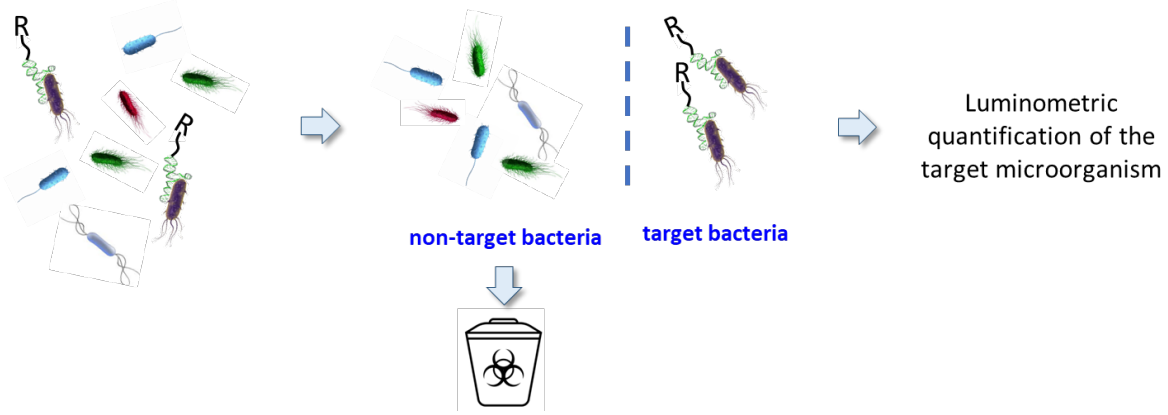
Job offer: PhD

Development of a kit for the specific detection of microorganisms by chemiluminescence

The reference methods for the identification and quantification of microorganisms, whether pathogenic or not, are based on cell culture protocols. However, these approaches too often impose analysis times that are incompatible with the underlying public health issues (health and agro-food sectors).

This thesis proposal concerns the development of a specific identification kit for microorganisms based on the use of aptamers. Aptamers are synthetic oligonucleotides generated to interact specifically and with high affinity against a given target (small organic molecules, peptides, proteins, nucleic acids, intact cells such as microorganisms). The use of an aptamer specific to the microorganism of interest coupled with a detection method based on a luminescence reaction should allow the development of a sensitive and rapid detection system (<30 min).



The potential applications of the subject, in the pharmaceutical and agri-food sectors, constitute an obvious outlet for this type of device.

The thesis will be carried out in three stages: demonstration of the proof of concept, optimisation of the aptamer implementation system and implementation in a real field in partnership with the Grenoble University Hospital.

The candidate will have an appetite for cross-disciplinary subjects with a strong application focus. Mainly synthetic chemistry, analytical chemistry and microbiology.

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- deadline for application: March 11, 2022

- salary: 1975€ brut, 1560€ net