

STEM Ambassador Newsletter

Welcome to the November newsletter for STEM Ambassadors and to a host of new opportunities! We are collating many, many requests from schools looking for help for now and the months ahead, so please take a look at the opportunities overleaf and see where you can become involved. There are only 5 more weeks until the end of this term, so it would be good for all requests to be fulfilled or planned.

Please remember to ensure that **all your activity is recorded** in the STEMNET database. Any activity that concerns promoting the STEM subjects to pupils, young people and the general public can be recorded as Ambassador Activity so if you have been involved in a company Ambassador scheme (such as BAE Systems), an organised Ambassador scheme (such as Construction Ambassadors), an event at the Glasgow Science Centre (such as "Build It") or working with a scout group on science activities etc please do let us know what you have been doing. You can record your own activity by logging into your account at www.stemnet.org.uk, or you can email Gail at stem-ambassadors@glasgow.ac.uk and let her know the details and she will record it for you.

We have more CPD training sessions available for you to meet with teachers and find out about Young Engineers and Science Clubs resources – in particular "Heather's Hut" which focusses on Renewable Energy, and "Science Clubbing", which offers many ideas for club activities. There are spaces for 5 Ambassadors at CPD sessions in **Port Glasgow** (Thurs 24th November), **Kilmarnock** (Mon 5 December), and **Hamilton** (Wed 7 December). See overleaf for more details. I know it is short notice, but they are very useful if you are able to attend.

Good Luck to our nominated STEM Ambassadors!

We are delighted that two of our Ambassadors have been selected as finalists for the UK STEMNET Awards to be held at the House of Lords in London on 13th December. Dr Tansy Hammarton, Principal Investigator with the Wellcome Trust Centre for Molecular Parasitology (Scotland) is one of three finalists for the **Most Dedicated STEM Ambassador Award** and Nikki Cusworth, Quality Improvement Technician with Rolls Royce (Scotland) is one of the finalists for the **Most Inspirational Technician Award**, sponsored by The Gatsby Charitable Foundation. This award aims to recognise the work of a technician who can demonstrate they have inspired young people to follow technician career routes, seen as vital to the UK's prosperity.

The winner of the Most Dedicated STEM Ambassador Award will be invited to take part in a trip to CERN in March 2012.

Good Luck to both our Ambassadors and fly the flag for Scotland!



Dr Tansy Hammarton



Nikki Cusworth

REQUESTS for HELP

Please see below requests from schools and STEM Providers for Ambassador help. The **requests which have additional information available are clickable** to take you directly to the appropriate section. If the school is not clickable, this is all the information we have on the request. To go to "Other information for Ambassadors" [click here](#).

If you can help please email us at stem-ambassadors@glasgow.ac.uk or phone Gail Penny on 0141 330 6396

SCHOOL / EVENT	DATE	REQUEST
<u>YOUNG ENGINEERS & SCIENCE CLUBS</u>		
Enterprise Centre, Port Glasgow	26th Nov, 4-6pm	CPD Session. Meet with Teachers and Ambassadors to find out more about Heather's Hut.
Grange Academy, Kilmarnock	5th Dec, 3.30-5.30pm	CPD Session. Meet with Teachers and Ambassadors to find out more about Heather's Hut.
Townhill Primary, Hamilton	7th Dec, 4-6pm	CPD Session. Meet with Teachers and Ambassadors to find out more about Science Clubbing Activities
Whiteinch Primary, Glasgow, G14	Jan 2012 onwards	Help needed with electrical aspects of Heather's Hut project for P6/7 Club
Whiting Bay Primary, Arran	Jan 2012 onwards	Help with STEM Club for P6/7 pupils
Westerton Primary, Bearsden	Jan 2012 onwards	Help with STEM Club for P6/7
St Monica's Primary, Glasgow, G53	Jan 2012 onwards	Help with STEM Club for P6/7
Swinton Primary, Glasgow, G69	Jan 2012 onwards	Help with STEM Club for P6/7 pupils
Clober Primary, Milngavie	Apr-June 2012	Help with STEM Club for P6/7
<u>GENERAL REQUESTS</u>		
Boclair Academy, Bearsden	ASAP	Various chemistry related help with S1 Science Club – including help with analytical techniques to analyse nitrates in water.
Calderside Academy, Blantyre	ASAP	Careers related talks to S5 & S6 pupils on any aspect of STEM.
Clydebank High School	ASAP	Help with S1 Science Club. Also assistance with Health & Well Being related topics for Int. 2 Biology class.
Glengowan Primary, Larkhall	ASAP	Looking for help to set up and run a Science Club.
Junior Saltire Prize	ASAP	Ambassadors with an interest in marine renewables to act as mentors/advisers to schools taking part
Queen Margaret Academy, Ayr	ASAP	Help with S3 product design challenge
St Joseph's Primary, Milngavie	ASAP	Help for P6/7 project designing a theme park and creating a working ride for this park including electricity and forces, gears and pulleys.
St Machan's Primary, Lennoxton	ASAP	Ambassador to give a renewable energy talk and perhaps a workshop using the SCubes for P7
Millersneuk Primary, Lenzie	Before Christmas	Requests for help for P1-P7 classes. See section for details.
Calderglen High School, East Kilbride	Dec 11	Ambassador with an energy background to give a talk on energy. Also looking for scientists to provide information on their career path.

Colquhoun Park Primary, Bearsden	Friday afternoons, 2-3pm	Looking for help with science club working towards CREST Star Investigators Award
Hyndland Secondary	Now until Feb 2012	Help with Advanced Higher Physics preferably on a weekly basis on Wednesday from 2.20-3.20pm
St Xaviers Primary, Patna, East Ayrshire	Now until March 12	Various, see section
Clober Primary, Milngavie	Various	Requests for help for P2-P7 classes. See section for details.
Notre Dame High School, Glasgow	Wednesdays 3-4pm	Looking for speakers for Café-Sci events – see sections for Topics.
Greenmill Primary, Cumnock	19 th -22 nd Dec	Help with ideas and activities for Science Week. Mon or Tues preferable.
Grammar Primary, Ayr	Jan – April 2012	Help with P4 topic on “Transport”
Hurlford Primary, Ayrshire	Jan-April 2012	Help with various topics, see section
Castlemilk High School, Glasgow	7 th March 2012 (am)	Ambassador required to relate maths skills to their career for a “Numeracy in the World of Work” event for S1 pupils.
Glengowan Primary, Larkhall	14th-16th March 12	STEM ambassador to help with Science week for a day to carry out Science activities across all stages.
Lennoxton Primary	March 2012	Looking to discuss ideas now for National Science and Engineering Week in March, for P3 class. Theme is “Our world in motion”.
LAB IN A LORRY		
Smithycroft Secondary School, G33	1 st – 2 nd Dec 11	Help with Physics Experiments on board lorry
Kirkintilloch High School, Kirkintilloch	6th – 8th Dec 11	
Broxburn Academy, East Lothian	11-12th Jan 2012	
Portobello High School, Edinburgh	17-19th Jan 2012	
Pitlochry High School, Perthshire	23rd Jan 2012	
Blairgowrie High School, Perthshire	24-26th Jan 2012	
Dumbarton Academy	31st Jan – 2nd Feb	
The Gordon Schools, Huntly	6/7th Feb 2012	
Balfron High School, Stirlingshire	22-24th Feb 2012	
St Maurice's High School, Cumbernauld	29th Feb - 2nd Mar	
Preston Lodge High School, Prestonpans	5-7th Mar 2012	
St Joseph's Academy, Kilmarnock	12-14th March	
BUSINESS DYNAMICS		
St Ninian's High School, Kirkintilloch	8 th and/or 9th Dec	Help with Business Awareness Day

Young Engineers and Science Clubs, Glasgow

Following on from successful CPD sessions last month, Young Engineers and Science Clubs Scotland (run by SCDI) is hosting more sessions to demonstrate the Heather's Hut materials. "Heather's Hut" is an exciting renewable energy project inspired and supported by Dr Heather Reid OBE, meteorologist and formerly senior forecaster with BBC Scotland. It is aimed at upper primary Young Engineers/Science Clubs and also encourages transition project work. The CPD sessions will enable Ambassadors and Teachers to meet and learn more about the materials to use in the Clubs.

The sessions will be held at

- Enterprise Centre, Port Glasgow 26th Nov, 4-6pm
- Grange Academy, Kilmarnock 5th Dec, 3.30-5.30pm

There is also a CPD Session on "Science Clubbing" which covers a large number of activities for Clubs, ranging from forensics to ping pong ball challenges. This will give you a lot of ideas as to how you can assist a Club.

This Session, for primary and secondary teachers will be held at

- Townhill Primary, Hamilton 7th Dec, 4-6pm

There are 5 places for Ambassadors at each of these sessions so first come first served. If you would like to attend please get in touch with us ASAP. ([back to list](#))

Junior Saltire Prize

In 2010, the Scottish Government set up The Saltire Prize, as Scotland's £10 million challenge to accelerate the commercial development of marine energy.



To help raise the profile and awareness of this prize and the opportunities that Scotland has to exploit its marine renewables potential, the Scottish Government is again funding the Junior Saltire Prize Award for 2012. The award is being managed by Skills Development Scotland (SDS) in conjunction with SCDI.

STEM Ambassadors are required to act as mentors as mentors/advisers to schools taking part (not necessarily face to face, maybe via email, phone, Skype support).

The design brief for secondary school pupils is as follows (the Primary school brief will be available shortly)

- S1-S3 pupils are asked to design and build a simple wave powered generator and to construct a model wave machine to work in conjunction with the generator.
- S4-S6 pupils are asked to design and build a wave machine, a wave generator and a model to demonstrate the transmission of the power to light LEDs.

Schools have to register to take part by 31st January 2012, with blueprint designs submitted by 29 February.

Design Briefs can be found at

[http://www.scdi.org.uk/downloads/S4-S6 Final Brief.doc](http://www.scdi.org.uk/downloads/S4-S6%20Final%20Brief.doc); [http://www.scdi.org.uk/downloads/S1-S3 Final Brief.doc](http://www.scdi.org.uk/downloads/S1-S3%20Final%20Brief.doc)

If you would like to be involved in this project and act as a mentor/advisor please get in touch with us. ([back to list](#))

Queen Margaret Academy, Ayr

The school is looking for help with an S3 product design challenge to design an armchair for the foyer of one of the following:

- Insect World in Glasgow
- Butterfly Kingdom in Edinburgh
- Sea World in Ayr

The target audience for this: must be suitable for children as well as adults. It must be comfortable, safe and reflect the theme of the environment as well as being eye catching, functional and innovative. If you are interested in being involved please let us know. ([back to list](#))

Millersneuk Primary, Lenzie

Millersneuk Primary is very keen to engage with Ambassadors and has sent us the topics each class will be covering from now until Christmas. We have information on which experience and outcomes in Curriculum for Excellence they are particularly interested in for each topic, so if you are able to volunteer for any of the topics listed below please contact us and we can send you the full document!

P1	<ul style="list-style-type: none"> • Basic electricity, appliances which use it and how to stay safe. • Materials, Identify materials and select different materials for different purposes
P2	<ul style="list-style-type: none"> • Identify living things from non-living and sort them into groups depending on characteristics • Plants; growth, importance to us, identify different parts • Food chains and habitats relating to the seashore
P4	<ul style="list-style-type: none"> • Electricity, circuits and conductors • How characteristics are inherited in humans plants and animals and how they may relate to the environment
P4/5	<ul style="list-style-type: none"> • Solids, liquids and gases and their properties
P6	<ul style="list-style-type: none"> • Classify living things and relate characteristics to their survival or extinction, discuss ecosystems and plants importance to society
P6/7	<ul style="list-style-type: none"> • Earth's materials and structure • Lifecycles of plants and animals and different stages of development

If you can offer assistance of any sort to this school please let us know. ([back to list](#))

Calderglen High School, East Kilbride

Calderglen is very keen to have an Ambassador with an energy background to give a talk on energy to help with Chemistry Standard Grade topic of Fuels.

The science department is also planning to build up a careers library for their website using real life case studies. They are looking for STEM Ambassadors to be willing to provide a photo of themselves and a short description of what they do and how their scientific training led them down this path. The department wants to cover ALL science disciplines since they feel that pupils think that they will be pigeon-holed into a discrete science. Please see attached link for examples <http://www.calderglen.s-lanark.sch.uk/CalderglenBiologyChemistryWeb>

If you can offer assistance please let us know. ([back to list](#))

St Xavier's Primary, Patna, East Ayrshire

Before Christmas, the school would like help with the following topics: Properties of Materials, Constructing Models, Conservation of Materials, Navigation/Mapping Skills for 12 pupils, P1-P4

After Christmas, the topics they would like help with are:

P1-4 Sciences 'Push and Pulls', 'Forces on toys'	January-February 2012
P1-4 Technologies "Moving objects, design a game"	January-February 2012
P1-4 Sciences "Biological systems"	March-April 2012
P1-4 Technologies "3D objects with moving parts"	March-April 2012
P5-7 Science/Food Technology	January-February 2012
P5-7 Space	March-April 2012

If you would like to assist with any of these topics please get in touch with us. ([back to list](#))

Clober Primary, Milngavie

Clober Primary has utilised Ambassadors over the last 18 months or so and is a great supporter of the Ambassador Programme. The school would now like Ambassadors for the following topics:

Class	Area of Science	Approx time of visit
P2	Living Things	ASAP
P3	Heating and Cooling, Light and Sound	ASAP
P4	Electricity & Energy	ASAP
P5	Friction, Growing Plants	Any Term
P6	Electricity	Jan – April 2012
P7	Energy Conservation Sustainability Gravitational Forces	Any Term
Class	Area of Technology	Approx time of visit
P4	3D Shape - buildings	Oct – Dec 11 (pm)
P5	Moving Heavy Objects	Jan – April 12
Class	Area of Mathematics	Approx time of visit
P4	2D & 3D Shape Project	Oct – Dec 11 (pm)
P5	Fractions	Jan – April 12
P6	Fractions	Oct 11 - April 12
P7	Decimals & Percentages	Jan – April 12 or anytime

If you can help with any of the topics listed please get in touch with us. ([back to list](#))

Notre Dame High School, Glasgow

Notre Dame High School is looking for Ambassadors to help with their Junior Café-Scientifique events. These are run on Wednesdays after school and they would like to have Ambassadors give a short talk on any of the following topics and then answer questions:

- Space (NASA, Aliens, dead stars)
- Cosmetics
- Neurology
- Forensics

If you would like to provide talks relating to any of the above topics please get in touch with us. ([back to list](#))

Hurlford Primary, Ayrshire

Looking for help with a variety of topics from January onwards:

P1- Materials – floating and sinking	January-April 2012
P2- Toys and Magnets	January-April 2012
P4/3- Forces and Friction	January-April 2012
P6- Forces and Friction	April -June 2012
Help and ideas for 'Eco Week'	Week commencing 17th April 2012

If you would like to be involved please get in touch with us ([back to list](#))

Lab in a Lorry

Lab in a Lorry is an interactive mobile laboratory, run by the Institute of Physics, which gives 11-14 year olds the opportunity to explore science through open-ended experiments. Volunteers guide the students through the experiments (oil and viscous liquids, sound and resonance, light scattering and colours, climate change and energy sources, optoelectronics) and makes sure everyone gets to be involved through hands on experience.

As an Ambassador you will oversee an experiment for the day. You receive training on the Lab beforehand and the organiser sends you all the background material in advance. Ambassadors commit to a minimum of one full school day but you are welcome to come along for as many days as you like. Please see the Requests table above for schools and dates in our area. If you would like to be involved please get in touch with us – you don't have to be a Physicist to take part! ([back to list](#))



Business Dynamics

Business Dynamics aims to bring business to life for young people. Volunteers from companies introduce pupils to the opportunities and challenges of business as well as improving their key skills in preparation for the world of work. Business Dynamics operate Business Awareness days and would like Ambassadors to help with the sessions. Ambassadors talk about their expertise and role within their company in relation to the topic, and then run a business exercise based on that topic, to help pupil participation and learning. Full information will be sent to you before the event. ([back to list](#))

Other information of interest to Ambassadors...

Communicate without leaving your desk!

Want to communicate with school pupils without having to leave your office/home? Then volunteer to get involved in these exciting projects:

I'm a Scientist, Get me out of here

What? Free online X-factor style competition where students talk to scientists online for 2 weeks and vote for their favourite scientist, in a nail-biting science show down. See simple clear PowerPoint slides for more information at

<http://imascientist.org.uk/about/powerpoints>

Why? Helps teach How Science Works.

When? 12th-23rd March 2012, June 2012.

How? Sign up to take part at <http://imascientist.org.uk/scientist-registration>



I'm an Engineer, Get me out of here

What Launching I'm an Engineer in March 2012. Funded by the Royal Academy of Engineering, the aim is to get Science, Maths and D&T students interacting with engineers online, to learn how their studies relate to the world of engineering. See these simple clear PowerPoint slides for more information.

Why? Because seeing the context of their studies helps inspire and engage students.

When? 12th-23rd March 2012.

How? Sign up to take part at <http://imanengineer.org.uk/engineer-registration>



Temporary Vacancy for Lab in a Lorry co-ordinator

Due to new funding, the current the Institute of Physics Operations Co-ordinator for Scotland is being seconded to set up and run Lab in a Lorry in the North West of England. This means the IOP is seeking a temporary co-ordinator who will join the team to contribute towards the smooth running of the Lab in a Lorry experience in Scotland. The lorry is an interactive mobile physics laboratory which gives young people the opportunity to do hands-on physics experiments.

The successful candidate will have a degree or equivalent in a physical science subject, excellent communication skills and the ability to enthuse volunteers, students and other visitors. The post will be a temporary contract, running from January – June 2012.

Closing date - 28 November 2011, Interviews in London - 15 / 16 December 2011

For more information visit <http://www.iopjobs.org/vacancies/details/4543/>

The Big Science Challenge



The British Council and Rolls-Royce launch The Big Science Challenge!

Launched by the British Council and Rolls-Royce in collaboration with the Institute of Physics, The Big Science Challenge offers secondary students from the UK and Middle East the opportunity to put their Science and Engineering skills into action! The British Council is interested in getting STEM Ambassadors involved by supporting the school and e.g. taking them through water related issues, which would help the class/team produce innovative ideas for potential submission

Teams of 11-16 year old will work together to:

- identify local, national or global issues concerning water
- design an innovative solution to one of these problems.

The winning teams will be brought together in London to meet their international counterparts and present their work. In addition, one UK team will visit Dubai for an exciting programme of educational and recreational activities.

Through this competition, the British Council and Rolls-Royce aim to inspire young people and develop their skills in Science and Engineering in an international context. The initiative will also give students the opportunity to work with peers in the UK and Middle East and develop intercultural understanding and global citizenship.

For more information, visit <http://schoolsonline.britishcouncil.org/the-big-science-challenge>

Induction Training

If you have not already undertaken your induction training, the next session will be run on **Tuesday 6th December at 3:00pm** at the University of Glasgow. To register for an induction please email or call us and we will confirm your place. The training will last around 2 hours and will enable you to complete your disclosure form also.

It would be great if we can fulfil all these requests before Christmas. Thank you for all your efforts and please do remember to record your activity at www.stemnet.org.uk or drop us an email with the activity and we will do it for you.

Regards

Email: aileen.hamilton@glasgow.ac.uk