



# SCOTTISH SCIENCE ISSUES

President: Prof Anne Glover, University of Aberdeen

Chair: Stuart Farmer, Robert Gordon's College, Aberdeen

## *Dear Colleagues,*

I am not a regular listener to Radio 2. I seemed to mature straight from Radio 1 to Radio 4 when I was in my early twenties. However, occasionally I get a little Radio 2 fix and on getting into a friend's car after work one afternoon earlier this year I heard Steve Wright report that, at the current rate of repair, it will take until 2109 to fix the potholes in the roads in and around Aberdeen. Something I find very easy to believe.

One of my S6 pupils recently discovered the consequences. He had not long gained his wings so to speak but one morning arrived in class rather late and despondent. When driving into school he had found one of the offending bits of road and his car's suspension had collapsed. On reporting the incident he had been informed that he was only one of seven who had suffered a similar fate at that spot in the previous few days. The fact that one of the other vehicles had been a Range Rover emphasised that his old Mini hadn't really stood much of a chance.

Councils currently face lots of pressures to make what are euphemistically called "efficiency savings". Under the concordat agreement they also have flexibility to transfer funds from one budget heading to another, perhaps away from education and towards potholes. They naturally look for easy targets and unfortunately one of them is teacher CPD. Right from the start the successful introduction of CfE was always going to require a change in emphasis in teaching and learning. This is only going to happen if there are effective opportunities for educators to share good practice, to meet to develop cross-curricular projects, to have time to draw on the expertise of educational researchers and to tease out the narrative necessary to ensure the CfE Experience and Outcomes are successfully completed by our pupils. This neither comes cheap nor can be achieved in one extra school-based in-service day per year. Without the support of organisations such as ASE I could see councils taking until 2109 to introduce changes in teaching and learning our young people deserve.

Help from ASE is at hand. During this autumn ASE Scotland is organising a series of Day Conferences, see the booking forms at the back of this SSI. These are designed both as effective CPD for those attending, building on the best

practice learnt by ASE committee members organising such days over many years now, but also an opportunity to generate materials which will lead to an ASE publication which will be useful for all teachers implementing CfE. Our Primary Group has also organised a series of CfE days through the autumn designed specifically to support Primary Teachers. These are a new venture for ASE Scotland and I am sure our Primary Group can ensure the needs of Primary Teachers are met well by them. Please spread the word to your friends and colleagues.

Of course, ASE does not have a monopoly on teacher support, but it is pleased to work in collaboration and partnership with the likes of SSERC, IOP, RSC, The Optoelectronics College, STEM-ED Scotland, BP and others to support teachers in many ways. This is especially true with the Scottish Science Education Conference, our Annual Conference, which will once again be held in Dunblane in March 2010. Its organising group is being led by Jenni Rees-Jenkins and the programme and booking form will be circulated with the next SSI. I can also assure you that planning for the 2011 Conference are already underway with Lauren Boath taking the lead. If you have any suggestions or comments now is the time to get in touch with her at [lauren.boath@sky.com](mailto:lauren.boath@sky.com).

Enclosed with this SSI and Education in Science are the programme and booking form for the ASE Annual Conference in Nottingham in January. I realise this might seem a long way away and at what might be an inconvenient time of year. However, this is the biggest gathering of science educators in the UK (over 4000) with an incredibly diverse, entertaining and informative range of events. I know of many people, who having been once, cannot wait to go again. If you do go, and especially if you are a first timer, drop me an email and I will make sure I look out for you and say hello. If you are a Physics Teacher I will probably, at sometime during the three days, see you in the IOP Drop-In room around which the IOP Teacher Network will be organising many workshops and talks, sixteen sessions on the Saturday alone. I did say it was big!

I feel honoured to be able to serve as Chair of ASE Scotland for the year and I look forward to seeing many of you at ASE events during the next session.

Stuart Farmer

*The Association for Science Education Scotland: Promoting Excellence in Science Teaching and Learning*

ASE, College Lane, Hatfield, Herts. AL10 9AA Tel: 01707 283000 Fax: 01707 266532 Email: [info@ase.org.uk](mailto:info@ase.org.uk) Website: [www.ase.org.uk](http://www.ase.org.uk)  
ASE Scotland Editor: Stuart Farmer, 27 Deeside Crescent, Aberdeen, AB15 7PT Tel: 07765 500172 Email: [stuart.farmer@yahoo.co.uk](mailto:stuart.farmer@yahoo.co.uk)  
ASE Scotland Field Officer: Stewart Cuthbert, Email: [stewartcuthbert@ase.org.uk](mailto:stewartcuthbert@ase.org.uk)

# ASE Scotland Meeting Notices

*Primary CfE days: relevant,  
inspiring, engaging education*

Four events, at different locations across Scotland, for primary teachers to help you get to grips with the Curriculum for Excellence. Experienced teachers will demonstrate approaches to delivering a theme or topic that relates to specific science outcomes, including examples of activities that really work and ways of recording AiFL. By the end of the day you will have a range of ideas for science activities and examples of how to plan for progression with appropriate assessment ideas.

Saturday, 19 September 2009, 09:30-15:00  
The Ramada Hotel, Inverness

Saturday, 24 October 2009, 09:30-15:00  
Stirling

Saturday, 31 October 2009, 09:30-15:00  
The Lodge, Carfraemill, Lauder, Berwickshire

Saturday, 7 November 2009, 09:30-15:00  
The Ramada Hotel, Ayr

Cost: £20, £12 for ASE members, students and newly qualified teachers

To book contact:  
Carolyn Yates  
Meikle Knox House  
Castle Douglas  
Dumfries and Galloway  
DG7 1NS

Fax: 0155650229  
Email: [Carolyn@cog-acc-prog.demon.co.uk](mailto:Carolyn@cog-acc-prog.demon.co.uk)

## *Teaching with Teltron Tubes*

A workshop delivered by 3B Scientific and organised in collaboration with the IOP Teacher Network.

### **Dates and venues:**

Tuesday, 15 September 2009  
SSERC, Dunfermline

Wednesday, 16 September 2009  
Belmont Academy, Ayr

Thursday, 17 September 2009  
Robert Gordon's College, Aberdeen

Saturday, 19 September 2009  
Fortrose Academy

Monday, 21 September 2009  
Glasgow Science Centre

For further details contact:  
Stuart Farmer, [stuart.farmer@yahoo.co.uk](mailto:stuart.farmer@yahoo.co.uk)

## *West of Scotland*

### **PGDE and NQT event**

Thursday, 10 September 2009  
Crawford Lecture Theatre, University of Strathclyde

### **CfE Day Conference**

10:00-15:00, Saturday, 5 December 2009  
with a focus on Biodiversity and Interdependence  
McCance Building, University of Strathclyde

### **ABM**

May 2010  
to be confirmed

Contact:  
Martin Armitage: [martinarmitage@hotmail.com](mailto:martinarmitage@hotmail.com)

## Grampian

Wednesday, 9 September 2009, 19:00-20:30

### Advanced Higher Investigations

Bob Ironside and Charles Buchan  
Robert Gordon's College, Schoolhill, Aberdeen

Thursday, 17 September 2009, 17:00-19:00

### Teaching with Teltron Tubes

Robert Gordon's College, Schoolhill, Aberdeen

Saturday, 14 November 2009, 10:00-15:30

### CfE Day Conference

Robert Gordon's College, Schoolhill, Aberdeen

Tuesday, 23 February 2010, 17:00-19:30

### Hands-on Science in the Classroom:

with a focus on Forensic Science and  
Renewable Energy  
The Robert Gordon University, Aberdeen

Monday, 10 May 2010, 17:00-19:00

### Institute of Medical Sciences: Translating Science from Bed to Bedside and ABM

Institute of Medical Sciences,  
University of Aberdeen, Forresterhill

Tuesday, 15 June 2010, 19:00-21:00

### Exam Review

Ellon Academy

Secretary: Marie Rennie

mariereenie2007@btinternet.com



**Scotland**

**Scottish Science Education  
Conference 2010**

**Sustaining Science**

5 - 6 March 2010  
Dunblane Hydro

# ASE Scotland Meeting Notices

## Tayside and Fife

Saturday, 26 September 2009, 09:30-16:00

### CfE Day Conference: Planet Earth

Monifieth High School

Wednesday, 25 November 2009, 17:00 - 19:30

### Advanced Higher: Sharing Ideas

University of Abertay, Dundee

Saturday, 6 February 2010, 09:30 - 15:30

### Primary Science

Stanley Mills, Stanley, Perthshire

Wednesday, 5 May 2010, 18:00 - 20:00

### Hydrogen City Tour and ABM

Methil, Fife

Secretary: Pierluigi Carena [plcarena@mac.com](mailto:plcarena@mac.com)

## South East Scotland

Saturday, 3 October 2009, 0:00-15:30

### CfE Day Conference

George Watson's College, Edinburgh

Tuesday, 9 February 2010

### Pub Quiz

Myreside. 79 Myreside Road, Edinburgh

Monday, 17 May 2010, 17:30-19:30

### The Science Education Community and ABM

Moray House, Edinburgh

Saturday, 12 June 2010

### "Share-a-thon": sharing teaching ideas

Moray House, Edinburgh

Contact:

Heather Earnshaw

[h.earnshaw@fc.gwc.org.uk](mailto:h.earnshaw@fc.gwc.org.uk)

## Professor Anne Glover CBE, FRSE, FAAM, President ASE Scotland, 2009 - 2010

Professor Anne Glover was appointed Chief Scientific Adviser for Scotland on 1 August 2006. Her role is to further enhance Scotland's reputation as a science nation.

Anne currently holds a Personal Chair of Molecular and Cell Biology at the University of Aberdeen and has honorary positions at the Rowett and Macaulay Institutes. She is an elected Fellow of the Royal Society of Edinburgh, a member of the Natural Environment Research Council, and a Fellow of the American Academy of Microbiology.

Most of Anne's academic career has been spent at the University of Aberdeen where she has an active research group pursuing a variety of areas from microbial diversity to the development and application of whole cell biosensors (biological sensors) for environmental monitoring and investigating how organisms respond to stress at a cellular level.

Through her roles in teaching and speaking at science festivals and to lay audiences, Anne has been keen to try and convey the excitement and relevance of science to non-scientists. She has promoted this activity both

as Chief Scientific Adviser and through her role on the Natural Environment Research Council where she has also been involved in setting strategy, optimising mechanisms for science delivery and scientific training and securing budgets for environmental research in the UK.



Anne has held many editorial responsibilities, served on a wide range of committees and currently serves on the Natural Environment Research Council (NERC), the Biotechnology and Biological Science Research Council/DTI LINK Bioremediation Programme Steering Committee and NERC Environmental Genomics Steering Committee. She was recently recognised in March 2008 as a Woman of Outstanding Achievement by the UK Resource Centre for Women in Science, Engineering and Technology.

## Stuart Farmer, Chair ASE Scotland, 2009 - 2010

Stuart was brought up in Cupar, Fife before attending the University of St Andrews and Dundee College of Education. He started his teaching career in 1984 at Kinross High School before moving north to Peterhead Academy, Alford Academy and finally in 1996 to his present post of Head of Physics at Robert Gordon's College, Aberdeen. In 2004 he gained an MBA in Educational Management from the University of Leicester and was one of the first teachers in Scotland to become a Chartered Science Teacher after ASE gained the right to award Chartered status to its members.

A career-long member of ASE, Stuart has been active in ASE for over two decades having held posts such as ASE Scotland Secretary, Council Representative and ASE Scotland Chair on two previous occasions. Stuart has always been keen to promote and share good quality physics and science education which has resulted in him being involved in many professional activities for various organisations and initiatives

including the Institute of Physics, SQA, Higher Still and the Optoelectronics College. Effective learning and teaching continues to be a major interest for Stuart, not just in Scotland but also beyond, and he has taken opportunities to attend schools and conferences in England, Ireland, USA, Australia, South Africa, Switzerland and the Netherlands in recent years, several thanks to his ASE membership.

During his year as Chair Stuart will work to ensure ASE Scotland operates to the highest professional standards in supporting its members and promoting effective science education through its CPD activities.





# ASE Tayside and Fife: CfE Day Conference: Planet Earth

Saturday 26 September 2009  
09:30 - 16:00

Monifieth High School

Talks and workshops on

## Supporting, Interpreting and Writing for the Science Experience and Outcomes of CfE

Name \_\_\_\_\_

ASE membership number \_\_\_\_\_

Address for correspondence \_\_\_\_\_

\_\_\_\_\_

Email \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

Conference fee: £45  ASE members: £30  Students/Probationers: £10

(ASE member rate applies to individual members and all staff of membership primary schools)  
Cheques payable to 'ASE Tayside and Fife' should accompany this form and arrive before 19 September.  
Please send to:

Neil Taylor, School of Education, The University of Dundee, Nethergate, Dundee, DD1 4HN  
[n.m.taylor@dundee.ac.uk](mailto:n.m.taylor@dundee.ac.uk)



# ASE South East Scotland: CfE Day Conference

---

Saturday 3 October 2009  
10:00 - 15:30  
refreshments from 09:30  
George Watson's College, Edinburgh

---

Workshops on

## Supporting, Interpreting and Writing for the Science Experience and Outcomes of CfE

---

Name \_\_\_\_\_

ASE membership number \_\_\_\_\_

Address for correspondence \_\_\_\_\_

\_\_\_\_\_

Email \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

---

Conference fee: £45  ASE members: £30  Students/Probationers: £10

(ASE member rate applies to individual members and all staff of membership primary schools)  
Cheques payable to 'ASE Scotland' should accompany this form and arrive before 26 September.

Please send to:

Heather Earnshaw, George Watson's College, Colinton Road, Edinburgh, EH10 5EG  
[h.earnshaw@fc.gwc.org.uk](mailto:h.earnshaw@fc.gwc.org.uk)



# ASE Grampian: Promoting Excellence in Science Teaching and Learning

Saturday 14 November 2009

10:00 - 15:30

refreshments from 09:30

Robert Gordon's College, Aberdeen

Two workshops: (please indicate your 1st, 2nd and 3rd choices in the boxes)

- Wikis, Vokis and mobile phones in Education - Sharon Tonner
- Biotechnology - Andy Schofield
- Basic Manipulative Skills in Science Experiments - Marie Fish and Sue Bird
- Illumination and Communication - The Optoelectronics College
- Using Critical Skills to meet the four capacities in Science - Hamish Keddie
- Numeracy Across the Curriculum - STEM-ED Scotland/LTScotland

Name \_\_\_\_\_

ASE membership number \_\_\_\_\_

Address for correspondence \_\_\_\_\_

Email \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

Conference fee: £45  ASE members: £30  Students/Probationers: £10

(ASE member rate applies to individual members and all staff of membership primary schools)  
Cheques payable to 'ASE Grampian' should accompany this form and arrive before 7 November.

Please send to:

Marie Rennie, Meldrum Academy, Colpy Road, Oldmeldrum, AB51 0NT  
[marierennie2007@btinternet.com](mailto:marierennie2007@btinternet.com)



# ASE West of Scotland: CfE Day Conference

Saturday 5 December 2009

10:00 - 15:30

refreshments from 09:30

McCance Building, University of Strathclyde

## **Biodiversity and Interdependence Devising a programme of activities to accompany the Conceptual Journey**

**Keynote address: What do we mean by a "Conceptual Journey"?**

Workshops:

Sessions by speakers with specific areas of experience,  
generating suggestions for activities

Amplification and clarification of the conceptual journey and time line,  
with suggestions for activities

Name \_\_\_\_\_

ASE membership number \_\_\_\_\_

Address for correspondence \_\_\_\_\_

\_\_\_\_\_

Email \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

Conference fee: £45  ASE members: £30  Students/Probationers: £10

(ASE member rate applies to individual members and all staff of membership primary schools)  
Cheques payable to 'ASE West of Scotland' should accompany this form and arrive before 28 November.

Please send to: Martin Armitage, 530 Clarkston Road, Glasgow, G44 3RT

[martinarmitage@hotmail.com](mailto:martinarmitage@hotmail.com)