

## Invitation to the Keynote Lecture Faculty of Biology

### Prof. Dr. Julia Frunzke

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### Title: Bacterial multicellular behavior in antiviral defense

#### Abstract:

Bacteria have developed a range of mechanisms to defend against viral predation by bacteriophages (phages). In ongoing studies, we investigate the role of small molecules produced by actinobacteria in the defense against phage infection. Recently, we showed that aminoglycosides, a well-known class of antibiotics produced by *Streptomyces*, are potent inhibitors of phage infection in diverse bacterial species by blocking an early step of phage life cycle. Studying phage infection in *Streptomyces*, featuring a multicellular life style, we further observed that phage infection triggers the formation of transiently phage-resistant mycelium at the infection interface and could show that this cellular development is crucial for the containment of viral infections. These results highlight the diverse multicellular strategies employed by bacteria in the defense against their most abundant predator.

**Thursday, Nov. 06, 2025, 2-4 pm**

Host: Prof. Dr. Ralf Heermann

The keynote lecture will be presented at  
Biozentrum 1, HS BZ1, 00.187, Hanns-Dieter-Hüsch-Weg 15, ground floor

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