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| Project Title: | Development of a phage-based lab-on-chip for the detection of foodborne pathogens |
| Project Short description | <p>The incidence of foodborne infectious diseases is a major concern worldwide, in which <i>Campylobacter</i>, <i>Salmonella</i> and <i>Listeria</i> are the most common and widely distributed causing agents. The prevention or reduction on the incidence of foodborne diseases is dependent on the ability to rapidly identify contributing pathogens.</p> <p>Lab-on-chip devices are a promising technology for pathogen detection aiming an increased response speed, sensitivity and portability. In these systems, biochips are combined to electronic and microfluidic platforms enabling a multiplex detection signal acquisition and processing.</p> <p>The objective of this project is to develop a fast, accurate, sensitive multiplex tool for the detection of <i>Campylobacter</i>, <i>Salmonella</i> and <i>Listeria</i>. It will rely on the use of phage proteins - tail fiber proteins (TFP) and endolysins' CBD - that specifically recognize and bind to bacterial cell wall receptors that will be used as biorecognition molecules in a magnetoresistive lab-on-chip platform.</p> |
| Expected Start/end date | September 2015/October 2016 |
| Required degree and Background knowledge of students, minimum gradepoint average, etc... | We are seeking for a motivated student with a degree in one of the following disciplines: Biology, Biochemistry, and Bioengineering. Background in microbiology and molecular biology would be desirable. |

Supervisor at INL

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