

SCIENTIFIC PROGRAM

SESSION LECTURE

No.7

Vector Biology and Emerging Infectious Diseases

Room: Phoenix Room 1

Co-Chairs:
Gong Cheng



George K.Christophides



Day 3 October 21st (Monday) 09:00 – 12:30

Time	Speaker	Title
09:00-09:30	George K. Christophides Imperial College London, UK	Gene drives for vector population replacement and malaria transmission zero
09:30-10:00	Qiyong Liu Chinese Center for Disease Control and Prevention, China	Vector-borne disease dynamics driven by bio-invasion and interaction triggered by climate and global change
10:00-10:30	Julien Pompon Institute of Research for Development (IRD), France	Discovery and mechanistic characterization of the lipids in mosquito saliva that enhance transmission for multiple flaviviruses
10:30-11:00	Tea Break	
11:00-11:30	Sibao Wang Institute of Plant Physiology & Ecology, Chinese Academy of Sciences, China	Harnessing mosquito gut bacteria to block malaria transmission
11:30-12:00	Sazaly BinAbuBakar Tropical Infectious Diseases Research and Education Centre (TIDREC), Universiti Malaya, Malaysia	Dengue: Old disease needing innovative solution
12:00-12:30	Gong Cheng Tsinghua University, China	A naturally isolated symbiotic bacterium suppresses flavivirus transmission by Aedes mosquitoes



Gong Cheng

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Dr. Gong Cheng, a professor at Tsinghua University and the director of the School of Basic Medical Sciences, focuses his research on unraveling the complex interactions at the mosquito-virus-host interface. His work aims to identify crucial factors that influence viral pathogenesis, transmission, and immunity, with the goal of developing innovative strategies to curb the spread of viral diseases in nature. Dr. Cheng has made significant contributions to the field, with publications in top-tier journals such as *Science*(2024), *Cell* (2022), and *Nature*(2017). His achievements have been recognized with many prestigious awards, including the First Prize of the Natural Science Award of MOE in 2023, the New Cornerstone Investigator Award in 2023, and the Science Xplore Award in 2022.



George K. Christophides

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Professor George K. Christophides, FRSB, is a renowned expert in vector-pathogen interactions and disease transmission. He holds the position of Chair of Infectious Diseases and Immunity at Imperial College London. His research has significantly advanced our understanding of mosquitoes, malaria, and insect immunity. He has led major international scientific collaborations and organizations and has played a key role in shaping educational policy. Recognized for his pioneering work in mosquito genomics and insect immunity, he has developed innovative approaches to combat malaria. His work effectively connects laboratory research with field studies, particularly in sub-Saharan Africa, to enhance disease control strategies.



Qiyong Liu

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Dr. Qiyong Liu completed his undergraduate study at the Department of Biology of Shandong University in China. He obtained a Master of Sciences and a PhD in Public Health in Griffith University, Australia. He is the Chief Expert of Vector Control and Chief Scientist for Health Adaptation to Climate Change in Chinese Center for Disease Control and Prevention. He has also served as the head of World Health Organization Collaborating Centre for Vector Surveillance and Management since 2012. He is the PI for vector borne diseases in National Key Laboratory of Intelligent Tracking and Forecasting for Infectious Diseases. His work has been recognized globally through more than three hundreds of scientific publications in well-regarded international journals including *Lancet*, *Nature*, *Nature Communications*, *PNAS* and *Parasites & Vectors*.



Julien Pompon

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Dr. Julien Pompon is a professor at the Institute of Research for Development (IRD) in Montpellier, France. His research focuses on the triangular interaction between mosquito, the host and viruses to reveal novel targets to develop strategies for controlling arbovirus transmission. His pioneering research has revealed that lipids play a critical role in these interactions, opening up potential new avenues for targeted interventions. Dr. Pompon's innovative approach to vector-borne diseases has resulted in numerous publications that enhance our understanding of mosquito biology and viral transmission mechanisms, contributing valuable insights to the field of infectious disease research.



Sazaly BinAbuBakar

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Professor Sazaly BinAbuBakar is the director of the Tropical Infectious Diseases Research and Education Centre (TIDREC) and the WHO Collaborating Centre for Arbovirus Research and Reference at the University of Malaya, Kuala Lumpur, Malaysia. With over 25 years of experience, his research focuses on emerging infectious diseases, particularly dengue and other arboviruses. He played a pivotal role in drafting Malaysia's Biosafety and Biosecurity Policy and Guidelines and has been instrumental in establishing Malaysia's first fully certified modular biocontainment level 3 laboratory (BSL3), as well as the country's first mobile BSL3. His research continues to concentrate on vector-borne diseases.



Sibao Wang

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Dr. Sibao Wang is a professor at the CAS Center for Excellence in Molecular Plant Sciences and the director of the CAS Key Laboratory of Insect Developmental and Evolutionary Biology at the Chinese Academy of Sciences (CAS). His research primarily focuses on the molecular interactions between insects, pathogens, and microbiota, aiming to develop innovative strategies for controlling insect pests and preventing mosquito-borne diseases. Prof. Wang has contributed extensively to prestigious journals, including *Science* (2017, 2021), *Cell Host & Microbe* (2023), *Nature Microbiology* (2021), *Nature Aging* (2024), and others, showcasing his significant impact in the field of molecular biology and insect research.