

EDUCATION

National Science and Engineering Week 2009: Shortlisting for Cardiff University's 'Science in Health – Live' Event

by James Matthews

The British Science Association's National Science and Engineering Week (that this year ran from 6 - 15 March) is a celebration of science, engineering and technology with a multitude of events staged all over the UK.



Dr Ian Humphreys introducing the concept of 'Harnessing the Immune system to treat disease' to members of Morriston Comprehensive School

One of the biggest of these events, the Cardiff University 'Science in Health – Live' day, features substantial input from members of the University's Infection, Immunity & Inflammation Interdisciplinary Research Group (I³ IRG). As a whole, the event engages more than 500 A-Level pupils from over 50 schools throughout Wales and the border counties, and this year was one of only three events short-listed for the British Science Association's *Best Science Event Award*.

The purpose of the day is to inspire and enthuse the next generation of potential researchers by exposing them to real research environments and by explaining the science behind medicine using innovative demonstrations and analogies. A universally popular component of this annual event, as judged from pupil responses, is the research laboratory tours. This year there were 23 different tours on offer with I³ IRG members involved in at least six, including 'Harnessing the immune system to treat disease'; 'Small molecule mass spectrometry'; 'Rheumatology research: bench to bedside'; 'When babies are born too early: difficulties with breathing and fighting infection'; 'Phagocytes: friendly but dangerous killers in our

midst'; 'Innate immunity: the body's first line of defence in the fight against infection' and 'Vaccinating against cancer: the HPV virus and cervical cancer'.



Dr Stephen Clark (left) and Alwena Morgan (2nd from right) explain the principles of chromatography to members of St Julian's in Newport at a demonstration in Professor Valerie O'Donnell's laboratory

In addition to the laboratory tours, the A-level students attended a number of short talks, a cancer case study presentation theatre, and interactive exhibits on subjects including brain excitement, lactose intolerance and blinking. The finale of the event was an interactive lunchtime lecture along the lines of the Royal Institution Christmas Lectures. This year, Professor Anthony Campbell delivered an entertaining lecture on "Darwin at School" in which he highlighted the relevance of the processes of natural selection to medical science with some imaginative and insightful demonstrations.

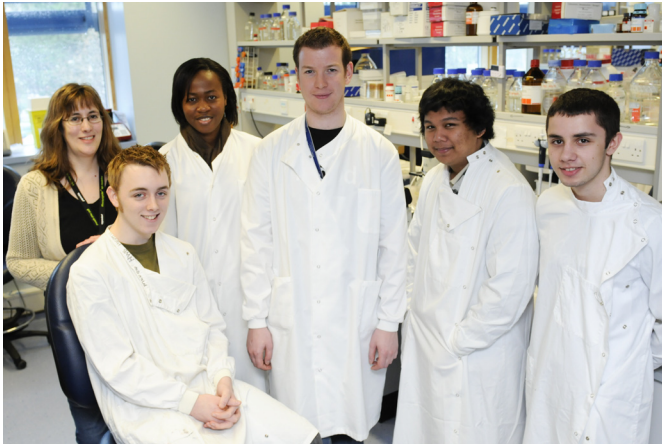
Dr James Matthews, an I³ IRG member and one of the organisers of the event, noted:

"'Science in Health' has by now become firmly embedded in the psyche of the School of Medicine. This year we have had the involvement of more than 150 members of staff from across the University. We are very proud of our research track record at the School and wish to convey to the students some of the thrill to be had from scientific discovery allied to the chance of improving medical treatment."

"For many of the visiting A-level students it's the first opportunity they have had to experience a research laboratory environment. It is also satisfying that many of the tours are fronted by our own PhD and Postdoctoral students who seem to relish the difficult challenge of communicating in understandable terms why they do what they do. Importantly,

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it is an opportunity for all of us to give something back to an education system from which we have directly benefited."



Linda Wooldridge, Julia Ekeruche and Dave Cole (Back row, left to right) with students of Morriston Comprehensive

Dr Ian Humphreys led the session on 'Harnessing the Immune system to treat disease'. This consisted of a seminar introducing immunology and T cells, highlighting recent research by Professor Andy Sewell manipulating T cells to enhance protection from HIV infection. The session also involved "hands-on" demonstrations for students in the laboratories studying a diverse range of concepts and techniques including flow cytometry, microscopy, chromatography and cell signalling. Dr Linda Wooldridge of the department oversaw the tours.

Andy Sewell, commented: "It is extremely important that researchers actively engage the public and tell them what we do and why we do it. The 'Science in Health' event has been running for sixteen years. During that time it has given thousands of school children that have an interest in careers in biomedicine and healthcare the chance to see the biomedical research laboratory environment up-close and engage with people that are active in the professions. It is fantastic that our event is short-listed in the top three for the British Science Association's Best Science Event Award as it is a great credit to all the hard work organisers have put in. We are committed to public engagement here in Cardiff".

There is increasing recognition by universities, charities and research councils of the importance of public understanding and engaging with local schools in order to attract the brightest students into science and medicine. In this context, it is clear the 'Science in Health' event plays a vanguard role in raising the profile of Cardiff University School of Medicine, as well as providing career guidance and enthusing and inspiring the next generation of scientists and physicians.

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