

Basel Computational Biology Seminar

Somenath Bakshi

*Department of Engineering
University of Cambridge, UK*

Exploring the connections between intrinsic and extrinsic mortality of microbes at single- cell level

How do bacteria live, sleep, age, and die in an ever-changing environment? How does their age and the depth of their sleep impact their ability to survive external stress, including antibiotic treatments? To answer these questions, we are developing microfluidic-microscopic platforms that enable us to track single cell-lineages of bacteria over many generations (>100 generations) in complex but precisely controlled growth-conditions. These platforms have very high throughput ($>10^5$ individual cell lineages in parallel) to catch rare events and enough multiplexing capabilities ($>10^3$ different strains in parallel) to perform systems-level investigations. The rich and precise data from these experiments is already revealing unknown and unexpected behaviours of bacterial cells and improving our abilities to understand, manipulate, and to eliminate them for fundamental and applied reasons. In this talk, I will describe the method developments and illustrate their potential with few recent examples.

Date: Monday, September 27, 2021
Time: 16:00 h
Location: online via zoom
Contact: Dany Chauvin (dany.chauvin@unibas.ch)