Title	Synthesis of smart multi-functional and multi-component nanoparticles for advanced nanobiomedical applications.
Submission deadline	28-02-2025

Description

A researcher-in-training position is offered at the University of Valladolid to work in the Bioforge group (www.bioforge.uva.es), a multidisciplinary group in biomedicine, chemistry, physics, materials science, and nanotechnology. We are looking for a motivated person, with an interest in working in the field of nanotechnology with applications in biomedicine.

The candidate will join the "bioelectrosurf" project, of the Spanish Scientific Agency (AEI). Bioelectrosurf represents a paradigm shift in the use of nanomaterials in biomedicine using biomimetics tools. On the other hand, the use of multicomponent nanoparticles allows for high multifunctionality enabling more sophisticated tools to solve all the nanomedicine current needs. The candidate will be in charge of carrying out the synthesis of metal-metal oxide nanoparticles with heterogeneous structures and smart responsive coatings, and their physicochemical characterization using electron microscopy, light scattering, spectroscopy, elemental analysis, etc. The job will be full-time for 1.5 years, extendable, and with a competitive salary in accordance with the University of Valladolid.

Requirements and evaluable skills

- The candidate must have a bachelor's degree in chemistry, physics, materials, biomedical engineering, or related fields.
- Meet the requirements for access to a doctorate (master's degree in nanotechnology and nanoscience, materials, chemistry, biomedicine, etc.)
- Residence permit in the EU.
- Minimum average grade in the bachelor's degree of **7/10**.
- Fluent in written and spoken English.
- Previous knowledge and experience in nanoparticle synthesis and/or protein/material interactions will be valued.
- The academic record will be valued.
- Stays abroad (erasmus), collaboration scholarships and specialization courses, etc. will be valued.
- With initiative and independent critical thinking skills.
- Ability to work in groups and coordinate research on specific topics.
- Ability to present the results in public.

Work program and responsibilities

- Develop chemical synthesis protocols to control the characteristics of the nanoparticles: size, surface heterogeneity, chemical functionalization of the surface, etc.
- Carry out a complete characterization of nanomaterials: electron microscopy (TEM, SEM, EDX, etc.), light scattering (DLS, Z potential, etc., and spectroscopic techniques (UV-Vis, FT-IR, Raman, NMR, etc.) among others.
- Application-related characterization: Drug delivery, photothermia, imaging, etc.
- Analyze experimental data, prepare research reports, and contribute to academic publications.
- Collaborate with external international groups and carry out research visits for complementary work.
- Participate in scientific discussions and present results in group meetings, institute seminars, and scientific conferences.
- Conduct doctoral research under the guidance of experienced faculty members.
- Assist in laboratory management and maintain a safe and organized research environment.
- Attendance at international conferences for the dissemination of the scientific results obtained.

Procedure

The interested person must send their **CV** along with a **motivation letter** that includes the contact of **two reference people** to Professor Javier Reguera at javier.reguera@uva.es. After the first pre-selection phase, an online interview will be carried out. Subsequently, the selected people must send their applications through the UVa portal.