

IBEC International PhD Programme fellowships



Strategic Initiatives, Human Resources and Communications and Outreach Units
Institute for Bioengineering of Catalonia (IBEC)

www.ibecbarcelona.eu/phd

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1. PRESENTATION

In 2018, **4 fellowships** will be offered, funded by the Spanish Ministry of Economy, Industry and Competitiveness, through the '*Ayudas para contratos predoctorales para la formación de doctores*' 2018-call. **3 additional fellowships** will be funded by IBEC through the Severo Ochoa Excellence Award (IBEC Severo Ochoa Fellowship), Fundación Bancaria La Caixa and Fundación Cellex.

The **Institute for Bioengineering of Catalonia (IBEC)** is one of the top research institutions named as a Severo Ochoa Research Centre by Ministry of Economy and Competitiveness (in charge of research and innovation policy in Spain), 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.

2. MODALITIES AND ECONOMIC CONDITIONS

2.1. '*Ayudas para contratos predoctorales para la formación de doctores*' 2018

The '*Ayudas para contratos predoctorales para la formación de doctores*' 2018 call from the the Spanish Ministry of Economy, Industry and Competitiveness offers a **4-year predoctoral** contract with the following gross annual salary:

- 16.422,00 € for the first three years
- 18.981,89 € for the fourth year (co-funded by IBEC)

Moreover, 6.250€ is also offered for mobility and training during the 4-year period.

Candidates who finish and defend their PhD thesis before the start of the fourth year of the Spanish Ministry of Economy, Industry and Competitiveness fellowship will be able to sign a 1-year postdoctoral contract (POP) with a gross salary of 19.000€. The aim of this contract is to provide an orientation period to consolidate the knowledge acquired during the PhD thesis and start looking for postdoctoral opportunities, including those through other competitive fellowships.

2.2. **Additional fellowships funded by the Severo Ochoa Excellence Award, Fundación Bancaria La Caixa and Fundación Cellex**

The three additional fellowships offer a 4-year Predoctoral contract with the following gross annual salary:

- 16.422,00 € for the first three years
- 18.981,89 € for the fourth year

Moreover, 6.250€ is also offered for mobility and training during the 4-year period.

2.3. General conditions applying to the three types of fellowships

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

Working conditions at IBEC also include:

- Yearly 23 working days of paid holidays
- 9 leave days for personal matters
- Measures to reconcile work and family life, such as:
 - Maternity leave (16 weeks)
 - Paternity leave
 - Leave for breastfeeding
 - Shorter hours for guardianship or leave to care for children and relatives.
- Flexible schedule working hours

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 a 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.

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, helps to improve health and quality of life, and generate wealth.

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 2018** (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 are eligible for a period of **2 years following the end of the MSc** or **5 years following the end of the BSc** at the time of deadline (January 31st 2018). Should an applicant hold more than one MSc degree, this period will be counted from the first MSc earned or, in case of different disciplines, from the MSc in a scientific topic. Likewise, in the case of applicants who hold more than one BSc degree.
- 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 2018.
- Candidates must **not have held any fellowship from the Spanish Ministry of Economy, Industry and Competitiveness** for the development of a PhD thesis at the time of deadline (January 31st 2018).

4. PHD RESEARCH PROJECTS

In the online application form, candidates will be asked to indicate your preference and priority of **up to three** PhD project proposals:

- **Design of novel targeted drug delivery carriers guided by Super resolution microscopy**
Group: Nanoscopy for nanomedicine
Group leader: Dr. Lorenzo Albertazzi (lalbertazzi@ibecbarcelona.eu)
- **Quantifying the forces that bend tissues**
Group: Mechanics of development and disease
Group leader: Dr. Vito Conte (vconte@ibecbarcelona.eu)
- **Promoting cardiac regeneration by instructive microenvironments**
Group: Biomaterials for regenerative therapies
Group leader: Dr. Elisabeth Engel (eenegel@ibecbarcelona.eu)
- **Exploration of protein aggregation as an antimalarial design strategy**
Group: Nanomalaria
Group leader: Dr. Xavier Fernández-Busquets (xfernandez@ibecbarcelona.eu)
- **Molecular prosthetics for vision restoration based on freely-diffusible and covalently bound photoswitches**
Group: Nanoprobes and nanoswitches
Group leader: Prof. Pau Gorostiza (pgorostiza@ibecbarcelona.eu)
- **Multimodal physiological biomarkers and mHealth tools for non-invasive monitoring and assessment of asthmatic patients**
Group: Biomedical signal processing and interpretation
Group leader: Prof. Raimon Jané (rjane@ibecbarcelona.eu)
- **Machine Learning for Volatile Metabolomics**
Group: Signal and information processing for sensing systems
Group leader: Dr. Santiago Marco (smarco@ibecbarcelona.eu)
- **Engineering of a 3D Organotypic model of Intestinal Mucosa for Cancer Research**
Group: Biomimetic systems for cell engineering
Group leader: Dr. Elena Martínez (emartinez@ibecbarcelona.eu)

- **Targeting cardiac progenitors in human pluripotent stem cells (hPSCs): identification of novel non-coding RNAs driving cardiac development and regeneration**
Group: Pluripotent stem cells and activation of endogenous tissue programs for organ regeneration
Group leader: Dr. Nuria Montserrat (nmontserrat@ibecbarcelona.eu)
- **Targeted Nanodevices for Delivery of Therapeutics across Body Barriers**
Group: Targeted therapeutics and nanodevices
Group leader: Prof. Silvia Muro (smuro@ibecbarcelona.eu)
- **Integration of biosensors technology in Tissue Engineering**
Group: Biosensors for bioengineering
Group leader: Dr. Javier Ramón (jramon@ibecbarcelona.eu)
- **In vitro modelling of neuronal networks in neurodegenerative disorders: Alzheimer's and Parkinson's diseases**
Group: Molecular and cellular neurobiotechnology
Group leader: Prof. Jose Antonio del Rio (jadelrio@ibecbarcelona.eu)
- **Control of breast cancer by nuclear mechanics**
Group: Cellular and molecular mechanobiology
Group leader: Dr. Pere Roca-Cusachs (proca@ibecbarcelona.eu)
- **3D organ on a chip system for blood diseases**
Group: Nanobioengineering
Group leader: Prof. Josep Samitier (jsamitier@ibecbarcelona.eu)
- **Liquid Biopsies Platforms: Towards a fully informed design of personalized medicine**
Group: Nanobioengineering
Group leader: Prof. Josep Samitier (jsamitier@ibecbarcelona.eu)
Project Funded by Fundació Bancaria La Caixa
- **Using functional cell-based assays to improve pediatric cancer treatment**
Group: Nanobioengineering
Group leader: Prof. Josep Samitier (jsamitier@ibecbarcelona.eu)
Project Funded by Fundació Cellex
- **Active Nano-particles in nanomedicine: smart drug delivery systems**
Group: Smart nano-bio-devices
Group leader: Prof. Samuel Sánchez (ssánchez@ibecbarcelona.eu)
- **New strategies to combat bacterial infections**
Group: Bacterial infections: antimicrobial therapies
Group leader: Dr. Eduard Torrents (etorrents@ibecbarcelona.eu)
- **Visualizing the dynamics of tumor interactions at the nanoscale**
Group: Integrative cell and tissue dynamics
Group leader: Prof. Xavier Trepà (xtrepà@ibecbarcelona.eu)

- **Embedded sensing architecture for mixed reality environments**
Group: Synthetic, Perceptive, Emotive and Cognitive Systems (SPECS)
Group leader: Prof. Paul Verschure (pverschure@ibecbarcelona.eu)
- **The Mutational Landscape of Proteins containing Prion Domains**
Group to join IBEC in September 2018
Group Leader: Dr. Benedetta Bolognesi
- **Multimodal Human-Robot Interaction for assistive robotics**
Associate researcher: Prof. Alicia Casals (alicia.casals@upc.edu)
Co-supervisor: Prof. Raimon Jané (rjane@ibecbarcelona.eu)
- **Coexistence of synchronization and desynchronization: Data-driven analysis of coupled network models**
Associate researcher: Prof. Ralph Andrzejak (ralph.andrzejak@upf.edu)
Co-supervisor: Prof. Raimon Jané (rjane@ibecbarcelona.eu)
- **Bottom-up multiscale modeling of epithelial mechanobiology**
Associated researcher: Prof. Marino Arroyo (marino.arroyo@upc.edu)
Co-supervisor: Prof. Xavier Trepat (xtrepat@ibecbarcelona.eu)

If a candidate is shortlisted for interviews, he/she will have the opportunity to select up to two more PhD project proposals.

5. HOW TO APPLY

From 15th December 2017 until 31th January 2018, an online application form will be available through [IBEC International PhD Programme dedicated site](#).

You will be required to provide the following information in your application:

- 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 languages.ⁱ
- 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) and the ranking of your university according to [Times Higher Education](#).
- Research experience
- Current status
- 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 IBEC's Group Leaders or associated researchers. Please be sure to inform your referees that their letters must be uploaded in the online application tool before the deadline (January 31th 2018).ⁱⁱ

6. SELECTION PROCEDURE



HR EXCELLENCE IN RESEARCH

In April 2015, IBEC was awarded the **Human Resources Excellence in Research** seal from the European Commission, in recognition of its commitment to continuously improving its HR policies in line with The European Charter of Researchers and The Code of Conduct for the Recruitment of Researchers.

In line with this recognition, IBEC has set up an international, transparent, equal-opportunities merit-based recruitment procedure to select the most qualified candidates. The selection procedure is governed by the following principles:

- Transparency throughout the whole process
- Equal opportunities in the selection and hiring of personnel
- Non-discrimination on grounds of sex, age, ethnic, national or social origin, religion, sexual orientation, language, disability, political opinions or social and economic condition
- Confidentiality as the cornerstone of the selection process
- Principle of public dissemination of the selection processes, which must also be internationally comparable

Applications will be reviewed by a **selection committee** made up of IBEC group leaders and administration staff.

Applicants' CVs will be reviewed in terms of **academic record, research experience and additional merits**.

In mid-March, shortlisted candidates will receive invitations **to visit IBEC for interviews with the selection committee and with the group leaders** responsible of their preferred potential PhD projects.

After a presentation of IBEC and its research groups, shortlisted candidates will have the opportunity to select **up to two more PhD project proposals**.

Interviews with the selection committee will evaluate motivation, communication skills, independent thinking, autonomy, ability to team work, etc.

The interview with the group leaders responsible of each PhD project will serve to evaluate the knowledge and expertise of the candidate related to the particular research project and his/her adequacy to the corresponding research group.

The interview will also be an opportunity for the candidate to expose any personal requirement, clarify doubts and meet with their potential PhD supervisors.

At the end of the interviews, candidates will be asked to make a **final ranked list of their preferred PhD research projects** and supervisors.

On **April 27th**, 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, candidates will be able to choose their final PhD Project and supervisor priority, 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.

Fellows should expect to take up their positions at IBEC at the beginning of 2019. Please note these are tentative dates and they are subject to the '*Ayudas para contratos predoctorales para la formación de doctores*' 2018-call from the Spanish Ministry of Economy, Industry and Competitiveness.

Applicants who have not been successful but have received a positive evaluation will be put on a waiting list for future positions.

7. USEFUL DATES

- **December 15th 2017:** Launch of the call
- **January 31st 2018:** Deadline for submission of applications
- **February 1st – 12th 2018:** Check of eligibility Criteria
- **February 13th– March 2nd 2018:** Evaluation of the candidates' CVs
- **March 12th – 14th 2018:** Communication of results. Invitation of shortlisted candidates to come to Barcelona for an interview
- **April 16th – 20th 2018:** Interviews in Barcelona with selection committee and group leaders responsible for research projects
- **April 27th 2018:** Publication of final list of selected candidates. Letter of acceptance to be signed by candidates
- **May – October 2018:** Start of the fellowships funded by Fundación Bancaria La Caixa and Fundación Cellex, to be accorded with the Group Leader responsible.
- **Beginning of 2019** (To be confirmed, based on the resolution of the call '*Ayudas para contratos predoctorales para la formación de doctores*' by the Spanish Ministry of Economy, Industry and Competitiveness): Start of the fellowships.

8. 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.

ⁱ For future enrolments in the doctoral programme, official universities only accept 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.

ⁱⁱ It is responsibility of the candidates to ensure that both references are received by the submission deadline of January, 31st 2018. As stated within the online application form we only accept references provided through institutional email accounts. We strongly suggest that you complete the 'general info' and 'references' part of the online application first in order to give your referees enough time to complete the reference online. Furthermore, please make sure to contact your referees before completing this

part in order to find out if they are available and willing to provide a reference. It is the applicant's responsibility to ensure that referees provide us the information.