

# RESOLUTION OF IBD

3 years PhD training

PEPITE research group, University of Franche-Comté, Besançon, FR

## Overview:

Treatment of inflammatory bowel disease mainly targets mediators of inflammation to stop or reduce pro-inflammatory processes. In the last decades, studies resulted in a significant improvement in the understanding of the resolution of inflammation. Chronic inflammation was found to be associated with decreased secretion of resolution factors. Therefore, the first aim of this project is to define the best therapeutic strategy to limit or suppress the chronic inflammation. This should be achieved using local administration of resolution factors or drugs intended to modulate neutrophil migration or apoptosis, which plays an important role in the resolution of inflammation. Semi-solid formulations loaded with resolution factors will be prepared for the administration into the inflammatory lesions. After characterization and in vitro evaluation, the most efficient formulations will be selected for further in vivo studies on different colitis models. Alternative strategies consisting in the encapsulation of resolution factors to protect them and enhance their accumulation inside gut lesions. The second aim of this project is to develop another therapeutic strategy based on the in-situ stimulation of resolution factors secretion. For such a purpose, muco-adhesive nanoparticles will be designed to locally release drugs that induce secretion of resolution factors. Therapeutic evaluation of these different systems will be performed using different models of chronic colitis. The proof of these concepts focused on the resolution of the inflammation could result in the development of new targeted therapeutic pathways correlated to the origin of chronic diseases.

## Admission requirements:

<http://www.ecoledoctoralee2s.com/concours-allocations-de-recherche-2018--appel-a-candidature.html>

## Skills:

Immunostaining: ELISA, flow cytometry, immunofluorescence, immuno-histochemistry

Biological techniques: cell culture

Physico-chemistry: basis

Excellent communication / Team working / Flexibility and adaptability

## Contact:

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