LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

MAX VON PETTENKOFER-INSTITUT
LEHRSTUHL MEDIZINISCHE MIKROBIOLOGIE UND KRANKENHAUSHYGIENE

The Max von Pettenkofer Institute

Microbiology Seminar Series

Date: **Wednesday, November 25, 2026**

Time: **05.00 pm sharp**

Location: **Lecture Hall MvPI, 3rd floor**

Speaker:

Prof. Ana Rita Brochado
Excellence Cluster CMFI, IMIT
Tübingen University, Germany



Title: Context dependent antimicrobial activity

Antimicrobial activity depends on more than a drug's molecular target: it emerges from interactions between bacterial physiology, genetic background and the surrounding environment. Our research investigates how these factors shape antimicrobial susceptibility in Gram-negative pathogens, with the goal of uncovering mechanisms that can guide improved treatment strategies. Combining microbiology, high-throughput screening, genetics and systems biology, we investigate three interconnected questions. How do bacteria sense chemical cues and translate them into changes in stress responses, virulence and antibiotic resistance? What determines whether antibiotics act synergistically or antagonistically? And how do bacterial immune systems influence antibiotic activity, even in the absence of phage infection? I will show recent findings from our lab on how human-targeted-drugs modulate regulatory networks reshape bacterial virulence and response to antimicrobials, and how activation of the bacterial phage defence system CBASS can make a bacteriostatic antibiotic kill *Virbio cholerae*. Together, these studies reveal opportunities to manipulate bacterial responses and harness their own defence systems to improve antimicrobial activity.

Host: Prof. Dr. Carolin Wendling

This Seminar is registered with BLAEK (Bayerische Landesärztekammer) and authorized with one Training Point (Fortbildungspunkt).

Medical course leader: Prof. Dr. med. Sebastian Suerbaum, Max von Pettenkofer Institute, Pettenkoferstr. 9a, 80336 Munich