From Airborne exposure to Biological Effects (FABLE)

Pathways for health impacts of nanoparticles

The unique properties of engineered nanoparticles are highly beneficial to numerous industrial applications, and their use has become widespread. However, little is known about airborne levels in the environment, and their effects on human health.

In the FABLE project at The University of Birmingham, we are taking an inter-disciplinary approach to increase understanding of the human health impact of three metal nanoparticles, Cerium, Vanadium and Zinc.

The work entails measurement of levels of nanoparticle oxides of Cerium, Vanadium, Zinc in the ambient environment and modelling personal exposures. These airborne species are characterised and synthesised at Birmingham University in their various physico-chemical forms, to study their potential for effects in man following uptake via the lungs.

This work includes study of the extent of respiratory uptake, definition of how these particles penetrate various human epithelia, and investigation of their intracellular effects, and association with local and systemic toxic responses. This work makes a major contribution to assessment of risks incurred by beneficial use of these metal nanoparticles, and to this end, we interact with policy makers and industry.

We acknowledge the **Natural Environment Research Council (http://www.nerc.ac.uk/)**, **Medical Research Council (http://www.mrc.ac.uk/index.htm)**, **Economic and Social Research Council (http://www.esrc.ac.uk/)**, **Department of Environment, Food and Rural Affairs (http://www.defra.gov.uk/)** for the funding received for this project through the Environmental Exposures & Health Initiative (EEHI).

A **description of this project (/Documents/college-mds/haps/projects/FABLE/FABLE-(Research-Innovation-2013).pdf)** has been published (October 2013) in International Innovation, by Research Media.

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