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ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

GHI Floor Seminars

Special seminar by invited speaker

Carey Nadell

Alexander von Humboldt Fellow
Max Planck Institute for Terrestrial Microbiology
Marburg, Germany

Bacterial fortresses: cooperation and competition for space in biofilms

Given the opportunity, many bacterial species colonize surfaces and produce intricate multicellular communities, termed biofilms. These cell groups are embedded in a secreted polymer matrix that confers nutrient-scavenging versatility and resistance to external threats. Biofilm growth is a central feature of microbial natural history and bacteria-human interactions, but we are still in the early stages of discovering ecological principles of biofilm assembly. I use concepts and techniques from ecology, evolutionary biology, and molecular genetics to understand how and why biofilms obtain their structure and composition. Here I will relate several projects linking the secreted matrix to cooperation, competition, and succession in populations of bacterial pathogens. I will also discuss a new system for visualizing the spatial spread of bacterial viruses through biofilms. This framework promises novel insight into bacteria-bacteriophage coevolution and the development of new microbial manipulation strategies.

Host: Prof. Alexandre Persat

Tuesday, May 9th, 2017
12:15, room SV 1717

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