

Eintritt frei

Montag
2. März 2015
18.00 Uhr

Öffentlicher Abendvortrag im Rahmen der Vortragsreihe
„Molekulare Grundlagen des Lebens“

Professor Dr. Michael Wagner

Foraging on the Host: In vivo Physiological Studies of Microbes in the Human Gut and in Sponges



Microbes play an essential role for the health of animals and humans. However, deciphering the specific interactions of bacteria and archaea with their eukaryotic hosts is extremely challenging and cannot be achieved by the application of meta-omics techniques alone. In this talk, I will demonstrate how single cell isotope probing with ^{13}C - or ^{15}N -labeled compounds as well as with deuterated water can be used in combination with NanoSIMS and Raman microspectroscopy to characterize in vivo the function of gut microbes on a single cell level. Furthermore, I will present new insights into the interaction of microbes with sponges that we have obtained by studying the microbial symbionts of the tropical marine sponge *lanthella basta* with meta-omics and ecophysiological experiments.

Michael Wagner received his PhD in Microbiology from the TU München and is currently full professor for Microbial Ecology and Head of the Department of Microbiology and Ecosystem Science at the University of Vienna, Austria. His main research interests are microbes involved in nitrogen cycling, the functional analyses of microbes in their natural environments, and the interactions of microbes with animals and humans. He was the president of the International Society for Microbial Ecology from 2012-2014 and is editor of the journal *Environmental Microbiology*. He received a prestigious ERC Advanced Grant in 2011 and has published more than 200 papers. He is member of various academies including the German National Academy of Sciences, Leopoldina.

Moderation: Professor Dr. Katharina Riedel



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