

BBSRC Public Engagement Awards 2008

Helen Jopling, University of Leeds

Discovery Zone at Leeds Festival of Science

The Discovery Zone will take place over two days of the Leeds festival of Science, when a sports hall will be turned into a science fair. Postgraduate and early career postdoctoral scientists will staff stalls running hands-on activities covering a range of scientific disciplines, from making slime and hovercrafts to looking at the microbes living on our skin. Groups of 8-13-year-olds will spend two hours in the zone, moving between activities as they please. The Discovery Zone is part of a collaboration between the University of Leeds and the highly-acclaimed local Thackray medical museum.

Dr Alan Trudgett, Queen's University Belfast

Biodiversity In Your Backyard

This project will give ten and eleven year-old pupils a chance to grow their own biodiversity gardens at school and take part in a national survey of the different insects that visit the garden. Schools will be provided with resources and information which will enable them to grow their own biodiversity gardens from seed, observe the different insects that visit their garden, monitor and record information and report this information back to W5, Ireland's award-winning interactive discovery centre, which will log and report on the insect population seen across Northern Ireland on their website. This information will provide a snapshot of the diverse range of insects across the region and provide young people with the opportunity to take part in a real life, large-scale experiment.

Dr Amanda Bamford, University of Manchester

Plants from around the world: colour and chlorophyll

Pupils from Manchester's inner city schools will have the chance to discover the plants at the University of Manchester's Botanical Gardens. Pupils will follow a puzzle trail and see the plants growing under different climatic conditions ranging from tropical, desert, Mediterranean and alpine. They will also learn about commercial plants e.g. cotton, coffee and tea. Next, they will examine colour in *Coleus* leaves, using a range of scientific techniques. Participants will analyse chlorophyll absorption spectra to investigate the distribution of chlorophyll on the differently coloured *Coleus* leaves. They will examine the role of pigments in plants and explore the underlying concepts of photosynthesis.

All this will take place during two one-day events, one for key stage 4 pupils and the other for AS level students.

Dr Jason Micklefield, University of Manchester

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. We will then expand this idea to include the design of anti-cancer drugs. Our target audience will initially be secondary school pupils, focusing primarily on Bolton, Manchester, Oldham, Rochdale and Salford. In

addition, we will target identified schools with gifted and talented students together with A-level students.

Ghzaleh Masnavi and Eleanor Taylor, University of Manchester
The Fantastic World of Plants....From Edibles To Medicinals

This one-day event at the Manchester Museum and the University of Manchester Botanical Gardens will focus on healthy eating, and raising awareness and interest in how plants are used in every day commercial applications and medicines. At the museum, four stations will each have a different theme: plants and food (matching foods to the plants they come from); parts of the plant (which parts are edible and the different parts' functions, e.g. transpiration); colouring station (for younger children); medicinal uses (specimens on display with information on their effect on the body and the drugs derived from each plant using large posters). At the Botanical Gardens people can follow a puzzle trail relating plants in the collections to characters from children's TV and fiction and demonstrating some of their interesting uses. All visitors can plant and take home tomato plant.

Professor John Crawford, University of Abertay
Young People's Masterclasses in Mathematics for the Life Sciences

Six weekend classes in advanced mathematics will be run to encourage more pupils to continue mathematics to an advanced level and to inspire them to consider mathematics as an integral part of a career in the life sciences. A website will provide teachers with free support documentation and advice on setting up and running the classes on their own. Each class is themed around a particular application domain, centring predominantly on contemporary research topics. The relevant mathematical concepts will be developed in highly interactive lectures, punctuated by hands-on tutorial sessions. Classes will accommodate up to 50 pupils from all secondary schools within 25 miles of the university.