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Vortrag  
von Herrn

**Prof. Dr. Pierre  
Stallforth**

Leibniz Institute for Natural  
Product Research and Infection  
Biology

***Leibniz-HKI and  
Friedrich Schiller  
University - Jena***

**„Exploring Natural  
Products in Space  
and Time: from  
Ancient Molecules  
to Microbial Arms  
Races“**

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Gäste sind herzlich willkommen!



TECHNISCHE UNIVERSITÄT  
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Prof. Dr. Johannes Teichert, Tel.: 0371/ 531 33715 (Chemie) und Prof. Dr.  
Olav Hellwig, Tel.: 0371 531-30521 (Physik)

Prof. Dr. Michael Sommer - Telefon: 0371 / 531 32507  
E-Mail: [michael.sommer@chemie.tu-chemnitz.de](mailto:michael.sommer@chemie.tu-chemnitz.de)

## Prof. Dr. Pierre Stallforth

Leibniz Institute for Natural Product  
Research and Infection Biology  
**Leibniz-HKI and Friedrich  
Schiller University - Jena**



## Exploring Natural Products in Space and Time: from Ancient Molecules to Microbial Arms Races

Microbial natural products remain a critical source of therapeutic agents. These compounds are often shaped by intricate ecological interactions. Predator-prey dynamics between amoebae and bacteria represent particularly rich reservoirs of these secondary metabolites. Amoebae, as ubiquitous bacterivores, exert strong selective pressure, driving bacterial defenses against grazing and, in turn, amoebal counter-adaptations.<sup>[1,2]</sup> Within this evolutionary arms race, we investigate the biosynthesis and diversification of amoebicidal natural products, including polymicrobial modifications that expand their chemical repertoire.<sup>[3-5]</sup> Extending this perspective into the past, we exploit ancient bacterial DNA to identify and reconstruct biosynthetic genes, providing access to previously untapped natural product diversity.<sup>[6,7]</sup>

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