
There were a record number of practical sessions at the 2017 Conference. On these pages, please find a selection of some of these. Thanks to all participants for their contributions to the Conference and to this issue of EiS!

**Camera Obscura**

Justin Quinnell, a freelance pinhole photographer and lecturer from Bristol ([www.pinholesphotography.org](http://www.pinholesphotography.org))

‘Where is that?’ cries one child, as another class gasps at the inverted view of the outside world. No webcam or projector, just an optical projection! The camera obscura originally used a small hole but, from around 1500AD onwards, they used a lens, which required focusing but gave a brighter image. Creating one is cheap, easy and can be used at all levels to introduce aspects of art, science, history and technology.

Black out a room with some rubble sacks, position a +1 dioptre lens (cheap reading glasses) on the blacked out window and hold a shower curtain in front. A giant 2m x 2m inverted colour projection of the outside world will appear, 2500 years after Aristotle first wrote, ‘WOW, that’s COOL!’ A definitive contrast to modern digital imaging and projection.

**New Lamps for Old**

David Ward

This session was the launch of the Joule Appreciation Society’s *Looking Back to Look Forward* initiative. We believe that there is equipment in cupboards that has been forgotten, but which is ideal to deliver today’s National Curriculum requirements. Microelectronics for All (m.f.a) was introduced in the 1980s; the idea is that ‘Old Lamps’ can deliver aspects of the current IT/computer orders requirements.

We would love to hear from others who would like to work with us on Recycling/Reusing/Renovating equipment from Yesteryear. Please contact David at the Greater Manchester STEM Centre on davidwardsalford@aol.com

**Insects and more…**

There was the opportunity to get up close to a range of wildlife, both during some practical sessions and in the Exhibition marquee.

**Field study skills at a zoo**

ZSL (Zoological Society of London)

Delegates were able to find out more about developing field study skills during visits to a zoo with the help of the ZSL London and Whipsnade Zoos’ educational teams.

**If it doesn’t work, it’s physics**

Geoff Auty

Should we avoid demonstrations or class practical work for fear of failure? This session showed nearly two dozen practical items, some repeated from past years, but this year with a focus on wave topics, including a ‘driving lesson’ on the use of a ripple tank.
Practical Action: another great STEM challenge – Smoky Homes

Practical Action were delighted to launch their new Smoky Homes primary STEM challenge at this year’s Conference. The challenge offers an exciting context for pupils to explore the lives of two sisters in Nepal, who, like 3 billion other people in the world, cook on open fires and stoves. This causes health problems linked to smoke inhalation, and environmental issues linked to the use of firewood.

Smoky Homes offers the opportunity to investigate and to develop models of cooking stoves and hoods to reduce the amount of fuel needed and the amount of smoke produced.

(See practicalaction.org/STEM)

Kinaesthetic learning in science

Yeasmin Mortuza

This picture shows delegates as they role play ‘light’ changing speed when moving from a less dense material (e.g. air) into a more dense material (e.g. a glass block)

Science from the Farm

We looked at why, where, what and how we can teach science, using the farm as a context. The main part of the session was an opportunity for the delegates to try out a range of Stokehill Science activities related to the KS2 (age 7-11) programme of study, with an emphasis on working scientifically. Two of the activities focused on planning and all provided an opportunity to increase pupil awareness of food, farming and/or the countryside. The session was run by Debbie Hicks from Stokehill Education and Training for Farming and Countryside Education (FACE).

First Lego League- the ultimate science and technology challenge

For the first time in the UK, the IET has launched FIRST® LEGO® League Junior programme (FLL Jr.®) for primary school children.

The science, technology, engineering and maths programme, which is aimed at 6-9 year olds, is asking students to solve a real world problem, with this year’s challenge requiring students to look at how we throw away rubbish from reducing, reusing and recycling. They will need to present their solution by designing and constructing a model using LEGO bricks, which must include motorised moving parts. Students will also need to present their research on a poster.

Science and Plants for Schools (SAPS)

SAPS ran a lively hands-on workshop, with 21 biology practicals to try. This included everything from engaging resources for 11-14 pupils, to support for new plant topics at GCSE, and for the A-level CPACs. The resources can all be downloaded free from www.saps.org.uk/AΣE2017

From the atom to the planet in 90 seconds, check out our new plant science micro-film at www.intobiology.org.uk

50 shades of science

The University of Worcester

PGCE students from the University of Worcester displayed demonstrations of a range of exciting practical activities that are curriculum-linked. For more information, please visit www.worcester.ac.uk

Practical work – CLEAPSS

Throughout the programme, CLEAPSS offered a series of practical hub workshops, giving delegates the chance to get ‘hands-on’, carry out new and exciting practicals and make equipment to take back to school. For more information, please visit www.cleapss.org.uk

PYPACEE
Other highlights from Reading 2017

The Institute for Research in Schools (IRIS)
The Institute supports teachers and students in carrying out their own original scientific research. Founded by Professor Becky Parker, IRIS promotes authentic research and enquiry in schools across the UK. Students who participate in projects develop in terms of their aspirations to study STEM subjects at university and their confidence in presenting their work to others. Ultimately, they also enjoy what they do as they make a meaningful contribution to genuine research.

Projects are available across the STEM subjects. For example, IRIS provides equipment for schools through the CERN@school programme and releases data for analysis from a variety of sources, including the ATLAS experiment at the Large Hadron Collider and the International Space Station. To find out more or to join in, please visit www.researchinschools.org

Science Fun for children with Special Educational Needs and Disabilities (SEND)

There was a great deal of interest in this session, run by Dr. Laura Hobbs (Science from the Start & Lancaster University) and Dr. Sarah Bearchell (Sarah’s Adventures in Science), and also in the Royal Society of Chemistry-supported project session, Exploring Chemistry in SEND Schools, presented by Dr. Sarah Bearchell and Karen Fourie (John Watson School). The latter session was in danger of over-running, due to a fantastic discussion about optimising access to science for all pupils.

Comment from a delegate:
‘Great conference. Had an amazing Wed and Sat. Thurs and Fri were good but interrupted by having to have meetings as well as enjoy the conference’ (Chris H.).

Achieving race equality in nature

On the Saturday, there was a very special session run by 14-year old Mya-Rose Craig, a student passionate about involving all students, especially black and ethnic minority (BAME) youngsters, in nature. Findings highlight that BAME children have unequal access to nature, impacting on their health and education. For more information, please visit birdgirluk.blogspot.co.uk

Comment from a delegate:
‘This was a fabulously well-organised event, thank you for that. On this scale, I don't think I have seen a better one and I have attended many. Plenty of helpers too, which matters. Enjoyed the exhibition even though a bit tight on space (and warm!). Good selection of stalls, companies etc.

The only disappointment for us was the very small audience at our own session. We were hoping to reach more teachers with our national initiative. Even so, our Sandringham School young pupils excelled themselves with the central part of the presentation. Their Head also did an excellent job for us’ (Philip, RSGB Training & Education Committee Chair).

Comment from a delegate:
‘Thanks to you guys too. Had a great experience. Lots of great contacts and the session on the Friday went really well. There were some very enthusiastic delegates...given that they hung around for a 4.30-5.30 session on a Friday evening they had to be. Thanks to the team for all their help and support. It was a great event’ (Sarah, Earthwatch).
**Stem Careers network**

For the first time at an Annual Conference, there was a drop-in STEM careers networking session on the Thursday morning, during which delegates were invited to call by to discover where studying science could take their students. Representatives from industry and research were on hand to answer questions and distribute a wealth of useful career resources for delegates to take away.

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**THE FUTURE OF FIELDWORK**

Marianne Cutler presented a session outlining new evidence on the benefits of outdoor learning to pupils, teachers and schools from the large scale Natural Connections Demonstration project. The outcomes of this session were:

<table>
<thead>
<tr>
<th>FACT</th>
<th>CHALLENGE</th>
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<tbody>
<tr>
<td>Outdoor learning isn’t compulsory</td>
<td>How to ensure that the multiple benefits of outdoor learning are communicated to ensure teachers see it as a valuable part of their practice</td>
</tr>
<tr>
<td>Teacher confidence and expertise in outdoor learning can be addressed with the right support</td>
<td>What is the best way to achieve this? ITE, CPD, rollout of Natural Connections type-support, others?</td>
</tr>
<tr>
<td>Biology A-level field courses are 38% shorter than 13 years ago</td>
<td>Maintaining high quality self-led inquiry learning if ‘thinking and reflection’ is squeezed out by ‘doing’</td>
</tr>
<tr>
<td>As a result, biology A-level groups are staying much closer to home to carry out their fieldwork</td>
<td>Continuing to provide opportunities to work in contrasting habitats</td>
</tr>
<tr>
<td>The decline in length and travelling distance of A-level groups has been less marked in geography</td>
<td>Encouraging and supporting secondary biology and geography teachers to work together</td>
</tr>
<tr>
<td>Fieldwork costs are an obstacle, and most geography fieldwork is funded by parental contributions</td>
<td>Accessibility of fieldwork, particularly for disadvantaged students</td>
</tr>
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**Comment from a delegate:**

‘We enjoyed our sessions and were pleasantly surprised who came. Yes, we do have our continental visitors and they have provided the backbone of visits in recent years. I do wonder if we actually make enough fuss of them.

Yes, we have the International Day, but I suspect our Dutch and Scandinavian visitors come for different reasons. We do have a considerable number each year from a Dutch curriculum centre. I also wonder if some links could be fostered between schools – a long time ago I had such a brief as part of my work in Salford. I also liked the “ad hoc” walk through engaging exhibitions to the Reception area – it gave a feeling of busy-ness. The poster area was also a pleasant regenerated activity’ (David Ward).
A snapshot of the exhibitions at the 2017 Annual Conference

As always, there was a wide array of exhibition stands at Reading, offering delegates the opportunity to view and compare equipment, research resources, new educational titles and teaching ideas from a range of suppliers and educational organisations. The main Exhibition Marquee was packed full of stands, together with a café, and buzzed with activity as conference goers viewed what was on offer.

…and in the Students’ Union...

As well as the main marquee, there were a number of other exhibition stands in the Students’ Union, next to Registration. These included: ICASE, NSTA, Earthwatch, Eagle Heights, Royal Society of Biology, Cambridge Science Centre and the British Physics Olympiad.
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