LECTURE SERIES 2025 - 2026

Pathogenesis in the age of the microbiome

MICRO-PATH | LUXEMBOURG INSTITUTE OF HEALTH | uni.lu Université du Luxembourg | LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY LIST

18 September 2026

Friday

LECTURE 10:30 - 12:00

MEET AND GREAT * 12:00 - 13:30

The neuroactive landscape of the human microbiome and its social transmission

BIOGRAPHY

The human gut microbiome has emerged as an active participant in host physiology, extending its reach to the brain through the microbiota-gut-brain axis. In this talk, I will present our work mapping the neuroactive potential of the human gut microbiome - the microbial capacity to produce and degrade neuroactive compounds - and its links to mental health outcomes such as quality of life and depression, established at population scale from metagenomic data. Building on this functional framework, I will then turn to a second, complementary question central to microbiome pathogenesis: how the microbiome is acquired and transmitted between individuals. I will describe how strain-level metagenomic profiling has allowed us to trace the multigenerational transmission of the gut microbiome within families and to chart the broader person-to-person transmission landscape of the gut and oral microbiomes across cohabiting individuals and social networks. Together, these findings establish a population-level framework for studying the microbiome as a socially transmitted, functionally active system with implications for host health and disease. I will discuss how this reframes our understanding of microbiome-associated conditions, and outline the translational opportunities and open challenges that follow.
Further information on our group and research:
https://www.upf.edu/web/microbiome

SPEAKER

Mireia Valles-Colomer

Tenure-track Group Leader / Principal Investigator, Microbiome Research Group, Department of Medicine and Life Sciences (MELIS), Pompeu Fabra University, Barcelona, Spain (since September 2023).

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:

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

Location:

Lecture:
House of BioHealth
Big conference room at the ground floor
29, rue Henri Koch, L-4354 Esch-sur-Alzette

Meet and great:
House of BioHealth
FBS room 2nd floor
29, rue Henri Koch, L-4354 Esch-sur-Alzette

Supported by the Luxembourg National Research Fund

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