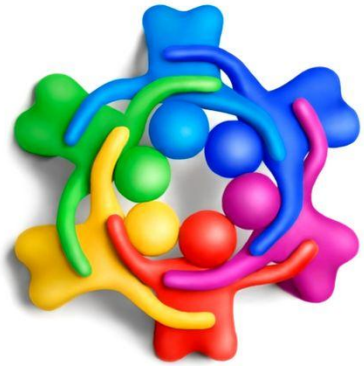
NANO
Research Infrastructure

QNano: A pan-European Infrastructure for Quality in Nanomaterials Safety Testing

May 2012



CAPACITIES

NUID UCD | NHM | IOM | JRC | BFR | KIT | FUNDP | IST | UNIVLEEDS | NILU | HMGU | LMU | CIC | UU | ICN | DLO/RIKILT | WU | DGUV | TAU | VITO | SMU | TCD | FIOH | UOE | ENU | CNRS | INERIS

Key challenges for NanoSafety

1. Irreproducibility in nanomaterials leads to irreproducible biological impacts.

2. Unscientific lack of nanomaterial positive and negative controls for biological assays.

3. Lack of *in-situ* characterisation of the nanomaterial-biomolecule complexes.

An analytical infrastructure

Analytical Infrastructure INFRA-2010-1.1.31:

Research Infrastructure for processing, analysis and characterisation (physico-chemical properties, health and environmental impact) of engineered nano-materials, nanoparticles and nanostructures.

An analytical infrastructure

Focus on ensuring reproducibility & comparability of data generated from different research groups:

- Generation of high quality nanomaterials that are reproducible batch-to-batch –
  "***materials processing***"
- Characterisation of nanomaterials *in-situ* under relevant exposure conditions –
  "***Initial dose***"
- Detection / Quantification of nanomaterials *in-situ* in cells / tissues / organisms etc. –
  "***Dose uptake***"
- Assessment of impacts of nanomaterials –
  "***Dose-response***"

European Research Area (ERA)

- The ERA is composed of all research and development activities, programmes and policies in Europe which involve a transnational perspective.

- The aim of the ERA is to give researchers access to a Europe-wide open space for knowledge and technologies in which transnational synergies and complementarities are fully exploited.

QNano's scope within the ERA

QNano's remit within the ERA is:

- Support the development and implementation of best practice and high quality research into the interactions of nanomaterials with living systems;
- Promote nanomaterials characterisation *in-situ* as basis for reproducible nanosafety assessment;
- Support researchers to fully characterise their own nanomaterials, before, during and after exposure to living systems, as part of their on-going research.

Is your project relevant for QNano?

Do you work with nanomaterials in contact with living systems?

Do you need to characterise your nanomaterials as they are in your biological samples?

Would you like…

- … to receive beamtime at a National Synchrotron Radiation Source?
- … to have access to a high-end laboratory for electron microscopy?
- … to work with the world´s most advanced Helium Ion Microscope?
- … and much more….

QNano´s Offer

QNano offers fully funded Transnational Access to 15 European Laboratories under 4 categories of experimental equipment:

- A: Nanomaterial Synthesis
- B: Nanomaterial Labelling & Pre-processing
- C: Nanomaterial Characterisation *in-situ / ex-situ*
- D: Nanomaterial Exposure Assessment

Typical access period: **4-10 days**

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