



Infectious  
Diseases Labs

A\*STAR IDL

## Assistant Prof Yassine Cherrak

Department of Microbiology and Immunology  
Infectious Disease Translational Research Program  
NUS School of Medicine



**Thursday 11 June 2026**

**11:00 AM to 12:00 PM (SGT)**

**Venue: Codon A & B, Matrix Level 5**

## Leveraging the gut microbiome against AMR spread

Antimicrobial resistance (AMR) is a global health crisis, responsible for an estimated 1.27 million deaths annually. Notably, nearly all bacteria classified by the WHO as priority pathogens transit through the gut during their pathogenic cycle, suggesting that targeting this intestinal stage could represent an effective strategy to limit infection by MDR organisms.

The gut microbiota - through its ability to resist colonization by invading pathogens and shield the host from infection - is increasingly recognized as a promising therapeutic avenue against AMR. Yet microbiome-based therapies remain out of reach, in part because the mechanisms underlying microbiota-mediated protection are poorly understood, and because it remains unclear whether such interventions can yield consistent outcomes across diverse patients.

In this presentation, I will describe a recently isolated commensal strain capable of restricting the growth of the priority pathogen *Salmonella enterica*, and discuss the host and microbial factors that determine the robustness of this protection across different individuals.

Yassine Cherrak completed his studies in Marseille, France, before pursuing a PhD at the CNRS (French National Centre for Scientific Research) under the supervision of Prof. Dr. Eric Durand - a leading expert in bacterial secretion systems. His doctoral work focused on the structural and functional characterization of the Type VI Secretion System. Following a brief 6-month editorial experience at *Nature Microbiology*, he was awarded an EMBO Postdoctoral Fellowship and joined the laboratory of Wolf-Dietrich Hardt at ETH Zürich, where he investigated microbial competition and the gut dynamics of *Salmonella* infection. Since June 2025, Yassine has been an Assistant Professor at the National University of Singapore (NUS), where his group focuses on gut microbiome ecology and inter-bacterial competition, with the overarching goal of harnessing these interactions to develop novel strategies against antimicrobial resistance.

**Hosted by: Dr Stefan Oehlers**

**Seminar is open to all. No registration required.**

Questions? Contact us at [seminars@idlabs.a-star.edu.sg](mailto:seminars@idlabs.a-star.edu.sg)

Brought to you by A\*STAR IDL



@ASTARSG



@ASTARSG



@ASTARTV



@ASTARSG



@ASTARHQ