SESSION LECTURE

No. 23

Prospect and Application of Insect Microbiome

Room: 407

Co-Chairs: Hong Yang  **Bruno Lemaitre** 

Day 2 October 28th (Sunday) 13:30 – 17:00		
Time	**Speaker**	**Title**
13:30-14:00	**Bruno Lemaitre** *Ecole Polytechnique, Switzerland*	How host parasite coevolution forged the *Drosophila* immune system?
14:00-14:30	**Bok Luel Lee** *Pusan National University, Korea*	Understanding regulation of the host-mediated gut symbiont population and the symbiont-mediated host immunity in the *Riptortus-Burkholderia* symbiosis system
14:30-15:00	**Yuichi Hongoh** *Tokyo Institute of Technology, Japan*	Genomics of uncultivable bacteria deciphers multilayered symbiotic system in the termite gut
15:00-15:30		**Tea Break**
15:30-16:00	**Xuguo Zhou** *University of Kenturky, USA*	Functional characterization of host specific lignocellulolytic enzymes from wood roach, *Cryptocercus punctulatus*
16:00-16:30	**Sibao Wang** *Institute of Plant Physiology & Ecology, SIBS, CAS, China*	Symbiotic bacteria in the *Anopheles* mosquito: their roles in infection and malaria control
16:30-17:00	**Hao Zheng** *China Agricultural University, China*	Honey bee as a model for gut microbiota research

Hong Yang

hyang@mail.ccnu.edu.cn

Dr. Hong Yang is a professor in Central China Normal University. Her research focuses on the symbiotic mechanisms between wood-feeding termites and their gut microbiome. Recent years she isolated many uncultured microorganisms from termite guts with new culture techniques and strategies, and demonstrated the important roles of these symbionts in nitrogen fixation, uric acid utilization and cellulose degradation.

Bok Luel Lee

brlee@pusan.ac.kr

Prof. Lee studies gut symbiont *Burkholderia* species using insect model system. Gut symbionts play a key role in modulating host immunity and development. Also, he is interested in the molecular cross-talk between gut symbionts and host insects. He has served chief of review board of Korean Research Foundation (NRF). He has managed Global Research Laboratory (GRL) of Insect Symbiosis during last six years, which was supported by KRF.

Xuguo Zhou

xuguozhou@uky.edu

The research interests of Prof. Zhou are investigating and characterizing genetic and physiological adaptations in insects, which enable them to be one of the most successful groups of organisms on Earth. With multi-disciplinary experiences in biology, toxicology, physiology, biochemistry, sociobiology, molecular biology, and genomics, he has studied how insects have coped with various biotic and abiotic challenges during the course of millions of years of evolution. Currently, his research goal is to integrate molecular biology and “omics” tools with fundamental biological disciplines to address some long- standing biological questions with practical implications.

Bruno Lemaitre

Bruno.lemaitre@epfl.ch

Dr. Bruno Lemaitre is a professor at the Ecole Polytechnique of Lausanne (EPFL). His laboratory uses the fruit fly as a model genetic system doing research in the field of innate immunity and hostpathogen interactions. One of his initial findings demonstrated that the Toll receptor protein and its downstream signaling pathway are essential components of the fruit fly immune response. This is a pioneer work in innate immunity which facilitated the identification of Toll-like receptors as crucial mediators of human innate immunity.

Yuichi Hongoh

yhongo@bio.titech.ac.jp

Prof. Hongoh studies the symbiotic system in the termite gut at the School of Life Science and Technology in Tokyo Institute of Technology, Japan. He uses single-cell genomics and metagenomics to elucidate the complex, multi-layered symbiosis among the cellulolytic protists and diverse prokaryotes, most of which are unculturable.

Sibao Wang

sbwang@sibs.ac.cn

Dr. Sibao Wang is a professor at Institute of Plant Physiology and Ecology, Chinese Academy of Sciences. His research focuses on molecular interactions between insects, gut microbiota and pathogens, and develops new strategy to prevent transmission of mosquito-borne diseases. More recently he and colleagues developed a new promising approach (paratransgenesis) to drive mosquitoes resistant to malaria parasite *Plasmodium*.

Hao Zheng

hao.zheng@cau.edu.cn

Hao Zheng obtained PhD at MPI for Terrestrial Microbiology and did postdoc at University of Texas at Austin. He found the significant functions of bee gut symbionts to the host growth, insulin signaling and behavior. Since 2018, he joined China Agricultural University to start his own lab and was funded by the "Thousand Talents Plan" for Young Professionals. He now focuses on the honey bee as a model organism for the host-microbiome symbiotic interactions.