

PhD position at the Bioengineering in Reproductive Health Research Group

Introduction to the vacant position:

How can we recognize which embryo is going to successfully implant in the mother's uterus? How can we better understand pregnancy and improve in-vitro fertilization (IVF) procedures in the clinic to help couples that cannot conceive?

We are looking for a candidate with (Bio) Physics or (Bio) Engineering background to join our multi-disciplinary team. Join us in answering these questions and developing a methodological toolbox for the IVF field, capable to reliably assess an embryo's implantation and development potential!

The project:

This PhD project aims to address the above questions and develop an objective, quantitative imaging technology capable to discriminate competent embryos from unviable ones. The embryos exhibit endogenous auto-fluorescence which encodes the presence of different molecules related to the embryo's metabolics and are crucial for the successful embryonic development. This project will focus on measuring these signals in a non-invasive way and assessing the embryo viability through subsequent image processing and statistical analysis.

Our laboratory is a multidisciplinary environment where biologists, physicists, clinicians and business developers synergize to create a unique environment shaped by science and entrepreneurship. Due to the high translational component of our research, we have established collaboration contracts with the pharma industry, hospitals and venture capital to bring our technology to the clinics and the market.

Requirements for candidates:

We are looking for a dynamic, enthusiastic and motivated student with a solid background in physics, engineering or related discipline, interested to work in a multi-disciplinary environment and translational research direction.

Requirements for you:

- Master degree and excellent academic records in Physics, Engineering, Biophysics, Bioengineering or a similar discipline
- Basic programming skills are highly desirable (Python, Matlab or Labview)
- Willingness to learn new skills in a multidisciplinary environment, critical and analytical thinking
- Communication, Teamwork and Collaboration skills
- Fluent use of English language
- Candidates should be ready to enter an official doctoral programme in September/October 2020 (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.

What do we offer:

You will develop research skills involving:

- Hyper-spectral imaging of biological samples on state-of-the art commercial microscopes - mouse and human embryos and cells
- Using and modifying an open source code algorithm to analyze the results
- Design experiments to obtain statistically significant results
- Design, build and program a novel microscope prototype

- Involvement with industry and clinical partners and working on real-world applications

Working conditions:

- Full time 3-year contract with competitive salary.
- Opportunities and assistance to apply for scholarships.
- Measures to reconcile work and family life (maternity and paternity leave, flexible schedule working hours, teleworking, 23 working days of paid holidays, 9 leave days for personal matters, among others).
- A variety of activities to help your personal and professional development: trainings in technical and transferable skills, mobility grants, mentoring program, participation in outreach activities
- IBEC's active PhD Students' Committee will help you to quickly integrate in the institute's dynamic working environment and grow your network of both colleagues and friends.
- Stimulating, interdisciplinary research and high-quality international scientific environment.
- Induction program 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:

Send your CV, cover letter and the contact of two referees to: jobs@ibecbarcelona.eu before 15/04/2020 (Reference: PH-SO).

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. Thus, there are no restrictions of citizenship or gender and candidates with disabilities are strongly encouraged to apply.

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, 21 research groups and a team of researchers and support services of 300 people from 30 different countries. www.ibecbarcelona.eu

