

STEM



eNewsletter

Spring 2010



Sentinus STEM Ambassador

Has A Whale Of A Time In The Antarctic

Read more about Caron Malone's amazing trip to the Antarctic on page 2

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Useful Web Sites

<http://www.researchersinresidence.ac.uk/>

www.scienceagogo.com/

www.yucky.com

www.wisecampaign.org.uk

www.bbc.co.uk/schools/gcsebitesize/design/

www.gridclub.com

www.tep.org.uk

<http://www.b9energy.co.uk/>

Caron Malone is an enthusiastic STEM Ambassador from Belfast and has been involved in many Sentinus events from open day talks to primary school projects and judging at Sentinus Young Innovators.



Caron is very interested in sustainability and was recently part of an exciting expedition to Antarctica with the company 2041 to witness first-hand the effects of climate change.

The expedition was led by Robert Swan, OBE, who is a polar explorer, an environmental leader and the first person in history to walk unsupported to both the North and the South Poles. He is also the founder of the company 2041, named after the treaty to prevent mining and drilling in Antarctica which expires in the year 2041. 2041's mission is 'to build on this treaty by informing, engaging and inspiring the next



generation of leaders to take responsibility, be sustainable, and know that now is the time for action in policy development, sustainable business generation and future technologies'. It was an international expedition with over 60 people from 24 different nationalities to visit one of the harshest environments in the world.

"I feel so privileged to be one of a small number of people to witness the beauty of Antarctica and see the effects that global warming is having on the continent", said Caron.

Part of Caron's journey took the expedition team to the Antarctic Sound to see the massive floating tabular icebergs, which in 2002 collapsed from the Larsen B ice shelf. "While the tabular icebergs are beautiful in this environment, it is also a warning to us all that the Antarctica Peninsula is undergoing significant changes due to climate change"

Caron is currently involved in a new project as a STEM ambassador with primary schools in Northern Ireland to teach them about sustainability and renewable energy and she hopes to be able to relate all that she has learnt on her trip to try and inspire the students on the project.



Sentinus Young Innovators



Incorporating



The Big Bang Northern Ireland



Guest Speaker – Robert Swan OBE

This is your chance to hear one of the world's great inspirational speakers, absolutely free. Polar explorer Robert Swan is the first person to have walked to both the North and South Poles. Robert is a committed environmentalist who still leads expeditions to the Antarctic. He will address the audience at the Awards Ceremony at Sentinus Young Innovators.

Read more about Robert Swan at www.2041.com



Science Shows for Key Stages 2 & 3 (booking essential)

The Air Show (50 minutes)

This show takes pupils on an explosive journey through the air. Find out what it is composed of, what it can do and why we need it. Experience combustion, respiration and enjoy a (very) fast food cookery lesson...all under pressure! Not for teachers of a nervous disposition....



Water World (50 minutes)

Water, water everywhere! We take it for granted but water really is an extraordinary chemical and without its peculiar properties life as we know it would not exist. Take your students on an exploration of the chemistry of water looking at some of its oddities, its uses, its beauty, its power and potential. Could it provide the fuel of the future? It will be exciting finding out! You shouldn't get wet but you'll certainly get wise!

Interactive Stands (booking not required)



A range of 30 interactive stands, each demonstrating a different aspect of science, technology, engineering or maths. Pupils will have the chance to get their hands on specialised equipment, look at pathogens under the microscope, explore the wonders of space, learn how a model aircraft flies and much, much more...



STEM Workshops for Key Stages 2 & 3 *(booking essential)*

The Big Dig (40 minutes)

Let your pupils experience the excitement of the big archeological dig for themselves. This workshop will take them through the process of excavating, identifying and classifying their own fossil finds. Pupils work in pairs throughout this hands on workshop.



STEM Module (50 minutes)

Bring a group of pupils to a workshop in the STEM Module, a mobile laboratory and workshop designed to bring high quality learning experiences in STEM subjects to pupils.

Careers Workshops for Key Stages 3 - 5 *(booking essential)*

EngineeringUK Speakers (40 minutes)

Give your pupils the opportunity to hear what motivates and excites some of our young engineers working with local companies. Hear about cutting edge technology and the potential developments of the future. Our speakers are young engineers who are promoting their profession, supported by EngineeringUK.



Exhibition of STEM Project Work *(booking not required)*

Bring a group of your pupils to the Odyssey Arena to view a display of STEM project work by students from schools throughout Northern Ireland and the Republic of Ireland. Primary pupils will be engaged in design and build challenges and exhibiting project work carried out after linking with local business.



Special needs pupils will display their science and technology projects and pupils between 11 and 19 years will be exhibiting a wide range of STEM projects.

Come and view these projects and activities and network with other colleagues who are promoting the STEM message.

FREE

entry to all Workshops and Activities at **Sentinus Young Innovators**.

To book or get further information contact Sentinus:

T: 028 9262 7755 • F: 029 9262 7744 • E: info@sentinus.co.uk • W: www.sentinus.co.uk



The Association for Science Education
Promoting Excellence In Science Teaching and Learning

ASE Conference 2010

(Northern Ireland)

Saturday 19 June 2010

at Queen's University Belfast

*Teaching science
creatively...*

www.aseni.org.uk

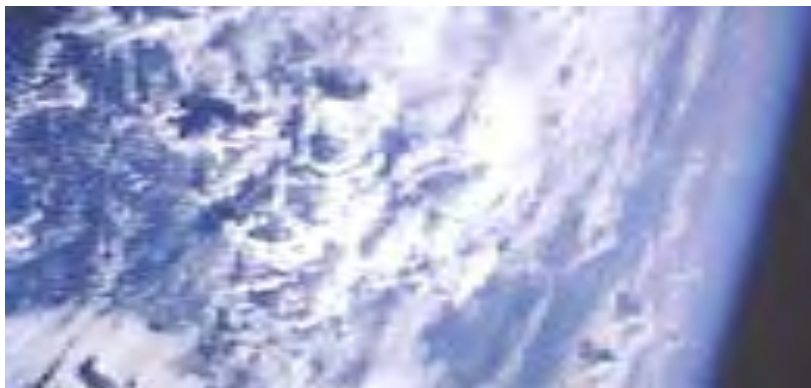


Queen's University
Belfast



Department of
Education

Education
Northern
Ireland



Have you got what it takes to go on a NASA expedition?

We're giving two students the chance to win the trip of a lifetime, joining NASA to look for life at the edge of space.

As part of our **education programme** NESTA is offering two A-level students the opportunity to take part in a research trip to NASA and the Black Rock Desert in Nevada, USA.

Three scientists from the **NESTA Crucible programme** have been working to discover what kinds of life exist at the extreme edge of the atmosphere.

NESTA are sponsoring them to travel to NASA Ames Research Center in Mountain View, California, to work with a NASA astrobiology team in launching their small device that can sample microscopic life forms.

The competition closing date is midnight 24 May 2010 .

For full details visit website

http://www.nesta.org.uk/areas_of_work/public_services_lab/education/nasa

CELEBRATE
350 YEARS



THE ROYAL SOCIETY

£3000 to inspire the scientists of the future!

Are you interested in working on an innovative science or engineering project with your students to enthuse them about science?

The Royal Society can offer up to £3000 to schools as part of its Partnership Grants scheme – recent projects include manufacturing biodiesel, designing the perfect beehive, and building a powerboat.

The next round the Partnership Grants will open on **6 September** and close on **5 November 2010**.

For more information on the scheme, go to <http://royalsociety.org/partnership>

Sentinus Team R+D

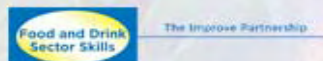
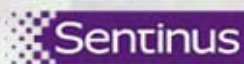
This year, over 150 students from thirty three schools participated in Sentinus Team R+D: Engineering and Sentinus Team R+D: Food Technology. Their solutions in the past have led to significant benefits to companies involved. The programme provides opportunities for companies to get to know potential recruits over an extended period of time. Valuable management experience is gained by companies enabling young staff to coordinate projects.

Student teams work with companies on research and design, management and marketing over a period of six months. As well as developing knowledge, understanding and capability in science and technology, students can meet many objectives in key skill areas. Projects involve developing communication skills both on paper and in public presentations, making decisions and solving problems, working individually and with others in a team, improving their thinking and learning skills, using information and communications technology effectively, and developing numeracy. UCAS accreditation is available.

Each school selects a team of four students who have an interest in a STEM area. This group is allocated a coordinating engineer / scientist by the school's partner company. Students, teacher and scientist meet at a company induction session arranged between the school and company, and attend a Launch Meeting early in October. By the end of the month, together they have defined a problem in the company's operation that appears capable of solution by the team, and whose solution would be of benefit to the company. During the development period, students visit the company's site and the engineer / scientist visits the school as appropriate.

Students and school coordinator also work together in the engineering workshops at Queen's University or the University of Ulster at Jordanstown during a three day workshop in December, or in laboratories at the Loughry Campus of CAFRE (the College of Agriculture, Food and Rural Enterprise) in January. The solution to the problem is reported on paper in March and to a Celebration Day of assessment and presentation in April.

Sentinus Team R+D is supported by the Department of Education, and Food and Drink Sector Skills. For further information, please contact Martin Brown at martin.brown@sentinus.co.uk, or 028 9262 7755.



DIGITAL BIODIVERSITY CORRESPONDENTS INITIATIVE: MIGRATORY BIRDS

The **Northern Ireland Environment Agency (NIEA)** and **BBC Breathing Places** are jointly promoting a 'Digital Biodiversity Correspondents Initiative'.

This aims to mark 2010 International Year of Biodiversity by bringing together short stories about biodiversity projects and issues from all around Northern Ireland, told by local people through pictures, videos and short articles.

The deadline for entries is **Friday 18th June**, so please hurry and click <http://tinyurl.com/39z2jlw>



**CELEBRATING YOUTH
EXCELLENCE AND
ACHIEVEMENT
IN SUSTAINABILITY
AND THE ENVIRONMENT**



WHO? Are you aged 5 to 25?

WHAT? Are you involved in Sustainability and/or the Environment? Have you a project, business or research that you are really proud of and you believe deserves recognition at a prestigious awards event?

WHY? The Office of the First Minister and deputy First Minister (OFMDFM) together with the Northern Ireland Environment Agency (NIEA) are jointly organising the IMPACT 2010 Youth, Sustainability and Environment Awards to recognise and reward the youth of today for their various environmental and sustainable initiatives.

WHEN? The Impact 2010 Awards will be open to receive applications from 15 April. All applications must be received by 5pm on 18 June and finalists will be notified on 28 June. The competition will then culminate in a high profile awards event held on 6 October 2010.

WHERE? Waterfront Hall, Belfast

Entries can vary in scale from small locally based projects such as raising awareness of the importance of ponds; or a demonstration of cooperation between a youth group and a local business who have worked to achieve environmental or sustainable goals; or a community project bringing life back into an unused space or building; or promoting sustainable tourism on a particular site.

Entries will be welcomed from school children (primary and post-primary), youth groups and individual young people from local communities, as well as college students, undergraduates, graduates and young business people up to the ages of 25. All entries will be required to provide evidence.

The deadline for entries is **Friday 18th June**, so please hurry and click www.impact2010.info



comets and meteors

Would you like to see your own space art work on the ESA Kids site? Here's your chance! Every month we will be looking at a different theme in more detail, seen in the 'Focus On' section.

Themes will include everything from orbits and planets to astronauts and asteroids.

Art work could be a drawing, a painting, model or mobile...use your imagination!

Every month the best entries will be selected to go into the Space Gallery, and the overall winner will receive a special prize from the European Space Agency.

Next Focus On: Journey to Mars

Entries to reach us before 30 June 2010

Email entries to: apollokids@esa.int

or send to: ESA Kids, c/o Ms Filippazzo, ESA-ESRIN, Via Galileo Galilei, C.P. 64 I-00044 Frascati, Italy.

Please note: art work can not be returned. Maximum age limit for competition entries is 14.

http://www.esa.int/esaKIDSen/SEMV1VZNK7G_OurUniverse_0.html



European Space Agency



IOP Institute of Physics

Free membership if you are aged 16 – 19 and studying physics

Join up at <http://members.iop.org/16-19.asp>

For

- regular updates on what's new in physics
- exam and university guidance
- information about careers in physics
- the chance to interact with other young physicists



**National
Museums
Northern
Ireland**

explore/engage/enjoy

Ulster Museum Cosmic Explorers

2nd, 3rd, 16th and 17th July
6th, 7th, 13th and 14th August

Shows at 12.00 noon and
2.00pm each day

Visit www.nmni.com
for more information



www.nmni.com