

Eintritt frei

Montag
23. September 2019
18.00 Uhr

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

Professor Dr. Alexander Loy

Decrypting cryptic sulfur cycling in wetlands and the human gut: One new microbe and metabolism at a time



Microorganisms that harness inorganic or organic sulfur compounds for energy generation play important roles in the environment as well as members of the symbiotic microbial community of humans and animals. I will introduce the importance of microbial sulfur cycling in reducing emission of the greenhouse gas methane from wetlands, highlight why this key ecosystem service of sulfur microorganisms is often neglected, and present new insights on their identity, ecophysiology, and metabolic versatility in wetlands. A general lack of understanding of microbial metabolic capabilities is also the reason why we still do not sufficiently know how diet shapes the composition of the highly person-specific human gut microbiota. Revealing unknown microbial enzymes and pathways and how the resulting metabolites influence human health is important for developing future therapeutic strategies. I will show how catabolism of a previously disregarded vegetarian diet-derived sulfosugar provides a selective nutritional niche for prominent human gut bacteria and contributes to the production of hydrogen sulfide, a key metabolite in the gut with ambivalent impact on human health.

Alexander Loy is Professor for Microbial Communities at the Centre for Microbiology and Environmental Systems Science at the University of Vienna, Austria. He received his PhD in Microbiology at the Technical University of Munich in Germany. He received his Habilitation in Microbiology and the Young Scientist Award of the City of Vienna in 2012. Research of the Loy group focuses on evolution and ecology of sulfur microorganisms, the function of the complex symbiotic microbiota of animals and humans in health and disease, and the development of molecular and isotope-labeling methods for studying uncultivated microorganisms in their natural environment.

Moderation: Professor Dr. Tim Urich



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