



# ISTITUTO SUPERIORE DI SANITÀ

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GOVERNING THE DEVELOPMENT OF NANOTECHNOLOGIES

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***POTENTIAL HEALTH EFFECTS OF NANOMATERIALS***

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***BIOMEDICAL APPLICATION AND RISK ASSESSMENT OF  
NANOMATERIALS***

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The ISS is the leading technical and scientific public body of the Italian National Health Service:

**Scientific research** in a wide variety of fields

**Clinical trials** in collaboration with the Scientific Inst. for Res. and Care (IRCCS) network and Hospitals

**Certification:** chemical/biological purity of drugs and vaccines, medical devices

**Inspection and quality control:** medical and diagnostic devices, equipment, food products and packaging

**Monitoring:** trends in diseases, mortality and other health factors, blood transfusion services and plasma production in Italy

**Technical support** for health-related environmental surveys

**Supervision** of laboratories engaged in the testing of prohibited substances in sport and the national veterinary institutes

**Major source of information relating to public health and biomedicine in Italy** through online connections to national and international scientific databases and data banks



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## Current research activities with nanomaterials (NM) at ISS

### *Risk assessment*

- Characterisation of physico-chemical properties of selected NM
- Morphological and ultrastructural characterisation of selected NM
- Development/validation of in vitro studies for assessment of NM with relevant exposure (OECD-testing methods on toxicity endpoints)
- Exposure assessment for humans and risk management (cooperation with INAIL for occupational settings)
- Support to nano-REACH application (Registration Evaluation Authorization of Chemicals) (Ministry of health)
- Food and feed safety (**European Food Safety Authority - EFSA**)

### *Biomedical applications*

1. Medical diagnosis and treatment
2. Biomedical devices

*More research and more national and international cooperation is planned*

*More coordination initiatives are needed ...*