Women's Science Summit

Tuesday 23rd October 2012

Mulberry

Women's Conference

Welcome to Mulberry School for Girls' Women's Science Summit

Thank you for joining us for this first, inaugural 'Women's Science Summit' at Mulberry School for Girls. I am indebted to the generosity of the scientists who are joining us today to inspire young women and men to make their careers in this field. These women are pioneers of science. They are also role models for new scientists, born in our schools. My thanks goes to all of them for their leadership in supporting the aspirations of the next generation of scientists.

Dr Vanessa Ogden
Head Teacher, Mulberry School

Event Objectives:

- To celebrate the achievements of some of the brilliant women working in science today.
- To support young people in discovering the wide range of careers to which studies in science can lead.
- To provide young people with an opportunity to meet and be inspired by successful female scientists.
- To promote the culture of imagination and innovation at Mulberry School.

Jo Latham
Women's Education Officer

Programme

1:50 - 2:15pm	**Opening Ceremony** Dr Vanessa Ogden Head Teacher, Mulberry School. Baroness Susan Greenfield Professor of Pharmacology, University of Oxford.
2:15 - 3:00pm	**Panel Discussion**
3:00 - 3:15pm	**Break**
3:15 - 3:25pm	Travel time
3:25 - 4:10pm	**Workshops**
4:10 - 4:20pm	Travel time
4:20 - 4:45pm	**Plenary** Emily Cummins Ethical Inventor, Big Promise.

Workshops	**Rooms**
Snot, Sick and Scabs	Main Hall
Engineering Challenge	SportSci
Environmentally Friendly Piccadilly Line Train	L06
Fungus Attack!	S21
Oceanography	S18
Science and Art Shape the Future	M11
Science and Faith	L04
The Making of a Medicine	L02

Speakers

Keynote Speaker: Baroness Susan Greenfield Professor of Pharmacology, University of Oxford

Baroness Susan Greenfield CBE conducts research on novel mechanisms of neurodegeneration at the University of Oxford and recently served as Chancellor of Heriot Watt University (2005-2012). She has received thirty Honorary Degrees from British and foreign universities. Other awards include Michael Faraday Medal from the Royal Society (1998), Honorary Fellowship of the Royal College of Physicians (2000), L'Ordre National de la Légion d'Honneur (2003), American Academy of Achievement Golden Plate Award (2003), Honorary Fellowship of the Royal Society of Edinburgh (2007) and Australian Medical Research Society Medal (2010). To find out more go to www.susangreenfield.com

Panellist: Dr Victoria Herridge Post-doctoral Researcher, Natural History Museum, London

I never wanted to be a scientist. In fact, I wanted to study History and English and write novels. It seemed like these were only subjects where I could explore ideas about life. Science seemed to be more about getting the 'right' answer. Then, around about Year 10 something changed - I realised there were lots of science questions without answers, and that I could be the one to answer them. I never looked back. I did an undergraduate degree in Biology at University College London; spent three months in the rainforest of French Guiana; gained a NERC studentship to study for an MSc in Taxonomy and Biodiversity at Imperial College, London; and I won a UCL Graduate School Scholarship to study a PhD on the evolution of dwarfism in extinct island elephants. I was awarded the Quaternary Research Association's New Research Worker's Award, the Paleontology Society's Steven J. Gould Award, and the Palaeontological Association's Sylvester Bradley Award in support of my PhD field work (amongst other funding). I was lucky enough to get more funding from the government to investigate Mediterranean dwarf elephants, and now work at the Natural History Museum, London. I am currently applying for more funding to continue my research into fossil and living elephants.

Panellist: Dr Bablin Molik Prospective Parliamentary Candidate, Liberal Democrats

Moved to Cardiff, Wales from Bangladesh aged six. Studied at Cardiff University for her BSc in Biochemistry. After graduating went to Bangladesh to settle in an arranged marriage. After marrying, Bablin started researching glaucoma disease in the eye, trying to identify methods to improve drainage and drug delivery of the eye. After the completion of her PhD, Bablin's struggles and achievements at juggling family life and an academic career were recognised and she was awarded as 'Lifetime Achievement Female' by S channel (Bangladeshi Sky channel). Bablin has worked with 'Women Connect First' and 'Women making a Difference' in trying to empower women from diverse backgrounds, encouraging them to gain confidence and build their skills. Recently Bablin has set up a Saturday Bangla School for children aged five to fourteen living in Cardiff. The aim of the school is to teach children the Bangla language alongside their culture, heritage and history, so that the children discover their roots and identity and form strong grounding to help them progress with confidence in the future. She is also a governor at Willows High School and is part of the Local Partnership group for Communities First. Bablin became an active member of the Liberal Democrats after the completion of her PhD and is currently standing as a Prospective Parliamentary candidate for Cardiff South and Penarth By-Election.

Panellist: Helen Monkhouse
Functional Safety Manager, Protean Electric Ltd

A Chartered Engineer and a Member of the IET, Helen Monkhouse has over eighteen years experience working in a product development environment; ten years of which has been in a strategic leadership role. Helen graduated from Kingston University with a degree in Electronic Systems Engineering before joining the signalling division of the then British Rail Research. There started a career in systems safety – developing her knowledge further during a fifteen year career at Jaguar Land Rover as Power Train System Safety Technical Specialist. In January 2011 Helen joined Protean Electric; a small venture capital funded company developing in-wheel motors for electric vehicles. As Functional Safety Manager Helen is responsible for providing the strategic directions across the business and for promoting a functional safety culture within the business. Helen is also a board member of the Women's Engineering Society; a professional organisation whose aim is to provide a network for women engineers, scientists and technologists offering them inspiration, support and professional development. Helen is a Yacht Master, so fills much of her 'spare' time sailing. When not sailing she also tries to squeeze in a bit of photography and tenor saxophone playing and keeps fit by making regular visits to the gym.

Panellist: Dr Amy Unsworth
Research Associate, The Faraday Institute for Science and Religion, Cambridge; Honorary Researcher & Lecturer, Imperial College, London

Dr Unsworth studied molecular biology at the University of Edinburgh and carried out her PhD research at the charity Cancer Research UK in London. She realized that she preferred talking and writing about science to actually doing scientific research, so she decided to work in the field of science communication – first for a breast cancer charity and then for the Science Museum. She then had the opportunity to work on an international project about science and faith, which involved travelling to several different countries. She is now conducting research on attitudes to science and faith amongst Christians and Muslims in Britain, and lectures at Imperial College, London.

Panellist: Prof Meena Upadhyaya PhD, FRCPath
Professor of Medical Genetics, Institute of Cancer and Genetics, Cardiff University

Professor Upadhyaya has an international reputation for her contribution to medical genetics. Professor of Medical Genetics at Cardiff University, she is also Consultant Molecular Geneticist in the Department of Medical Genetics, University of Wales College of Medicine, and Head of NIHS R&D. She has published over 160 peer reviewed papers in prestigious journals, written twenty-five book chapters and edited three books. Meena is the founder and chair-person of Welsh Asian Women Achievement Award (WAWAA). The main aims of the WAWAA project are: a) To encourage the enpowerment of Asian women throughout Wales by promoting and applauding their representation across all aspects of Welsh life; and b) To recognise those Asian women who have made an effective use of their talents to help and inspire others around them.

Closing Speaker: Emily Cummins
Ethical Inventor, Big Promise

Emily Cummins, twenty-five, is an award-winning inventor with a passion for sustainable designs that change lives. Her latest innovation is a sustainable fridge which is 'powered' by dirty water but keeps the contents dry, hygienic and cool. Emily refined her fridge in African townships before giving away the plans to benefit local people. As a result of her work, Emily was named as One of the Top Ten Outstanding Young People in the World 2010.

Workshops

Snot, Sick and Scabs
Liz Roche, Centre of the Cell

If you have ever wondered what snot, sick or scabs are made of, why cheesy feet smell so bad or how your body fights off microscopic monsters when they manage to invade your body, then this show is for you! Come and take on the role of a Scientist and discover the world of cells, bacteria and viruses and even make some fake snot.

Engineering Challenge
Ms C. Barrow, Mulberry School

Engineers are problem solvers who use their expertise in science and maths to do their job. There are a huge number of branches of engineering from aerospace all the way to mining. Jobs in engineering are exciting, challenging, well respected and can be very well paid too. Physics and maths qualifications will help you on your way to becoming an engineer. If you are still not convinced, come and try your hand at some real engineering! Do you think you have the skills to build bridges, paddleboats, bungee jumps, hovercrafts or go-karts? Come and find out at the Engineering Challenge!

An Environmentally Friendly Piccadilly Line Train
Marian Kelly, London Underground

London Underground is planning to introduce new trains on the Piccadilly and Bakerloo lines from 2018 onwards. In designing the new trains, LU wants to make sure that the train is designed to be as environmentally friendly and as cost effective as possible. The workshop will require students to identify opportunities for maximising the environmental benefits of the new Piccadilly line at design, build, maintenance and operational stages of the train over a forty year life.

Fungus Attack!
Giulia Bonciani, Imperial College London

In this workshop you will get a taste of what it is like to confront a world problem such as food security with scientific thinking. One of the most devastating infections currently putting at risk our food security is the powdery mildew fungus. You will get a sample of a barley leaf infected with a powdery mildew fungus to look at under the microscope and some information about the infection. Then you will have the chance to work in teams to think of experiments you would like to conduct and come up with a scientific strategy to ‘solve’ this fungal attack. At the end of the workshop each team will get to present their ideas and we’ll have a discussion about the ideas presented to finish.

Workshops

Oceanography
Ms L. Thompson, Mulberry School

Water covers 75% of the Earth's surface but we know less about the oceans than we do about the moon. Oceanography is a branch of science trying to change this, sending researchers to some of the most remote and untouched places on Earth. In this workshop students will have a chance to learn more about the world's oceans, how they are being affected by climate change and why this should matter to us. Practical experiments and demonstrations will help students get a better understanding of the importance of these underwater habitats.

Science and Art Shape the Future of Mulberry
Ms A. Grove, Mulberry School

How will London and Mulberry School look in fifty years? With a growing population more space is needed. Will we have to sacrifice comfort and style to meet these needs? Will our buildings need to be super efficient and eco-friendly? Do these ideas clash and can science overcome them? Architecture is a well-respected degree and career combining art and science. Come along to this workshop to learn more and try your hand at designing and building your own extension to Mulberry.

Science and Faith
Dr Amy Unsworth

A discussion group exploring the relationship between science and faith.

The Making of a Medicine: Animals in Biomedical Research
Laura Howe, Imperial College London

The purpose of biomedical research and testing is to understand the living body and what goes wrong in disease, and to develop safe and effective ways of preventing or treating those diseases. Animals are vital in all stages of this undertaking, playing a very important part in the research process and in the development of a new medicine.

Thank You

We are grateful to the following people for all their support and hard work:

Tasnim Chowdhury and Humayra Yasmin, our event comperes.

Dr Vanessa Ogden, Head Teacher of Mulberry School, for her impressive and on-going contribution to young women's education. Her vision has made this event possible.

Centre of the Cell, STEM Ambassadors and our other workshop facilitators for providing diverse, engaging activities .

The students of St Paul's Way Trust School for joining our celebration of female scientists; we hope they will leave encouraged in their aspirations.

The staff of Mulberry School, for their unfailing and generous support.

The event organisers, and Women's Education Officers, Jo Latham and Sarah Sarwar.

We would be grateful if you would take a moment to fill in a feedback form before you leave.