

## Optics engineer at the Open Innovation Laboratory

### Introduction to the vacant position:

The Bioengineering in Reproductive Health Group offers a senior postdoctoral position for an optics physicist or engineer with experience in microscope building. The candidate will work in an ambitious project funded by a venture capital and the EU and in collaboration with M-Squared lasers and Dexeus hospital to develop a new optical system to study human embryos. The system implements advanced microscopy methods to diagnose embryos for *in vitro* fertilization, which will be the foundation of a Spin off company.

### The lab:

Our laboratory is comprised of a multidisciplinary team where biologists, embryologists, biophysicists, clinicians, and business developers synergize to create a unique environment shaped by science and entrepreneurship. The Open Innovation lab provides solutions to embryology and cell therapy fields by combining bioengineering with advanced imaging technologies. 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 from the lab to the clinics and to the market.

### The project:

This project aims to address the diagnostic limitations in the *in vitro* fertilization field and develop a new optical system capable to discriminate competent embryos. The method will be based on label-free microscopy. The biological data will be extracted from microscopy measurements of the embryos, via different image processing and statistical correlation procedures. The results of this project will be the basis for the creation of a biotech spin-off. Specifically, the candidate will be working in collaboration with engineers at M-Squared lasers, to build a new optical system tailored to the physical and optical needs of human embryo imaging. The device will be tested in house with clinical samples and the design will be refined until up to the completion of the first prototype.

### Main tasks and responsibilities / The successful candidate will develop research involving:

We are looking for a dynamic, enthusiastic and motivated candidate with a solid background in physics, engineering or related discipline, interested to work in a multi-disciplinary environment and translational research direction. The candidate must have prior experience building laser-scanning microscopes (i.e. confocal, 2-photon, light sheet).

Requirements for you:

- PhD degree in Physics or Engineering.
- Programming skills (Python, Matlab). The candidate must be able to access and edit the microscope code.
- Willingness to learn new skills in a multidisciplinary environment, critical and analytical thinking
- Communication, Teamwork and Collaboration skills
- Fluent use of English language

### We Offer:

- Stimulating, interdisciplinary research environment.
- Ideal position to work at the interface between academia and industry.
- Number of available positions: 1
- Starting date: June 2022
- Working conditions:
  - Full time 2-year contract. Salary will be commensurate with academic level and experience, ranging from 32K to 42K/year
  - 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).
- 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.
- 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 **May 31st, 2022** 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: PD-SO.

If you have any further question regarding your application, please contact us at [jobs@ibecbarcelona.eu](mailto: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).

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."

*For Postdoctoral and JR GL positions:*

*IBEC aims for a representative gender balance at all levels of staff, so we strongly encourage women to apply. At least 40% of shortlisted applicants invited to interview have to be women with comparable level of CVs as the male candidates.*

### Protection of personal information:

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 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'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](http://www.ibecbarcelona.eu)

