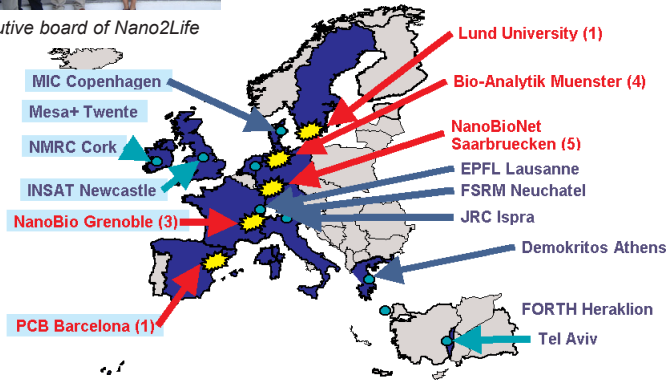


A network for bringing NANotechnologies TO LIFE (NANO2LIFE)

Coordinator: Dr. Patrick Boisseau, CEA France (patrick.boisseau@cea.fr)



Executive board of Nano2Life



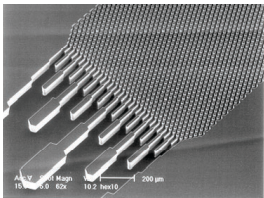
NANO2LIFE Partners

The main activities of Nano2Life will consist in:

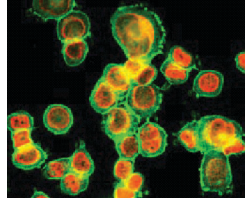
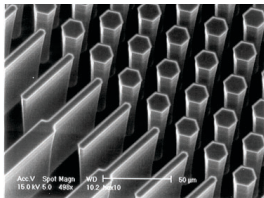
- Joint Research Programme
- Education & Training Programme
- Network of shared resources (Humans, know-how, equipments, platforms; Virtual facility)
- Dissemination & Communication
- IPR & Knowledge management
- Ethics (Ethics Board to advice, educate, monitor)
- Technology Foresight & Strategy (Benchmarking; Roadmap; Strategic plan)
- Industrial cooperation (ExAC; N2L opportunities; Annual N2L business days)
- Gender (Mentoring programme)

(Fragment from the presentation of Nano2Life Network by Dr. Patrick Boisseau, NANOFORUM Workshop, Sinaia, Romania)

The projected contribution of Nano2Life is to bring significant innovation to projects designed to: **Parallelise and miniaturise analyses (1)** and **Label and image molecules (2)**



Lab-on-chip (1)



Cell imaging (2)

Cooperation with candidate countries (excerpts from proposal)

The first 18 months of the network are focused on **an intensive cooperation with the 6 existing NAS (Newly Associated States) partners**, before potential admission as full partners in the next period. These organisations will be first established as **contact points for dissemination and training**. A web page dedicated to NAS partnership will be available on the web site, under the associated partners' page. As associated partners, NAS organisations will have access to certain levels of information in the network above the public level, in order to get more info about scientific results (e. g. preprints) and have a better chance to be integrated in future projects. Information about NAS partners will be included into Nano2Life database.

Transfer of excellence. Transfer to Newly Associated States is managed by 6 local organisations which serve as regional relays on dissemination and communication for Nano2Life in their countries. They are considered today as associated partners and are entitled to participate in the Joint Programme of Activity (JPA).

List of contacts points in NAS (associate partners from candidate countries)

- National Institute for Microtechnologies (IMT), Bucharest, Romania, *Dan Dascalu*
- "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania, *Bogdan Simionescu*
- Institute of Chemistry, Budapest, Hungary, *Erika Kalman*
- Institute of Macromolecular Chemistry, Prague, Czech Republic, *Eduard Bryndan*
- Faculty of Electrical Engineering University of Ljubljana, Slovenia, *Slavko Arno*
- National Centre on Nanotechnology, Sofia, Bulgaria, *Ana Proykova*

Nano2Life provides a frame to improve European competitiveness in nanobiotech by integrating excellent organisations, offering access to the largest and most advanced multidisciplinary expertise, facilities and know-how. Integration is achieved by coordinating research, training and communication in academia and industry.

N2L addresses the future need for increasingly efficient, more targeted and less invasive analysis systems for health care or environmental monitoring. They are expected to bring innovative research tools and industrial high-added value in the form of eco-efficient and sustainable devices to biotechnology, the pharmaceutical industry and health care.

Nano2Life has **24 core partners**, **15 organisations** coming from 5 regional clusters in nanobiotech and **9 centres of excellence** selected according to their complementary expertise. The partners possess wide-ranging scientific and technical expertise, technology transfer and a range of state-of-the-art equipment and facilities which are crucial to the development and characterization of devices and systems addressing the Nano2Life vision and scientific objectives.

Overall objectives:

- To tackle fragmentation
- To durably integrate organisations
- To interface two worlds: nano and bio
- To make EU an international leader
- To translate science into economic benefits
- To educate society about nanobiotech
- To set up an **European Institute of Nanobiotech (EIN)**, a new and lasting legal organisation for research in nanobiotech, with a common management and scientific vision sharing equipment, facilities, personnel, and expertise, having the following features: Excellence centre for European R&D in nanobiotech; Reference centre for industry, science, society, politics, education & training; Issuing calls for proposals in nanobiotech; Central management but local facilities

Nano2Life's output must be technological breakthroughs for innovative devices (like cell-on-chip, lab-on-chip, protein-chip and bionics interfaces) interacting with biological samples at the molecular level, for **targeted applications** like:

- Identification of new pharmaceutical targets
- Increased efficiency in drug discovery
- Increased efficiency and sensitivity in in-vitro diagnosis
- Identification of new markers.

Nano2Life will synchronise and further develop regional education schemes in order to establish a comprehensive education programme at all levels, e.g. by exchange of experience and agreements on common standards for European certificates. Nano2Life's education and training scheme will rely on 8 universities, 9 technical centres and 1 professional foundation.

NANOBIOTECHNOLOGIES IN ROMANIA

The 2 associate partners from Romania in Nano2Life are involved in CENOBITE. This is a **virtual centre of research in nanobiotechnologies**, set up as network of excellence following the model from FP6 and financed (2002-2005) from the National R&D Programme MATNANTECH (see page 15).

The list of research centres "integrated" by CENOBITE is given below:

- **Centre of Nanotechnologies** (under the aegis of the Romanian Academy), from IMT-Bucharest; contact person: Dr. Irina Kleps (irinak@imt.ro)
- **Centre of Laser-Surface-Plasma Interactions**, from National Institute for R&D for Laser, Plasma and Radiation; contact person: Dr. Ion Morjan (morjan@ifin.nipne.ro)
- **Department of Neuro-Psycho-Pharmacology**, from Centre of Medical-Military Research; contact person: Dr. Mihail Hinescu (mhinescu@yahoo.com)
- **Centre of Microstructures and Microsystems for Environmental Monitoring and Biomedical Applications**, from IMT-Bucharest; contact person: Dr. Carmen Moldovan (cmoldovan@imt.ro)
- **Group of Ceramic Nanocrystalline Materials**, from Research Institute for Nonferrous and Rare Metals; contact person: Dr. Radu Piticescu (rpiticescu@imnr.ro)
- **Centre for Molecular Biology**, from Faculty of Biology, University of Bucharest; contact person: Dr. Marieta Costache (costache@bio.bio.unibuc.ro)
- **Centre for Cellular and Molecular Pharmacology**, from the National Institute for Chemical-Pharmaceutical R&D; contact person: Dr. Misu Moscovici (mmisu@cfarm.ncpri.ro)
- **Centre for Microbiology**, from the Institute of Biology of the Romanian Academy; contact person: Dr. Lucia Dumitru (lucia.dumitru@ibiol.ro)
- **Centre of Glicobiology**, from the Institute of Biochemistry of the Romanian Academy; contact person: Dr. Stefana Petrescu (Stefana.Petrescu@biochim.ro)
- **Laboratory of Bioactive and Biocompatible Polymers**, from the Institute for Macromolecular Chemistry "Petru Poni" of the Romanian Academy, Iassy; contact person: Prof. Bogdan Simionescu (Bcsimion@ichpp.tuiasi.ro)

Overall coordination of CENOBITE: Prof. Dan Dascalu (dascalu@imt.ro)