

PhD position on the project: 3D In vitro lung models: Simulating the breathing effect thanks to a multifunctional bioreactor

Job Summary

A joint PhD position between CICbiomaGUNE and Leartiker is available. The research, which will be carried out under the supervision of Dr. Dorleta Jimenez de Aberasturi (CIC biomaGUNE) and Dr. Ane Miren Zaldua (Leartiker), revolves around the fabrication of 3D In vitro lung models including a bioreactor that to provide the mechanical stimulation needed to imitate breathing motions and forces that cells suffer in realistic conditions. Both co-directors will be responsible for leading the selection process.

The project is focused on the development of novel human 3D in vitro models. In this project a 3D bioengineered fully functional tissue will be manufactured using hybrid photocurable bioresins combined with bioprinting techniques. In addition, a customized bioreactor will be designed and developed to provide the mechanical stimulation needed to imitate breathing motions and forces that cells suffer in realistic conditions. The definition of a good mechanical stimulation protocol, as well as the monitoring of tissue growth and mechanoadaptive cell marker studies will be essential to achieve good 3D models that represent the human physiological features. To finish off, the 3D models will be validated drug testing platforms.

Education Level:

A Master degree in a relevant area of Biomedical Engineering, Engineering, Materials Science, Biotechnology, Biology/Biochemistry, Chemistry, or related areas is required. Experience in the fields of 3D printing, bioreactor design, materials synthesis, 3D in vitro models and/or cell culture is highly desirable.

Skills:

The candidates are expected to have interest in multidisciplinary work, motivation to learn from a diversity of scientific areas and the capacity to work in an international environment. Good interpersonal skills as well as written and oral communication skills in English are required.

Duration:

Predoctoral 4 year contract (First 2 years contracted by CIC biomaGUNE + next 2 years contracted by Leartiker)

Envisaged Job Starting Date: October 2024

Application Deadline: 2024-08-31

Project Funding:

How to apply: [Check the full details at webpage](#)

Informal Inquiries: Informal requests for additional information can be sent to *Dorleta Jiménez de Aberasturi* at djimenezdeaberasturi@cicbiomagune.es or at .

Applications sent directly to the emails listed above **will be NOT be accepted**

Equal opportunities Policy: CIC biomaGUNE is proud to be an equal opportunity employer and applicants will receive consideration for employment without regard to: age, color, disability, gender, national origin, race, religion, sexual orientation, gender identity, or any other classification protected by European, national, or local law.

Open Transparent and Merit Based Recruitment Policy:

[You can check here CIC biomaGUNE OTM-R Policy](#)

About CIC biomaGUNE

CIC biomaGUNE, located in the Science and Technology Park of Gipuzkoa (Donostia-San Sebastián), is a leading research center in the area of bionanomaterials, molecular imaging and regenerative medicine and counts with more than 160 people from 24 countries. The activity of CIC biomaGUNE is conducted by a team of 11 international and dynamic research groups, supported by flexible and efficient management teams and a unique research infrastructure including the Molecular Imaging Facility, one of the biggest preclinical imaging research infrastructures in Europe.

CIC biomaGUNE maintains a vibrant weekly scientific seminar program by visiting leading scientists. Additional training in soft skills and technologies covered by the CIC biomaGUNE technical platforms is offered to researchers within the in-house training program.

CIC biomaGUNE is committed to developing an HR Strategy for Researchers, designed to bring the practices and procedures in line with the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (Charter and Code).

Please check out the Human Resources Strategy for Researchers - [HRS4R at CIC biomaGUNE](#).