ESPCI PARIS

Post-doctorat : Cyste formation in hydrogel capsules

https://www.espci.psl.eu/fr/espci-paris-psl/emploi/archives/2015/post-doctorat-cyste-formation-in-hydrogel-capsules

Laboratoire d'accueil :

Le Laboratoire Colloïdes et Matériaux Divisés (LCMD) à l'ESPCI, dirigé par Jérôme Bibette, découvre, invente et innove aux croisements des disciplines entre chimie, physique et biologie. Il créée de nouvelles approches et de nouveaux matériaux pour la biologie, il revisite des procédés anciens de fabrication de matériaux pour les moderniser et se passionne tout autant par les recherches et développements qui émanent de ses spin off. Le postdoctorant effectuera ses travaux de recherche sous la direction de Nicolas Bremond.

Contexte :

Possible artifactual behaviors of individual cells in 2D, as compared to 3D, stimulate the creation of 3D artificial environments that mimic the physiological environment experienced by cells in any multicellular organisms. LCMD has recently developed a novel protocol of liquid core hydrogel capsule formation well suited for cell culture since the fabrication procedure involves a minimal number of steps and is only based on aqueous solutions and biocompatible compounds. This encapsulation strategy allows a large production rate of such compartments that opens the way to screening applications of micro-tissues.

Poste pourvu

Objectifs :

For the present project, we wish to take advantage of this encapsulation process for implementing an extracellular matrix in the core that embeds cholangiocytes, the epithelial cells of the bile duct. One of the objectives is to decipher the role of a protein during the formation of cysts with a central lumen, and more generally its implication in epithelium features. Moreover, the role played by the mechanical features of the ECM on the tissue fate will be assessed. The postdoc will thus have the mission to create capsules having a gelled core with controlled properties and to monitor the development of tissue formation. This study will be undertaken in collaboration with Pascale Dupuis-Williams from the Inserm laboratory "Interactions Cellulaires et Physiopathologie Hépatique" at Orsay.

Profil recherché :

Candidate profile : We look for a candidat having accomplished a PhD in cell biology, or in biophysics, who is motivated by such a multidisciplinary project. Strong skills in cell culture, live cell imaging, extra cellular matrice reconstruction are desired. Knowledges in histology, physico-chemistry of soft matter and micro-fabrication are welcomed. More information on https ://www.lcmd.espci.fr/page_emploi.php?lg=fr

Début :

Dès que possible

Contact

Candidatures (lettre de motivation, CV, références) à transmettre par courrier électronique aux adresses suivantes : nicolas.bremond@espci.fr copie : recrutement@espci.fr A motivation letter and a CV, including referent persons or letters of reference, should be sent to Nicolas Bremond (nicolas.bremond@espci.fr). For more information : 01 40 79 52 34.

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Poste pourvu

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