News from the group

Christine received the prestigious ERC Starting Grant in 2018 and has been appointed as the Goering Visiting Assistant Professor in the University of Wisconsin-Madison Department of Chemistry for the Spring, 2020 semester!

For more news and picture of our research, please check out our news page and Twitter: @CBeemelmanns (BeemelmannsLab)

05.04.2020 // 18:13

Special Issue Chemical Ecology

Contribute to the new special issue "Chemical Ecology" more… Special Issue Chemical Ecology
Natural Products Mediate Cross-Kingdom Interactions

Since the development of microbes and higher eukaryotes coevolution has resulted in specific interaction mechanisms. It is well known that **symbiotic bacteria and fungi** influence the life cycle, and are essential for the homeostasis of many eukaryotes. However, in most cases, the factors driving and influencing the cross-kingdom interactions are unknown.

**We focus on the** structural identification of microbial chemical mediators that are important to maintain the symbiotic life style of the producing organisms.

To study the chemical signals we apply state-of-the-art analytical tools:

- Analytical Chemistry (UHPLC, UHPLC-MS, NMR, MALDI etc.)
- Genome Mining and Molecular Biology
- Organic Synthesis (total synthesis and natural product derivatization)

Natural Products of Microbial Symbionts of Termites

Fungus-growing termites rear a symbiotic fungus as a food source in specialized combs. Termites have developed several strategies to combat invading fungi species, which can be life-threatening to the insect colony. Especially defensive symbionts support the homeostasis of the colony by secretion of selective antimicrobial and antifungal products.

For further details, please have look at our topic **secondary metabolites from insect-associated microbes**.
Natural Products of Microbial Symbionts of Hydractinia

Natural products present in bacterial biofilm induce morphogenesis of larvae of the marine hydroid polyp *Hydractinia echinata*.

For further details, please have look at our topic [analysis of morphogenetic signals](#).
Public Outreach
Ihr findet uns:

- [Forscher Schüler Tag](#)
- [Youtube-documentation](#)
- [Long Night of Science- Colouring Book for children (and adults)](#)

New video clip about our research

Termite Fungiculture – A Hidden Treasure Trove