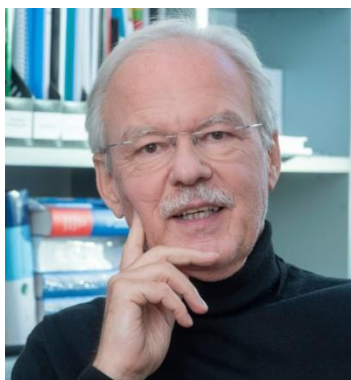


FASSBERG

SEMINAR SERIES



Stefan H.E. Kaufmann

Max Planck Institute for Infection Biology, Berlin
Hagler Institute for Advanced Study, Texas A&M University, College Station

Infection Biology at Bench, Computer and Bed

I will discuss three topics of our research into infection biology ranging from basic research to clinical application.

At the bench: First, I will describe evidence that the Aryl Hydrocarbon Receptor (AhR) serves as a pattern-recognition receptor which senses pigmented virulence factors in different bacterial pathogens, e.g. *Pseudomonas aeruginosa* and *Mycobacterium tuberculosis* (Alves et al., Nature, 2014). I will continue in presenting recent evidence that the AhR spies on the communication between bacteria by recognizing quorum sensing molecules. Thereby, the host only needs to spend energy for mobilization of immune defense once bacterial quorum has been reached.

At the computer: Second, I will describe transcript- and metabolite-based biosignatures which can predict active tuberculosis (TB) disease (Suliman et al., ARJCCM, 2018; Weiner et al., Nat. Commun., 2018). Machine learning defined a signature composed of two pairs of transcript markers which can predict progression to active disease.

At the bed: Third, I will summarize experiments leading to a recombinant BCG-based vaccine against TB which is now in a phase III clinical trial for prevention of recurrence and in another phase III trial for prevention of disease in household contacts, both in India and will soon enter a phase III clinical trial for prevention of infection in neonates in Sub-Saharan Africa (Nieuwenhuizen et al., Front Immunol, 2017).

Host: Dirk Görlich



Tuesday / 5.11.2019 / 11:00

Max Planck Institute for Biophysical Chemistry
Large Seminar Room / Administration Building

