

## **BBSRC Public Engagement Awards 2007**

### **Dr Amanda Bamford, University of Manchester: Life in the Greenhouse - the case of the disappearing chlorophyll**

Pupils from selected inner city schools in Manchester will be invited to attend a 'Life in the Greenhouse' event at the University of Manchester Botanical Gardens and Faculty of Life Sciences Laboratories. At the Botanical Gardens, students will follow a puzzle trail and see plants growing under different climatic conditions, ranging from tropical, desert, Mediterranean and alpine. They will also see and hear about a number of commercial plants e.g. cotton, coffee and tea. Next, they will select a range of painted nettle (*Coleus*) plants, with colour variations, to bring back to the laboratory for analysis. Participants will analyse chlorophyll absorption spectra, using spectrophotometers, to investigate the distribution of chlorophyll on the differently coloured *Coleus* leaves. Pupils will get 'hands-on' experience of laboratory techniques and design their own experiments.

### **Dr Guy Barker, Warwick HRI: Plants: the key to a sustainable future**

Following the success of last year's stands at Chelsea and the Town and Country Festival, Warwick HRI will take a stand featuring research into plants for the future to the Town and Country Festival in 2007. The Festival, which takes place over the August bank holiday weekend (24-26 August 2007), attracts a diverse audience from the Midlands and beyond.

### **Dr Sylvie Ducki, University of Salford: Illustrating drug target interactions using molecular models**

Working with schools in the Greater Manchester area, molecular modelling approaches (computing and model making) will be used to introduce the idea that certain drugs fit into specific shapes of a host protein (or enzyme). With this in mind, a purpose built protein molecule will be constructed which will allow modelled traditional drugs (such as aspirin) to fit inside, highlighting the fact that only certain drugs bind to specific parts of a protein. This conceptual idea will then be expanded to include the design of anticancer drugs. The team at the University of Salford (UoS) has an interest in the design of anticancer drugs and will introduce the audience to the concept of drug therapy in the treatment of cancer by a series of activities and talks. Activities will be held within the host schools and UoS in the 2007 academic year.

### **Dr Gaynor Evans, University of Salford: It's not brain surgery**

Aston University Neurosciences Research Group (NRG) plans to deliver a range of events, targeted at specific audiences within the local community, during the 2007 calendar year. There will be opportunities to discuss science

with active researchers on 'Meet the Scientist' days, and there will be live-links to the laboratories at Aston University, which will allow visitors to see how to acquire information on the brain. Other activities will include evening talks on current research topics and the development of educational web content on neuroscience (current research, applications and images). Many of the events will be carried out in collaboration with Thinktank, Birmingham Science Museum.

### **Ms Sheila Maister, King's College London: Straight to the heart: science, diet and cardiovascular disease**

The importance of nutrition in the prevention of heart disease, and science's role in influencing health policy, will be explored at a series of road shows at identified London schools. The activities will be aimed at school students (years 10-12) who may be interested in science and healthcare-related careers. The road shows will be led by the college's Diet and Cardiovascular Health Research Group who are working on optimum diets for the prevention of cardiovascular disease. Research staff and PhD students will demonstrate their research through seminars and demonstrations in the classroom and laboratory and will encourage audience participation.

Parents and other community groups will be invited to an early evening discussion forum, led by members of the King's College Research Group, who will present current scientific approaches to the study of cardiovascular disease. There will also be opportunities for viewing poster displays and individual discussion with healthcare and education representatives.

### **Dr Jeremy Pritchard, University of Birmingham: All Sweetness and Light: Explaining photosynthesis to the public**

A series of public demonstrations will be delivered at the Glasgow Science Centre (26/27 July 2007) as part of a Public Understanding of Science session for the Photosynthesis Congress 2007. The entertaining and interactive demonstrations will be aimed at 8-year olds up to adults and will focus on the real principles of energy transfer in general and photosynthesis in particular. The science lectures will also be taken to local Glasgow schools. Audience participation will be encouraged throughout to provide a good dialogue between the deliverer and the audience.

The project builds on a previous BBSRC School Liaison project 'Plants of the World' and, in addition to the lecture, will produce a portable lecture format that can be used by science communicators in science centres, as well as by other scientists wishing to promote plant sciences to schools.

### **Miss Amy Tibble, University of Cardiff: Exploring the fascinating world of conservation research**

This activity sets out to bridge classroom, genetics and ecology, in a field environment. Key Stage 3 pupils will be provided with an opportunity to work alongside environmental researchers to solve problems, observe and participate in experimental tasks, and to discover how molecular and genetic techniques may be applied in the field.

Researchers at Llysdinam Field Centre study a range of relatively rare species including the white-clawed crayfish, amphibians and otters. The activities will relate a range of national curriculum topics such as feeding relationships, genetics and inheritance to current conservation research. Pupils will gain experience of various techniques (molecular, genetic and ecological), and will interact with researchers through a series of tasks and hands-on activities including field sampling, behavioural observations and DNA analyses allowing determination of feeding relationships.