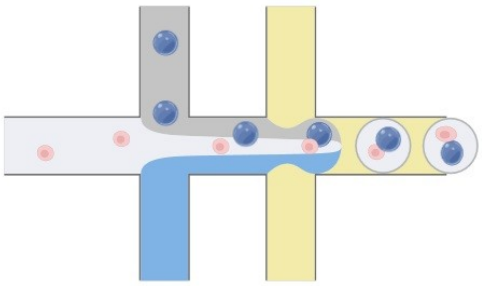
Design of microfluidic devices for bacterial microdroplet generation



Laboratory Address and Affiliation:

Laboratoire Interdisciplinaire de Physique (LIPhy), Grenoble

Team Research area

Microfluidic droplets for microbiology applications

Summary of the Proposed Internship Project

Design of microfluidic devices for bacterial microdroplet generation

We are embarking on an innovative project to develop a microfluidic system capable of generating microdroplets with precisely controlled bacterial content.
This state of the art system will have the following objectives :
- Isolate a predetermined number of bacteria in each microdroplet
- Provide an environment conducive to bacterial growth within the droplets
- Enable the mixing of two different bacterial strains in same proportions in each droplet.

The proposed project will involve designing and fabricating a microfluidic device for droplets generation and testing its compatibility with bacterial culture. Then we shall attempt to mix two strains of bacteria in each droplet and quantify their respective numbers using fluorescence microscopy.
We are looking for a highly motivated student with a background in microfluidic design and a keen interest in applying this expertise to microbiological experiments.
This project will be carried out in an interdisciplinary environment. The candidate will have the opportunity to work closely with biologists and physicists, fostering a collaborative and innovative research environment.

Person to contact:

Name: SCARAMOZZINO Noel
E-mail: natale.scaramozzino@univ-grenoble-alpes.fr ; Phone: 04 76 51 47 64

People involved in the project :
Mathilde VAN MELLE GATEAU
Irène WANG
Gaëlle GARIN
Gwennou COUPIER