

## ASE(NI) Bi-ennial Conference

**Friday 7th June 2013**

**St Mary's University College, Belfast**

**Engaging Pupils in STEM**

**Sharing Good Practice**

### Keynote address:

To answer the cynics who question the validity of the STEM agenda, we are delighted to present our keynote speaker, local STEM entrepreneur, Dr. Hugh Cormican.

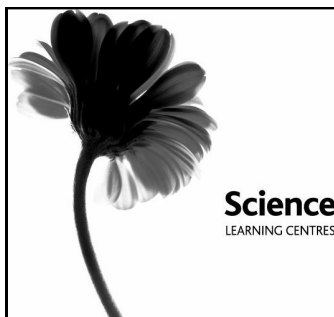
Winner of the NISP CONNECT 'Innovation Founder Award'. This recognises those who have founded, led or built a Northern Irish life sciences or technology-based organisation and has contributed to the Region to shape the local economy. Also, Chair of STEM Review 2009, Dr. Cormican will share his vision for a thriving STEM based economy in our Region.



**IOP** Institute of Physics

**Sentinus**  
where industry matters

**AQA**



**CEA**  
Rewarding Learning

**RSC** Advancing the  
Chemical Sciences

**Invest Northern Ireland**  
Building Locally  
Competing Globally

# Post-Primary Sessions

We have provided not only a series of Workshops which tackle current pedagogical issues but also Frontier Science Lectures from QUB to support teachers in updating their Scientific Knowledge.

## **Session 1**

### **S1 Doing science with an iPad:**

Mr. Richard Needham, National Science Learning Centre, York.

This Session will explore how mobile devices can help students learn in Science. Bring along your mobile device and investigate in this interactive Workshop. Find out how these devices are being introduced in STEM teaching across the UK.

### **S2 'Promoting Independent learning in Science' or are we just playing at it:**

Dr. Liz Lakin, University of Dundee/Society of Biology

Teachers are required to support and guide pupils to become successful independent learners capable of reflecting on their learning, able to identify progress and set positive targets. This session will explore these skills and present a range of activities drawn from across the sciences to promote and develop ideas.

### **S3 Success with controlled assessments:**

Mr. Ed Walsh, Lead Consultant for Science, Cornwall Learning.

This course looks carefully at the skills being assessed by Controlled Assessment and considers effective ways of developing students' capabilities to support access to higher marks. This Workshop will focus upon practical classroom activities (KS4).

### **S4 'Make and Take' Physics Workshop:**

Sandra O'Connell, Leanne Hawthorne and Sue McGrath, Institute of Physics (IoP) Teacher Developers.

The IoP Teachers Developers will deliver a selection of their most popular 'Make and Take' classroom activities.

### **PS1 STEM Enrichment:**

Sentinus and the STEM Business Steering Group. A range of workshops will demonstrate examples of best practice of schools working with businesses.

## **Session 2**

### **S5 Success with 6 mark GCSE questions:**

Mr. Ed Walsh, Lead Consultant for Science, Cornwall Learning.

Some students struggle with the six mark 'level of response' questions recently introduced in the GCSE examinations. This session will look at effective ways to support learning. There will be a focus upon practical strategies and participants will be able to try out and take away successful approaches (KS4).

### **S6 Science Fair Project Generation:**

Mr. Brian McKenna, Institute of Physics: Physics Mentor.

Brian McKenna has successfully mentored BTYSTE and Young Innovator Projects to International success. In this presentation Brian and his pupils will discuss how Science Fair Projects arise and can be developed. The talk will be illustrated with examples of prize winning work.

### **S7 Practical ideas, gadgets and gizmo's:**

Simon Quinnell, National Science Learning Centre, York.

We welcome the return of the most popular Session from our 2011 Conference! Simon will explore a range of simple, inspiring and inexpensive practical ideas and the supporting equipment for Biology, Chemistry and Physics.

### **S8 Biology Frontier Lecture - Charting the course of Genomics into the clinic:**

Professor Ken Mills, Centre for Cancer Research and Cell Biology, Queen's University Belfast.

### **PS2 Helping to Bridge the Gap:**

Richard Kirk, Institution of Civil Engineers.

ICE Northern Ireland (ICE NI) delivers activities in both Primary and Post Primary Schools which enable pupils to see the impact which civil engineering has on society and how education underpins the work of civil engineers. Richard Kirk will describe the range of initiatives which ICE NI has facilitated in association with over 100 schools in Northern Ireland."

### **PS3 IET Education Resources:**

Keith Chambers, IET Schools' Liaison Officer for Northern Ireland.

IET delivers initiatives such as First LEGO league and IET SMART Energy Project to schools. Keith will also give an overview of Education Resources available from the IET, and offer advice for Science and Careers teachers on guiding students towards career opportunities in Engineering.

### **Session 3**

#### **S9 Developing expertise in teaching Energy and Change in Chemistry:**

Angela McKeown, Royal Society of Chemistry (RSC).

The workshop will consider a range of engaging and relevant activities to enhance the teaching and learning of Energy in Chemistry. Topics covered will include: endothermic and exothermic reactions, heat of neutralisation, burning, energy density of alcohols, conservation of energy, Hess law, entropy.

#### **S10 Science Clubs:**

Dr. Mildred Gill, Lumen Christie Derry.

This Session will look at a range of ideas for Science Clubs. The Workshop will provide a series of hands on practicals which can also be used as starter activities with pupils in the classroom.

#### **S11 The Latest News about GCSE and 'A'-Level Reform:**

Simon Miles, AQA.

AQA's Curriculum Advisor for Northern Ireland, Simon Miles, will provide the latest information available about the arrangements for 'A'-Level and GCSE reform. Simon will explain how AQA's primary focus will be to ensure that the new qualifications can be successfully delivered and that students and teachers are fully supported through this period of change.

#### **S12 Physics Frontier Lecture - Harnessing Renewable Energy from Ocean Waves:**

Paul Brewster, CTO of Pure Marine, a local Company who develop business, technology and engineering solutions needed to harness our indigenous wave and tidal energy resources.

### **Session 4**

#### **S13 Science Futures:**

Melanie Mulligan, CCEA.

A practical based Workshop where delegates can expect to gain an insight into the range of STEM Futures enquiry based curriculum and assessment resources. There will be an opportunity to explore ways that facilitate an enquiry based approach to science including sharing ideas for making science more engaging and practical. Free resources and materials will be provided (KS3).

#### **S14 Earth Physics:**

Paul Grant, Earth Science Education Unit, Sponsored by IOP.

A hands-on workshop to cater for NEW CCEA Physics Specification 'Structure of the Earth, Rocks, Volcanoes etc..

#### **S15 Chemistry Frontier Lecture - Complex Natural Products - Lead Compounds in the Quest for New Medicines:**

Dr. Paul Stevenson, QUB Chemistry, Vice Chair RSC NI Section.

#### **PS4 Using a datalogger to find the evidence:**

Barbara Higginbotham, Data Harvest

Using dataloggers with light sensors, temperature sensors, sound sensors, heart rate sensors and timing switches, we will gather evidence during this session to answer questions such as:

How fast does my heart beat? Is it the same all the time? What happens when salt is spread on an icy road? and many more.

#### **PS5 An Audience with Individuals: Voyage on the Self Esteamer, An Audience with Individuals: Voyage on the Good Ship Self Esteem, What's in a name? A rose by any other name, An army of ordinary people:**

W5

This seminar studies the importance of dealing with members of the audience as individuals and how to treat them with respect. It also allows discussion on the core values of a communicator.

## Becoming a Member of the ASE

Support the activity of the ASE in your Region by becoming a member. Membership rates are listed below. A 15% reduction is available on listed prices if you join for the conference. This will also enable you to access the reduced delegate rate.

15% Reduction not valid for Direct Debit.

To register and take advantage of the 15% reduced rate e mail:

ASE Field Officer, Michelle Ryan  
[michelleryan@ase.org.uk](mailto:michelleryan@ase.org.uk)

ASE Region Secretary, Wilson Agnew  
[WilsonRAgnew@Hotmail.com](mailto:WilsonRAgnew@Hotmail.com)

Associate membership (includes Education in Science)	£34 (£28.90)
Primary Teacher (includes all journals)	£65 (£55.25)
Primary School (includes all journals)	£96 (£81.60)
Primary School e-membership (includes access to all journals electronically)	£77 +vat (65.50+vnt)
11-19 Teacher (includes all journals)	£84 (£71.40)
All NQTs (includes all journals)	£46 (£39.10)
Technician	£34 (£28.90)
All trainee teachers (includes all journals)	£34 (£28.90)

**New Primary e-membership for the whole school!**

Primary Schools can now make significant savings on their membership by becoming e-members. In addition to all the benefits listed above, the new membership package offers free access to the resource site [Primary upd8](#).

<b>Conference Rates</b>	
Member	£30
Non - Member	£40

This includes lunch and coffee.

Follow us on Facebook:

<http://www.facebook.com/pages/ASENI/376068299157061>

**Workshop places limited so book early!**