Invitation for Special Lecture

Microbial Ecology to Enzymes: C1 bioeconomy

University of Houston, Houston, Texas
COLLEGE OF TECHNOLOGY
Invited Talk: Microbial Ecology to Enzymes: C1 bioeconomy

Microbial one-carbon metabolism (e.g. methane, methylated amines) is a major driver in biogeochemical cycles and has a significant impact on ecosystem/host health and food, climate security and economy. In this seminar, I will discuss on how our work in a model ecosystem (a unique chemosynthesis-driven cave ecosystem in Romania) has underpinned research questions in microbial methane and methylated amine cycling in the environment e.g. from rice paddies in China to arid-soils in Spain. Translating the microbiome concepts to industrial setting for production of value chemicals/enzymes through carbon capturing technology will be discussed.

Author Biography

Deepak’s research group at QUB employs complimentary eco-genomic tools to study microbial functional diversity in environmental systems and elucidate drivers of microbial ecosystem services. Specifically, the research focuses on eco-physiology of aerobic methylotrophic bacteria and its impact on climate active trace gas cycling (methane, methanol, methylated amines), biotechnological potential (e.g. value-added metabolites from methane) and microbial interactions in the environment. He was recently awarded a prestigious Chinese Academy of Science Presidential Fellowship study microbial cycling in climate active trace gases in rice paddies.

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