

Researchers to Discover how Nanoparticles Affect Health and the Environment

Posted on Wednesday 14th January 2009

The University of Birmingham's School of Geography, Earth and Environmental Sciences has secured funding of £500,000 for a new Facility for Environmental Nanoparticle Analysis and Characterisation (FENAC).

Researchers at the facility will analyse the physical and chemical properties of nanoparticles and will look at whether they have significant adverse effects on human and environmental health.

Although there is already some evidence that nanoparticles cause behavioural changes, cellular and organ damage and brain damage in fish, as well as lowered growth and mortality in organisms such as algae, invertebrates and plants, there is currently very little EU legislation governing the manufacture and use of nanoparticles.

Nanotechnology is a growing industry with a global research and development spend of approximately 9 billion US dollars in 2005 – the overall global market is expected to reach 2 trillion US dollars by 2015. Nanoparticles have novel properties with many different chemistries and sizes and are mostly defined as being between 1 – 100 nanometres in size – about 10,000 times smaller than a typical human cell and about 100,000 times smaller than the width of a single human hair. They are already being used by manufacturers in many different products and processes, for example, suntan lotions, cosmetics, toothpastes, antibiotics and fabrics.

The new Facility will provide expert analysis and interpretation of the physical and chemical characteristics of manufactured nanoparticles and will work with the biological and environmental community to produce high quality data to be able to properly understand how nanoparticles move through the environment and how they might be harmful to organisms and to humans. The research will be published openly and shared with relevant industry and government departments and it is expected that the results will strongly contribute to emerging government policy on nanoparticles.

Professor Jamie Lead, lead investigator from the University's School of Geography, Earth and Environmental Science and Facility Director, says, 'Nanoparticles are already being discharged into the environment and this discharge is likely to increase substantially in the short and medium term. The properties which make them attractive in industrial processes and consumer goods, also mean that they are potentially harmful to both human and environmental health.

'We aim to provide an understanding of the possible environmental and human health issues surrounding the use and discharge of manufactured nanoparticles into the environment.'

The funding for the new facility has been awarded to the University by the Natural Environment Research Council.

Ends

For further information

Kate Chapple, Press Officer, University of Birmingham, tel 0121 414 2772 or 07789 921164.

[Privacy](#) | [Legal](#) | [Cookies and cookie policy](#) | [Accessibility](#) | [Site map](#) | [Website feedback](#) | [Charitable information](#)

© University of Birmingham 2015

