



Environmental Effects of Nanoparticles and Nanomaterials.

LONDON, Monday 18th - Tuesday 19th September 2006.

CALL FOR PAPERS

Engineered nanoparticles and nanomaterials offer many potential socio – economic, health and environmental benefits as a result of novel properties and behaviour that materials can exhibit when manufactured at the nanoscale. While the production of nanomaterials is undergoing exponential growth, their biological effects and environmental fate and behaviour are relatively unknown. This meeting will be the first to bring together scientists from the U.K. and elsewhere to discuss emerging environmental issues and present recent scientific data. The meeting is aimed at environmental scientists, toxicologists, chemists, biologists, material scientists, social scientists and policy makers with an interest in this emerging field. The purpose of the conference is to gather the most up-to-date information on this topic, so that the delegates have the best possible current overview of the topic by the end of the meeting. *The emphasis of the meeting will be on data presentation and discussion:* contributions are most welcome from studies in progress, emerging data sets, as well as studies that are recently completed, or at the publication stage. The conference will be held in central London at the Linnean Society meeting room, Burlington Arcade, Piccadilly, London. The meeting is a joint venture between the Society of Environmental Toxicology and Chemistry-UK branch (SETAC-UK, <http://www.setac-uk.org.uk/index.htm>), the Society for Experimental Biology (SEB, <http://www.sebiology.org.uk/index.asp>), the Environment Agency, U.K., the Society of Chemical Industry (SCI, <http://www.soci.org/SCI/index.jsp>), and in collaboration with the Natural Environment Research Council and Defra.

THEMES

Oral presentations or posters welcome on any of the following themes.

- **Chemical and physical properties of manufactured or natural nanoparticles and other nanomaterials in the environment, their fate, behaviour, interaction and biogeochemistry** – what are the fundamental and emerging novel properties of these materials that influence their fate and behaviour in the environment? What are the sources to the environment and release mechanisms? How do nanomaterials degrade? What is the fate and behaviour of these materials in soil, sediment, water and air? How do they interact with other naturally – occurring and anthropogenic substances?
- **Toxicological and biological effects**- what do these materials do to organisms? What are the exposure routes? How are nanomaterials distributed in organisms and what shape and form do they take? How are dose - response relationships influenced by particle size, shape and number? Are there new effects exhibited at the nanoscale not evident in the bulk form? Descriptive and quantitative studies that explore toxicokinetics, interactions and biological effects at the molecular, cell, tissue, organism or ecosystem level are welcome.
- **Knowledge transfer**- what knowledge from medical toxicology, material science or particulate chemistry can inform on possible environmental fate or effects of new nanomaterials?
- **Detection, measurement and bioassays**- methodologies to measure nanomaterials in environmental samples, organisms, and humans. What in vitro or in vivo assays are available to assess toxic effects and how appropriate are these?
- **Environmental Risk Assessment, Life Cycle Analysis, Modelling and Human Health**- What are the key issues and knowledge gaps for risk assessment via environmental exposure? What data sets are available? What are the priority risks to organism and human health?
- **Environmental Application of nanotechnologies**- Can these new technologies help the environment - are there any new tools for environment for environmental monitoring or assessment?
- **Regulation and Public Perception**- how do we most effectively develop and communicate the evidence base to inform appropriate controls? What are the views of stakeholders and the public regarding the environmental benefits and risks associated with this technology?

SUBMITTING AN ABSTRACT:

Deadline for receipt of abstracts is Friday 4th August 2006

You are invited to submit abstracts for oral and poster presentations on any of the themes above. Since the meeting wants to hear about emerging work that is hot from the bench, we would particularly encourage short oral presentations (e.g. 10-15 mins) on work that is in progress, as well as standard presentations (e.g. about 20-25 mins) on more completed work.

Instructions for submitting an abstract:-

Your abstract must be typed into an MS Word document (maximum 400 words, Times Roman 12 point) and you may include ONE figure with a simple legend, or ONE table of data with your abstract. Thus the entire abstract including any data will fit on to one page of A4 paper (use portrait and the default margins in Word, 2.54 cm for top / bottom edges, 3.17cm for left and right margins). Email your abstract to Richard Handy at the University of Plymouth (rhandy@plymouth.ac.uk). Please use exact font, style and line spacing as in the example below (Times New Roman, 12 point):-

Predicting the mechanisms of nano-toxicity from the membrane biology of fishes: Is nano pollution a problem for aquatic life?

¹Handy, R. D., Smith, A. N., and ²Jones, E. W.

¹*School of Biological Sciences, University of Plymouth, Drake Circus, Plymouth, PL4 8AA, United Kingdom. E.mail; rhandy@plymouth.ac.uk*

²*Department of Chemistry, The University, City, Country, Post code, Country. Email: ewj@university.ac.uk*

The idea of nano-pollution has sparked the imagination of the media, and the scientific community is speculating on the possible effects (or not) of nano-technology and nano-pollution. Here, we propose a mechanistic, hypothesis-led approach to rationalising the possible effects on nano-materials on fish and other aquatic animals. This includes a brief review of the microenvironment and surface chemistry of epithelia to indicate how we expect nano-materials to interact with the gills of aquatic animals. A mechanistic approach as to how nano-materials are absorbed includes aspects of diffusion, and the ability of nano-particles to use ion or water channels on biological membranes. Concerns at the cellular level include the accumulation of nanoparticles in cells, and subsequent inflammation reactions or responses of the immune system. The role of blood circulation in distributing nanoparticles to internal organs (target organ toxicity) is discussed, and mechanisms of clearance from the body. Finally, based on the above, the likely health effects on animals that may be diagnostic of nano pollutant exposure.

THE VENUE & ACCOMMODATION

The conference will be held at the Linnean Society meeting room, Burlington House, Piccadilly, London. This is situated in central London a few minutes walk from Piccadilly tube station (<http://www.linnean.org/index.php?id=48>). Local hotels ranging in price from £50-£150+ per night are available within 10-15 minutes of the venue, or closer. Delegates will be responsible for their own accommodation arrangements, but we have arranged discount booking through a local booking agent which has a range of prices / hotels. If you wish to take advantage of this, please contact

"The Corporate Team" quoting: Ref 0103RS

Telephone: 0845 604 4060 (UK) or Int:+44(0)20 7340 1610

Fax: 020 7828 6439

e-mail: events@corporateteam.com

Or visit their website for an online booking form:

<http://www.corporateteam.com/events/0103RS>

We intend to use The Strand Palace Hotel as the main hotel for the meeting, since the conference dinner will probably also be at the hotel.

LONDON

Outside of the conference there is plenty to see and do. London is a cosmopolitan and vibrant city, with numerous theatres, museums, and galleries within a few minutes of the venue. The square at Burlington House hosts The Royal Academy of Arts. There are numerous restaurants, pubs and clubs in the city centre.

TRANSPORT

Getting to London is easy with a number of options:

- By air – London Heathrow, or London Gatwick airports have a fast train link to central London. London is also served by Stansted and Luton airports, which are on rail links. There is also city airport in London itself.
- By rail-all the main line stations in London are on the underground network, take the subway to Piccadilly which is the nearest tube station to the venue. Eurostar offers a fast rail service from Europe to central London.
- By Road – parking in London is expensive and traffic can be heavy. There is also a congestion charge payable. It is easier and more environmentally friendly to avoid bringing your car to central London and use public transport instead. There is no parking at the venue.

FOR FURTHER INFORMATION

Please contact the Meeting Organisers:

Dr Richard Handy, School of Biological Sciences, University of Plymouth, Plymouth PL4 8AA. Tel: 01752 232900 (school office), extension 2959

rhandy@plymouth.ac.uk

Dr Richard Owen, Science Group, Environment Agency. Block 1 Government Buildings, Bristol BS10 6BF. 0117 915 6805 richard.owen@environment-agency.gov.uk.

REGISTRATION:

Registration includes the delegate pack, tea/coffee, lunches in the Linnean Society library (a most impressive room with some very rare books) and the conference dinner on the Monday evening.

The deadline for registration is Friday 4th August 2006.

SETAC or SEB members:	£75
Non-members:	£95
Students:	£75

In addition, students may apply for travel grants to attend the meeting via SETAC-UK or the SEB using the usual application forms on the appropriate society web site.

PAYMENT & BOOKING

Fill in and return the attached booking form (one per delegate). **PAYMENT IS BY CHEQUE** made payable to '**SETAC -UK Ltd**'. Ensure you have read and accept all the conditions of booking. Should delegates wish to pay by bank transfer, please contact Richard Handy.

We will send you confirmation of your place/s within 3 weeks of submitting your application.

BOOKING FORM
‘Environmental Effects of Nanoparticles and Nanomaterials’

Use **ONE FORM PER DELEGATE** (photocopies acceptable) and send with payment to:

**Dr Richard Handy, School of Biological Sciences, University of Plymouth,
Plymouth, PL4 8AA, United Kingdom.**

PLEASE TYPE OR COMPLETE IN BLOCK CAPITALS

Title:
First name:
Family name:
Affiliation:
Address:
Postcode:
Tel:
E-Mail Address:

Please Tick:

SETAC or SEB members: £75

Non-members £95.....

Student £75.....

SETAC Membership Number (required for discount)

SEB Membership Number (required for discount)

Student Number (required for verification and discount)

Special Dietary Requirements

Any other special requirements (e.g access to venue).....

Registration at the meeting implies acceptance of the conditions of booking.

Fill in and return the attached booking form (one per delegate). **PAYMENT IS BY CHEQUE** made payable to ‘SETAC-UK Ltd’ Ensure you have read and accept all the conditions of booking.

1. Full payment must be made at the time of booking.
2. Cancellations by delegates: payments are not fundable after the deadline.
3. Cancellation by the organisers: in the unlikely event of cancellation of the event by us, the price paid will be refunded in full. However, we cannot be responsible for consequent expenses incurred by delegates.
4. The organisers reserve the right to amend the programme or speakers.
5. Bookings must be received by the deadline.