LECTURE SERIES 2025 - 2026

Pathogenesis in the age of the microbiome

MICRO-PATH

LUXEMBOURG INSTITUTE OF HEALTH

UNIVERSITÉ DU LUXEMBOURG

LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY LIST

28 MAY 2026

Thursday

LECTURE

9:30 - 10:30 + 15 min. Q&A

MEET & EAT FOR STUDENTS *

11:00 - 12:30

Bacterial aggregation and its possible role in host-microbiome interactions

ABSTRACT

Bacterial aggregation is a widespread multicellular behaviour, yet its ecological roles and implications for pathogenesis remain poorly defined. My presentation will review the diverse mechanisms by which bacteria can form aggregates in liquid suspension, as well as some key works on aggregation in the context of a host. I will also discuss different approaches to quantitative mathematical modelling of aggregation. Finally I will present recent work from our group where we systematically characterise aggregation phenotypes in Gammaproteobacteria isolates obtained from faecal samples of critically ill patients and examine their modulation by host-derived bile acids. Contrary to suggestions in the literature that aggregation should correlate with biofilm formation and/or antibiotic tolerance or resistance, we find that aggregation in our isolates correlates negatively with biofilm formation under specific bile acid conditions, shows no association with exponential growth rate and does not consistently confer tolerance or resistance to several tested antibiotics. I will speculate on the possible implications of this work for the ecological role of aggregation in the gut and more generally for pathogenesis and host-microbe interactions.

SPEAKER

Prof. Rosalind Allen

Full Professor (W3) of Theoretical Microbial Ecology

Friedrich Schiller University Jena

HOST:

Lecture series coordinated by the Luxembourg Institute of Health, the University of Luxembourg, and the Luxembourg Institute of Science and Technology, and organized within the framework of the MICRO-PATH Doctoral Training Unit coordinated by the University of Luxembourg and the Luxembourg Institute of Health

RESPONSIBLE SCIENTIST:

Anupam Sengupta

Full professor, FNR ATTRACT Fellow

University of Luxembourg

* Please note that registration is mandatory for meeting after presentation by sending an email to michelle.roderes@lih.lu

Location:

House of BioHealth

Big conference room at the ground floor

29, rue Henri Koch,
L-4354 Esch-sur-Alzette

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