

## INSTITUTE OF NANOSCIENCE OF ARAGON (INA)

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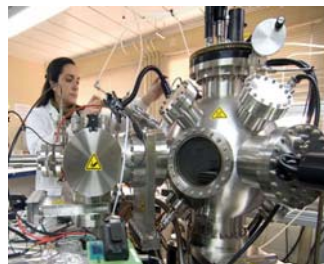
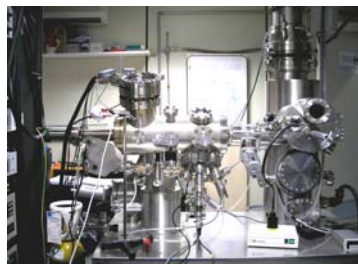
The Aragon Institute of Nanoscience (INA) is an Interdisciplinary research institute at the University of Zaragoza (Spain). It was founded in 2003.

INA is dedicated to **R&D in Nanoscience and Nanotechnology**. Its activities are based on preparation and processing of micro- and nanoscaled structures, and studying fundamental phenomena related with the nanoscale and their applications, in collaboration with companies and other research Centers from different areas.

The three main research lines at INA are: **Nanobiomedicine, Nanostructured Materials and the Physics of Nanosystems**. Ours is a multidisciplinary research and so it covers different fields such as Physics, Chemistry, Materials Science, Biology, Biochemistry and Biotechnology.

40 staff researchers, 45 Postdoctoral Fellows, 22 PhD Students, 11 Laboratory Technicians work at INA. In addition, there is an administrative and a technology promotion department (7 persons) that supports the R&D activity.

At present, INA has seven **laboratories** equipped with latest-generation devices:



- Thin film growth: PLD, MBE, sputtering, PECVD
- Lithography: clean room
- Dual Beam Microscopy: Nanolithography (ion and e-beam)
- Local probe microscopy: AFM, STM
- Electronic microscopy: HRTEM, SEM, TEM.
- Biomedical applications Lab
- Synthesis and functionalization of nanosystems
- Characterization of nanostructures: XPS-Auger, XRD, VSM Magnetometer

Nowadays, INA, with its qualified staff and state-of-the-art instruments, is a benchmark in the fields of Nanoscience and Nanotechnology.

## Research lines

### Nanobiomedicine

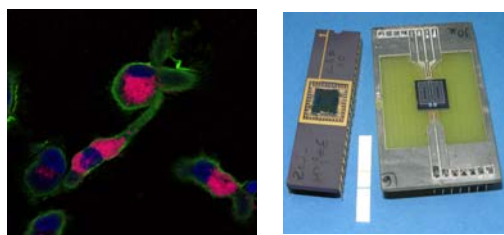
Diagnosis and therapy fields, which involve the use of nanostructured materials.

Therapy:

- Synthesis and functionalization of nanoparticles, nano- and microcapsules, and dendrimers for controlled drug delivery
- Magnetic Hyperthermia

Diagnosis:

- Biosensors for quantitative diagnosis
- Contrast agents to improve diagnosis by MRI

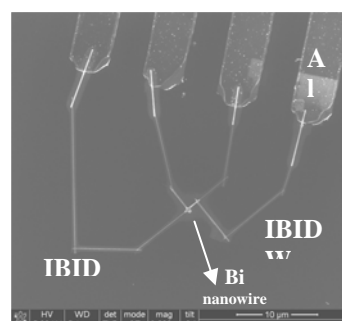


**Nanoscale Biomagnetics (nB). Spin-off.** Development and commercialization of technologies and equipment for R&D in biomedicine. [www.nbnanoscale.com](http://www.nbnanoscale.com)

### Physics of nanosystems

Research of new phenomena at the nanoscale:

- Spintronics
- Granular magnetoresistive sensors
- Magnetism in thin films and heterostructures
- STM (Scanning Tunneling Microscopy)
- Protein characterization with AFM
- MEMS and NEMS (Micro- and Nanoelectromechanical Systems)



### Nanostructured Materials

Investigate and develop new materials and devices using “bottom-up” and “top-down” approaches with applications in: automotives, security, environment, footwear, communications, electrodomestics and others.

- Carbon nanotubes and Carbon nanofibers
- Nanoporous interphases
- Hybrid membranes
- Gas sensors using Micro- and Nanolithography
- Nanocomposites/polymers

