

Welcome to the first newsletter of the new academic term for STEM Ambassadors. We didn't produce a newsletter in July/August due to the schools being off so don't worry that you have not received communication from us in the last couple of months! The STEM Ambassador programme is as active as ever and we are kicking off the new school year with a very large pool of enthusiastic Ambassadors in the West of Scotland, 712 to be precise. A big welcome to new Ambassadors who registered over the summer and are now authorised and keen to get involved in schools and events.

Schools are starting to request Ambassadors for this coming term so please see overleaf for the requests we have received in the last 2 weeks, since the schools returned. If you would like to volunteer for any of the schools listed, or suggest a school that you would like to become involved with please let us know by emailing us at ambassadors@physics.gla.ac.uk or calling Gail on 0141 330 6396.

The list of requests will grow quickly over the next few weeks so please keep an eye on our website, www.scienceconnects.org.uk in the "Help needed" section for an up to date list.

Thank you for your continued support for the STEM Ambassador Programme. It is now embedded within school STEM plans and we anticipate that this coming year will be the busiest ever.

Celebration of Engineering and Science Event June 09

Many of our Ambassadors attended the annual Celebration of Engineering and Science event, organised by SCDI and held at the Crowne Plaza Hotel and Glasgow Science Centre on 19 June.

Over six hundred young engineers, scientists, teachers and companies from schools all over Scotland enjoyed the action-packed day. The event saw fierce competition from over 50 Young Engineer and Science Clubs, which showcased their engineering activities and competed in exciting three-minute technology challenges set by 28 members. Clubs also took part in hands-on science experiments provided by the Institute of Physics and enjoyed a visit from NASA Astronauts.



31 schools from our area took part and we are delighted three were among the prize winners: Secondary School Showcase Winner - **Glasgow Academy**
REMAP (Scotland) John Golder Memorial Challenge Awards - **Clarkston Primary**, Airdrie
David Muir of **Duncanrig Secondary** in East Kilbride won 3 prizes: Award for Integration and Application of Electronics, Award for Product Development and Marketability and Young Engineer for Britain Regional Winner. Obviously an engineer in the making!

The purpose of Young Engineer and Science Clubs is to engage young people in practical hands-on science and engineering activities and to enthuse them to pursue a career in science, engineering and technology. **Science Connects supports these Clubs with STEM Ambassadors so if you are interested in helping a club, let us know and we will connect you to a Club local to you.**

REQUESTS for HELP

The following requests have been made by schools and organisations. **If you can help please email us at ambassadors@physics.gla.ac.uk or phone on 0141 330 6396** and we can liaise with the appropriate school on your behalf.

SCHOOL / EVENT	DATE	REQUEST
Milngavie Primary, Milngavie	As soon as possible	Help with any of the main science themes planet earth; forces, electricity and waves; biological systems; materials
Clober Primary, Milngavie	As soon as possible	Help with any of the main science themes planet earth; forces, electricity and waves; biological systems; materials
Ralston Primary, Paisley	As soon as possible	Help with any of the main science themes planet earth; forces, electricity and waves; biological systems; materials
St Brigid's Primary, Toryglen, Glasgow	As soon as possible	Help with P6 class topic on Sound and Light
Hurlford Primary School, Kilmarnock	Mondays 3-4pm	Help with Young Engineers and Science Club
Holyrood Secondary, Glasgow	Friday 18 th September 9am-1:30pm	Help with "Maths in the World of Work" event for S1 pupils
Williamwood High School, East Renfrewshire	1 st October, 6-8pm	Help with Science Fair for P7, S1 pupils and parents
Williamwood High School, East Renfrewshire	10 th November 7-9pm	Help with Careers Evening
Glasgow Science Centre	18 th and 19 th November	Chemistry Help for "RE-ACT!" workshop
Springburn Academy, Glasgow	November/Dec 09	Talk at Careers Event for S2 pupils. Talk to Senior pupils about University life
Institute of Physics Lab in a Lorry – see schools below		
Duncanrig High School, East Kilbride	3 rd Sep 09	Helping with Physics experiments on board lorry. 9:00am – 3:30pm
Holy Cross High School, Hamilton	17 th Sep 09	Helping with Physics experiments on board lorry. 9:00am – 3:30pm
Springburn Academy, Glasgow	23rd, 24 th Sep 09	Helping with Physics experiments on board lorry. 9:00am – 3:30pm
Taylor High School, New Stevenson	29 th , 30th Sep, 1st Oct 09	Helping with Physics experiments on board lorry. 9:00am – 3:30pm

Milngavie, Clober, Ralston Primaries

These three primary schools are looking for Ambassadors who can visit their school to help with any of the topics and subjects they are covering – whether it be on “learning about the body”, “electricity”, “light” or indeed anything STEM related. If you are interested in visiting any of these 3 primaries please get in touch with us and we can identify with the teachers which area you are able to help with.

St Brigid's Primary, Toryglen, Glasgow – Sound and Light

The P6 class at St Brigid's Primary is studying the topic of “sound and light” this term and would like an Ambassador to visit and bring it to life. If you are interested in anything related to this subject eg light sources and objects that reflect light, examples of simple applications of lenses, using pitch and volume to describe sound, explain what happens when sound passes through different materials etc then you will be very welcome in the school!

If you would like to discuss what you could offer the school, or if you would like to volunteer to help, please get in touch with us.

Hurlford Primary, Kilmarnock – Young Engineers and Science Club

Hurlford Primary runs a Young Engineers and Science Club on a Monday afternoon, between 3-4 pm. There are 5 girls and 5 boys in the club and the teacher would like to have an Ambassador to work with the club, to encourage the pupils with the projects they are working on. Even if you are not able to attend every Monday, your support would be appreciated.

Please contact us if you would like more information or wish to become involved in the club.



Holyrood Secondary, Glasgow – Maths in the World of Work

Holyrood Secondary is running a “Maths in the World of Work” day to allow pupils to participate in workshops which show the practical application of Maths Skills in a fun and stimulating environment. The purpose of the day is to demonstrate the relevance and importance of maths/numeracy in the world of work.

Activities are aimed at encouraging the children to think about:

- Future careers and the importance of numeracy related to the occupation.
- The importance of numeracy in everyday life.
- Practical application of their Maths skills.
- Raising aspirations.

This event is for S1 pupils in mixed ability groups of around 10 pupils and will run in 2 sessions with 6 workshops in each session. Each workshop will last 20 minutes which will allow the pupils to rotate and have the opportunity to work with as many different employers/workshops as possible

As an Ambassador, we would ask you to either volunteer to help out with a workshop already planned for the day, or to devise an activity/challenge related to your occupation which will allow

the children to use their mathematical skills. For example:

Joiner- set a challenge related to measuring, using plans.

Civil Engineer- set a challenge to work out angles of a bridge structure

If you would like to help out with this day and help blast the myths of maths not being practical or useful (which we all know is untrue!), please contact us as soon as possible.

Williamwood High School, East Renfrewshire – 2 events

Williamwood High teachers are planning two events that ambassadors would be very useful for. Firstly, a **Science Fair** for next year's primary 7 pupils, their current S1 pupils and possibly parents of these pupils, with the support of the science staff and primary school colleagues. This is proposed to run on **1st October 2009**, from 6pm to 8pm.

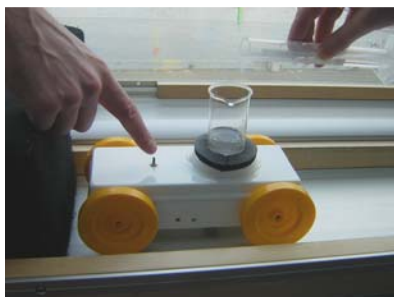
The Fair will consist of:

- Science experiments that are within the discrete sciences (and in the S1-S2 science curriculum). S1/S5/S6 pupils and teachers would help with this.
- Cross curricular stalls with information to highlight the moral/ethical side of science (GM crops, genetics etc)
- Areas where P7 pupils, parents, primary teachers can interact with the experiments, perhaps carry out experiments themselves or be talked through what is happening
- Mini competitions to run based on experiments that pupils have done or will do e.g. rocket construction, hover crafts etc

If you would like to help with the Science Fair in any capacity, please get in touch with us as soon as possible.

The second event is a **Careers Evening** on **Tuesday 10th November 2009**, from 7 to 9pm. Ambassadors have been involved in this event in previous years and found it to be a worthwhile event to attend. The evening is for pupils and parents to be more informed on the career opportunities available to them. If you, or your company, would like to attend please let us know and we will forward your details to the school.

Glasgow Science Centre – RE-ACT!



The Glasgow Science Centre is running a 2 day event called Re-Act! for S3-S4 pupils on 18th and 19th November as part of Chemistry Days (running from 11th-20th Nov). Pupils will take part in workshops; running cars that require a chemical colour change to complete the circuit (iodide, potassium persulphate and a starch solution). They are keen to have one Ambassador to help out with the workshops (can be a different Ambassador on each day). It is all very easy and Science Centre staff will be running the workshop. Basic chemistry knowledge would be great but enthusiasm and a willingness to help out in are more important.

If you would like to help with the workshops on either or both of the days please let us know.

Springburn Academy, Glasgow – Careers Talks

Last year one of our Ambassadors talked to S2 pupils at Springburn Academy about careers in Science. The teacher involved thought this was excellent and had a positive impact on pupils at option time. The teacher has now contacted us to place a request for STEM Ambassadors again for this academic session to talk to S2 pupils about careers in and studying "the sciences", in all walks of life. She would also like Ambassadors to talk to upper school scientists about studying science at university level and general university life to inform their pupils to of a University option.

These talks will not be until later in the school year but the teacher would like to find out if Ambassadors are interested in coming to the school. If you would like to be involved in careers talks at Springburn then please let us know and we will let you know dates later in the year. We can let the teacher know, in advance, of the disciplines of Ambassadors volunteering so that she can organise the pupils into relevant groups.

Lab in a Lorry – Institute of Physics

Lab in a Lorry has been running for many years across the UK and we are pleased to announce that there is a new man in charge for Scotland! Ian Cuthbert has done a fantastic job in the past, visiting schools as remote as Tiree and the Highlands, but he has now moved to pastures new. The new "Lab in a Lorry" co-ordinator is James Bamford who has been involved in running the Lab in the North West of England for the last school term. He has worked in getting young people interested in science for the past couple of years in his previous job and is very keen to get the Lab running in Scotland again.



James is compiling a list of school visits for this term. The following schools are currently booked:

Duncanrig High School, East Kilbride	3rd Sep
Holy Cross High School, Hamilton	17th Sep
Springburn Academy, Glasgow	23rd, 24th Sep
Taylor High School, New Stevenson	29th, 30th Sep, 1st Oct

If you would like to help with Lab in Lorry on any of the dates above please let us know and we will put you in touch with James.

What is Lab in a Lorry?

Lab in a Lorry is an interactive mobile laboratory which gives young people (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, optoelectronics) and makes sure everyone gets to be involved.

What would I have to do?

You would be asked to oversee an experiment for the day. On the morning of an event, you receive training on the Lab and the organisers send you all the background material in advance. Volunteers are asked to commit to a minimum of one full school day – you get a free LIAL t-shirt and other freebies, come along for three days you'll receive your very own toy Lab in a Lorry!

Other information of interest to Ambassadors...

Institute of Physics' Public Engagement Grant Scheme 2010

Do you have a fantastic idea for making physics accessible? Do you want to reach a wider audience? Do you need some support to make your outreach activity happen? Then why not apply for a Public Engagement Grant from the Institute of Physics? They are worth up to £1000 and aim to support physics-based public outreach activities throughout 2010.

Application forms and guidelines for the scheme are available online at www.iop.org/activity/outreach/ or by e-mailing physics.society@iop.org.

Closing date: 6 November 2009

RCUK National Science & Engineering Week Awards Scheme 2010

Are you a Researcher or PhD student? Looking to give public engagement a try for the first time? Looking for funds to support your public engagement activities during National Science & Engineering Week 2010?

If you are funded by one of the seven Research Councils, then funds of up to £2,000 are available per project to those wishing to engage public and schools audiences with issues relating to science and engineering. This is your opportunity to develop your communication and public engagement skills on a small scale.

Application forms and guidelines for the scheme are available online at: www.rcuk.ac.uk/scienceweek or by emailing cheryl.hewer@rcuk.ac.uk

Closing date: 5pm Monday 2 November 2009

Royal Society's Partnership Grants scheme

The Royal Society's Partnership Grants scheme is at the forefront of initiatives seeking to ignite enthusiasm for science among young people, develop skills and interest in genuine scientific investigation, and support teachers and scientists learning from each other. Grants of up to £3000 are available for teachers and scientists or engineers to work together on creative investigations involving 5–16 year olds. Projects have included making biofuel from chip fat, testing whether brain train games really do improve memory and watching deep space for asteroids that could collide with Earth.

For successful applicants, **the grant is awarded directly to the school**, enabling the school to pay for any specialist equipment needed for the investigation, travel expenses for the scientist/engineer and/or the school group and possibly teacher supply cover.

A dedicated team at The Royal Society supports all stages of the application process, including advising on investigations you may be considering and guidance in finding a suitable scientist/engineer partner.

For more information and application forms visit: www.royalsoc.ac.uk/education/partnership.htm or contact The Royal Society directly at education@royalsociety.org.

Closing date is 6 November 2009

Public Lecture - Cosmic Dawn the Search for the First Galaxies

As part of a programme to celebrate 30 years of scientific research at the UK Infrared Telescope in Hawaii, the Royal Observatory is organising a public lecture by Professor Richard S Ellis FRS of the California Institute of Technology, Pasadena, USA at 7:30pm on Monday September 14th.

The lecture is entitled Cosmic Dawn: The Search for the First Galaxies and will be given at Surgeons Hall, Nicholson St, Edinburgh. Tickets, costing £3, can be purchased in advance from 'The Hub' in Edinburgh, Castlehill, Edinburgh EH1 or on line at <http://www.hubtickets.co.uk>

Lecture and Speaker Details

The final frontier in our understanding of cosmic history is the search for the first celestial objects which began to shine after an extended period of darkness astronomers call the "Dark Ages". Was this a glorious moment of brilliance or did it occur gradually over many hundreds of millions of years? And were the first sources brilliant and few, or feeble and numerous? Professor Ellis will describe our very limited understanding of this early phase of history and why its observation is important. His talk will highlight recent progress made in observing this era with the various ground and space-based telescopes some using the additional power of foreground 'gravitational lenses' which boost faint signals emerging from the distant past.

Induction Training

If you have not already undertaken your induction training, the next session will be run on **Tuesday 15th September at 3:00pm** in the University of Glasgow. If you would like to register for this induction please email or call us and we will reserve a place for you. The training will last around 1.5 hours and will enable you to complete your disclosure form also. The next training after this will be Tuesday 27th October 2009 at 3pm.

Thank you once again for all your efforts and please take a good look at the requests on offer and see where you can help out.

If you wish to help at a certain school please let us know and we will do the introductions on your behalf.

Please remember to record your activity at www.stemnet.org.uk!!

Thanks

Regards



Science Connects Operations Manager