



IBEC^R
Institute for Bioengineering of Catalonia

EXCELENCIA
SEVERO
OCHOA

hr
HR EXCELLENCE IN RESEARCH

**Your
research
career
starts here**

IBEC
INTERNATIONAL **PhD**
Programme



1. PRESENTATION

The Institute for Bioengineering of Catalonia (IBEC) is one of the top research institutions named as a Severo Ochoa Research Centre by Ministry of Science and Innovation, which recognizes excellence at the highest international level in terms of research, training, human resources, outreach and technology transfer.

IBEC was established in 2005 by the Ministries of Innovation, Universities and Enterprises and Health of the Generalitat de Catalunya (Autonomous Government of Catalonia), the University of Barcelona (UB) and the Technical University of Catalonia (UPC). Today, IBEC's relationship with the UB and UPC researchers continues to operate under a framework agreement signed in 2008.

With the aim to train the next generation of experts in bioengineering, **IBEC offers in this call 12 fellowships funded by the Severo Ochoa (CEX2023- 001282-S funded by MICIU/AEI /10.13039/501100011033) and the partner institutes.**

Within the IBEC Collaborative sub call 4 PhD fellowships will be offered:

- **2 PhD fellowships** are offered in collaboration with Institute for Complex Molecular Systems (ICMS) for projects co-supervised by group leaders from IBEC and from ICMS. Selected fellows will spend around 1 year of the fellowship at ICMS.
- **2 PhD fellowships** are offered for collaborative projects with several prestigious research institutions.

2. PhD FELLOWSHIP CONDITIONS

The IBEC International PhD programme fellowships offer a 4-year predoctoral contract with the following gross annual salary:

- 19.500 € for the first two years.
- 23.713 € for the 3rd year.
- 24.500 € for the 4th year.

Moreover, 6.860€ are also offered for mobility and Doctoral Programme enrolment fees during the 4-year period.

2.1. General conditions

Gross salaries provides full social security coverage, which includes health and accident insurance, pension and unemployment benefits.

Working conditions at IBEC also include:

- ✓ Contract duration: 4 years, unless the candidate has previously held a predoctoral contract (if the candidate has held a predoctoral contract for more than 6 months, he/she is not eligible).
- ✓ Yearly 23 working days of paid holidays
- ✓ 9 leave days for personal matters

- ✓ Measures to reconcile work and family life, such as:
 - Parental leave (16 weeks)
 - Leave for breastfeeding
 - Shorter hours for guardianship or leave to care for children and relatives.
- ✓ Flexible schedule working hours
- ✓ Induction programme to facilitate incorporation at IBEC.
- ✓ Support is provided to help foreigners obtain a visa and work permit, as well as settle in Barcelona.

IBEC provides training and PhD discussions specially devoted for PhD and early postdocs such as workshops to prepare the thesis and presentation skills. IBEC also provides seminars with top names in bioengineering and nanomedicine from all over the world in order to offer the opportunity to discuss and network the developments. IBEC also offers different courses to give the opportunity to learn new skills such as leadership communication, time management, and language skills. The institute also holds an annual symposium on a different scientific theme, as well as hosting and organizing several other project-based or general scientific meetings and workshops throughout the year.

Fellows are encouraged to take up research placements in other centres. Thanks to these stays, young researchers benefit from transnational and multidisciplinary mobility and have the added value of enabling PhD Fellows to obtain an international PhD, a recognized distinction which significantly improves their chances of a successful career.

All fellows will commit themselves to participating in outreach and education activities for a minimum of 10 hours per year.

In order to enhance and acknowledge the excellence of the training program developed for IBEC's PhD fellows, we issue a Doctoral Certificate of Excellence funded by the Spanish Ministry of Science and Innovation through the Centro de Excelencia Severo Ochoa award. This certificate is awarded to those fellows who meet the quality requirements of the institute. Additionally, all candidates that received a Doctoral Certificate of Excellence will be eligible for a Doctoral Award. The awardees will receive a prize in an award ceremony at the IBEC Symposium.

Within the Wellbeing Programme, IBEC offers a catalogue of activities on healthy habits, wellbeing and mental health.

IBEC is committed to awareness of diversity and gender equality in science and society. This follows our mission to carry out interdisciplinary research at the highest international quality level, which, by creating knowledge, help to improve health and quality of life, and generate wealth.

2.2. PhD Enrolment requirements

Once selected, fellows will have to enrol in a university of their choice (mainly University of Barcelona-UB; Polytechnic University of Catalonia-UPC and University Pompeu Fabra-UPF). IBEC doesn't grant the doctorate degree, instead, it provides the experimental experience the fellows need to complete their PhD. The awarding body of the PhD will be the University at which he/she is enrolled as a doctoral student.

Fellows will provide an annual report from the Doctoral School confirming the positive scientific progress related to the PhD thesis carried out during the year.

The expected initial date is between October 1st 2025 and January 1st 2026, when a predoctoral contract will be issued, once they have been admitted on a Doctoral Programme.

For the future enrolment in the Doctoral program, the University only accepts an official translation of educational certificates. The verification of an equivalent level of studies will be made by the university when the admission to the PhD Programme procedure starts. Should this verification not be successful, the fellowship would be withdrawn.

3. ELIGIBILITY

Highly qualified researchers of all nationalities willing to join a stimulating, interdisciplinary research and high-quality scientific environment are welcome to apply.

The following **requirements** are common to the fellowships available:

- Candidates should be ready to enter an official doctoral programme in October 2025 (under Spanish Law). By this time, they must have obtained a university degree and a master's degree; or must hold an official university qualification from a country of the European Higher Education Area with a minimum of 300 ECTS of official university studies, of which at least 60 are at master's level. Candidates who expect to be awarded with such degrees by October 2025 are eligible to apply.
- Candidates are eligible for a period of 2 years following the end of the Masters (MSc) or 5 years following the end of the Bachelors (BSc) degree at the time of deadline (March 31st, 2025).
- Candidates must have an average final mark of BSc of at least 7/10 (Spanish system).
- Candidates must have a strong commitment to scientific research and an excellent academic record.
- Candidates must have good working knowledge of English.
- Candidates must not yet have been awarded a doctoral degree.
- Candidates must not have held a PhD contract exceeding twelve months in October 2025.
- Candidates must not have held any fellowship from the Spanish Ministry of Science, Innovation and Universities for the development of a PhD thesis at the time of deadline (March 31st, 2025).

4. PhD RESEARCH PROJECTS

In the online application form, candidates will be asked to indicate your preference and priority of up to three PhD projects. The topics are orientative, they will be discussed with the group leaders.

The projects available in this sub call are:

Institute for Complex Molecular Systems (ICMS)

- **AI-Driven Phenotypic Targeting: Molecular Engineering for Precision Medicine**
PIs: Giuseppe Battaglia (IBEC) & Francesca Grisoni (ICMS)
- **Bridging Minds: Integrating Synthetic Cells with Neuromorphic Networks for Tissue Communication.**
PIs: César Rodríguez-Emmenegger (IBEC) & Yoeri van de Burgt (ICMS)
- **Cancer on a chip device as a new approach for studying enzyme-powered nanomotors' mechanisms of action**
PIs: Samuel Sánchez (IBEC) & Jaap den Toonder (ICMS)
- **Cell Competition in Colorectal Cancer**
PIs: Jordi Comelles (IBEC) & Liesbeth M. C. Janssen (ICMS)
- **Deformation-driven motility in synthetic cells by active motors**
PIs: César Rodríguez-Emmenegger (IBEC), Samuel Sánchez (IBEC) & Jan van Hest (ICMS)
- **Detection and Isolation of Rare-Cells from Blood using a Microfluidic Device**
PIs: Josep Samitier Martí (IBEC) & Jaap den Toonder (ICMS)
- **Engineering Biohybrid Devices Based on the Optogenetic Control of Epithelial Cells**
PIs: Xavier Trepas (IBEC) & Jaap den Toonder (ICMS)
- **Engineering Bone Marrow Niches for HSC Maintenance**
PIs: Manuel Salmeron-Sanchez (IBEC) & Miguel Dias Castilho (ICMS)
- **Interaction of Nanomotors with Biofluids and Extracellular Matrices**
PIs: Samuel Sánchez (IBEC), Lorenzo Albertazzi (ICMS) & Tania Patiño-Padial (ICMS)
- **Photoswitchable Stabilizers of Protein-Protein Interactions for Light-Driven Patterned Stimulation of Axonal Outgrowth and Formation of Neuronal Contacts**
PIs: Galyna Malieieva (IBEC) & Luc Brunsveld (ICMS)

Other Collaborations

- **Advanced Engineering of Nanotherapies for Macrophage Modulation in Neuroblastoma (VENOM)**
PIs: Aránzazu Villasante (IBEC) & Juan Gallo (INL)
- **Computational Methods for the Fast Evaluation of the Quality of Fecal Donations Using Untargeted Chemical Analysis.**
PIs: Santiago Marco (IBEC) & Climent Casals (Clinic/ISGlobal)
- **Exploring Glioblastoma-TAM Metabolic Interactions with Patient-Derived Models and Advanced NMR methods**
PIs: Irene Marco (IBEC) & Joan Seoane (VHIO)
- **Refining iPSC-Based Spinal Cord Model Systems by Fabricating Developmentally Programmed Extracellular Matrix Cues**
PIs: Zaida Álvarez Pinto (IBEC) & Juan Alberto Ortega Cano (IDIBELL)
- **Hyperpolarized MRI and Magnetometry for Molecular Imaging**
PIs: Irene Marco-Rius (IBEC), Michael C. D. Tayler (ICFO) & Morgan W Mitchell (ICFO)
- **Mechanobiology of Pancreatic Cancer**
PIs: Pere Roca-Cusachs (IBEC) & Francisco X. Real (CNIO)
- **Multivalent Modulation of Neurovascular Transcytosis for Neurodegeneration Therapy**
PIs: Giuseppe Battaglia (IBEC) & Xiaohe Tian (West China Hospital)
- **New Strategy to Tackle Infections: Innovative Prophylactic and Therapeutic Tools**
PIs: Eduard Torrents (IBEC) & Esther Julián (UAB)
- **Organ-on-Chip for Rapid and Real-Time Rhabdomyosarcoma Profiling and Drug Validation (ORCHID)**
PIs: Javier Ramon (IBEC) & César Serrano (VHIO)
- **Radioisotope-Powered Nanobots for Bladder Cancer Therapy**
PIs: Samuel Sánchez (IBEC) & Jordi Llop (CICBiomagune)

5. HOW TO APPLY

From January 23th 2025 until March 31st 2025, an online application form will be available through the [IBEC International PhD Programme](#) dedicated site.

In this application site you will be required to provide the following information:

- Personal data and CV
- Cover letter, including motivation for applying
- A scan of your Certified Academic Record, showing grades obtained (degree and masters). If these are not in Catalan, Spanish or English, applicants should attach a translation in one of these languagesⁱ
- Education experience: what, when and where you have studied. In order, to standardize the final marks in your application form, we will need that you submit your educational certificate using the relation of scales of foreign grades to the equivalent Spanish grades provided by the General Secretariat of Universities of the Spanish Ministry of Education, Culture and Sport (instructions and template included in the application form).
- Explanatory document certifying that the candidate is eligible to apply for a doctoral programme when the number of ECTS does not appear in the Certified Academic Record. This explanatory document may be an official description of the country's educational system issued by the university or published on its website, or the admissions requirements to the university's doctoral programme.
- Research experience
- Current working situation
- Publications, Presentations in conferences, Awards/fellowships
- 2 letters of recommendation from lecturers or researchers with whom you have studied or worked and who can judge your potential as a PhD student. Only letters with official letterhead and signature will be accepted. Reference letters cannot be provided by the future supervisors of the fellow. Please be sure to inform your referees that their letters must be uploaded in the online application tool before the deadline (March 31st, 2025).

Only those applications submitted before the deadline provided with all the required information and documents will be evaluated.

Once the application is submitted, candidate will automatically receive an acknowledgment of receipt.

6. REQUEST FOR REDRESS

After receiving the results, candidates will be allowed to inquire a request for redress by sending a written request within two weeks to phd@ibecbarcelona.eu

An evaluation panel will study each case. The redress procedure will look at procedural shortcomings and into possible errors, not against evaluation panel decisions or experts' ratings and comments. The outcome of the redress procedure will be a report with motivation of rejection or a letter informing about the reincorporation to the selection process.

The outcome of the redress will be sent to applicants within the next 10 days from the reception of the request for redress.

7. SELECTION PROCEDURE



HR EXCELLENCE IN RESEARCH

IBEC is committed to the principles of the European Charter for Researchers, as well as to the principles of Open, Transparent, and Merit-based Recruitment (OTM-R) <https://ibecbarcelona.eu/careers-at-ibec/jobs/>

IBEC's Commitment on equal opportunity:

"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."

In the case of in-person interviews, for candidates with children coming from outside Barcelona, we offer babysitting services during the interview, so they don't have to worry about anything else than doing a good interview.

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 was published.

a. Organisation of selection process

The selection process is organized in four stages:

- Stage I: Eligibility check
- Stage II: Evaluation of CV
- Stage III: Interviews
- Stage IV: final decision and start of fellowship

Candidates should meet the requirements set at each stage to proceed onto the next.

Non selected candidates in each Stage will be duly informed.

STAGE I: Eligibility check

Candidates' compliance with the minimum eligibility requirements will be verified **April 1st –15th** by an Eligibility committee composed of senior officers from the Institute's Support Units (People Management Unit and Strategy Unit). The eligibility will be checked on the basis of the information provided by the applicant.

Candidates who meet all eligibility criteria will be included in the evaluation stage. Candidates who fail to submit any of the required documents during the eligibility check phase will be considered ineligible and will not be able to continue in the recruitment process.

STAGE II: Evaluation of CV

The evaluation will be performed by a selection committee made up of IBEC group leaders and group leaders from partner centres according to each sub-call. Evaluation Criteria are shown in the following Table:

	Criteria	Description	% Weighting
Academic record and other curricular merits	Training	Bachelor's and master's degree academic record	25%
	Outputs	Publications, conferences, outreach activities	10%
	Skills	Description of the relevant skills of the candidate	10%
Mobility and internationalization	Research experience	Mobility, internships, previous jobs	5%
Suitability of the candidate for the project	Recommendation letters	Two recommendation letters will be evaluated	10%
	Interview		40%
TOTAL			100%

In mid-May 2025, results of CV evaluation will be communicated.

Ranking of preferred PhD research projects:

At the end of Stage II, shortlisted candidates will be asked to **contact the PIs of their preferred research projects** and get to know the project better. This will serve to evaluate the knowledge and expertise of the candidate related to the research project and his/her adequacy to the corresponding research group.

After the talks with the PIs, **candidates will be asked to make a ranked list of up to 3 preferred PhD research projects and their prioritisation.**

STAGE III: Interviews of final candidates

Between June 2nd and 13st 2025, online interviews of shortlisted candidates will be held.

Interviews with the selection committee will assess the candidate's motivation and the following competencies: communication, critical and analytical thinking, team and collaborative working, commitment, proactivity and open-mindedness. All candidates will receive a guideline document to prepare the interview.

The interview will also be an opportunity for the candidate to expose any personal requirements or clarify doubts.

STAGE IV: final decision and start of fellowship

The final decision will be taken in a consensus meeting composed the GLs from the selection committee and senior officers from Strategic Initiatives and People Management Units

Between June 16th and 20th 2025, the results of the call will be published, and the acceptance letters will be sent to the candidates with the highest scores.

In order of evaluation score, they will be able to choose their **final PhD Project** and supervisor, taking into account that each PhD research project can only have one fellowship, so if a candidate with a higher score chooses a particular PhD research

project, candidates with lower scores will have to choose another one from their list of preferred PhD projects and supervisors.

Applicants who have not been successful but have received a positive evaluation will be put on a reserve list. A reserve list of candidates will be identified. In case, for any reason, one or more final candidates withdraw, they will be replaced by the candidates in the reserve list, following the Selection Committee priority order.

8. USEFUL DATES

- **January 23rd, 2025**: Launch of the call.
- **March 31st, 2025**: Deadline for submission of applications.
- **April 1st – April 15th, 2025**: Check of eligibility criteria.
- **April 15th – May 13th, 2025**: Evaluation of the candidates' CVs.
- **May 14th – 16th, 2025**: Communication of results of the evaluation of the candidates' CVs. Invitation of shortlisted candidates for an online interview.
- **May 16th – 30th, 2025**: Shortlisted candidates will contact the project supervisors and get to know their research and PhD project.
- **June 2nd – 5th, 2025**: Shortlisted candidates will communicate via the IBEC online application form a **final ranked list** and prioritization of their preferred PhD research projects.
- **June 2nd – 13th, 2025**: Online interviews with the selection committee.
- **June 16th – 20th, 2025**: Publication of final list of selected candidates. Letter of acceptance to be signed by candidates.
- **As of October 2025**: Start of the PhD fellowship

9. CONTACT

If you have any further questions about IBEC International PhD Programme fellowships, or if there are particular issues you'd like to discuss regarding your application, please contact phd@ibecbarcelona.eu

www.ibecbarcelona.eu/phd