

IMPART Consortium Members

Temas AG Technology And Management Services

Co-ordinator
Karl Höhener
Switzerland
www.temas.ch

BioMaDe Technology Foundation

Prof. George Robillard
Netherlands
www.biomade.nl

Dublin Institute Of Technology

Dr. Declan McCormack
Ireland
www.dit.ie/

Swiss Federal Laboratory for Materials Testing and Research

Prof. Harald Krug
Switzerland
www.empa.ch

Institute of Physical Chemistry I.G.Murgulescu Of The Romanian Academy

Dr. Speranta Tanasescu
Romania
www.imt.ro/minamat-net/icf/elipso/met2.htm

Jozef Stefan Institute

Dr. Maja Remskar
Slovenia
www.ijs.si

Katholieke Universiteit Leuven

Dr. Peter Hoet
Belgium
www.kuleuven.ac.be

Kauno Technologijos Universitetas

Prof. Valentinas Snitka
Lithuania
www.microsys.ktu.lt

Latvian Society of Toxicology

Dr. Marite Bake
Latvia

NanoPowders Industries (Israel) Ltd.

Dr. Fernando de la Vega
Israel
www.nanopowders.com

National Institute Of Research And Development For Technical Physics

Prof. Horia Chiriac
Romania
www.phys-iasi.ro

Temas AG Technology And Management Services

Dr. Jürgen Höck
Switzerland
www.temas.ch

University Of Craiova

Dr. Oana Gingu
Romania
www.imst.ro

University of Crete

Prof. Aristidis Tsatsakis
Greece
www.med.uoc.gr

University of Surrey

Prof. Paul Sermon
United Kingdom
www.surrey.ac.uk

VDI Technologiezentrum GmbH

Wolfgang Luther
Germany
www.vdi.de

NANOToX Consortium Members

Bulgarian Academy of Science

Dr. Margarita Apostolova
Bulgaria
www.bio21.bas.bg/imb/

Helsinki University Of Technology

Prof. Esko Kauppinen
Dr. Paula Queipo
Finland
www.hut.fi

Nofer Institute Of Occupational Medicine

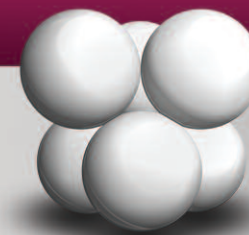
Prof. Jan Stetkiewicz
Poland
www.imp.lodz.pl

University of Manchester

Prof. David Vaughan
Ms. Victoria Hand
United Kingdom
www.earth.man.ac.uk/general/people/bio.php?id=60

Verein Deutscher Ingenieure

Dr. Holger Hoffschulz
Germany
www.vdi.de



impart-nanotox

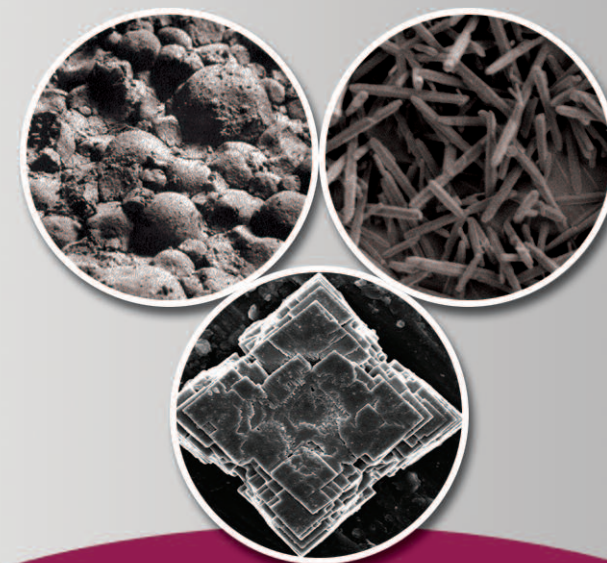
IMPART

Improving the understanding of the impact of nanoparticles on human health and the environment
Contract no.: 013968

NANOToX

Investigative Support for the Elucidation of the Toxicological Impact of Nanoparticles on Human Health and the Environment
Contract no.: NMP4-CT2004-013908

www.impart-nanotox.org



The projects are funded by "Nanotechnologies and nano-sciences, knowledge-based multifunctional materials and new production processes and devices" of the European Commission's Sixth Framework Programme



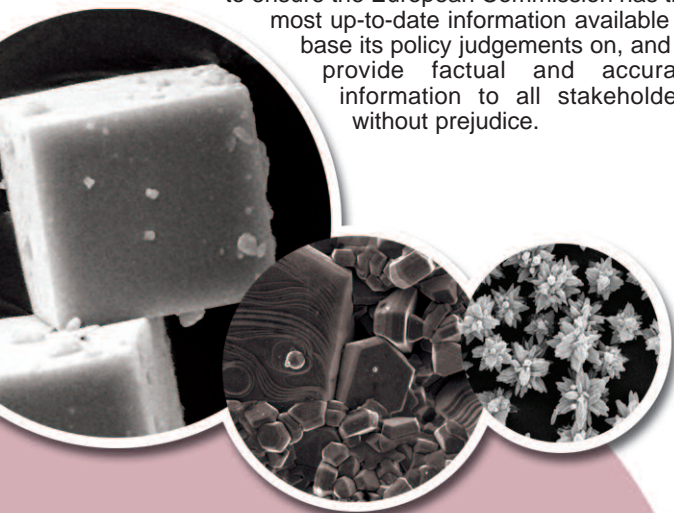
IMPART and NANOToX

Nanotechnology is finding increased application in the market with the belief that nanotechnology will be the next industrial revolution. In order to exploit the nanotechnology market potential fully, companies worldwide are beginning to mass-produce these materials for use in everything from sunscreens to soil reclamation.

The production of anthropogenically-derived nanoparticles will inevitably result in the release of these materials into the environment. However, despite rapid advances in nanoparticle production, knowledge of the potential risks of nanoparticles to human health and the environment is limited. There is concern that a particle's size below certain limits results in increased toxicity, irrespective of its actual chemical composition. In addition, the structure of these particles can also pose a potential risk: for example, the structure of carbon nanotubes is very similar to asbestos fibre, of which the detrimental effects on human health are well documented. Therefore, there is a need to encourage greater understanding of the short and long term implications of nanotechnology for health and the environment.

IMPART and NANOToX are two projects designed to investigate the current understanding of the impact of nanotechnology on human beings and the environment. They are both being run jointly by the European Commission with slightly differing priorities and goals.

The purpose of the projects are not to repeat work done elsewhere, (i.e. the Royal Society report into potential nanoparticle impact, 2004), but to build on more recent work to ensure the European Commission has the most up-to-date information available to base its policy judgements on, and to provide factual and accurate information to all stakeholders without prejudice.



The primary aim of this co-ordination action project is to prevent knowledge of the health and environmental implications of nanoparticles from lagging behind the technological advances. In order to do this, IMPART will foster communication links between regional, national and international initiatives in order to reduce duplication of effort, pool expertise and facilitate cooperation between networks. This will result in an improvement in the understanding of the potential impact of nanoparticles on human health and the environment.

It is important to realise that nanoparticles have been produced naturally throughout evolution. Human and environmental exposure to nanoparticles from combustion, diesel exhaust, coal mines, etc., has therefore been occurring for many years. However, rapid advances in nanotechnology have resulted in an increase in the production of manmade nanoparticles, and concerns have been raised over the effects these anthropogenically-derived substances, might have on human health and the environment. Whilst most scientists consider a moratorium on nanoparticles research an unnecessarily extreme response, it is also widely accepted that there are questions that need to be answered.

With this in mind, a number of initiatives and networks are being formed across Europe to attempt to address these issues. The specific scientific and technological objectives of the IMPART co-ordination action project are:

- To co-ordinate the efforts of regional, national and international initiatives represented in the consortium (both full members and those invited to join as associate members) and to formulate joint strategies for the future
- To make recommendations to major funding bodies for the future research direction in the field
- To carry out a review of the latest scientific and technological developments related to the risks of nanoparticle exposure on human health and the environment
- To produce guidelines and recommendations for the institution of future nanoparticle standards and exposure limits
- To disseminate the project's results through a specialised website (<http://www.impart-nanotox.org>) and knowledge transfer workshops
- To create and enhance good communication and permanent links between the partners

The focus of the project is to support the elucidation of the toxicological impact of nanoparticles on human health and the environment. There is pressure on public organisations and nanotechnology companies across Europe to investigate the hazards and toxicological risks associated with the production and use of nanoparticles. Until recently this issue had been neglected, as nanoparticles were believed to behave like their macro-scale counterparts. It has now been proven that this is not the case for all nanoparticle types/materials. This project will investigate potential methods of dispersal and contamination by nanoparticles by bringing together research institutes, the nanotechnology industry, universities and specialists to review and assess the literature, standards, legislation, ethical issues, policies and codes of practice, and to raise awareness and the level of know-how throughout Europe. A comprehensive set of guidelines and recommendations will be developed for use by European legislators, regulators and policymakers. The principal outputs NANOToX are:

- Web pages on the NANOFORUM and NANOToX / IMPART web sites for dissemination of results from this and related projects
- A toxicology literature review on methods of dispersal, and causes of contamination by nanoparticles
- Expert group meetings, to stimulate discussion on 'hot topics', to encourage transfer of ideas, and formulation of recommendations
- Legislation workshop, seminar, and report to disseminate the status of current national and international standards, legislation, ethical issues, policies and codes of practice, to identify bottlenecks or loopholes, and to promote best practice
- Mapping of current research and development activities in Europe
- A dissemination workshop, and report, to measure the effectiveness of the dissemination process
- A set of guidelines and recommendations (in the final report) of best practice for their safe production and use

