

## PhD position at the Research Group Nanobioengineering

### Introduction to the vacant position:

The **Nanobioengineering** Group is looking for PhD position to support a current project on the TITLE: "Brain-on-chip & 3D printing".

Applications are invited from suitably qualified candidates for a position funded by the Marie Skłodowska-Curie project "ASCTN-Training" within the Horizon 2020 programme of the European Union, starting March 1 2019. The appointment will be on a temporary basis for a maximum period of 3 years (PhD student) and will be placed at the Nanobioengineering group of IBEC (Barcelona, Spain).

ASCTN-Training is a four-year project, funded by the European Union Horizon 2020 Programme (H2020-MSCA-ITN-2018) under the Marie Skłodowska-Curie Initial Training Network and Grant Agreement No. 813851. ASCTN-Training is addressing existing gaps within Human Stem Cell-based Neuronal disorders (NDs) Modelling (NDM) for research to develop new medicines for the treatment of neurological disorders (e.g. Parkinson's (PD), Huntington's (HD) and Demyelination's (DM) diseases), which occur as a result of acute or progressive loss of cells, glial or neuronal, and structures and function in the brain. ASCTN-Training sets out with the ambition to educate and train students within and across different scientific disciplines: **biotechnology** (Human Pluripotent Stem Cells (hPSCs) neuronal and glial differentiation using brain-on-chip technology and microfluidics, 3D tissue engineering/cerebral organoids and nanoengineering of culture conditions), **molecular biology** (Ex vivo gene expression, Direct cellular reprogramming, mouse genetic modification, single cell analysis), **In vivo mouse manipulations** (Animal models of NDs, stem cell transplants into the brain, scaffold implantation, direct tissue engineering).

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

- Design and fabricate a functional microfluidic platform for creating 3D models of human neural connection using 3D bioprinting technology combining extracellular matrix and neurons.
- Use the platform for implement neural connection models using human neurons obtained from IPS.
- Use the in-vitro platform to correlate the effects of the drugs for neurological disorders and/or other diseases (i.e. glioblastoma).
- Spend external stays at Cardiff University (UK) -learning neuronal differentiation. Poietis (France)- improve 3D bioprinting techniques. Ospedale San Raffaele (IT)- learning genetic manipulation of the cells
- Participate in training events for researchers and Principal Investigators involved in the program.
- Report to the Project Manager which includes contributing to periodic scientific reports.
- Contributing to the reporting of project milestones and deliverables in accordance with EU deadlines.
- Promote and disseminate results involved in the program, which includes contributing to newsletters and participating in outreach events.
- Willingness and ability to collaborate in a multidisciplinary team.

## Requirements for candidates:

Candidates should have a master's degree in Biomedical Sciences, Neurosciences (or a similar degree) with background knowledge in neurodegenerative disorders and neuroprotective therapies.

**Relevant scientific background**, including one but preferably several of the following:

- Experience with cell cultures and immunostaining methods.
- Experience in fabrication techniques for microfabrication.
- Experience in neuroscience.

**Essential:**

- Less than 4 years full time equivalent research experience and not yet been awarded a doctoral degree (PhD)
- Resided less than 12 months in Spain in the 3 years prior to selection
- Excellent communication and organization skills
- Fluent in spoken and written English
- Excellent writing and presentation skills
- Flexibility and ability to work in a team environment
- Availability to travel nationally and internationally two to three times a year

**Desirable:**

- Experience with outreach events
- A keen interest in pursuing pre-clinical research into Neurodegenerative diseases

## Approval and Enrolment

The scholarships for the PhD degree are subject to academic approval and the candidates will be enrolled in one of the general degrees programmes of University of Barcelona before the incorporation. You will find more information in UB **Requirements for academic documents issued outside Spain:** [http://www.ub.edu/acad/noracad/documents/en/traduccio\\_en.htm](http://www.ub.edu/acad/noracad/documents/en/traduccio_en.htm)

## We Offer:

- Number of available positions: 1
- Starting date: **March 1<sup>st</sup>, 2018**
- Working conditions:
  - Full time temporal 3 years contract.
  - 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).
- Professional development opportunities: IBEC has a Training catalogue in technical and transferable skills.
- Stimulating, interdisciplinary research and high-quality international scientific environment

## How to apply:

Interested applicants should send to: [jobs@ibecbarcelona.eu](mailto:jobs@ibecbarcelona.eu) before 22/11/2018 (Reference: PhD-JS):

- A motivation letter describing your research career goals, skills and experience (cover letter)
- Curriculum vitae

- Grade transcripts and BSc/MSc diploma (in Spanish/English or with a translation into English)
- Two letters of recommendation.

### 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 OTM-R 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 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)

