

## Open postdoc position on embryology at the Bioengineering in Reproductive Health Research Group

### Introduction to the vacant position:

The Bioengineering in Reproductive Health Group offers a postdoctoral position for an embryologist or developmental biologist with experience in mouse and human embryo culture and imaging. This project, in collaboration with the industry, requires culturing and analyzing the effect of culture supplements in the developmental and implantation potential of mammalian embryos. It also involves using hyperspectral imaging to study the metabolism of these embryos *in vitro*.

The Open Innovation laboratory is a multidisciplinary environment where biologists, physicists, clinicians, and business developers synergize. Our lab is a unique environment shaped by basic and applied science, which combined with entrepreneurship leads not only to publication but also to the creation of spin-offs companies and technology licensing. 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.

### The project:

This project aims to improve the developmental outcomes of *in vitro* cultured embryos by analyzing the effect of culture supplements. The project is divided in two main lines of research. First, the study of human-plasma derived protein supplements for embryo culture and implantation studies. A proprietary *ex-vivo* implantation matrix will be used to challenge the developmental potential of cultured embryos. Second, the use of hyperspectral technology to define the metabolic profile of the cultured embryos. Hyperspectral imaging is a quantitative label-free microscopy system capable to discriminate competent embryos as well as oocytes.

Our system is accessible to cutting edge technology of *ex vivo* implantation and imaging tools which allow us to interrogate the genetics, metabolomics and mechanics of the embryo and oocytes in a high throughput manner. Using our systems, we are capable to (i) improve embryo culture conditions and (ii) diagnose embryos with improved implantation potential.

### Main tasks and responsibilities:

The successful candidate will oversee the whole project analyzing both the effect of protein supplements and will encompass embryo work, image acquisition, data analysis and reporting. Their main tasks and responsibilities will include:

- ▶ Mouse and human embryo handling and manipulation (collection, vitrification, thawing, biopsy, etc.)
- ▶ *In vivo* embryo transfer in mouse
- ▶ Cell culture
- ▶ Bioengineering methods for 3D cell culture
- ▶ Hyperspectral imaging
- ▶ Image analysis
- ▶ Project management

## Requirements for candidates:

We are looking for a dynamic and motivated candidate with a solid background in human embryology, and with experience in microscopy imaging, interested to work in a multi-disciplinary environment and translational research direction. The candidate must have prior experience in embryo handling and culture. Knowledge of fluorescence microscopy techniques will be valued positively.

Requirements for candidates:

Essential:

- PhD degree in Biology or related field with strong background in human embryology.
- Proficiency in mouse and human embryo handling and culture.
- Experience in immunostaining and fluorescence imaging techniques.
- Preferred: micromanipulation skills, embryo biopsy experience.
- Willingness to learn new skills in a multidisciplinary environment, critical and analytical thinking, technically adept and record keeping with attention to detail.
- Organizational, Teamwork and Collaboration skills.
- Commitment and Proactivity.
- Excellent verbal and written English communication skills.

You will develop applied research skills involving:

- Advanced label-free microscopy and hyperspectral techniques applied to the characterization of mouse and human embryos.
- Participation in applied research related to new products development and novel bio applications of interest in the field of embryology.
- Involvement with our industry and clinical partners and working on real-world applications.

## We offer:

- Number of available positions: 1
- Starting date: February 2024
- Working conditions:
  - *Full time open-ended 2-year contract linked to projects and budget duration*
  - *Salary 32-36K €, commensurate with academic level and experience.*
- 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 opportunities to help your personal and professional development: trainings in technical and transferable skills, mobility grants, mentoring program, participation in outreach activities.
- 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:

**Until 12th February** 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) <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."

IBEC actively looks for female candidates for Senior positions (Postdoctoral and GL positions) ensuring that at least 40% of shortlisted applicants invited to interview have to be women with comparable level of CVs as the male candidates. At the end of the evaluation process, in case of equal merit, priority will be given to female candidates.

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.

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 13 Mio€, 3.800 square meters of facilities; 21 research groups and a team of researchers and support services of 350 people from 30 different countries.  
[www.ibecbarcelona.eu](http://www.ibecbarcelona.eu)

