Modélisation et Simulation Multi Echelle

MSME UMR 8208

Postdoctoral Position

Interactions between bone cells and their vicinity

The aim of this project is to combine computing and experimental methods to improve our knowledge in the bone cells interactions with their environment in the context of bone remodelling. Indeed, bone cells are able to sense their environment and then to adapt themselves. In this project three main avenues of researches are proposed: i/ to study the mass transport phenomena in the vicinity of bone cells, that is to say within the pericellular matrix; ii/ to quantify the hydro-mechanical coupling by estimating the 3D-shear effects; iii/using perfusing chamber to evaluate in vitro the consequences of the fluid flow on the cellular response.

This multidisciplinary project requires combining abilities in mechanical and numerical simulations on the one hand and cellular biology on the other hand. It involves two laboratories of the University Paris-Est Créteil (UPEC): the Laboratory Modélisation et Simulation Multi Echelle (MSME, UMR 8208 CNRS) and the Laboratory Croissance, Réparation et Régénération Tissulaires (CRRET, EAC 7149 CNRS).

The post-doc candidate should have a PhD and would ideally present some skills in Biomechanics or Mechanobiology. He should be able to participate and understand the issues in modelling living materials and should also be a proposal task in the experimental validation process.

For more information about the laboratory, please visit http://msme.univ-mlv.fr/equipe-biomecanique/

Application procedure: The application shall be written in English or French. Please send your cover letter and CV (including publication list, prior research experience and contact information of two references) as a single pdf file to: salah.naili@univ-paris-est.fr and thibault.lemaire@univ-paris-est.fr. Fixed deadline: 5 April 2013.

Contact: Salah Naili (salah.naili@univ-paris-est.fr) and Thibault Lemaire (thibault.lemaire@univ-paris-est.fr)

Salary, duration and localisation: Net salary: about 2100€/month (gross salary: 2600€/month). The postdoctoral position is for 12 months and can start in September 2013. The laboratory is localized at Créteil (Métro Créteil-Université).