

Doctoral Project

Title: Mechanophysiology of Bacterial Microcolonies

Abstract : The role of physical cues in shaping the development of multicellular eukaryotic organisms is now firmly established. Even though it is now also appreciated that bacteria mostly live within dense multicellular communities called biofilms, the understanding of the role of physical cues within these communities is still in its infancy. This doctoral project will aim at studying the role of physical forces in the early biofilm formation of species of the *Neisseria* genus. Focusing on a pair of species, one pathogen and one commensal, the PhD candidate will combine molecular biology, genetics, biophysics and microscopy to tackle the role of physical cues in the physiology of these members of the human microbiota in order to both unravel the fundamental role of mechanical cues in bacterial physiology and understand how to use these cues to control the spread of these bacteria. In this project, we will use engineering tools to potentially engineer new solutions towards better human health.