

ASE Scotland Annual Conference



BOOKING FORM

Celebrating Excellence *in Science*

Crieff Hydro Hotel
2-3 March 2012



PROGRAMME: Friday, 2nd March 2012

09:00-09:30 **REGISTRATION:** Tea and coffee will be available and the exhibition will be open. Register with the conference team, check your session bookings and receive your conference pack and programme.

09:30-09:40 **WELCOME AND INTRODUCTION:** Mr Neil Taylor, Chair of ASE Scotland.

09:40-10:40 **SESSION 1: KEYNOTE ADDRESS:** Gillian Cooke, Scottish athlete, World champion bobsledder and Winter Olympian.

10:40-11:10 EXHIBITIONS AND REFRESHMENTS

11:15-12:15 SESSION 2

2A **Chemistry Tips and Tricks!:** Chris Lloyd and Liz Palmer, SSERC.
We plan to share our experiences in chemistry experiments which support CfE. A wealth of hints and tips to pass on – don't miss the fun! 3+,T,C

2B **Building Confidence:** Dr. Heather Reid OBE, Science & Interdisciplinary Learning for Primary Schools.
This workshop will highlight the outcomes of a Scottish Government funded project by the University of Glasgow entitled 'Excellent STEM Education for a Successful Scotland'. The project focuses on ways to support primary school teachers and develop confidence in key aspects of STEM - particularly in relation to undertaking practical experiments with pupils as part of Curriculum for Excellence. 1, 2

2C **Superhero Olympians:** Hester Binge, Primarily Science.
What is it that makes a Superhero so super? Using Science investigations & exploration to find out about a Superhero's power & qualities that would have them winning a gold medal every time! This workshop will also help develop cross curricular links with History, Speaking & Listening and Drama. 1, 2

2D **The Contemporary Biosciences:** Dr. Cathy Southworth, The University of Edinburgh.
The biological sciences are ever developing so why not find out more about a range of contemporary biology topics in this session. You will hear first hand from the scientists and then explore how you can use their data to inspire your teaching, which will in particular support the Topical Science Organiser of CfE. 3+,B

2E **In Search of Solutions:** Dr. Phil Taylor, High School of Dundee.
This workshop will introduce the Royal Society of Chemistry resource In Search of Solutions, a collection of fifty chemical egg-races and practical problem solving activities in chemistry. Participants will have the opportunity to try out a practical activity and will be provided with a copy of the resource. 3+, C,G

2F **Active Learning in the Physics Lab:** Ronna Montgomery, IoP Teacher Network.
What does a pupil expect to learn when the class is told that they are 'doing experiments' today? Almost certainly the answer to that question is 'nothing much'. Bring AfL strategies into the lab and learn how to decide on the 'learning intentions' for any particular Practical Lesson. 2,3,4 P,T

2G **Frontier Science: Understanding Infant Cognitive Development, and How Robots Might be Built to Learn About the World in the Same Way:** Dr Frank Guerin, The University of Aberdeen.
This talk reviews current knowledge on infants' development of skills and knowledge relating to the manipulation of objects. We identify seven mechanisms which seem to be in operation during the developmental process, and which could potentially be implemented in a robot, allowing the robot to develop like an infant. FS

2H **Making Science a Priority:** Ian Menzies, Education Scotland.
STEM skills are recognised as being critical to the success of the Scottish economy and in supporting our transition to a low carbon future. This workshop will showcase the national strategies, resources and CPD being developed to engage learners, resource practitioners and drive forward improvements in science education at all levels. G

2X **An extended opportunity to visit the exhibitions and STEM school competitions drop in.**

12:10-13:30 LUNCH AND EXHIBITIONS

Explanation of Codes		2	To the end of P7, but earlier or later for some
T	Technicians	3 & 4	S1 to S3 but earlier for some. Note that level 4 broadly equates to SCQF level 4
0	Curriculum For Excellence Stages of Learning Early: The Pre School Years and P1, or later for some	B/C/P	Biology / Chemistry / Physics
1	Curriculum for Excellence Stages of Learning to the end of P4, but earlier or later for some	FS	Frontier Science Scotland lecture suitable for all with an interest

13:30-14:30 **SESSION 3**

- 3A **Biology Experiments Made Easy!:** Tricia Geraghty, SSERC.
This workshop will have something for both new and experienced technicians supporting the biology curriculum. Come along – Let's make them work! 3+,T,B
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- 3B **Science through play:** Debbie Eccles, Primarily Science.
Young children learn a lot through play based learning. This practical workshop explores what we mean by science for young children and offers a range of practical ideas and activities to help develop science skills in young children. 0,1,2
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- 3C **Science Olympia:** Kate Blacklock, Primarily Science.
Science Olympia is a range of Olympic - based enquiry questions, including Javelin Jaunt, Discus Dilemma, Track Trouble and Training Tricks. This workshop aims to give you practical ideas for different types of scientific enquiry with an Olympic theme. 1,2
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- 3D **Developing Independent Learning Through the Use of Plants:** Dr. Liz Lakin, The University of Dundee.
This workshop looks across the sciences to enhance progression whilst encouraging independence of thought. Using a range of examples we'll explore the peculiar, the familiar, things you didn't know and possibly things you'd rather not! Whilst considering what we know already and applying it to more detailed and complex scenarios. 2-4, B,G
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- 3E **Chemistry and e-learning: RSC resources for 2012:** Dr. Jenny Rogers and Dr. Lorna Thompson, RSC.
In 2012, the RSC will launch Phase I of an ambitious new learning platform that will provide unparalleled support for the learning and teaching of chemistry. The new platform and resources will cover core chemical concepts, global contexts and provide support for the 11-19 age range. This session will demonstrate and provide time for a hands-on trial. 3+,C
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- 3F **Practical Work for the Revised Higher Physics Electricity Unit:** Alex Munro, Lossiemouth High School; Stuart Farmer, IoP.
This workshop will allow delegates hands-on experience of around 20 different practical activities which can be used to reinforce understanding and illustrate the concepts covered in the Revised Higher Physics Electricity Unit. The activities draw upon many resources likely to already be in many schools or that are relatively cheap to develop. P
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- 3G **Frontier Science: Viruses, Cholesterol and Immunity:** Professor Peter Ghazal, The University of Edinburgh.
We are interested in identifying aspects of host-pathogen interactions which can be treated with drugs. We can think of a virus as shedding its genes and 'borrowing' genes from its host. Identifying borrowed genes allows drugs to be designed to target that gene, for example genes associated with metabolic pathways. We can demonstrate that lowering cholesterol metabolism activity can improve immunity. FS
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- 3H **The Donaldson Review and Scottish Baccalaureate - A Model for Implementation in Secondary Schools:**
Dr. Margaret Ritchie, Torry Academy.
This presentation describes a model of learning and teaching the new Scottish Baccalaureate in Science within a semi-rural secondary school. Through a 'whole school approach' pupil learning and teacher education were enhanced and partnerships with outside agencies developed. This model addresses recommendations made by Donaldson and embraces essential elements of CfE. 3+,G,T
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- 3X **An extended opportunity to visit the exhibitions and STEM school competitions drop in.**

14:30-15:00 **EXHIBITIONS AND REFRESHMENTS**

15:15-16:15 **SESSION 4**

- 4A **Woosh, Flash, Bang Dangerous Demos Workshop:** Tom Pringle
From fire tornadoes to foam fountains, deflagrations to detonations, Dr Bunhead's get-your-hands-dirty workshop reveals a host of easy and inexpensive proven demonstrations that excite kids and teachers alike. T
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- 4B **Building Confidence – engaging with primary teachers:** Discussion session led by Dr. Heather Reid OBE 0,1,2
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- 4C **Curriculum Development Seminar: National Qualifications 4 & 5, and Advanced Higher Developments:**
Alison Plummer, SQA
This session will offer opportunities to hear about recent developments of national significance. We hope to be able to update you on the status of plans for National Qualifications 4 and 5 together with proposed post-16 curriculum changes in Advanced Higher. 4+
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- 4X **An extended opportunity to visit the exhibitions**

16:30-17:30 **SESSION 5**

KEYNOTE ADDRESS: FORENSIC ANTHROPOLOGY IN THE REAL WORLD: Professor Sue Black, The University of Dundee.
This presentation will address the reality of being a forensic anthropologist. This work covers national and international forensic investigations.

19:00 onwards **RECEPTION** followed by ASE Scotland Annual Dinner and Ceilidh

PROGRAMME: Saturday, 3rd March 2012

09:00-09:30 **REGISTRATION:** Exhibitions will be open.

Saturday day delegates only: register with the conference team, check your session bookings and receive your conference pack and programme.

09:30-10:30 **SESSION 6**

KEYNOTE ADDRESS: LOOKING FOR EXCELLENCE: Stuart Naylor and Brenda Keogh, Millgate House Education.
What do we mean by excellence? Where do we find it, and how do we recognise it? Is it possible to achieve it? What's the evidence? What should we do to celebrate it?

10:30-11:10 **EXHIBITIONS AND REFRESHMENTS**

11:15-12:15 **SESSION 7**

- 7A **Glass Working Techniques:** Ian Helmsley, SSERC.
A workshop to develop glassblowing and other glass working techniques. T
- 7B **The Science of Sporting Chance:** Debbie Eccles, Primarily Science.
Do all high jumpers have to be tall and slim? Do all shot putters have big muscles in their arms? This practical work shop aims to offer ideas to help children understand that there is usually a pattern in body type and sporting achievement by planning and carrying out some 'pattern seeking' investigations targeted at different levels. 0, 1, 2
- 7C **All Singing, all Dancing Science:** Kate Blacklock, Primarily Science.
This workshop aims to provide ideas and activities to enhance science teaching through creative use of music, movement and drama. It will focus on bringing enjoyment to science lessons – for children and teacher, providing useful starting point for participants to create their own ideas for more stimulating science lessons. Audience participation is not compulsory but much more enjoyable when you take part! 1, 2
- 7D **Practicals to Support NQ's in Biology:** Kate Andrews and Kath Crawford, SSERC.
This session will allow the opportunity to try practical work and activities designed to support and enhance delivery of the new national courses in biology. Participants will receive a CD of workshop resource materials. B
- 7E **Revised Higher Chemistry: Researching Chemistry Skills:** Andy Boswell, SSERC.
This practical workshop hopes to explore the chemistry of a topical issue by using simple, innovative and visual methods that reflect the skills required to research chemistry in the Revised Higher Chemistry course. C, T
- 7F **New qualifications, New Practical Work:** Gregor Steele, SSERC.
A physics course isn't a physics course without practical work. This workshop features experiments and techniques for the new CfE NQ courses. P, T
- 7G **Frontier Science: Miracle Treatment? ultrasound in the Future of Surgery:**
Professor Sandy Cochran, The University of Dundee.
This presentation will focus on the use of ultrasound as a way to deliver energy, directly in surgical devices and remotely for surgery by hyperthermia and for targeted drug delivery. These topics are highly multidisciplinary and the issues around this will be drawn out particularly. FS
- 7H **"Science Clubbing":** Jane Martin, Programme Director; Jess Cooke, Regional Coordinator, Young Engineers and Science Clubs, Scotland.
Want to start a club but not sure what to do? Looking for an assortment of STEM activities and start-up funding? This workshop will demonstrate tried and tested ideas for Science and Technology projects, specifically aimed at Science Clubs for primary and junior secondary pupils. Spring Cleaning, Charlie's Chocolate, Missions to the Moon or Mars and Breeding Baby Dinosaurs provide the inspiration for a wide variety of simple practical work to whet children's appetites for Scientific Investigation and the Technology Process in a Science Club setting. G, T
- 7X **An extended opportunity to visit the exhibitions and public engagement event**

12:15-13:30 **LUNCH AND EXHIBITIONS**

13:00-13:30 **ASE SCOTLAND ABM**

13:40-14:40 **SESSION 8**

8A **Radiation Rules, OK?:** Gregor Steele, SSERC.
Light radiation, ultraviolet radiation, ionising radiation... This hands on workshop uses example activities to highlight SSERC's guidance on the use of these radiations in the classroom. T

8B **The Science Behind the Sports:** Tanya Shields, Primarily Science.
Discovering the science behind sports is an engaging way to generate discussions within your classroom. Through talk, children develop their thinking and understanding of the world around them. This practical workshop will explore how dialogue forms the basis of learning and suggest strategies to support talk using sporting and scientific starting points. 1, 2

8C **Ingenious Inventions:** Hester Binge, Primarily Science.
Ingenious inventions are all around us, but do we really think about how these things work and how they make our everyday lives easier and often more fun? Where would we have been without Silly Putty, Rubik Cube and Space popping candy? This workshop encourages teachers to engage & develop children's enquiry skills by investigating the inventions that children are excited by. 1, 2

8D **From Sellotape® to fireflies: things that glow in the dark:** Paul Beaumont, SSERC.
A demonstration lecture to show how light can be produced and used in chemical and biological systems. All experiments suitable for use in the classroom! 2+,G,T

8E **Earth Science activities for a Curriculum for Excellence:** Angus Miller, ESEU.
There are good opportunities within CfE to explore Scotland's rocks and make cross-curricular links. Explore a range of practical, hands-on activities which are simple to set up and run, use inexpensive materials, but are very powerful in engaging pupils with rocks and Earth processes. Includes a free CD of resources. 0-3 G T

8F **The best of Science and Physics on Stage:** Stuart Farmer, Tim Browett, Robert Gordon's College.
Stuart and Tim represented Scotland at the Science on Stage Conference in Copenhagen in April 2011 which celebrated the best of science education from around Europe and Canada. This workshop will include many ideas and fun activities demonstrated in Copenhagen and at some of the previous Science and Physics on Stage events many using low cost, recycled and everyday resources. 3+, P,G

8G **Frontier Science: Stem Cells and Regenerative Medicine:**
Professor Charles French-Constant, Director of the MRC Centre for Regenerative Medicine.
Why can't humans effectively regenerate lost or damaged tissues? To answer this, we need to understand stem cells – remarkable cells from which we all grow. My talk will focus on the properties of these cells, highlighting what makes them unique and showing how understanding them will lead not only to better explanations for disease but also novel medicines that directly promote regeneration. B,C,G,T

8H **Magnificent Magnification – simple digital microscopy:** Kath Crawford, SSERC.
Use the Veho digital microscope to reveal the fascinating world of the very small through your computer screen. Suitable for children of all ages! 2-4, G

8X **An extended opportunity to visit the exhibitions and public engagement event**

14:40-15:10 **EXHIBITIONS AND REFRESHMENTS (Exhibitions close - 15:10)**

15:15-16:15 **SESSION 9 and CONFERENCE CLOSE**

KEYNOTE ADDRESS: "OPENING MINDS": Professor Stuart Monro OBE, DUniv, FRSE.
Scotland has a long and creditable history in the development of science. During the Enlightenment Edinburgh was a "hotbed of genius" where new ideas and new innovations were fostered and cultivated. The 21st Century may well be the new Enlightenment with innovations that cut across established discipline boundaries.

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A bee, did you know, has five eyes...
and just imagine - if the Sun were the size of a beach ball
then the Earth would be as small as a pea...

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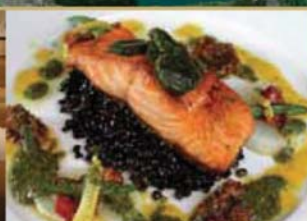
Bring your family, extend your stay until 5pm on Sunday
and enjoy the hotel's unrivalled leisure facilities.



Have a weekend of fun!

For further information email steuartcuthbert@ase.org.uk

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CELEBRATING EXCELLENCE IN SCIENCE - BOOKING FORM

The ASE Scotland Annual Conference 2012 - Crieff Hydro Hotel, 2nd and 3rd March 2012

Please fill in both pages of this form.

Title:	First Name:	Surname:
Name to appear on badge:		
Name of organisation to appear on badge:		
Correspondence address:		
Tel. (work)	Tel. (home)	Email:
Special diet and /or access requirements:		
Have you been to an ASE Scotland Annual Conference before? Yes <input type="checkbox"/> No <input type="checkbox"/>		
If you are an ASE member please enter your membership number here		

Please tick all relevant boxes to indicate your main area of interest / employment and subject specialism as appropriate:

Primary Secondary Tertiary Technician Probationer Student Other

Subject Specialism: Biology Chemistry Physics

If employed by a local authority please state which:

I wish to book the following options from the workshop selection as described on the programme:

Please indicate by letter after each session e.g. Session 2

FRIDAY Session 2 Session 3 Session 4

SATURDAY Session 7 Session 8

OVERLEAF ARE THE VARIOUS BOOKING OPTIONS INCLUDING BOOKINGS FOR:

- (i) residential places including Thursday night bookings and 36 hour conference packages;
- (ii) day delegate places.

Please note there are reduced rates for ASE members, PROBATIONERS and students.

PLEASE SCAN THE WHOLE LIST BEFORE ENTERING YOUR REQUIREMENTS. To find out more about ASE membership please visit http://www.ase.org.uk/htm/membership/how_to_join.php

Please return both pages of this form together with any cheques and/or purchase orders to:

Pauline Anderson, Macks Mill Cottage, Gordon, Berwickshire TD3 6JY
no later than Friday 27th January 2012 for residential places.

Day delegates may book until Friday 24th February 2012.

Enquiries to: stuartcuthbert@ase.org.uk or Telephone 01764 670751

PLEASE COMPLETE THIS PAGE FOR YOUR CONFERENCE REQUIREMENTS

NAME	
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THE CONFERENCE PACKAGE DEAL : FRIDAY 2nd MARCH & SATURDAY 3rd MARCH 2012

36 hour delegate package to include:

Friday 2nd March: conference fee, refreshments, lunch, ASE Scotland Annual Dinner and celidh and overnight accommodation

Saturday 3rd March: conference fee, refreshments, lunch

	Fee (£)	Please tick	Cost
Delegate Package: ASE Members/Supply Teachers	£240.00		
Delegate Package: Non-ASE Members	£290.00		
Delegate Package: PROBATIONER/Students - ASE Member	£200.00		
Delegate Package: PROBATIONER/Students - Non-ASE Member	£240.00		

SEPERATE/ADDITIONAL OVERNIGHT ACCOMMODATION OPTIONS

	Fee (£)	Please tick	Cost
Thursday 1st March: dinner, bed and breakfast (not included in package deal)	£140.00		
Friday 2nd March: ASE Scotland Annual Dinner, celidh, bed and breakfast	£150.00		
Saturday 3rd March: dinner, bed and breakfast (not included in package deal)	£140.00		

For further information on family deals, please contact Steuart Cuthbert:
Email: steuartcuthbert@ase.org.uk or telephone 01764 670751 or 07754030698

NON-RESIDENTIAL OPTIONS

	Fee (£)	Please tick	Cost
Friday 2nd March: day delegate rate ASE members/Supply Teachers	£70.00		
Friday 2nd March: day delegate rate non-ASE members	£100.00		
Friday 2nd March: day delegate rate ASE members – Probationer/Student	£50.00		
Friday 2nd March: day delegate rate Non - ASE members – Probationer/Student	£70.00		
Saturday 3rd March: day delegate rate Non - ASE members – Probationer/Student	£70.00		
Saturday 3rd March: day delegate rate ASE members/Supply Teachers	£70.00		
Saturday 3rd March: day delegate rate non-ASE members	£100.00		
Saturday 3rd March: day delegate rate ASE members – Probationer/Student	£50.00		
TOTAL			

Please complete method of payment section :

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<input type="checkbox"/> Please send invoice to:	<p>BACS payments can be made to</p> Account Name: Association for Science Education Account Number: 43001645 Sort Code: 60-10-18 Bank: Nat West, Hatfield Town Centre Branch, 35 Town Centre, Hatfield, Herts AL10 0JU

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