9 SEPT 2017	Asia Malaria Images Exhibition **Opening Talk** Venue : The Pod, Level 16, National Library Board, 100 Victoria Street Singapore 188064
Time	**Programme**
13:30 – 14:00	Registration
14:00 – 14:15	**Opening Speech by GOH**
14:15 – 14:45	**Professor J. Kevin Baird** Head of Eijkman Oxford Clinical Research Unit, Jakarta Topic : Opening Address & Introduction Asia Malaria Images Exhibition
14:45 – 15:15	**Professor Laurent Renia** Head of Singapore Immunology Network (SIgN Agency for Science, Technology & Research (A*Star) Topic: Malaria in Singapore before and after elimination.
15:15 – 15:45	**Professor Francois Nosten** Director of Shoklo Malaria Research Unit, Mahidol Oxford Clinical Research Unit, Bangkok Topic : Plasmodium falciparum resistance to artemisinins : Who cares? What can be done?
15:45 – 16:15	**Tea Break**
16:15 – 16:45	**Professor Peter Preiser** Chair, School of Biological Science, Nanyang Technological University Topic : Malaria research in the genome area – finding new solutions to tackle an old enemy.
16:45 – 17:15	**Associate Professor Kevin S W Tan** Associate Professor, Laboratory of Molecular and Cellular Parasitology ; Assistant Dean (Graduate Studies), Yong Loo Lin School of Medicine; Head (Innovation in Graduate Studies),National University Health System, NUS Topic : Bursting the Belly of the Beast : New Therapeutic Strategies against an old foe
17:15 – 17:45	**Question & Answer** Host by Professor J. Kevin Baird

Introduction to Speakers

Professor J. Kevin Baird

Director of Eijkman Oxford Clinical Research Unit, Jakarta

Professor J. Kevin Baird earned a B.Sc. in Microbiology and a M.Sc. in Biochemistry from University of Maryland in 1980 and 1983, and a Ph.D. in Medical Zoology from Tulane University School of Public Health and Tropical Medicine in 1994. He began working on malaria at the Division of Experimental Therapeutics at Walter Reed Army Institute of Research in 1981. He was commissioned into the US Navy Medical Service Corps in 1984 and over 22 years of active duty served four permanent assignments at US Naval Medical Research Unit #2 in Jakarta, Indonesia, along with assignments to Philippines, Ghana, Peru and Washington, DC. Since 2007 Prof. Baird has directed the Eijkman-Oxford Clinical Research Unit in Jakarta on behalf of Oxford University, where he is Professor of Malariology, Nuffield Department of Medicine. An internationally acknowledged expert on *Plasmodium vivax* malaria, he serves on several committees, working groups, and review groups at the World Health Organization's Global Malaria Program.

Title: Invisible Asia Pacific Malaria

Most of us think of malaria as an African problem, a likely consequence of the widespread poverty, geographic isolation, chronic conflicts, and poor economic development of much of that continent. In the Asia-Pacific, in contrast, we have booming economies, hundreds of millions being lifted out of poverty, incredible transportation and telecommunications links, and relative peace and political stability. Among the 20 most powerful national economies in the influential G20, six are in the Asia-Pacific. Asia-Pacific schools produce students representing nations that consistently fill the top 5 rankings in abilities in mathematics, reading, and science.

Despite the long march of extraordinary progress out of regional poverty and conflict, malaria in the Asia-Pacific remains a very significant public health threat and burden. Over 2 billion Asians live at risk of endemic malaria, many tens of millions are infected (perhaps as many as several hundred million) each year and

tens of thousands of those do not survive (perhaps as many as several hundred thousand). We cannot be sure of those numbers because the people who live with malaria in the Asia-Pacific are invisible – the most isolated, poor, and voiceless. This exhibition is about them. Pearl Gan's artistry introduces us to these invisible people, giving them flesh, blood, feelings, and lives.

Professor Laurent Renia

Executive Director

Singapore Immunology Network (SIgN), A*Star

Professor Laurent Renia is currently the executive director of the Singapore Immunology Network (SIgN). Laurent Renia obtained his PhD in 1991 Universite Pierre et Marie Curie in Paris, France where he studied the immune response against the pre-erythrocytic phase of malaria. He continued to work on malaria immunology in New York University (1991-1992). He then returned to Paris in 1993 where he obtained a permanent position as junior research scientist at the French national of Institute of Health (INSERM) working on malaria immunology in the INSERM Unit 313 at the Hôpital Universitaire Pitié-Salpêtrière. He moved to the INSERM Unit 445 at the Institut Cochin in Paris where he started his own group in 1997. Between 2001-2006, he became research director at INSERM, co-director and director of the Department of Immunology at the Institut Cochin. He joined SIgN in 2007. He holds adjunct Professorships with the Department of Microbiology, Yong Loo Lin School of Medicine at the National University of Singapore, at the School of biological Sciences, Nanyang technological University in Singapore, and is an associated laboratory to the French National Institute of Health (INSERM). He has published more than 200 articles and book chapters. He is an Academic Editor for Infection and Immunity, *PLoS ONE, Infection and Immunity, Microbial Pathogenesis and Frontiers in Immunology.*

Title: Malaria In Singapore: Then and Now

Singapore is the only malaria-free country in the region, a status it enjoys since the 1970's. Before that, Singapore was plagued with the disease and high morbidity was

observed. Mortality peaked during the war time when most public health services could not function properly. Thanks to the development of a powerful and cheap drug, chloroquine, and the use of DDT, a very efficient insecticide, together with efficient and dedicated public health services and strong state commitment, malaria was eliminated from Singapore. However, the Anopheles, the mosquito which transmits the malaria parasite, is still present in Singapore. This is the reason why limited outbreaks are observed when people infected come to Singapore and can allow transmission of the parasite to the mosquito. Hopefully, the National environmental health agency has been able to control these outbreaks. However, the future is uncertain since mosquitoes are becoming resistant to insecticides and the malaria parasites resistant to many antimalarial drugs. Keeping Singapore free of malaria will require constant surveillance system and development of new methods to fight these deadly diseases.

Professor Francois Nosten
Director of Shoklo Malaria Research Unit, Mae Sot
Mahidol Oxford Clinical Research Unit, Bangkok

Since 1986 François Nosten has been Director of the Shoklo Malaria Research Unit (SMRU) on the Thai-Myanmar border, as part of MORU, a 35 year collaboration between the University of Oxford and the Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand that is largely funded by the Wellcome Trust. SMRU now employs over 450 staff, provides health services and conducts research on malaria, leptospirosis, rickettsial infections, acute respiratory infections, dengue, tuberculosis and other communicable diseases afflicting populations on the border. SMRU has also a strong interest in Maternal & Child Health issues and conducts prospective studies on the effects of infections and nutritional disorders on foetal growth and the development of the child.

A professor of tropical medicine at Oxford since 2006, François was awarded the Chalmers Medal by the Royal Society of Tropical Medicine and Hygiene in 2002,

the Prix Christophe and Rodolphe Merieux in 2008 and the TWAS Regional Price for Science Diplomacy in 2014. He was made fellow *ad* eundem of the Royal College of Obstetricians and Gynaecologists and Honorary International Fellow of ASTMH in 2013. François's particular interests include the epidemiology, pathophysiology and treatment of malaria and other communicable diseases as well as maternal and child health and the interface between research and humanitarian assistance.

Title: Plasmodium Falciparum Resistance to Artemisinins: Who cares? What can be done?

There is an on-going debate in the malaria community as to whether artemisinin resistance in P.falciparum is really resistance and whether we should worry about it. There are also divergent opinions on how best to tackle the problem (if any). The presentation will summarize what we know (and what we still don't know) about artemisinin resistance and what is being done to combat it in South East Asia.

Professor Peter Rainer Preiser

Chair, School of Biological Science, Nanyang Technological University

Professor Peter Rainer Preiser is the Chair of the School of Biological Sciences and a Professor of Molecular Genetics & Cell Biology at the Nanyang Technological University (NTU). He obtained his Doctor of Philosophy in Biology from University of Delaware, USA, in 1981. After his postdoctoral appointment at Worcester Foundation for Experimental Biology, USA, Prof Preiser joined London's National Institute for Medical Research as a Senior Research Scientist. In 2003 he left London to join NTU's School of Biological Sciences (SBS) as an Associate Professor and was later promoted to full Professor in 2009. His research interests focus on the molecular mechanisms by which the malaria parasite is able to avoid host immunity and adapt to changes in the host cell environment. He has extensive experience in malaria biology and developing quantitative proteomic approaches along with transcriptional profiling to understand complex biological processes in relation to host parasite interaction. Also an active member of the infectious disease inter-disciplinary research group with the Singapore-MIT Alliance for Research and

Technology (SMART), Prof Preiser has collaborated with top research institutes around the world and has published over 100 top-quality international journal papers.

Title: Malaria research in the genome area – finding new solutions to tackle an old enemy.

Technology has had a huge impact on how research in biology and biomedicine is carried out today. Genome sequencing form humans to animals to plants to infectious diseases have provides us with a wealth of information. The genome sequences of human malaria parasites have been available for now over a decade. This has provides us with a unique opportunity of tackling this important human disease. My talk will focus on how genomics and other novel technologies have increased our understanding on the parasite and how this can be used to support the global effort to eliminate/eradicate this parasite.

Associate Professor Kevin Tan

Associate Professor, Laboratory of Molecular and Cellular Parasitology
Assistant Dean (Graduate Studies), Yong Loo Lin School of Medicine
Head (Innovation in Graduate Studies), National University Health System, NUS

Kevin SW Tan is Associate Professor at the Department of Microbiology, National University of Singapore. He is also Founding Director of BioLynx Technologies, a local biotech spinout company, focusing on the commercialization of molecular probes as research tools. His curiosity for parasites originated from his graduate student days at NUS and blossomed during his postdoctoral stint at The Rockefeller University, New York City. He is relieved to be awarded tenure in 2011, and can now spend more time on social issues, such as public science education. Kevin's research focuses on understanding how parasites commit suicide and exploiting such knowledge to trigger death mechanisms as an anti-parasite strategy. He is also interested in the problem of drug resistance and his team has recently come up with new ways to find drugs that overcome resistance. He hopes that the research from his team would accelerate the finding of new cures for parasitic diseases.

Title : Bursting the Belly of the Beast : New Therapeutic Strategies against an Old Foe

Malaria is an infectious disease of global importance, claiming hundreds of thousands of lives annually. A major hurdle to malaria eradication is the problem of drug resistance. Drugs with new mechanisms of action are urgently required. Our laboratory has identified a novel drug-induced death pathway that involves the digestive vacuole (DV) of the malaria parasite. Using a high content imaging system, we have identified new and old drugs that disrupt the parasite DV, resulting in parasite death. Exploiting our knowledge on death pathways, and combining this with cutting-edge high content cytometric approaches, has enormous potential in accelerating drug discovery.

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Limited seats are available; kindly rsvp your attendance with Pearl Gan by 15th August 2017.

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