



## 16th ThaiTECT Annual Meeting 2016



Faculty of Tropical Medicine, Mahidol University together with Thailand Towards Excellence in Clinical Trials (ThaiTECT) hosted 16th ThaiTECT Annual Meeting 2016 with the theme "From Pre-Clinical to Early Phase Clinical Trials: Challenges and Opportunities in Translational Research" during 4-5 August 2016 at the Sukosol, Bangkok, Thailand.

At the meeting, Prof. Dr. Yongyuth Yuthavong, Former Deputy Prime Minister, Former Minister of Science and Technology and Senior Specialist to National Science and Technology Development Agency (NSTDA) delivered a keynote lecture titled "Policy challenges for medical product development in Thailand".



The 2nd Symposium on Health and Biodiversity: Translating Research to Action on 12 July 2016





## Dr. Sylvia Meek's contribution to malaria elimination in Asia

It is with deep sorrow that Malaria Consortium must announce the passing of Dr. Sylvia Meek, Malaria Consortium's Global Technical Director, on 11th May 2016, after an 18-month battle with cancer.

Sylvia's contribution to the fight against infectious disease, and malaria in particular, through her own, and Malaria Consortium's work, cannot be overstated. From her ground-breaking work as an entomologist to her high-level policy work, she placed Asia in the epicentre of this fight.

Originating from Hull in Northeast England, Sylvia had a passion for the environment and disease control that led her to study Zoology at Oxford and later Animal Parasitology at the University College of North Wales, Bangor, followed by a PhD in mosquito genetics and control at the London School of Hygiene & Tropical Medicine and Liverpool School of Tropical Medicine. Her research at the London School laid some of the early foundations for current work on what are now termed 'Wolbachia-infected mosquitoes'.

### Sylvia as an entomologist

One of her dear friends, Dr. Jeffrey Hii, Senior Vector Control Specialist at Malaria Consortium, remembers sharing a laboratory with Dr. Sylvia Meek back in 1979-1980 when she was studying the inheritance of susceptibility to infection with *Brugia pahangi* and *Wuchereria bancrofti* in the *Aedes scutellaris* group of mosquitoes. These were the days before the advent of DNA sequencing techniques, so laboratory crosses were complex. Nevertheless, Sylvia was later able to show from these laboratory crosses that geographical isolation has probably been a very important factor in speciation within the *Ae. scutellaris* group (Meek, 1988).

During 1985 to 1989, Jeffrey and Sylvia's paths crossed twice. "Firstly Sylvia joined our entomological team in the Bone-Dumoga forest reserve, in north Sulawesi during the 1985 Project Wallace expedition organised by the Royal Entomological Society of London and Indonesian Institute of Sciences (LIPI)," he recalls. "She assisted in larval collections which led to the re-description of *An. (Cellia) sulawesi Waktodi*, a hitherto incompletely described species."

"We then met again in Chiang Mai where Sylvia informed me of her new job as World Health Organization (WHO) malaria adviser for the antimalarial programme in the Solomon Islands. We both participated at a WHO Special Programme for Research and Training in Tropical Diseases consultation on forest malaria in 1989 in Chiang Mai, Thailand. Sylvia's presentation on forest malaria formed the basis of her landmark paper on 'Vector control in some countries of Southeast Asia: comparing the vectors and the strategies' (Meek 1995<sup>1</sup>)."

Throughout her career, Sylvia kept research close to her heart, contributing her expertise to shaping the various studies conducted in the Asia region.<sup>2</sup>

"During the past two years in Malaria Consortium, I have had the pleasure to work with Sylvia in research about ways to improve access to interventions that have been shown to work but have not reached many of the people who could benefit from them," Jeffrey says.



Dr. Sylvia Meek presenting at JITMM in Bangkok, 2013 (©Malaria Consortium)

### From research to helping refugees

Sylvia's work with WHO took her around the world, during which time she gained the nickname 'Mosquito Sylvia'. She also worked with the World Food Programme and the United Nations Development Programme, setting up and running disease control programmes for 200,000 refugees.

Dr. Prudence Hamade, Malaria Consortium Senior Technical Advisor, another close friend and colleague describes this experience: "Sylvia worked in the refugee camps along the Thai-Cambodia border and although an entomologist she was soon diagnosing and treating malaria among the many patients there as well as doing her work and research into the entomology and providing protection for the refugees. During her stay there she had dengue at least a couple of times and has described to me how she lay on the floor of a hut with a high fever and had to get up and travel on the next day."

### Regional expertise and policy advice

Prudence continues, "She was instrumental in conducting the Cambodia malaria indicator surveys, the first of their kind in the Greater Mekong Subregion in 2004. In 2007 she supported both Thailand and Cambodia to develop their Global Fund bids and conducted Malaria Programme Reviews in Thailand and Myanmar to advise governments on how to improve their malaria programmes.

At WHO Technical Expert Group meetings, Sylvia provided well-thought logical arguments and brought the Asia view to the WHO



Malaria Policy Advisory Committee (MPAC) which helped to drive some of the key policy changes related to malaria control and elimination in Asia. Through MPAC and drug resistance WHO regional meetings, Sylvia contributed to the recommendations of the treatment policies for Cambodia, a country particularly affected by multi- drug resistance. She was also an active member of the Emergency Response to Artemisinin Resistance (ERAR) in the Greater Mekong Subregion working groups.

"Sylvia's impact on Malaria Consortium and our partners was, and continues to be, immense," says Jeffrey. "She was an inspiration and everything we could ever admire in our profession and our personal lives. Sylvia's values will be carried on by those she mentored, collaborated with and taught, and her inspiration has instilled a generation of malaria programme staff and entomologists in Solomon Islands, Greater Mekong Subregion, sub-Saharan Africa and elsewhere. She will be remembered for her subtle sense of humour, her enormously infectious curiosity and enthusiasm, her friendship and kind and generous nature."



*Dr Sylvia Meek surrounded by her colleagues at the Malaria Consortium Asia retreat 2015 in Thailand (©Malaria Consortium)*

<sup>1</sup> Meek, S.R. (1995). 'Vector control in some countries of Southeast Asia: comparing the vectors and the strategies'. *Ann Trop Med Parasitol*; 89: 135-147.

<sup>2</sup> Non exhaustive list of some of Dr Sylvia Meek's recent publications: Hustedt J, Canavati SC, Rang C, Ashton RA, Khim N, Berne L, Kim S, Sovannaroeth S, Ly P, Ménard D, Cox J, Meek S, Roca-Feltrer A (2016). 'Reactive case-detection of malaria in Pailin Province, Western Cambodia: lessons from a year-long evaluation in a pre-elimination setting'. *Malaria Journal*.

Edwards HE, Canavati SC, Rang C, Ly P, Sovannaroeth S, Canier L, Khim N, Menard D, Ashton RA, Meek SR, and Roca-Feltrer A (2015). 'Novel cross-border approaches to optimise identification of asymptomatic and artemisinin-resistant *Plasmodium* infection in mobile populations crossing Cambodian borders'. *PLoS One*.

Cox J, Dy Soley L, Bunkea T, Sovannaroeth S, Soy Ty K, Ngak S, Bjorge S, Ringwald P, Mellor S, Sintasath D, Meek S (2014). 'Evaluation of community-based systems for the surveillance of day

three-positive *Plasmodium falciparum* cases in Western Cambodia'. *Malaria Journal*.

Full story online here: <http://www.malariaconsortium.org/blog/dr-sylvia-meeks-contribution-to-malaria-elimination-in-asia/>

## Dengue: A silent issue and a growing problem



*Community health volunteer releasing guppy fish in a water container, Cambodia (©Malaria Consortium)*

To mark ASEAN Dengue Day, Malaria Consortium promoted a short animation called 'Dengue: A silent issue and a growing problem'.

Dengue is one of the fastest growing infectious diseases in the world, spreading from nine countries to over one hundred in the past 50 years. The disease burden has grown from 15,000 cases per year in the 1960s to 390 million today.

Global attention to the disease has not kept pace with its growth. Classified as one of 17 neglected tropical diseases (NTDs), dengue disproportionately harms the poorest and most vulnerable groups yet does not receive the funding needed to defeat it.

Since 2003, Malaria Consortium has focused on a range of health burdens in Asia, including malaria, pneumonia, dengue and other neglected tropical diseases.

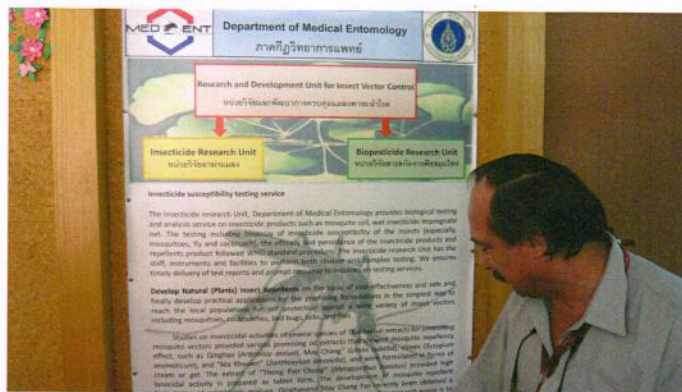
Recently, we have been looking into ways to reduce the mosquito population in Cambodia, where we run an innovative one-year project that focuses on the prevention of dengue by using guppy fish. We introduce these predators in water containers where mosquitos breed, in combination with other innovative approaches.

In Myanmar, which saw its highest ever recorded number of cases in 2015 with 120 confirmed deaths between January and September, we have just completed a one-year dengue project in Hinthada that looks at encouraging positive behaviours in communities to help fight the disease. And just last month, Malaria Consortium launched a study comparing two approaches to rolling out the revised national dengue prevention and control guidelines for health workers. The findings from the study will help to improve dengue prevention and control, especially by complete reporting of dengue cases and will contribute to the early and reliable detection of dengue outbreaks in the country.

Full story online here: <http://www.malariaconsortium.org/news-centre/dengue-a-silent-issue-and-a-growing-problem.htm>



On 21 April 2016, Prof. Tatsuo Shioda, Assoc. Prof. Emi E. Nakayama and Dr. Orapim Puiprom from MOCID were welcomed to the laboratory by Assoc. Prof. Dr. Narumon Komalamisra, Head of Department of Medical Entomology and Asst. Prof. Dr. Ronald Enrique Morales Vargas to learn how to feed mosquitoes.



Dr. Ronald Enrique Morales Vargas explained steps of feeding mosquitoes



Dr. Ronald Enrique Morales Vargas, Dr. Orapim Puiprom, Assoc. Prof. Dr. Narumon Komalamisra, Prof. Tatsuo Shioda and Assoc. Prof. Emi E. Nakayama (from the left to the right)



Prof. Tatsuo Shioda and Assoc. Prof. Emi E. Nakayama attended Asst. Prof. Atsushi Yamanaka's Seminar



On 25 April 2016, Prof. Tatsuo Shioda and Assoc. Prof. Emi E. Nakayama attended Asst. Prof. Atsushi Yamanaka's Seminar from BIKEN on the topic of "Dengue Vaccine Development and Antibody Dependent Enhancement of Infection" on the 5th floor of Chulalongkorn Building, Faculty of Tropical Medicine, Mahidol University.



Dr. Ohashi and Dr. Yanai (from the left to the right)

On 12 May 2016, Assoc. Prof. Dr. Ohashi and Dr. Yanai from the University of Tokyo visited MOCID to discuss and seek the possibility of collaboration on dengue and tuberculosis infections.



Mr. Michael Keith Meno

During 30 May – 28 July 2016, Mr. Michael Keith Meno who is an exchange student from Department of Tropical Medicine, John A. Burns School of Medicine, University of Hawaii, Manoa, United States visits MOCID to observe its activities and learn Microbiology Laboratory program for 9 weeks.





On 16 June 2016, MOCID team organized a mini birthday party for Prof. Tatsuo Shioda. Happy Birthday!

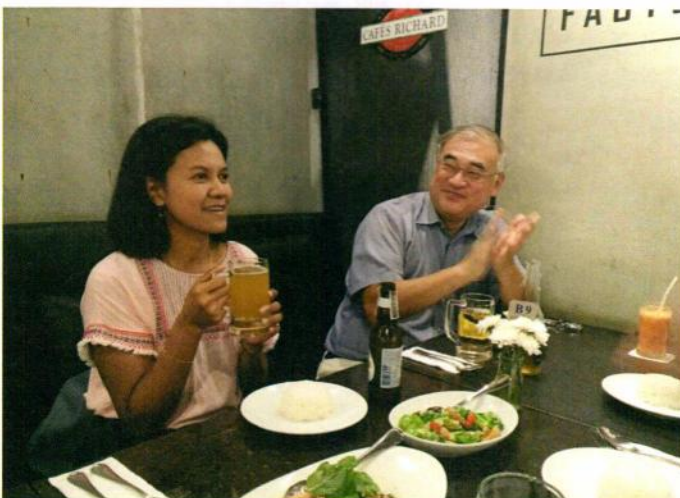
*Happy Birthday to Prof. Tatsuo Shioda!*



*Mr. Aekkachai Tuekprakhon made a presentation to the Qualifying Examination Committee*

### **The Qualifying Examination**

On 20 June 2016, Prof. Tatsuo Shioda attended Mr. Aekkachai Tuekprakhon's Qualifying Examination. Mr. Aekkachai Tuekprakhon who is a PhD student in Tropical Medicine at the Faculty of Tropical Medicine, Mahidol University made a presentation on the topic of "Immune response to Chikungunya virus and their applications" to the Qualifying Examination Committee and passed the examination. Congratulations!



*Dr. Orapim Puiprom and Prof. Tatsuo Shioda  
(from the left to the right)*



*We thank you very much for working with us together*

On 21 June 2016, Prof. Tatsuo Shioda and MOCID team organized a farewell party for Dr. Orapim Puiprom. We thank you very much for working with us together for 10 years and we will always miss you.



BIKEN Endowed Department of Dengue Vaccine Development was established in Faculty of Tropical Medicine, Mahidol University, Thailand, in 2011 by endowment from the Research Foundation for Microbial Diseases of Osaka University, Osaka, Japan to Research Institute for Microbial Diseases, Osaka University, Osaka, Japan. This fiscal year from April 2016 through March 2017 is the last one of the 6-year period under the contract between these organizations. We are happy that at the start of the last year we (Mahidol and Osaka) filed a joint patent application to Japan Patent Office. Our achievement relevant to a new dengue vaccine antigen was evaluated by both universities so that this research result was worth filing a patent application.

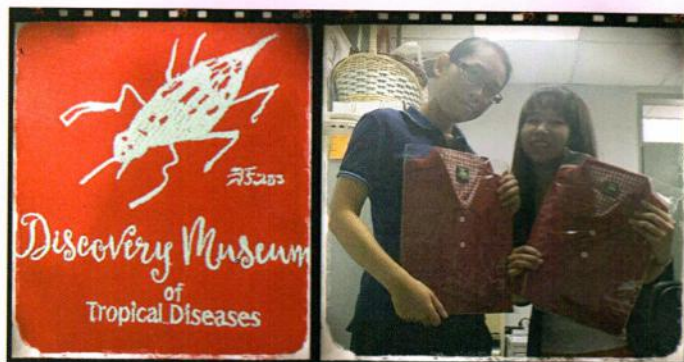
## Congratulatory message

The Faculty of Tropical Medicine (FTM) organized the Opening Ceremony of Discovery Museum of Tropical Diseases on Monday 11 April 2016. On this special occasion, BIKEN was a part of this celebration with a video clip of a congratulatory message.



*Dr. Konishi sent a video clip with a congratulatory message to FTM on behalf of BIKEN.*

In connection with this event, we received polo shirts with Her Royal Highness Princess Maha Chakri Sirindhorn's drawing of a mosquito from FTM. We thank them and greatly appreciate the Faculty inviting us as honored guests to this celebration.



*H.R.H. Princess Maha Chakri Sirindhorn's drawing of a mosquito (left photo), First Lieutenant (Lt1.) Paweena and Ms. Varaporn (right photo) with polo shirts*

On 11 April 2016, members of our department joined the Opening Ceremony of Discovery Museum of Tropical Diseases, but unfortunately Dr. Konishi could not join us because he was in Japan on that day.

## Status of Graduate Students' Academic Research:

Dr. Eiji Konishi continues to be a research co-advisor for 3 graduate students: Ms. Chayada Khamsawad and First Lieutenant (Lt1.) Paweena Manmee, Master students at the Faculty of Public Health, Mahidol University and Dr. Hisham Ahmed Imad, a PhD student in Clinical Tropical Medicine at the Faculty of Tropical Medicine, Mahidol University. In BIKEN Laboratory, Dr. Atsushi Yamanaka supports the students for all laboratory works including consultations to solve problems through experiments when needed.



*From the left to the right, Ms. Chayada, Lt1. Paweena and Dr. Hisham*



## Using drama to fight malaria in rural Cambodia



At the end of June, the Village Drama Against Malaria initiative held its first performance in O Treng (Reed River), a remote rural Cambodian village that suffers from malaria. Over 200 people, more than half the village, attended the performance, which featured five village singers and primary school kids dressed as mosquitoes singing a song about malaria.

Funded by MORU Head of Bioethics and Engagement Phaik Yeong Cheah's Wellcome Trust Provision for Public Engagement award, Village Drama against Malaria uses Cambodian drama, art, music workshops and village concerts to mobilize rural communities to eliminate malaria.

Organised by Ma Sareth, MORU community engagement team, and Dr. Chan Davoeung, head of malaria in Battambang province, with support from MORU Cambodia Targeted Malaria Elimination (TME) team members Rupam Tripuram and Tom Peto, Village Drama Against Malaria will run for about three months and involve roughly 20 villages, targeting those with the most malaria in Battambang province.



The initiative will begin with six villages where MORU is running the TME study. A local drama group works with the local health department to create scripts that are relevant to the villages, which are at risk of malaria in the forests. Prior to each performance, a two day workshop is held at the school with village youths to gather local stories about malaria and get local people to perform on stage. All villagers and local authorities are invited on the third day for a performance with music, karaoke, short health talks, games, and drama.

Visit the Village Drama Against Malaria Facebook page to keep up on performances. The page will be translated into Khmer the first week of July. From 1 July a drone will be used to get flying footage and to simulate a mosquito coming out of the forest.

*-Thank you, Tom Peto, for text and photos*

## Science features MORU mass anti-malaria treatment studies



migrant workers such as this man in Pailin, Cambodia, near the border with Thailand, are at especially high risk of contracting malaria.

Just ahead of World Malaria Day, on 21 April Science magazine published Drug resistance trigger war to wipe out malaria in the Mekong region (<http://bit.ly/1qFWaNS>), the lead in a series of articles covering the facts, challenges, controversies and strategies in the fight against drug-resistant malaria in Southeast Asia. Written by Science Deputy News Editor Leslie Roberts, the series covers antimalarial resistance and the mass antimalarial treatment studies MORU and allies are doing in Southeast Asia. The author visited MORU, SMRU, MOCRU, Myanmar and MORU's field site in Pailin, Cambodia, and interviewed colleagues including Nick White, François Nosten, Arjen Dondorp, Frank Smithuis, Rupam Tripuram, Tom Peto and Mr. Heng.

*-A big thank you to Arjen Dondorp and Tom Peto for sharing this news and to all involved in the interviews*



## Mass antimalarial admin campaign begins in Savannakhet



On Thursday 21 April, a team from the Malaria Station-Savannakhet, LOMWRU and MORU kicked off a mass drug administration campaign (MDA) in Nong district, Savannakhet, Lao PDR. The Laos study is part of the targeted malaria elimination (TME) project.

Funded with grants from the Wellcome Trust and the Gates Foundation, the TME project aims to assess the feasibility and acceptability of MDA in the Greater Mekong Subregion. Other TME studies have already begun in Myanmar, Vietnam and Cambodia. By combining data from all sites, MORU hopes to get a better idea of the impact of the MDA intervention.

Shown, clockwise from top left: Drs. Koukeo, Tiengkham and Mayfong Mayxay assist a villager in taking antimalarial drugs; a blood draw is required for the surveillance to estimate the impact of the campaign; at registration: Each participant is registered and must give consent to participate in the campaign; the team from the Malaria Station Savannakhet, LOMWRU and MORU.

*-With thanks to Lorenz von Seidlein for text and photos*

Richard Maude, Head of Malaria Epidemiology, led a MORU team that discussed with Myanmar officials in Naypyitaw collaborative research between MORU Malaria Epidemiology and the Myanmar Ministry of Health. Held on 21 March, discussions centred around the project Malaria and Dengue Risk Mapping and Response Planning in the Greater Mekong Subregion. Funded by Asian Development Bank, the project will collaborate with disease control programmes to analyse and map disease surveillance data and risk, measure the effect of population movement on disease distribution, and train government staff in geographic information systems (GIS).

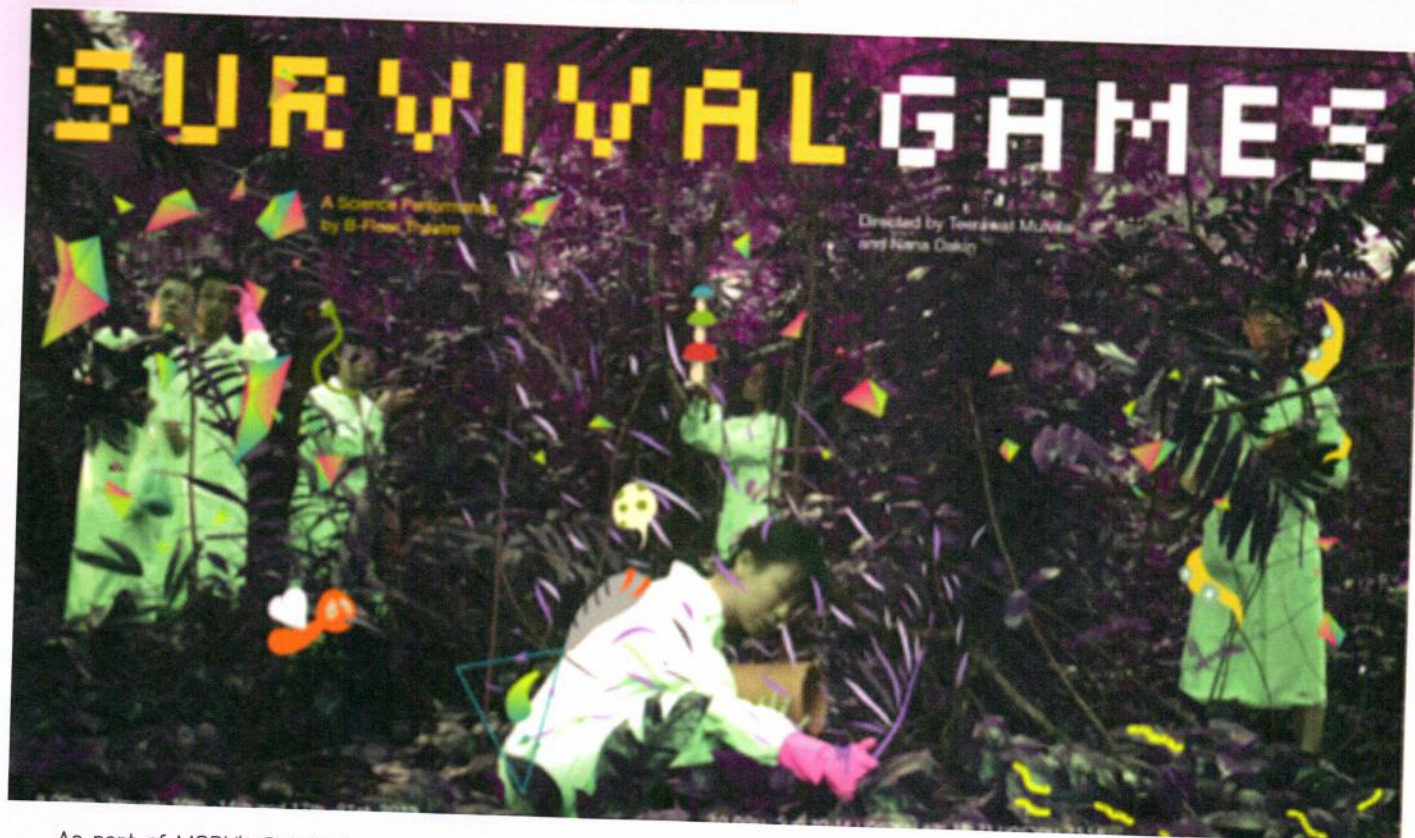
From left: Dr. Shwe Sin Kyaw (Mathematical Modeller, MAEMOD, MORU), Dr. Ye Min Htwe (Deputy Director, Myanmar International Relations Division), Mr. Maung Wynn Zaw (Data Manager, Malaria Epidemiology, MORU/MOCRU), Dr. Richard Maude, H.E. Dr. Thein Thein Htay (Deputy Minister of Health, Myanmar) and Dr. Thandar Lwin (Deputy Director of Vector Borne Disease Control, Myanmar).

## Malaria Epidemiology discusses Myanmar MOH collaboration





B-Floor to produce antimicrobial resistance theatre show



As part of MORU's Public Engagement activities, Bangkok-based theatre company B-Floor Theatre began in April a six-month residency with MORU, focussing on antimicrobial resistance (AMR) and research with children. B-Floor will first explore AMR with MORU's researchers and partners then use this research to develop a puppet theatre show that will tour in November-December 2016. In all, 10 performances are planned, including at the Bangkok Theatre Festival and for SMRU's 30th anniversary celebrations.

The AMR puppet show is part of an exciting programme of public engagement projects to make science more accessible to a wider public including children and young people. B-Floor Theatre previously collaborated with MORU in the Wellcome Trust funded Art-in-Global Health project. This resulted in Survival Games, a performance that was staged in Bangkok in January 2013 about the need for organisms to evolve and survive using the example of melioidosis, an infectious disease common among Thai farmers.

If you would like to talk to B-Floor about your work on these topics, please contact Abby Taylor, Abby@tropmedres.ac, or Phaik Yeong Cheah, Phaikyeong@tropmedres.ac.

*-With thanks to Abby Taylor for text*

#### Detecting *B. pseudomallei* in Laos' river banks

LOMWRU's *B. pseudomallei* water team was caught in action during a sampling campaign in March 2016 in rural Laos on different river banks. The project is a collaboration funded by LOMWRU, the Institut de recherche pour le développement (IRD), Laos, the University of Basel, Switzerland, and the University of Greifswald, Germany. Its objective is to detect *Burkholderia pseudomallei* in major rivers in Laos in relation to biotic and abiotic factors.

Shown in photos are LOMWRU water team members Alain Pierret (top left) and Olivier Ribolzi (top right), environmental scientists from the IRD; Sayaphet Rattanavong (bottom left), a research physician at LOMWRU; and Rosalie Zimmermann (bottom right), a physician and student in geosciences and associated with the University of Basel and LOMWRU.

*-Thank you, Rosalie Zimmermann, for text. Photos courtesy of LOMWRU.*





## Pharmacology's ISO accreditations renewed



In May 2016, MORU's Clinical Pharmacology Department successfully renewed its double ISO accreditation for two more years, department head Joel Tarning reports.

ISO 15189 accreditation demonstrates quality and competency for medical laboratories, while ISO 15190 is designed to assure laboratory personnel safety. With the renewed accreditation Clinical Pharmacology will continue to strive towards excellence in quality while providing a safe work environment. This accreditation is recognised internationally and an important element in establishing and maintaining confidence in the results produced by the laboratory. In 2015, the lab performed and reported over 12,000 drug measurements from clinical studies originating from MORU and also from external collaborators.

Based in newly refurbished facilities, Clinical Pharmacology uses a variety of sample preparation techniques, such as solid-phase extraction and liquid-liquid extraction, in combination with LC-MS, LC-MS/MS and LC-UV methodologies.

Current Clinical Pharmacology equipment includes:

- a high resolution Triple-TOF LC-MS system
- 4 triple-quad LC-MS systems
- 2 ion-trap LC-MS systems
- 3 LC-UV systems
- 1 liquid handler for automated sample preparation
- 2 dried blood spot punching systems

The laboratory has its own QA/QC sub-department and all assays are developed and conducted to international guidelines and full ISO accreditation standards. A main focus of the drug measurement research is the development of high-throughput field-adapted filter paper methodologies.

Besides supporting the on-going research programme across the MORU network, Clinical Pharmacology provides external academic researchers and commercial collaborators an affordable service in High Throughput Small Molecule Analysis and Proteomic, Metabolomic and Lipidomic (PML) analysis.

For more information on MORU Clinical Pharmacology services, kindly contact [joel@tropmedres.ac](mailto:joel@tropmedres.ac).

*-Thank you, Joel Tarning, for this good news!*

## Training held for major Cambodia malaria DNA project

The Genetic Reconnaissance (GenRe-Mekong) team held field training in May for staff at 25 Health Centres in northeast Cambodia to kick off a major project that will collect dried blood spot samples from malaria patients in northeast Cambodia. Coordinated by the Cambodian National Center for Parasitology, Entomology and Malaria Control (CNM), the project will route blood samples from all malaria-positive patients seen by health centres and selected village malaria workers (VMW) to our laboratories at MORU, where parasite DNA will be extracted and sent for genotyping at the Sanger Institute in Hinxton, UK.

The extensive information on drug resistance mutations obtained will be returned to CNM in the form of Genetic Report Cards, which will inform CNM's strategy. The project will also collect information on place of residence and travel history, to produce detailed malaria mapping and improve our understanding of how human movement affects the spread of malaria and drug resistance.



Olivo Miotto, Richard Maude, Xin Hui Chan, Mehul Dhorda and Ranitha Vongprommek travelled to Stung Treng to deliver the training to 35 Public Health Department staff. CNM organised the training, which was led by Dr. Rithea Leang from CNM, and provided language translation. Various aspects of sample collection were covered, including sample preparation, informed consent, and travel information gathering. The training session was an opportunity to distribute sample collection kits to staff, so that collection can start this month.

*-With thanks to Richard Maude for text and Mehul Dhorda for photos*





## New Thai Law on reporting melioidosis

On 18-19 May, MORU's Head of Microbiology Dr. Direk Limmathurotsakul and Senior Scientist Vanaporn (P'Lek) Wuthiekanun were keynote speakers at the 4th National Melioidosis Conference and Workshop on Laboratory Diagnosis, at Khon Kaen University with the collaboration with Dr. Surasuk Wongratanaheewin (Director of Melioidosis Center) and Dr. Soawapak Hinjoy (MOPH, Thailand).

Dr. Soawapak presented details of a new national regulation requiring all Thai hospitals to report melioidosis patient cases. Based on the new infectious disease act announced by the Thai MOPH, <http://www.ddc.moph.go.th/file/pdr58.pdf>, the new regulation aims to show the real burden of melioidosis (culture positive cases and death rates) by consolidating data from microbiology labs and hospitals from across Thailand.

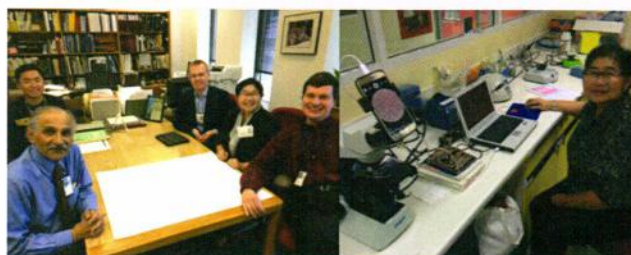
A Thai CDC meeting planned for July aims to set up an integrated data management flow system from hospitals and labs to the CDC within the next 6 months.

*-With thanks to Vanaporn (P'Lek) Wuthiekanun*

## Smartphone app to detect malaria parasites

Richard Maude and Kamolrat (Oye) Silamut from MORU Bangkok visited collaborators at the US National Library of Medicine, National Institutes of Health, Maryland, USA with whom they have been working on a project to develop a smartphone application to detect and count malaria parasites in blood films using standard light microscopy. The developers plan to eventually make the software open access for use by anyone. You can find more details on the project, which is funded by the United States Department of Health and Human Services, at <http://www.hhs.gov/idealab/projects-item/automated-cell-counting-for-malaria-detection/>.

Photos, from left: George Thoma (Engineering Branch Chief, NIH), Hang Yu (Smartphone App Developer, NIH), Richard Maude, Kamolrat Silamut and Stefan Jaeger (Visiting Scientist and Project Lead, NIH). Photo right: Kamolrat Silamut using a smartphone for image acquisition.



## CRP study begins patient recruitment

The C-reactive Protein (CRP) study site initiation visit in Chiang Rai was completed successfully on 18 May, with the study starting patient recruitment the following week. The visit included MORU Clinical Trial Support Group (CTSG) members Aom, Joom and Bencharat, shown here with other CTSG and CRP study team members.

Funded by the Wellcome Trust Institutional Strategic Support Fund, the CRP Study aims to safely reduce antibiotic prescribing in patients with undifferentiated fever in primary settings. It will recruit a total

sample size of 1,200 patients per country, starting with primary care facilities in Chiang Rai, and hopefully extending soon to Myanmar and possibly Laos.



## Advanced BioStats course a big hit

From 30 May-2 June, the Clinical Trials Support Group (CTSG) conducted a 4-day Advanced Longitudinal Data Modelling Statistics. Held at MORU Bangkok, the course drew about 40 participants from Thailand and across the region, with colleagues attending from MORU, SMRU, LOMWRU, COMRU, MOCRU, Mahidol University, from OUCRU in Vietnam and EOCRU in Indonesia.

Organised by CTSG's Statistics team, and funded by MORU, the course was taught by (from front row, 3rd left): Dr. Sophie Zaloumis (University of Melbourne), Dr.

Marcel Wolbers (OUCRU), Prof. Julie Simpson (University of Melbourne) and Dr. Mavuto Mukaka (MORU). Topics covered included: Longitudinal Data Modelling techniques; Multiple imputation for handling missing data; and Case studies.

*-Thank you Mavuto Mukaka for text and photo*



MORU (MORU) 2016  
Surprising Young Persons Group advises Bangkok Hospital  
on healthcare bit.ly/25ZB0re @welcometrust



## Cambodia young persons advisory group hits its stride

Formed to give young people a voice in their healthcare and research conducted COMRU's host Angkor Hospital for Children (AHC), the Young Persons' Advisory Group is going strength to strength with 20 members aged 10-15 years, up from 10 kids since the group started in February 2016. Enthused by what they are doing, the group got together to produce a YouTube video, <http://bit.ly/25ZB0re>, to explain their work.

Supervised by Sreymom Pol, COMRU research assistant, the group meets every month to look at what it means for children to become involved in research, to review hospital operations, and to design health education material for other young people. Sreymom relays their feedback to AHC Managing Director/ MORU Researcher Claudia Turner, who takes their suggestions to AHC's executive committee.

The kids have completed their inspection of AHC and will come up with final suggestions next meeting. They are so committed that they gave up a public holiday to help staff and patients celebrate international children's day on 1 June.

The initiative is funded by head of MORU Bioethics and Engagement Phaik Yeong Cheah's Wellcome Trust grant Provisions for Public Engagement.

*-With thanks to Claudia Turner, Sr Research Paediatrician (COMRU) and AHC Managing Director*

## MAEMOD and FTM hold two week maths modelling course

From 16-27 May, the Mathematical/ Economic Modelling (MAEMOD) team at MORU and the Department of Tropical Hygiene at the Faculty of Tropical Medicine (FTM) Mahidol University, co-organized the Mathematical and Economic Modelling of Infectious Diseases course in Bangkok.

About 30 participants from overseas and Thailand attended the two week course. They learned basic mathematical modelling concepts in both lecture and practical sessions. The course used ball games, group discussions and presentations to enhance students' understanding of mathematical modelling. It also gave them good opportunities to meet, bond and work with colleagues sharing similar interests. Besides Thailand, participants came from Bangladesh, Nigeria, Vietnam, the UK and the USA, among others.

*-Thank you, Divaree Franssen, for text and photos*



## MORU in the News...sneak peak

As part of a melioidosis story he is doing for Geographical, the magazine of the UK Royal Geographical Society, Luke Duggleby, a Bangkok based reporter and videographer, recently visited MORU's study site in Ubon Ratchathani. Luke was grateful to Maliwan, Gumphol and the Ubon team for their time, for patiently answering his questions and helping him get access to doctors and the wards at Sappasithiprasong Hospital, where MORU has done collaborative studies since 1986. Prior to publication, he graciously agreed to share some of his Ubon photos.

*-With thanks to Luke Duggleby for sharing his photos*

*All photos by Luke Duggleby © 2016, [luke.duggleby@gmail.com](mailto:luke.duggleby@gmail.com).*

## MORU in the News



Nick Day's op-ed, Drug resistance threatens Asia's health and economy, drew wide attention after it appeared in the 12 May issue of Asian Nikkei Review. A map showing an estimate of excess deaths by 2040 due to antimicrobial drug resistance, according to a report authored by Jim O'Neill, an influential economist, commissioned by the U.K. government.



TB treatment can be long and keeping patients active is a constant challenge. SMRU's Wang Pha TB village is seeking donations of children books (English preferred as many patients can't read Thai), toys, clothes in all sizes and ages and adult and children's games.

## Please donate to SMRU's TB clinic

In 2009, the Shoklo Malaria Research Unit (SMRU) began a TB treatment program to deal with the large number of tuberculosis cases among the Thai-Myanmar border population coming to its clinics. SMRU now has two TB treatment centres on the border near Mae Sot for patients from Myanmar. The Wang Pha TB centre hosts 90+ patients under treatment including some with multi-drug resistant TB or co-infection with HIV. In many cases, patients' families join them, as the treatment can be long.

*Kindly drop off donations at the 3rd fl MORU Bangkok reception, 60th Anniversary Building, or contact Buaboun (Jan) Ariyalikit, [Buaboun@tropmedres.ac](mailto:Buaboun@tropmedres.ac)*



## SEAMEO TROPMED Network: Highlights of Activities

✚ Bi-regional Meeting of the Technical Advisory Group on the Asia Pacific Strategy for Emerging Disease, WHO-WPRO, Philippines



✚ Regional Dengue Task Force Meeting, WHO-WPRO, Maldives

✚ DAAD- SEAMEO TROPMED Network Alumni Forum, Bangkok Thailand





SEAMEO College Project Module 2 Forum: Promoting Harmonization in Higher Education with special reference to Health Professions, Bangkok, Thailand



6th Interdisciplinary Day Conference: Thailand and the UN Sustainable Development Goals, Bangkok, Thailand



SEAMEO College Technical Working Group (TWG) Meeting Priority Areas and the SEAMEO Action Agenda 2016-2020, Bangkok, Thailand



SEAMEO College Project Management Committee Meeting and SEAMEO Workshop on the Development of the 2035 Education Agenda Roadmap, Bangkok Thailand







**"BePrEPared" PrEP Prescription Service at SCC @TropMed**

Pre-Exposure Prophylaxis (PrEP) is a new prevention method in which people who do not have HIV infection take a pill daily to reduce their risk of becoming infected. Thailand is in early stages of PrEP implementation as PrEP is recommended based on guidance provided in the Thailand Guidelines on HIV Treatment and Prevention 2014. The cost of PrEP is not covered by insurance in Thailand, however it is available with a generic TDF/FTC tablet through the Government Pharmaceutical Organization (GPO) for less than 1 USD a day. To date, about 1000 men have been included in demonstration projects of PrEP in Thailand. Since March 2016, PrEP has been provided at SCC @TropMed to MSM and TGW >18 years at their request under the HIV voluntary counseling and testing services

(VCT). The clients who received VCT are routinely counseled on PrEP, including information about PrEP efficacy, safety, availability and benefits. They are counseled about particular risk groups for HIV. If the client is interested and eligible after a short questionnaire, and results of a creatinine clearance test, he is given a prescription and asked to return monthly for another 2 months to review adherence and safety, and then every 3 months for STI, HIV testing and adherence counseling. Through this service the client will pay for PrEP 800-850 Baht/month. This service is an important part of the HIV prevention package offered at SCC @TropMed and we will monitor this service and the men who receive it over time.



*We have two new staff at SCC @TropMed*

**Welcome new members of TUC/SCC @TropMed**

Dr. Andrew Hickey was appointed as Chief, HIV/STD Laboratory Sciences Section, HIV/STD Research Program (HSRP)/Division of HIV/AIDS Prevention (DHAP), TUC Thailand. Dr. Andrew holds a Ph.D. in Emerging Infectious Diseases from the Uniformed Services University of the Health Sciences in Washington DC area and completed his post-doctorate training at Boston University's National Emerging Infectious Diseases Laboratory, where he performed basic and translational research (vaccine and therapeutics) with dengue and other flaviviruses and RNA viruses such as Hendra and Nipah

viruses, established international collaborative research projects assessing Henipavirus seroprevalence among children and bats in China, led an in-vivo non-human primate study comparing humoral immune responses to dengue virus subtypes, JE virus, and Yellow Fever virus, and led a non-human primate study trial to evaluate a candidate enterovirus 71 vaccine.

Ms. Anchana Chainuwong is a new Study Assistant at SCC @TropMed. She graduated from Faculty of Public Health, Burapha University.



## Refresher Courses: Human Subjects Protection (HSP) and Good Clinical Practice (GCP)



Many of our staff from the HIV STD Research Program, Thailand MOPH US CDC Collaboration (including staff from SCC @TropMed) attended the refresher courses on Human Subject Protection (HSP): Law and Regulation for Human Research on May 10, 2016 and Good Clinical Practice (GCP) on May 16, 2016 on the 5th floor Chalermparakiat Conference Room, Chalermparakiat Building, Faculty of Tropical Medicine, Mahidol University. The goal of the training was to assure the protection of the rights, integrity, and confidentiality of clinical trial participants and to assure that the data and reported results are credible and accurate. Both GCP and HSP are recommended to occur at a minimum of every 3 years for all research staff involved in clinical trials.



### Director General of DDC, MOPH Visit to SCC@TropMed

On June 3, 2016, Dr. Amnuay Gajeena, Director General of Department of Disease Control (DDC), Ministry of Public Health (MOPH) and other senior HIV/AIDS leaders from MOPH visited SCC @TropMed to discuss

HIV/AIDS research collaboration between the Ministry and the Thailand MOPH – U.S. CDC Collaboration (TUC)—a longstanding collaboration which has conducted many studies. The visiting team also took a walking tour of the clinic to better understand how the SCC @TropMed operates and delivers HIV/STI testing services & care, and implements research.

### 2016 HPTN Annual Meeting



The HIV Prevention Trials Network (HPTN) is a worldwide collaborative clinical trials network supported by U.S. NIH that brings together investigators, researchers, community and other partners to develop and test the safety and efficacy of interventions designed to prevent the acquisition and transmission of HIV. Hundreds of researchers, collaborators, community representatives and government health officials from around the world attend the 2016 HPTN Annual Meeting which occurred in Arlington, VA, USA from June 10-15, 2016. There were discussions about the network's scientific agenda and current and planned studies.

SCC @TropMed has been selected to participate in HPTN 083: A Phase 2b/3 Double Blind Safety and Efficacy Study of Injectable Cabotegravir Compared to Daily Oral Tenofovir Disoproxil Fumarate/Emtricitabine (TDF/FTC) for Pre-Exposure Prophylaxis in HIV-Uninfected Cisgender Men and Transgender Women who

have Sex with Men. There are 3 sites conducting the HPTN 083 study in Thailand; Thai Red Cross AIDS Research Centre, Research Institute for Health Sciences (RIHES)/ChiangMai and SCC@TropMed. This study is a novel efficacy trial to evaluate a long acting injectable (Cabotegravir LA) pre-exposure prophylaxis for HIV prevention. Our community representatives also attended the HPTN Annual Meeting and HPTN 083 Community Educator Protocol Orientation and Capacity Building Training to ensure that research participants and the community get more involved during the early stages of the research process and feel ownership of the research





## WORLDWIDE ANTIMALARIAL RESISTANCE NETWORK (WWARN)

### ASIA REGIONAL CENTRE @TropMed

#### Leading international research collaborations support the drive toward elimination

Significant progress in malaria control and elimination has been made since 2000 - malaria mortality rates have fallen by 60 percent and over 6.2 million lives have been saved. However, malaria still remains one of the most devastating diseases. Last year alone, there were over 200 million infections and 438,000 deaths associated with malaria, primarily in children under the age of five in sub-Saharan Africa.

Many people agree that the only way to tackle malaria infection is through a concerted effort across many different disciplines; healthcare, research, policy, community engagement etc. Recently, representatives from five different research groups and networks came together to talk about how collaboration is helping to tackle malaria infection across the world, bringing us closer to the end goal of global elimination. The Oxford-based event highlighted the importance of innovative research initiatives that address the challenges and roadblocks to malaria elimination.

Prof. Dominic Kwiatkowski, Director of MalariaGEN, a scientific network that connects researchers and clinicians in malaria-endemic countries with cutting-edge DNA sequencing technologies and genomic research, spoke about how advances in sequencing technology are providing us with more and more information. "Current maps are based on the number of people infected but there are knowledge gaps in what's happening within the parasite population."

He explained that with these advances in genomic technology, we'll soon be able to delve into specific behaviour patterns of parasite populations which will help inform prevention and elimination strategies. Prof. Kwiatkowski stated that setting realistic goals and roadmaps would help to make malaria elimination a reality.

The Malaria Atlas Project (MAP) brings together researchers based around the world with expertise in a wide range of disciplines from public health to mathematics, geography and epidemiology to generate new and innovative methods of mapping malaria risk. Dr. Katherine Battle represented MAP by discussing the groups' development in understanding the distribution of *Plasmodium vivax* infection, the lesser-understood malaria parasite.

"As things progress towards elimination and strong control, we get better at finding and recording malaria cases." This move towards case reduction and control in many countries has allowed the MAP team to develop more fine scale resolution maps that stratify malaria to enable global health institutions

and governments to refine their malaria control strategies and a move towards elimination.

Prof. Philippe Guérin from the WorldWide Antimalarial Research Network gave an overview of the history of antimalarial drug resistance. He highlighted how history is repeating itself with the emergence of resistance to the current first line treatments against falciparum malaria, artemisinin derivatives, in many countries in Southeast Asia. Prof. Guerin emphasized the danger of this becoming a major roadblock to elimination and that has the potential to undo much of the progress achieved in malaria control over the past decade. "We need to collectively react to the threat of antimalarial drug resistance and ensure that artemisinin combination therapies remain efficacious for as long as possible as we currently have no other alternative. Maintaining the efficacy of these drugs is essential."

The panel were asked whether they felt positively or negatively about the feasibility of malaria elimination in the future. The overall perception was of cautious optimism. They felt elimination was possible but many obstacles are currently slowing the pace of our progress.

Dr. Sumi Biswas from the Jenner Institute discussed how their work to develop an efficacious malaria vaccine will go a long way in reducing the number of people who fall ill and die from malaria, strengthening elimination efforts across malaria endemic regions. Prof. Nick White, from the Mahidol-Oxford Research Unit (MORU) in Thailand, described the challenges of bureaucracy, institutional frameworks and corruption. He stressed that it is only through tackling these problems head-on through international collaborations will it be possible to eliminate malaria.

The overall consensus from the discussion was that elimination of malaria is a huge undertaking. It will need increased investment and collaboration across many different fields. This event emphasised how the teams and networks based at the University of Oxford are working collaboratively both within the University and across the globe through a network of partners to tackle a variety of different challenges, which collectively will support progress toward malaria elimination.

To watch the full version of the talks, visit:  
<http://www.wwarn.org/news/videos/world-malaria-day-2016-event-oxford-uk>  
To discover this year's World Malaria Day campaign, visit the WMD RBM campaign website:  
<http://www.worldmaliaday.org/>





Opening Ceremony for Doctor of Philosophy in Tropical Medicine [PhD (Trop Med)], Doctor of Philosophy in Clinical Tropical Medicine [PhD (Clin Trop Med)], Master of Science in Tropical Medicine [MSc (Trop Med)], and Master of Science in School Health [MSc (School Health)] for academic year 2016 on 8 August 2016



Workshop: Laboratory Diagnosis for Emerging and Re-emerging Diseases in Tropics during 13-15 July 2016



Opening Ceremony of Residency Training in Preventive Medicine (Travel Medicine) for academic year 2016 on 2 June 2016



Workshop: Laboratory Diagnosis of Malaria and Leishmania 2016 #2 during 4-5 August 2016



The Faculty of Tropical Medicine, Mahidol University in collaboration with The Ottawa Hospital, Georgia Health Sciences University organized the "Asian Clinical Tropical Medicine 2016" during 25 July-3 August 2016



Elective Program in Tropical Medicine for medical doctors and students from Thailand, Japan, Taiwan and Austria during 1 - 26 August 2016



## In NCDs, We Care



On 31 May 2016, Dean Yaowalark Sukthana chaired the opening ceremony of the event "In NCDs, We Care" to commemorate to Her Royal Highness Princess Galyani Vadhana, Princess of Naradhiwas. Activities included free health check-up, healthy talk about NCDs (Non Communicable Diseases) and special exercise.



TM Eco University: Reduce Greenhouse Gas, Reduce Carbon Footprint on 15 June 2016



Fire safety drill on 29 June 2016



Dean Yaowalark Sukthana chaired the activity "Listening to Voices of Tropical Medicine for Faculty Strategic Plan 2018-2021". Faculty Senior Leaders together with lecturers, researchers, scientists, physicians, nurses and personnel from all departments, offices and units joined activities; Power of Silent, Power of Voice and Colorful TropMed Party during 8-9 July 2016 at Bangsaen Heritage Hotel, Chonburi province.



## FTM Walking Charity for Mammogram Screening Fundraising Campaign 2016



Mr. Abhisit Vejjajiva, Thailand's 27th Prime Minister chaired the opening ceremony of the special activity "FTM Walking Charity for Mammogram Screening Fundraising Campaign 2016" on 26 June 2016 at Vachirabenjatas Park. Dean Yaowalark Sukthana together with Prof. Athasit Vejjajiva, Former Mahidol University President, Prof. Piyamitr Sritara, Dean of the Faculty of Medicine Ramathibodi Hospital, Mahidol University, honored guests and Faculty administrative

team members, senior leaders, lecturers and personnel joined the 2.5 km. walking/ 5 km. running routes.



Clin. Prof. Udom Kachinthorn, President of Mahidol University and Dean Yaowalark Sukthana welcomed Khunying Patama Leeswadtrakul, President of the Badminton Association of Thailand under Royal Patronage of His Majesty the King together with Thai national badminton athletes; Ms. Ratchanok Intanon, the first Thai national badminton athlete to become No.1 in Women's Singles, Mr. Boonsak Ponsana, Ms. Porntip Buranaprasertsuk, Mr. Bodin Isara, Ms. Savitree Amitrapai and Thai national badminton coach; Mr. Sompol Kookasemkit to Thai Travel Clinic, Hospital for Tropical Diseases, Faculty of

Tropical Medicine, Mahidol University for medical check-up and vaccination in preparation for 2016 Summer Olympics at Rio de Janeiro, Brazil

**Consultant :** Prof. Yaowalark Sukthana, Dean, Faculty of Tropical Medicine, Mahidol University

**Editors :** Dr. Emsri Pongponratn and Jittapim Na Bangchang

**Coordinators :** Peerawat Maipanich, Rattanawadee Nantar, Siriprang Chotchaimongkol and Chayutshot Lertkriangkraisorn

**Information Support :** Malaria Consortium Asia, MOCID-BIKEN, MORU, SEAMCO and Silom Community Clinic @TropMed and WWARN

**Graphic Design & Layout :** Khabordee Timtermboon, Chum Ek Chuu Chook Co., Ltd.

**Produced by :** Office of International Cooperation and Networking (OICN)

Faculty of Tropical Medicine, Mahidol University, 420/6 Ratchawithi Road, Ratchathewi, Bangkok 10400, Thailand

Tel: 66 (0) 2306-9118, 66 (0) 2354-9100-4, 66 (0) 2306-9100-9,

Fax: 66 (0) 2354-9141

**Email :** tmirunit@diamond.mahidol.ac.th