

POSTDOCTORAL FELLOWSHIP – UNIVERSITY OF BORDEAUX, FRANCE

ELECTROSTIMULABLE SUPRAMOLECULAR GELS FOR DRUG DELIVERY

Job offer

Supramolecular hydrogels have received particular attention during the last decade. These soft materials have the capacity to form from building blocks, which can be held in solution and turned to a gel phase by changing physical (such as temperature) or chemical (pH, ionic strength) parameters. The great advantage of such structures is that gels are easily reversible (sol-gel), injectable, and they feature self-healing and thixotropic properties. Most of the time the building blocks themselves are often natural products, which are non-toxic and rapidly eliminated from the body following gel degradation. Low molecular weight gelators (LMWG) is a particular class of gel forming compounds. The glycosylated nucleoside lipids (GNLs) developed in the ChemBioMed team of U1212 belongs to this family. These compounds show many interesting properties for stem cell cultures, including sol-gel transition, chemical versatility, very low concentration of gelation, formation of nanostructured scaffolds, reservoir of active principles for a controlled drug delivery, etc. In this program we will develop new bio-inspired electro-stimulable supramolecular gels featuring biocompatibility properties and high loading capabilities to serve as an electro-sensitive matrix for drug release.

This research will lead to an electro-stimulable LMWG platform (characterization of supramolecular assemblies, sol-gel transition, electro-modulation of the rheological properties, modulation of the drug loading capacity, kinetic of drug release etc).

Candidate's profile

PhD in chemistry, Know-How in physical-chemistry, supramolecular chemistry, electrochemistry, gels, drug delivery, taste for a multidisciplinary project and team-work. He/she shall achieve the synthesis of materials, their formulation and physico-chemical characterization. Basic know-how in biology is welcome. Specific skills in synthesis, DLS/SLS, TEM-AFM, rheology would be a plus.

Salary

2 300 €/month (neto)

Localisation: The candidate will be located at the INSERM U1212 laboratory at the University of Bordeaux, France. He/She will be working in strong collaboration with the CRPP, ISM and BIOTIS laboratories.

Application:

Applicants are invited to submit a complete CV, a motivation letter, a copy of PhD diploma, and references details at <http://amadeus.labex.u-bordeaux.fr/en/Jobs/> job opportunity ref: 2017 AMADEus 058. Applications will be considered until the position is filled.

Contact:

Pr. Philippe Barthélémy: philippe.barthelemy@inserm.fr