




Post-Doc Position

 CDD 15 months

 Start : Autumn/2024

 Montrouge/Paris

The Laboratory:

URP2496 - BRIO "Orofacial Pathologies, Imaging and Biotherapies" directed by Catherine Chaussain at the Dental School, Paris Cité University - 1 rue Maurice Arnoux - 92120 Montrouge – France

General presentation: The BRIO unit's is interested in the mechanisms underlying chronic oral pathologies and rare disorders, which affect both the skeleton and the tooth mineralization. The team develops new therapies to repair the oro-facial defects resulting from these chronic and rare pathologies, including tissue engineering strategies or new medical devices. BRIO's main objective aims at studying the mechanisms underlying chronic diseases or rare disorders affecting the oro-facial tissues and explores the outcomes of new treatments for these disorders such as gene therapy, biotherapies and tissue engineering. The BRIO research expertise combines in vitro (3D cultures, co-cultures, bone and tooth organoids...) and preclinical (mouse, rat and porcine models) approaches as well as clinical research on cohorts of patients with rare or chronic disorders.

Background and position:

Bone organoids cultured in a bioreactor capable of applying mechanical stimulation were produced by our partners during the execution of this ANR project. Our mission is to validate this model producing healthy and pathological bone organoids, and treat the pathological bone organoid with well-known bone drugs. This position will strongly interact with the Laboratory of Osteoarticular Biology, Bioengineering and Bioimaging (B3OA) UMR CNRS 7052 INSERM U1271 at the Medicine Faculty at the Université Paris Cité for the production of bone organoids composed of cells from healthy donors or cells from patients with osteogenesis imperfecta. Moreover, the effect of a treatment for osteogenesis imperfecta will also be evaluated in bone organoids composed of patient's cells.

The post-doc will work on the production of bone organoids and further cellular and structural characterization using 3D analysis and histological techniques.

- This is a 15 months position is funded by ANR.
- We are looking for a highly motivated candidate with strong motivation to carry out the basic research as well as the experimental study with the use of cellular culture and in vitro models.
- A solid background in bone biology and cell biology will be the best suited for this project.



Activities:

- Culture of MSCs from healthy and OI patients
- Production of bone organoids in bioreactor
- Perform fluorescence microscopy and 3D image analyses
- Perform histological technics and analyse histological slides
- Assist the coordinator in project management tasks
- Disseminate and showcase results in the form of reports and presentations
- Update knowledge through literature research
- Coordinate human resources, plan device usage, manage operational budgets

SPECIAL CONSTRAINTS:

- Foster self-development, train others, and share knowledge
- Take initiatives, be organized, rigorous, autonomous, and capable of assuming responsibilities
- Strong interpersonal skills; ability to work in a team and network

CAPABILITIES:

Knowledge

- Statistics
- 2D and 3D cell culture and cell characterization
- Histology and bone biology
- General knowledge of quality management rules and methods
- Basic knowledge of financial and accounting management rules

Skills

- Experience in image analysis is a plus
- Experience in 3D culture is a plus
- Proficiency in reading, speaking, and writing English

Abilities

- Take initiatives, be organized, rigorous, autonomous, capable of assuming responsibilities, and managing personnel
- Strong interpersonal skills, ability to work in a team, network, and communicate
- Willingness to learn, teach, and develop new protocols
- Apply and enforce hygiene and safety rules in the field

Application procedure:

Contact Catherine CHAUSAIN (Catherine.chaussain@u-paris.fr) and Bruno PAIVA (bruno.paiva@u-paris.fr) sending your CV and motivation letter and contact of a reference scientist.