

## **POST-DOCTORAL POSITIONS IN MUSCULOSKELETAL REGENERATION AND STEM CELLS**

**INSERM, Mondor Biomedical Research Institute, Univ Paris-Est Créteil, France**

Colnot group “Stem cells in musculoskeletal development, regeneration and diseases” [colnotlab.com](http://colnotlab.com)

We are seeking 2 highly motivated and enthusiastic postdoctoral candidates to join our team to study skeletal stem/progenitor cells (SSPCs) in bone regeneration. SSPCs comprise a diversity of cell populations that are essential for bone repair. The laboratory has shown that SSPCs reside in several bone compartments including the bone marrow and the periosteum (the tissue at the outer surface of bone), but also in adjacent skeletal muscle. In response to bone injury, SSPCs sense signals in their local tissue environment, differentiate and must self-renew. Disruption of SSPC niche can lead to delayed or failed healing. Our goal is to better understand the diversity of SSPCs, the SSPC-niche interactions and how SSPCs are affected in bone repair disorders, to explore new therapeutic strategies for bone regeneration.

**Position 1 in biological analyses:** Examine the cellular and molecular bases of fracture non-union in genetically modified mouse models and uncover the mechanisms of skeletal stem cell dysfunctions during bone repair. Applicants should have a background in bone and/or muscle biology, in vivo mouse models, molecular biology, primary cell culture methods, flow cytometry, microscopy and image analyses.

**Position 2 in bio-informatics analyses:** Study the diversity and regenerative potentials of SSPCs in bone repair and in disease conditions, using RNAseq analyses, single cell RNAseq analyses and multiomics analyses. Large-scale transcriptome analyses will be based on data generated in the laboratory to investigate the diversity, spatial relationship and paracrine interactions between SSPCs and other cell types. Candidates should be familiar with programming in languages including R and Python and have good knowledge in cell biology, gene expression and regulation.

The applicants should be PhDs. Ability to initiate, conduct, evaluate and report research studies in English is essential. Salary is available for 3 years, renewed on a yearly basis according to progress. In addition to completing this funded research, the candidate will be strongly encouraged to develop research objectives that will lead to fellowship funding.

**Mondor Biomedical Research Institute** is a large research institute located in the east of Paris. The institute is affiliated with Henri Mondor Hospital, the faculty of Health and Université Paris-Est Créteil, providing a multidisciplinary research environment and state-of-the-art research platforms.

Applicants should send a motivation letter, Curriculum Vitae and names of 2-3 references to:

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