THE BIG BANG FAIR

The Big Bang Fair 2013 took place from 14-17 March at ExCeL London, welcoming over 65,000 visitors to the four-day science and engineering extravaganza.

The Fair celebrates and raises the profile of young people's achievements in science and engineering and encourages young people to take part in science, technology, engineering and maths initiatives with support from their parents and teachers.

A record number of visitors, interactive activities and special guests made up the UK's largest celebration of science and engineering for young people.

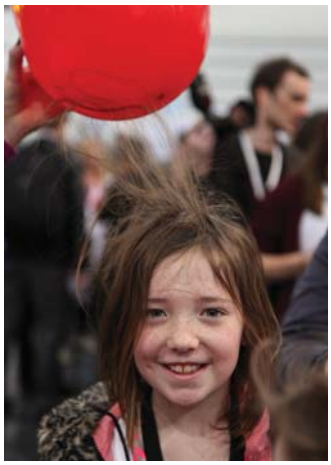
The Fair offered over 100 activities and live performances designed to bring science and engineering to life for young people, from custard-powder flame-throwers and vegetable-orchestras with Gastronaut Live to a journey through a human body with the NHS.

Prime Minister David Cameron, Business Secretary Vince Cable, and Equalities Minister Jo Swinson were among those who visited.

Prime Minister David Cameron said: "If we're going to succeed as a country, we need to train more scientists and more engineers and we need more women to go into these areas. Kids can come here and see what science can do to tackle problems but it also inspires and excites."

The finals of the 2013 National Science + Engineering Competition were held at the Fair.

Fred Turner, 17, from Crossley Heath School in Halifax was named UK Young Engineer of the Year, having impressed the judges with his project Genetics at Home, a fully working Polymerase Chain Reaction (PCR) machine which allows people to carry out basic genetic



tests at home, for a fraction of the cost of existing technology.

UK Young Scientist of the Year is Emily O'Regan, 18, from Newcastle College in Newcastle-Upon-Tyne. Emily secured her title with her project which studied breeding habits of the endangered Chilean flamingos in captivity at the Wildfowl and Wetlands Trust Washington Wetland Centre.

The Big Bang UK Young Scientists & Engineers Fair is led by EngineeringUK and exists to inspire the UK's next generation of scientists and engineers.

To find out more about The Big Bang Fair visit www.thebigbangfair.co.uk

Next year the Fair takes place at the NEC, Birmingham from 13-16 March.

MRC MILLENNIUM MEDAL

The Medical Research Council has announced that its Millennium medal for 2013 is to be shared by two illustrious biochemists.

Both Sir Greg Winter and Sir Philip Cohen are no strangers to the receipt of awards

Indeed both started by winning the Colworth Medal (sponsored by Unilever) from the Biochemical Society for an outstanding young British biochemist.

Phil was one of the earliest recipients – in 1977

While Greg won it in 1986

They also have in common that they have spent virtually their entire research career in one place.

Phil Cohen was one of the founders of the Department of Biochemistry in Dundee, and was largely responsible for turning it from scratch into one of the most successful laboratories in Europe, and one of the largest employers in the City of Dundee. No department has produced more Colworth medal winners.

He started his work on phosphorylation during his post doctoral work in Ed Fischer's laboratory in Seattle, and since then has never looked back.

The subtle interlinking of kinases and phosphatases, and their effect on cell regulation have been grist to his mill for more than 30 years. He and colleagues have shown the effects in numerous metabolic processes.

A phosphorylation cascade involves the phosphorylation of a protein which then becomes an active kinase, and this in turn can phosphorylate other kinases activating them, and on and on. At each step, there is a very large amplification of the original signal so that a very small initial signalling event can be converted into a very large response.

He was made a Fellow of the Royal Society in 1984 and knighted in 1998.

Greg Winter started in protein sequencing in the days before DNA took over. He moved on from his interest in enzymes to the structures of antibodies. He worked out how to engineer antibodies themselves, and most importantly, domains within them which were nonetheless biologically active.

He set up Cambridge Antibody Technology more than 20 years ago. It remains one of the most successful academic spin out companies in the life sciences in the UK.

HUMIRA, an antibody against TNF (Tumour Necrosis Factor) alpha is now marketed by Abbott Laboratories, and has annual sales in excess of $1bn.

He has simultaneously received one of the Canada Gairdner Awards for 2013.

He was made a Fellow of the Royal Society in 1990, and knighted in 2004. He has just taken over from Martin Rees as Master of Trinity College, Cambridge.

Alan Malcolm