POST-DOC POSITION

France

Development of a microdevice integrating an acoustic biosensor to explore primary haemostasis

BioMicrodevice / Microfluidic / Acoustofluidic interaction / microsensor / instrumentation

Location: FEMTO-ST Institute, MN2S Dept, Besançon, France

Starting date: fall 2017 to spring 2018.

Duration: 12 Month + 18 Month possible extension

Salary: about 45 k€ gross/year

Positioning of the project

Haemostasis, the human body's response to blood vessel injury and bleeding, involves a coordinated effort between platelets and numerous blood clotting proteins, resulting in the formation of a blood clot and subsequent stopping of the bleed. Its initial step is primary haemostasis which results in a platelet plug and precedes the formation of blood clot closing the vascular lesions. This process requires a precise equilibrium and any deviation can lead to haemorrhages on one side or platelet deposits and thrombosis on another side.

The objective of this project is to develop a totally innovative instrument to explore in clinical practice primary haemostasis as a whole with smallest blood volumes and flowing whole blood under the appropriate rheological conditions which requires a specific microfluidic device. A multiparameter acoustic biosensor will be integrated to perform real time measurements.

Required profile:

The candidate will be employed by FEMTO-ST and will benefit from the skills and experience of the laboratory in the field of microtechnology, acoustic devices, microfluidic and biochemistry and will operate in the MIMENTO clean-room facilities. She/he will be involved in the design, microfabrication of the prototype including the fluidic cell with acoustic sensors and in the experimental setup to characterize the set of microsensors and microfluidic devices.

Skills in acoustic microtransducers, instrumentation for microsensors integration and multiphysics simulation, MEMS technology to fabricate and characterize the fluidic cells. The candidate should be qualified in applied physics and be motivated by microtechnology and experiments (eg: PhD in the field of microsystem and/or acoustic device, with a strong background in technological development). Some knowledge on biomedical aspects will be appreciated

She/he is expected to be highly autonomous and innovative, to demonstrate ability to write, communicate in English and work in an interdisciplinary approach. French language is not required.

Application procedure:

To apply, send an email with detailed CV, 2 names of referees, list of publications, and motivation letter to : therese.leblois@femto-st.fr (+33 3 63 08 24 56) and jfmanceau@femto-st.fr (+33 3 63 08 26 17),

http://www.femto-st.fr/en/Research-departments/MN2S/Research-axes/BioMicroDevices-Team