



INTERNATIONAL VECTOR- BORNE DISEASES CONFERENCE (IVBDC)

21-23 November 2023

Scientific Programme

Day 1 – Vector Control Strategies, Vector Dynamics & Disease Transmission	
0830 - 0930	Registration of Participants
0930	Welcome Address by Prof Chng Wee Joo Vice President for Biomedical Sciences Research at NUS, and Vice Dean for Research at Yong Loo Lin School of Medicine, NUS.
Opening session Chair: Prof. R. Manjunatha Kini	
0945	Keynote speaker: Georges Christophides (Imperial College, UK) Gene drives for vector population replacement and malaria transmission zero
1020	Invited speaker: Chong Chee Seng (Environmental Health Institute, Singapore). Fighting <i>Aedes aegypti</i> with Wolbachia- <i>Aedes aegypti</i>
1045	Guest of Honour: SPS Baey Yam Keng (Ministry of Sustainability and the Environment, Singapore)
1100	Coffee/Tea Break
Session 1: Vector control strategies Chair: Prof. R. Manjunatha Kini	
1130	Invited speaker: Olaf Horstick (University of Heidelberg, Germany) Dengue vector control: what works best? Are there answers from evidence synthesis?
1155	Selected Speaker: Piyatida Leelagud (National Chung Hsing University, Taiwan) <i>Pseudomonas entomophila: a potential alternative for the management of pyrethroid-resistant Aedes aegypti</i>
1220	Invited Speaker: Johanna Fraser (Monash University, Australia) Defining the antiviral mechanisms of Wolbachia; the bacterium protecting communities from mosquito-borne viruses.
1245	Lunch
Session 2: Vector dynamics & Disease transmission Chair: Dr Nalini Puniamoorthy	
1400	Keynote Address: Jason Rasgon (Penn State Uni, USA) Pitfalls and breakdown points in the use of Wolbachia to control vector-borne diseases.
1435	Invited speaker: Jamal I-Ching Sam (University of Malaya, Malaysia) Circulating chikungunya virus variants in Malaysia and potential implications for mosquito vectors and humans
1500	Selected speaker: Kelvin Ho (Animal and Veterinary Service, National Parks Board, Singapore) Tick and canine tick-borne disease biosurveillance in free roaming dogs and animal establishments in Singapore: 2019-2023
1515	Invited speaker: Indra Vythilingam (University of Malaya, Malaysia) Current status of simian malaria and its vectors in Southeast Asia.

1540	Selected speaker: Zhen Yuan Yeo (Department of Physics, NUS, Singapore) Inferring the hidden and long-range dengue transmission routes in Singapore.
1555	Invited speaker: Christopher Ang (Environmental Health Institute, Singapore) Detection and characterisation of the lineage I insect-specific flavivirus, Quang Binh virus, from rural caught mosquitoes in Singapore
16.20	Coffee/Tea break
Session 3: Vector dynamics & Disease transmission	
Chair: Dr Cheong Huat Tan Wilson	
1650	Invited Speaker: Sazaly Bin Abu Bakar (University of Malaya, Malaysia) Dengue Virus, Mosquitoes and Host in Shaping Major Dengue Outbreaks.
1715	Selected speaker: Julie Reveillaud (University of Montpellier, France) Wolbachia plasmid pWCP is widely distributed and highly conserved in <i>Culex pipiens</i> and <i>Culex quinquefasciatus</i> mosquitoes worldwide
1730	Invited Speaker: Nalini Puniamoorthy (NUS, Singapore) Polyandry, population structure and Wolbachia infections in <i>Aedes albopictus</i> across Singapore.
1755	Invited Speaker: Jingwen Wang (Fudan University, China) The influence of tryptophan metabolism on Plasmodium transmission in mosquitoes
1820	End of day 1

Day 2 - Vector Biology

Session 4: Vector-pathogen interactions

Chair: Dr Guillaume Carissimo

0900	Keynote Address: Bruce Hay (Caltech, USA) Engineering the composition and fate of wild populations with gene drive
0935	Invited speaker: Leen Delang (Rega Institute, Belgium) Classic and new antiviral strategies to treat infections with mosquito-borne viruses.
1000	Selected speaker: Milly Ming-Ju Choy (Duke-NUS, Singapore) Species- and tissue-specific micro-evolution of dengue virus in <i>Aedes aegypti</i> and <i>Aedes albopictus</i> mosquitoes.
1015	Invited speaker: Claudia Rückert (University of Nevada, USA) Defining mechanisms of viral dsRNA sensing in vector mosquitoes
1040	Coffee/Tea Break

Session 5: Vector Microbiota

Chair: Dr Guillaume Carissimo

1110	Invited Speaker: Cheng Gong (Tsinghua University, China) Skin Microbiota, Host Volatiles and Viral Transmission by Mosquitoes
1135	Invited speaker: Emilie Pondeville (Glasgow University, UK) Microbiota-nutrition-physiology interactions in mosquitoes: treat and trick?
1200	Invited speaker: Wang Si Bao (Shanghai Institutes for Biological Sciences, China) Mosquito Microbiota and Implications for Disease Control
1225	Selected speaker: Cassandra Koh (Institut Pasteur, Université Paris Cité, Paris, France) Exploring the virome of five mosquito genera across diverse geographic regions.
1240	Lunch

Session 6: Vector-Pathogen interactions

Chair: Dr Cai Yu

1400	Keynote Address: Manjunatha Kini (NUS, Singapore) Role of Vector Saliva in Vector-Virus-Host Trilateral Interactions
1435	Invited speaker: Julien Pompon (Institute of Research for Development (IRD); France) Lipids in mosquito saliva enhance transmission for multiple flaviviruses
1500	Invited speaker: Guann-Yi Yu (National Institute of Infectious Diseases and Vaccinology, National Health Research Institutes, Taiwan). Highly pathogenic DENV-2 strain in mosquitoes and mouse models
1525	Selected speaker: Hong-Guan Tee (National Health Research Institutes, Taiwan) Cryptochrome-1 Influences Circadian Clock Resetting and Morning Activity Levels in <i>Aedes aegypti</i>

1540	Coffee/Tea break
	1600-1800
	Poster Session
1800	End of Day 2
1830	Gala Dinner (on invitation only)

Day 3 – Pathogen fitness and virulence in its mammalian host and treatment approaches

Session 7: Pathogen fitness and virulence in its mammalian host

Chair: Prof Laurent Renia

0900	Keynote speaker: Sylvie Alonso (Infectious Diseases Translational Research Programme, NUS, Singapore) Viral determinants of DENV fitness and virulence
0935	Invited Speaker: Wan Yue (A*STAR Genome Institute of Singapore, Singapore) RNA structure and interactomes of RNA viruses
1000	Selected Speaker: Yueh Hsin Ping (National Yang Ming Chiao Tung University, Taipei, Taiwan) Uncovering novel roles of Dengue virus-induced autophagy during the early infection stage by single-virus tracking
1015	Invited speaker: Pablo Bifani (Infectious Diseases Translational Research Programme, NUS, Singapore) Rapid selection of drug resistant mutants for target deconvolution and drug discovery in viruses
1040	Coffee/Tea Break

Session 8: Pathogen fitness and virulence in its mammalian host

Chair: Prof Laurent Renia

1110	Invited Speaker: Marco Vignuzzi (A*STAR IDLabs) Arbovirus population dynamics: the role of defective viral genomes in inhibiting or facilitating virus emergence
1135	Selected speaker: Ruyue Liu (Pharmacy, NUS, Singapore) Characterization of naturally occurring Flavivirus host-specific mutations.
1150	Invited Speaker: Amit Sharma (All India Institute of Medical Sciences) From structural biology to epidemiology
1215	Selected speaker: Carla Bianca L. Victorio (Cancer & Stem Cell Biology Programme, Duke-NUS, Singapore) Positron emission tomography (PET) imaging biomarkers of dengue and Zika disease in mouse models.
1230	Lunch

Session 9: Prophylactic and Therapeutic approaches against Vector-Borne pathogens

Chair: A/P Sylvie Alonso

1400	Keynote speaker: Laurent Renia (Nanyang Technological University, Lee Kong Chian School of Medicine, Singapore) New insights in <i>Plasmodium vivax</i> malaria biology
1435	Selected speaker: Amanda Leow (Nanyang Technological University, School of Biological Sciences, Singapore)

	TNF α promotes sexual conversion of <i>Plasmodium falciparum</i> via a serine/threonine kinase.
1450	Invited speaker: Jody Peters (University of Queensland, Australia) Harnessing recombinant mosquito-specific viruses to tackle emerging One Health viral diseases.
1515	Selected speaker: Sébastien Nisole (Institut de Recherche en Infectiologie de Montpellier (IRIM), Montpellier University, CNRS, France). Identification of Interferon-stimulated genes that interfere with the replication of West Nile and Usutu virus.
1530	Invited speaker: Julien LESCAR (Nanyang Technological University, Lee Kong Chian School of Medicine, Singapore) Identification and structural validation of purine nucleoside phosphorylase from <i>Plasmodium falciparum</i> as a target of MMV00848.
1555	Coffee/Tea Break
1625	Keynote speaker: Paul Pronyk (Centre for Outbreak Preparedness, Duke-NUS) The state of genomic pathogen surveillance in Asia and implications for Vector-borne Diseases
1700	Award Ceremony and Closing Remarks (chairs)
17.15	End of the conference