

Postdoctoral researcher at the Smart NanoBioDevices Research Group

4.8.2026 - | Institute for Bioengineering of Catalonia

Introduction to the vacant position:

The Smart Nano-Bio-Devices Group is looking for a Postdoctoral Researcher to lead a project on the development and scale-up of enzyme-powered nanomotors, with a focus on translational development toward clinical and industrial application

Main tasks and responsibilities:

- **Nanoparticle Synthesis & Formulation:** Drive the design, synthesis, and optimization of organic-based nanoparticles for drug delivery applications, including drug loading, encapsulation strategies, and formulation stability
- **Advanced Characterization:** Lead the physicochemical characterization of nanoparticle formulations using techniques such as DLS, SEM, TEM, HPLC, and Tangential Flow Filtration (TFF), ensuring robust quality control and reproducibility.
- **Surface functionalization:** Drive the experimental design, optimization, and advanced surface functionalization of organic-based nanoparticles to serve as active, targeted therapeutic carriers.
- **Microfluidic Fabrication & Scale-Up:** Design and implement microfluidic-based fabrication processes for nanoparticle production, supporting the transition from lab-scale synthesis to scalable manufacturing
- **Technology Translation:** Contribute to the translation of nanoparticle platforms from preclinical research toward industrial and clinical application, working in close collaboration with spin-off, CDMOs, and other external partners.
- **Data Analysis & Scientific Output:** Independently analyze complex datasets, prepare high-impact scientific publications, and present research findings at international conferences.
- **Mentorship & Project Management:** Supervise and mentor PhD and Master's students within the research group, while overseeing project milestones and preparing technical reports.

Requirements for candidates:

Essential:

- PhD degree and Master's in any field related to chemistry, materials science, nanotechnology, biomedical engineering, or similar.
- Proven research experience in the design, synthesis, and characterization of nanoparticles and drug delivery systems. Specific expertise in enzyme catalysis and nanomotors is highly desired.
- Experience in microfluidic fabrication of nanoparticles and polymer synthesis.
- A strong track record of scientific publications as a first author in peer-reviewed, high-impact journals.
- Ability to work independently and manage complex projects under tight deadlines, in

collaboration with external partners such as spin-offs and CDMOs

- Ability to work independently and manage complex projects, experience mentoring junior researchers (MSc or PhD students), excellent scientific writing and presentation skills, teamwork, proactivity, and critical/analytical thinking.
- High level of English.

Advantageous:

- Experience in translational research or technology transfer.
- Experience working with industrial or regulatory partners (e.g., CDMOs) on formulation scale-up.

Competencies and Skills:

We value not only technical expertise but also the demonstration of core competencies such as Communication, Teamwork and Collaboration, Commitment, Proactivity, Integrity, and Critical and Analytical Thinking.

We Offer:

- Number of available positions: 1
- Starting date: Sept-Oct 2026
- Working conditions:
 - Full time 1-year contract.
- Measures to reconcile work and family life (parental leave, flexible schedule working hours, 23 working days of paid holidays, 9 leave days for personal matters, among others).
- IBEC ensures equality of access to professional development opportunities irrespective of employment status, length at IBEC or other factors. The IBEC's yearly training catalogue offers a wide range of training in technical and transferable skills including mobility grants and a Mentoring programme for predoctoral and postdoctoral researchers.
- Stimulating, interdisciplinary research and high-quality international scientific environment.
- Induction programme to facilitate incorporation at IBEC and additional support is provided for foreigners to obtain Visa-working permit and to install in Barcelona.

How to apply:

Until 24/08/2026 an online application form is available through IBEC dedicated site:

<https://careers.ibecbarcelona.eu/>

Only those applications submitted before the deadline will be evaluated.

Reference: PR-SS

If you have any further question regarding your application, please contact us at jobs@ibecbarcelona.eu

Principles of the selection process:

IBEC is committed to the principles of the Code of Conduct for the Recruitment of Researchers of the European Commission and the Open, Transparent and Merit based Recruitment principles

(OTM-R) <https://ibecbarcelona.eu/careers-at-ibec/jobs/>

IBEC's Commitment on equal opportunity, diversity, and Inclusion:

Our strength and excellence as an international transdisciplinary Research Institute are based on diversity. Being an equal opportunity employer, we are committed to diversity and inclusion, so that we support employees irrespective of their gender, nationality, religion, disabilities, age, sexual identity or cultural and socioeconomic background.

Visit our devoted webpage on Equality, Diversity and Inclusion.

For candidates with children that come from outside Barcelona, we offer babysitting services during the interview, so you don't have to worry about anything else than doing a good interview. Contact us if you are interested in this service.

In categories where women are underrepresented, such as Group Leader positions, and with the aim of ensuring gender balance in recruitment processes, women candidates must represent at least 50% of those interviewed for Junior-level positions and 40% for Senior-level positions, provided they have CVs comparable to those of male candidates. At the end of the evaluation process, in cases of equal merit, preference will be given to women candidates.

IBEC, as a signatory of the San Francisco Declaration on Research Assessment (DORA), will consider, especially for early-stage investigators, much more the scientific content of research outputs, than publication metrics or the identity of the journal in which it were published.

Protection of personal data:

IBEC guarantees that candidates' personal data are processed in accordance with the requirements of the EU General Data Protection Regulation (GDPR) and Law 3/2018 on Data Protection.

Personal data will be processed solely for the purposes of the selection process.

Who we are?

The Institute for Bioengineering of Catalonia, IBEC is an interdisciplinary research center focused on Bioengineering and Nanomedicine based in Barcelona. IBEC is one of the top research institutions named as a Severo Ochoa Research Centre by the Ministry of Science, Universities and Innovation, which recognizes excellence at the highest international level in terms of research, training, human resources, outreach and technology transfer.

IBEC's mission is to develop international high-quality interdisciplinary research that, while creating knowledge, contributes to making a better quality of life, improving health and creating wealth. A close link with key universities, reference hospitals and corporations, are assets that facilitate achieving the mission.

IBEC was established in 2005 by the Generalitat de Catalunya (Autonomous Government of Catalonia), the University of Barcelona (UB) and the Technical University of Catalonia (UPC).

IBEC is located within the Barcelona Science Park and is managing 3.800 square meters facilities, with an annual budget of 22 Mio€; 4.150 square meters of facilities; 21 research groups and a team of researchers and support services of 400 people from 35 different countries.

www.ibecbarcelona.eu

<https://ibecbarcelona.eu/es/postdoctoral-researcher-at-the-smart-nanobiodevices-research-group-2>