



Job offer

CDD/Post-doctoral position in microfluidic : Sorting of biological components

About CEA-Leti

Leti is an institute of the Commissariat à l'Energie Atomique et aux Energies Alternatives (www.cea.fr), a French research-and-technology organization with activities in energy, IT, healthcare, defence and security. Leti is focused on creating value and innovation through technology transfer to its industrial partners. It specializes in nanotechnologies and their applications, from wireless devices and systems, to biology, healthcare and photonics. NEMS and MEMS are at the core of its activities. An anchor of the MINATEC campus, CEA-Leti operates 8,000-m² of state-of-the-art clean room space on 200mm and 300mm wafer platforms. It employs 1,400 scientists and engineers and hosts more than 190 Ph.D. students and 200 assignees from partner companies. CEA-Leti owns more than 1,700 patent families.

For more information, visit www.leti.fr.

Within the Division of Technology for Biology and Health, the laboratory of Microfluidic Systems and Bioengineering develops new microfluidic devices. In particular we develop new microsystems for the sorting of biological entities going from exosomes or viruses (tens of nanometres to hundreds of nm) to cell clusters (hundreds of microns). The applications are in cell therapy, detection, organ on chip.

Mission

In collaboration with other teams at CEA, the candidate will have to develop and characterize two microfluidic devices for biological entities sorting. The candidate will work on two devices. One to sort in size cell clusters called Langerhans islets involved in the insulin secretion. This task is part of a cell therapy project for type I diabetes aimed at grafting allogenic encapsulated islets to restore glucose regulation with limited or no immuno-suppressive treatments. The other one is related to the sorting of viruses from a plasma sample and their conditioning for subsequent nebulization and detection. It requires both the development and characterization of sorting devices, and their implementation on a fluidic cartridge.

We are looking for a post doctorale researcher/engineer with a first experience in microfluidics. You will be in charge of testing and optimizing the microfluidic devices. You will be responsible for experimental bench set-ups, microchips and microfluidic cartridges design, as well as process optimisation and validation. You will perform experiments on living cells. Cell viability and functionality will be performed either on primary cell culture or cell lines. You will work among teams specialized in microfluidics and biology and you will be in charge to do the interface.

Candidate Profile

You shall speak English and/or French and show good communication skills, as you will frequently report your results to the entire project team. You are highly motivated to be part of a dynamic and multidisciplinary project in a cutting-edge environment.

You have a background in Physics, Engineering, Fluid mechanics, Bioengineering, Biomaterials, Tissue Engineering with a particular flair for experimental approaches. First experience in microfluidics/Lab-on-chip is required and cell culture experience would be a plus. Candidate must have been vaccinated for Hepatitis B.

Candidate should send CV, cover letter and recommendations to Dr Aurélie Thuaire and Dr Frédéric Bottausci

Area of work: Health, Cell therapy, Microtechnology, Biophysics, .
Language requirement: A good level of either English or French

Date of start : October 2018

Duration : 18-24months

Contacts

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