3d fab
PRINTING FOR LIFE

POSITION OF POST-DOCTORAL FELLOW

INNOVATIVE BIOPROCESS FOR STEM CELL LARGE-SCALE CULTIVATION

The post-doctoral project aims at **developing an innovative large-scale production process of stem cells** based on **3D bioprinting technology**. This project is part of a collaborative research program engaged for 5 years with Sartorius Stedim on developing bioprinting for bioprocess applications. The project will be one of the core projects of InnoLab joint laboratory.
Project duration 18 months – starting as soon as possible before end December 2021
Salary depending on experience

CONTEXT

3d.FAB platform hosting the project, is an innovative technological platform of Lyon university specialized on development and use of additive manufacturing technology for healthcare (http://fabric-advanced-biology.univ-lyon1.fr/). 3d.FAB platform is the only French "Plateforme Technologique Innovante" dedicated to academic and private innovations through 3D, 4D and bioprinting, in the field of life science and healthcare. 3d.FAB currently owns 170 m² of laboratory, including 80 m² of P2 laboratories to welcome the bioprinting, bioprocesses and regenerative medicine activities. The platform have expertise and facilities in the following areas:

- Biochemistry, especially diagnosis with prototyping 3D lab-on-chip, novel materials for 3D medical devices, biocompatible polymers and cell-size 3D printing.
- Regenerative medicine through dedicated living cells and tissues printers.
- Additive manufacturing with more than 10 additive manufacturing technologies combined.
- Simulation to create optimal liquid flow inside the 3D printed tissues.
- Bioprocess for connective tissue maturation and vascularization.
- Level 2 biofabrication laboratories equipped with state-of-the-art bioprinters and bioreactors.

InnoLab, the common laboratory between Sartorius and 3d.FAB was created in 2021 with a scientific roadmap of 5 years. It currently targets research and development in two application fields, the 3D Bioprinting for Bioproduction & Bioprocesses for tissue cultivation. The common lab is hosted within 3d.FAB platform and benefit from the latest equipment and interaction with Sartorius specialists in Material, Bioprocess, on-line analytics sciences.

MISSIONS

Scientific missions_ Formulation of bioinks dedicated to the growth of mesenchymal and pluripotent stem cells / Evaluation of bioprinting parameters and methodologies / Integration of bioprinter with bioproduction equipment
Management missions_ Project Management and interaction with the industrial partner / Support on the activities of the joint Laboratory Innolab (finance / project management / equipment follow-up etc…)

EXPECTED KNOW-HOW

PhD in Stem cell culture (cell therapy, bioprocess) with a strong knowledge of stem cell biology, stem cell characterization. Appreciated additional know-how: Rheology, Biomaterials, Bioprinting, Mechano-transduction.

APPLICATION

Application to be sent at emma.petiot@univ-lyon1.fr : CV + Motivation letter