

PhD position funded by AEI agency (Spanish Government)

TOPIC: Magnetic-based nanomaterials for photothermal therapy and photoacoustic imaging.

A PhD position is available at the 'Laboratory of Nanostructured and Nanocomposite Materials -LM2N' (<https://www.lm2n-ub.com/>) of the University of Barcelona (UB).

The position is in the framework of the project "**Versatile magnetic-based nanoplatforms for high contrast detection of deep cancer tumours (DeepTUMO)**". This is a very multidisciplinary project which will be developed in close collaboration with outstanding researchers from IMB-CNM-CSIC and Catalan Institute of Nanoscience and Nanotechnology (ICN2) and CNRS (Paris).

The project mainly tackles the synthesis of magneto-semiconductor hybrid nanomaterials with good optical absorption at the NIR-II region for photothermal therapy and photoacoustic imaging.

Duration: **2 years funded** + application for a PhD fellowship.

Start date: **1st July 2025.**

Main Tasks and Responsibilities of the candidate:

- Synthesis of the magnetic-based nanomaterials.
- Structural and physico-chemical characterization.
- Biofunctionalization of the nanomaterials
- Evaluation of the photothermal and photoacoustic properties.
- *In-vitro* experiments.

Requirements for a stronger application:

- Chemistry or Materials Science degree.
- Knowledge in nanomaterials and nanoscience.
- Knowledge on characterization techniques (XRD, TEM, SEM, UV-Vis, magnetism).
- **Outstanding CV** and, more importantly, **a high degree of ambition and motivation**, and with **good personal qualities** to work in our Team. Good level in English.

About LM2N group

The LM2N research group of the Department of Inorganic and Organic Chemistry of UB, focuses on the fabrication of novel nanomaterials for clean energy, biomedicine and environmental applications. The team is a young research group that emerges from complementary expertise within the field of materials science and nanostructuration. The group is built on the basis of a long-lasting experience on the colloidal synthesis of both semiconductor and magnetic nanocrystals, with special emphasis on the rational design of hybrid and other compositionally complex systems.

Interested applicants should send a **full CV**, a **Letter of Interest** and the **Contact Details of a senior researcher** which could support their **application before 15/03/2025** to martaestrader@ub.edu. The subject of the email should be: 'DeepTUMO_PhD_Surname of applicant'.

