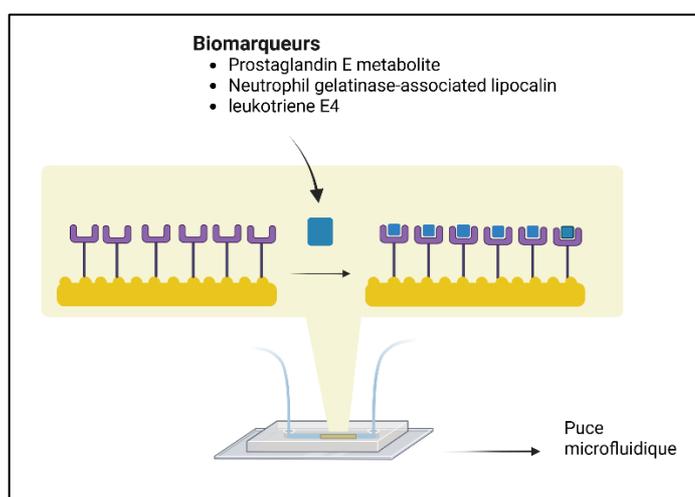


Project title: Biosensors for Continuous Inflammation Management (acronym: BioGesIn)

The project aims to develop sensors capable of measuring levels of various proteins called cytokines, which are linked to inflammation, in human fluids such as urine.

The doctoral student recruited for this project will develop surface functionalization approaches that enable the detection of several analytes using antibodies or aptamers as biorecognition elements. Biomarker detection will be performed electrochemically and optically through a surface wave that will be disturbed by the presence or absence of markers. In particular, three different markers will be targeted, namely prostaglandin E metabolite, neutrophil gelatinase-associated lipocalin, and leukotriene E4. The objective is also to be able to perform multiplexing on the same device. Strategies will be explored to evaluate different biomarkers on a single surface by precisely functionalizing different areas with specific biorecognition elements.



Collaborations. The PhD student will work between the SAINBIOSE Unit and the Laboratory Hubert Curien (Saint-Etienne). The project is also in collaboration with the University Hospital of Saint-Etienne.

Required skills: Applicants must hold a Master's degree or equivalent in Biomedical Engineering with a focus on Biosensing/ Electrochemistry/ Biochemistry/ Photonics/ Analytical Chemistry with knowledge in surface functionalization.

Candidates must be curious and intellectually ambitious.

The successful candidate will be expected to work independently, while also collaborating with several lab members and external partners, and to contribute effectively to team efforts.

She/he will need to communicate well in English (orally and in writing).

Basic knowledge of French (or willingness to learn) is a plus.

Applicants must attach a CV, a short motivation letter, and master's 1 and 2 grades or equivalent.

Deadline for application: 15/03/2026

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