TropMed

Annual Review 2014

Faculty of Tropical Medicine
Mahidol University

Contents

Consultants: Yaowalark Sukthana, Jetsumon Prachumsri **Editor:** Paul Adams **Coordinator & Management:** Pornpimon Adams **Writers:** Glad Rotaru and Tim Cole **Editorial Staff:** Ailada Angatchariya, Pitchapa Vutikes, Sumeth Suebtrakul, Siwaporn Samung, Wijak Anowannaphan **Graphic Design:** Ronnachai Rarerng, Phaibul Vasanakomut **Photographers:** Prakit Kitsupee, Patiwat Sa-angchai, Tawan Wattanakul, Yudthana Samung

PRODUCED BY: Publications Unit, Office of Research Services
Faculty of Tropical Medicine, Mahidol University, 420/6 Rajvithi Road, Bangkok 10400, Thailand
Tel.: 66 (0) 2-354-9100-4, 66 (0) 2-306-9100-9; Fax: 66 (0) 2-354-9139; Web: www.tm.mahidol.ac.th

DEAN'S FOREWORD

Prof. Dr. Yaowalark Sukthana

It has now been about one and a half years since I and the new Executive Team took over the helm at the Faculty. It has been a very busy and eventful year, and I am proud of our achievements so far. I would like to take this opportunity to thank all Faculty staff and partners for their hard work and support over the past twelve months. The first year for any executive team consists of a settling-in period, where we familiarize ourselves with the routines. An important goal for our first year was to formulate our strategic vision for the Faculty, and more importantly to start applying it to our daily activities. I am very happy with the result, in which our vision of becoming a world leader in tropical medicine will be implemented through the 8 Pillars of TROPICAL Excellence.

I am convinced that the best way to be successful is through openness and communication, and I have strived to encourage and enable an open dialog at all levels of the Faculty since starting in my role. Every three months, I host 'Meet the Dean' sessions – open forums where everybody has the opportunity to bring up questions, suggestions, and concerns. Departments have also set up monthly meetings to give all staff a channel through which to voice their opinions, and receive updates about the Faculty. This has already resulted in valuable suggestions about areas that need improvement.

Looking back over the past year, it is clear that we are heading in the right direction towards our vision of becoming a world leader in tropical medicine. In terms of research, the Faculty has had an excellent year. With over 2 papers per researcher per year, we are the most productive Faculty at Mahidol University, and not far behind the world's leading institutions. Research is not about quantity, however – quality and impact are far more important – and in this respect, too, we have had an excellent year. Over half of our publications were published in Q1 journals, and < 10% in Q3 and Q4. The importance of our research is also reflected in the record amount of international funding the Faculty attracted during the past year, and by the record attendance at the Joint International Tropical Medicine Meeting 2013.

In terms of education, the Bangkok School of Tropical Medicine has continued its excellent teaching quality, and the past year also saw the first round of the Diploma course and M.Sc. degree in Biomedical and Health Informatics. We developed these new courses to reflect the changing nature of health services, and the growing importance of information systems in health management, and we are delighted by the high level of interest in them. Next year, the School will continue innovating by introducing another new program, this time in School Health. The popularity and recognition of the Bangkok School of Tropical Medicine has continued to grow, and last year 50% of our students were from outside Thailand, cementing the School's role as ASEAN's nerve-centre for tropical medicine education.

> **“ The Hospital for Tropical Diseases has also had a very successful year – in April 2013, it completed the move into the new Hospital building ”**

The Hospital for Tropical Diseases has also had a very successful year – in April 2013, it completed the move into the new Hospital building, and in February 2014 it was formally awarded Hospital Accreditation (HA), in recognition of its excellent quality of care. The new facilities allow the Hospital to provide even better care to patients as well as elderly care, and house state-of-the-art laboratories that support our researchers' and students' performance. This June, the hospital will start the world's first residency training in travel medicine, a discipline of rapidly growing importance in today's globalized world.

Looking forward, it is important not to become complacent because of our success to date. Many challenges remain, and despite advances in treatments, many still suffer from tropical diseases. Health needs are constantly changing and we must adapt to them. Treatments that were effective in the past will not remain so forever, as growing artemisinin and multi-drug resistance in malaria parasites shows. The movement and travel enabled by modern society results in an unprecedented spread of pathogens, and also gives rise to new problems, such as lifestyle diseases and societal aging. Our research, education, and clinical services must be responsive to these changes, and this brings us back to the importance of openness, dialog, and collaboration – the best tools to ensure continuous improvement.

Our achievements over the past 12 months have clearly shown that the Faculty is moving in the right direction. The Faculty's unique combination of geographical location, facilities, and expertise, all enable us to be a world leader in our field. I believe that the most crucial component in achieving this goal is the human one. The ongoing hard work of all members of the Faculty will see us continue to improve on our high quality research, education & training, and healthcare, and allow us to achieve our goal, to become, and to remain, a World Leader in Tropical Medicine.

A 'Meet the Dean' session, where staff and students are able to raise questions and comments in an open environment.

TROPMED Strategic Plan

The Faculty's new strategic vision, to be a world leader in tropical medicine, will be achieved by focusing on the following eight key strategic areas:

TEACHING EXCELLENCE

The Faculty aims to make the Mahidol Bangkok School of Tropical Medicine one of the top three tropical medicine schools in the world, by further improving its teaching quality and providing courses and curricula that reflect the ground-breaking research conducted by the Faculty's researchers.

RESEARCH AND INNOVATION EXCELLENCE

The Faculty is a key driver in tropical medicine research in the ASEAN region, and will strive to continue pushing the boundaries of knowledge even further, with the goal of being one of the top five tropical medicine research faculties. This will be achieved by further increasing our number of publications and their impact.

OUTSTANDING CLINICAL OUTCOME

This year, the Hospital for Tropical Diseases has moved to the new Rajanakarin Building, been awarded hospital accreditation, and is about to start a world-first travel medicine residency training. We aim to continue to provide patients with the highest level of care, by offering them the country's leading specialists in tropical medicine, and the most modern facilities and medical equipment available.

PEOPLE EXCELLENCE

Our people are our most valuable resource. Therefore we want to continue to recruit the best employees at all levels, and in order to attract the top talent we invest heavily in our co-workers' career development and in making their work at the faculty challenging and rewarding.

INFRASTRUCTURE EXCELLENCE

We are now launching the "TM Green" campaign; by encouraging the habit of reducing, reusing, recycling, and repairing resources in our daily activities at TropMed. This effort is a first step to raise employees' awareness to maintain a greener environment.

CUSTOMER AND COMMUNITY SERVICE EXCELLENCE

Openness and transparency are key components in providing this process. We work hard to continuously improve our services, and to adapt to the ever-changing environment we operate in.

ALLIANCE EXCELLENCE

One of the Faculty's main strategic advantages is our extensive network of collaborators and partners. We strive to constantly strengthen and expand these connections, by inviting even more guest speakers/ lecturers, organizing international visits and conferences, and further integrating our ongoing collaborations with our partner institutions.

LEADERSHIP AND MANAGEMENT

Effective leadership is a key component to ensure the Faculty's continued success, and we will invest heavily in developing our faculty's leadership ability at all levels of the organization. Leadership training is provided to all managers to help them become more effective leaders.

Administrative Board

Prof. Yaowalark Sukthana
Dean, Centre Director SEAMEO TROPMED/THAILAND
E-mail: *yaowalark.suk@maidol.ac.th*

Prof. Polrat Wilairatana
Deputy Dean for Value Creation
E-mail: polrat.wil@mahidol.ac.th

Prof. Rungsunn Tungtrongchitr
Deputy Dean for Central Management
E-mail: rungsunn.tun@mahidol.ac.th

Dr. Jetsumon Prachumsri
Deputy Dean for Research
E-mail: jetsumon.pra@maidol.ac.th

Prof. Sasithon Pukrittayakamee
Deputy Dean for Education
E-mail: sasithon.puk@mahidol.ac.th

Assoc. Prof. Supatra Thongrungkiat
Deputy Dean for Finance and Assets
E-mail: supatra.tho@mahidol.ac.th

Assoc. Prof. Emsri Pongponratn
Deputy Dean for International Affairs
E-mail: emsri.pon@mahidol.ac.th

Asst. Prof. Noppadon Tangpukdee
Deputy Dean for Resource Management
E-mail: noppadon.tan@mahidol.ac.th

Asst. Prof. Udomsak Silachamroon
Director of Hospital for Tropical Diseases
E-mail: udomsak.sil@mahidol.ac.th

Asst. Prof. Kasinee Buchachart
Assistant Dean for Student Affairs and Special Activities
E-mail: Kasinee.buc@maidol.ac.th

Lecturer Rachatawan Chiabchalard
Assistant Dean for Corporate Relations
E-mail: rachatawan.chi@mahidol.ac.th

Mr. Amorn Lekkla
Assistant Dean for Premises and Environment
E-mail: amorn.lek@mahidol.ac.th

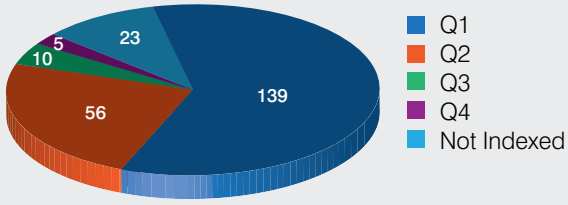
Mrs. Pornpimon Adams
Assistant Dean for Research
E-mail: pornpimon.ada@mahidol.ac.th

Executive Summary

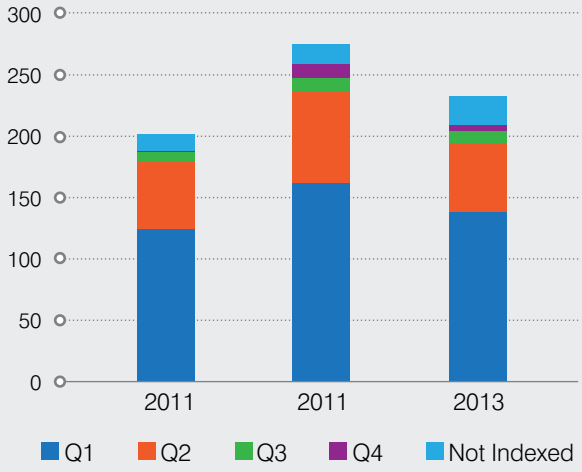
RESEARCH

Publications in 2013	233
Publications per researcher per year	2.16
Impact Factor average 2008-2012	12.5
International Grant Applications	15
Internationally Funded Projects	6
New projects in 2013	70
Total ongoing projects in 2013	208

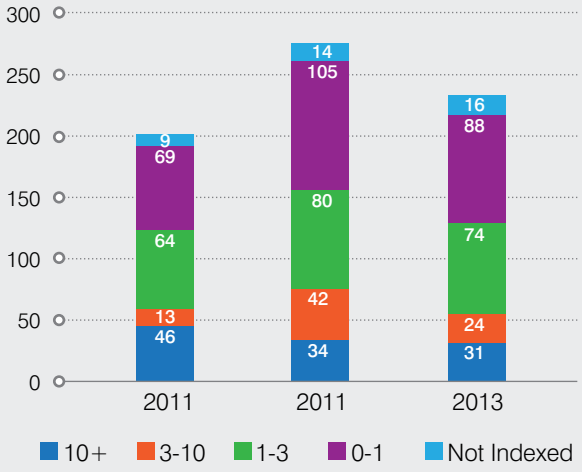
FTM Publications 2013
SJR Indicator Quartiles from SCOPUS database



FTM Publications in SJR Indicator Quartiles from SCOPUS database, 2011 - 2013



FTM Publications according to Impact Factor, ISI - WoS, Thomson Reuters, 2011 - 2013

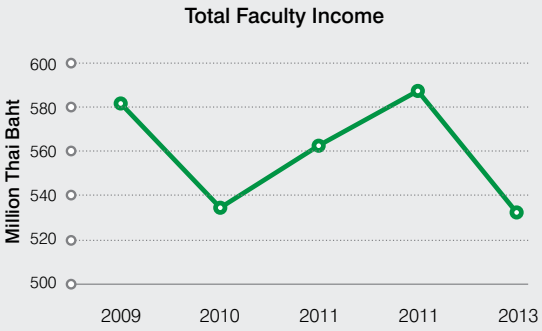


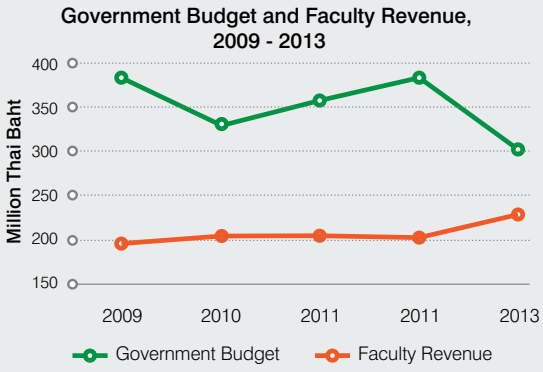
Dean Yaowalark Sukthana has set the goal of making the Faculty a world leader in tropical medicine research. One key performance indicator in this area is the quality and quantity of research publications.

In 2013, the average number of papers per academic staff member was 2.16, exceeding the goal set in the TROPICAL excellence plan, and the highest number for any faculty at Mahidol University.

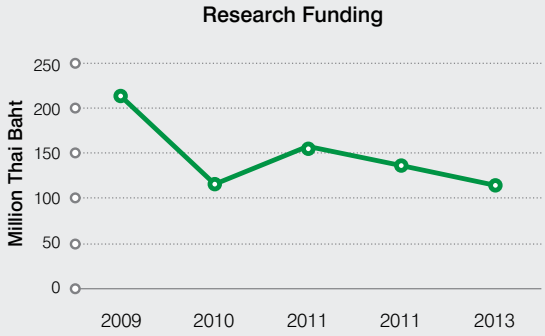
Faculty publications maintain a very high quality standard, as evident when looking at the journals they tend to be published in. About 80% of publications are accepted by Q1 and Q2 ranked journals (SCOPUS journal ranking). This shows that the high volume of publications has not been achieved by compromising standards. These results highlight the positive steps TropMed is taking towards consolidating its position as a world leader in tropical medicine.

FINANCE





	2009	2010	2011	2012	2013
Government Budget	385,694,991	329,347,786	357,505,500	384,180,379	302,755,712
Faculty Revenue	196,047,638	204,599,662	205,384,896	202,999,525	229,382,711
Total Faculty Income (Baht)	**581,742,629**	**533,947,448**	**562,890,396**	**587,179,904**	**532,138,423**



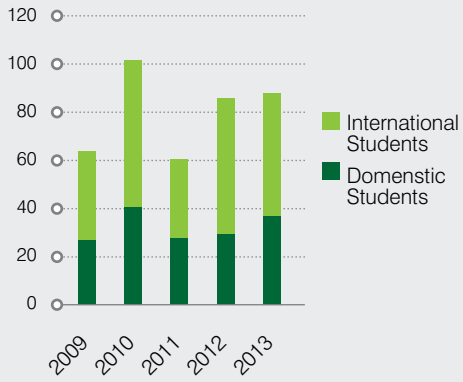
	2009	2010	2011	2012	2013
Research Funding (Baht)	212,278,024	112,386,000	154,999,850	133,770,229	111,749,030

FTM has continued showing a strong financial performance, despite a significant decrease in government funding during 2013. In response, FTM has increased Faculty revenues by providing services to public and private institutions, and with these set to increase further, the goal is to make the Faculty more financially independent. Research funding has remained fairly constant; it is spread among 70 new projects, now part of 208 ongoing research projects at the Faculty. Notably, of 15 international grant applications submitted, Faculty researchers obtained 6 – a success-rate of 40%.

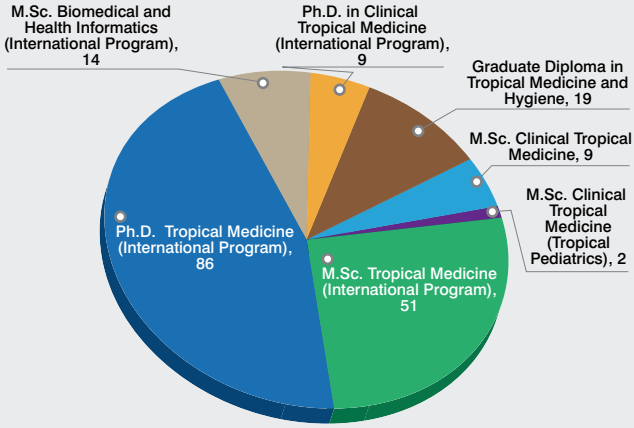
EDUCATION

With the creation of 2 new courses and the high quality of teaching, the curricula at FTM cover an increasingly diverse area. The student cohort has reported positive working relationships with lecturers, and greatly value the opportunities afforded by the close proximity to the recently completed building housing the Hospital for Tropical Diseases. The numbers of student enrollments have increased over the previous year.

New Student Enrolment



Students at Mahidol BSTM 2013



HEALTH SERVICES

Disease	Outpatient cases
1. Dermatitis	4,117
2. Hepatitis	1,790
3. Parasitic diseases	401
4. Diarrhea	7
5. Fever of unknown cause	306
6. Pulmonary tuberculosis	112
7. HIV infection	167
8. Malaria	51
9. Dengue	308
10. Various parasitic diseases	57

Disease	Inpatient cases
1. Dengue	689
2. Malaria: vivax species	91
3. Malaria: falciparum species	50
4. Diarrhea	118
5. Pneumonia	162
6. Fever of unknown cause	46
7. Pulmonary tuberculosis	36
8. HIV infection	44
9. Rickettsial infection	8
10. Scrub typhus	15

The Hospital for Tropical Diseases continues its strong reputation of providing excellent treatments for the tropical diseases. The tables above show the top ten most common diseases at the hospital. A notable statistic is the high number of dengue cases: with 689 inpatient and 308 outpatient cases in 2013, it has become a key health challenge for the region. In 2012, these figures showed only 297 dengue inpatient cases, and 148 outpatient cases.

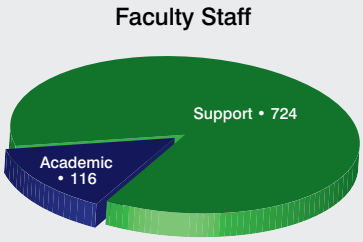
INFRASTRUCTURE

The TropMed campus is continually undergoing improvements to benefit students, staff, and the public. The most significant change in this area in 2013 was the opening of the Hospital for Tropical Diseases, in the Rajanagarindra Building. This facility provides 250 patient beds, and includes many specialized services (for more details, see page 48).

The Faculty is committed to becoming a more environmentally friendly and sustainable institution, and is doing so through the committee on energy conservation and the environment. So far, more green spaces have been installed on campus, in addition to awareness programs and reports into energy usage. Several energy-saving measures are being implemented, and their effectiveness is being monitored to achieve measurable targets.

FTM invested heavily in its IT systems in 2013. Internet access has been expanded dramatically through collaboration with local mobile providers, resulting in many new WiFi hotspots around campus. When it comes to hardware, the Faculty has implemented a decentralized procurement system, allowing departments more flexibility to obtain the equipment they need, more quickly. To support the increased IT access, the Faculty has provided IT training to staff at all levels.

HUMAN RESOURCES



Academic Staff

Position	Ph.D./ Equivalent	Master	Grand Total
Professor	7		7
Associate Professor	24	2	26
Assistant Professor	25	1	26
Lecturer	46	4	50
Scientist Level 1	7		7
Grand Total	**109**	**7**	**116**

The Faculty's TROPICAL excellence plan states that 'people are our most valuable resource', which is evident when looking at HR. The faculty has invested in this important area by employing a total of 840 staff in 2013, a 3.3% increase on the previous year. Of these staff, 13.8% are academic while 86.2% are support staff. Both these groups have the opportunity for professional development. For academic staff, events for younger members on career path and advancement have been popular. Support staff have attended many different seminars and events, helping them to develop specific skills to improve their performance.

Departmental Research at FTM

The Faculty of Tropical Medicine is divided into eleven specialized departments, focusing on different areas and disciplines related to tropical medicine. Each department has three main areas of responsibilities – research, education, and services, and their activities are thus centered on these in different configurations. This broad set of disciplines allows the Faculty as a whole to undertake activities in all areas of tropical medicine, where cross-disciplinary, collaborative research both within the faculty and with outside partners is the norm. The link between research, education, and services further means that FTM students and the public can make the most of up-to-date knowledge and discoveries.

CLINICAL TROPICAL MEDICINE

One of the oldest departments at FTM, the Department of Clinical Tropical Medicine was founded in 1960 by Professor Emeritus Khunying Tranakchit Harinasuta. In conducts clinical research, education and training, and has published over 1,000 academic papers. Much of its current research focuses on vaccine development. It offers 6 different courses at both undergraduate and post-graduate level. The department is heavily involved with running the Hospital for Tropical Diseases, where it helps to provide advanced clinical care in tropical medicine.

Prof. Punnee Pitisuttithum, Director

HELMINTHOLOGY

The Department of Helminthology was established in 1960 by Professor Emeritus Suvajara Vajarasthira, and is active in the teaching, training, services and research into medically important helminths. The Department is currently conducting research into a wide range of parasites, and offers three international postgraduate courses. Shorter 3-day courses on identification and diagnosis are also available. The Department has a wealth of related information, including preserved specimens and leaflets available to the public.

Assoc. Prof. Chalit Komalamisra, Head

MEDICAL ENTOMOLOGY

One of the five original departments at FTM, Medical Entomology (ME) is active in research, education and public service. In addition to providing subjects in the international D.T.M & H., masters and Ph.D. programs. ME maintains a Mosquito Museum to engage and educate the public, and can also run training courses on medically significant insect species. The Department conducts research into different tropical disease vectors, centered on mosquito species. A specialized laboratory has populations of different mosquitos and other species for research and educational purposes.

Assoc. Prof. Chamnarn Apiwathnasorn, Head

MICROBIOLOGY AND IMMUNOLOGY

Established in 1966, the Department of Microbiology and Immunology is engaged in research, education and diagnostic services. Staff and students study a range of bacterial, parasitic and viral infections, while also looking at the body's immunological response to them. Work conducted by the Department has been utilized in both diagnosing and treating tropical infections. The Department also runs a diagnostic service, and can identify a wide range of tropical pathogens.

Asst. Prof. Yuvadee Mahakunkijcharoen, Head

MOLECULAR TROPICAL MEDICINE AND GENETICS

Prof. Songsak Petmitr, Head

Established in 2010, the Department of Molecular Tropical Medicine and Genetics focuses on bioinformatics, genomics and proteomics for a wide range of diseases. Topics covered by departmental research include cancers, tropical parasites, molecular diagnosis and immunotherapy. The Department teaches in masters and Ph.D. programs, as well as short courses on current research and findings in the area. It works closely with the Hospital for Tropical Diseases, and regularly publishes papers in various journals.

PROTOZOOLOGY

Assoc. Prof. Pornthip Petmitr, Head

Established in 1960, the Department of Protozoology is concerned with teaching, training, research and services relevant to medically important protozoa. The Department runs subjects in the D.T.M. & H. graduate diploma course, and master and Ph.D. programs. There are also 2-day courses on making various diagnoses for medical professionals. A wide range of research is carried out, from genetics to the ultrastructure of pathogenic protozoans. The Department also works closely with the Hospital for Tropical Diseases to diagnose many different protozoal diseases.

SOCIAL AND ENVIRONMENTAL MEDICINE

Assoc. Prof. Kamolnetr Okanurak, Head

This Department, formally founded in 1994, specializes in three broad areas of research: 1) social medicine, which includes health behavior and medical anthropology; 2) environmental health, including toxicology, environmental biotechnology, and the Center for Environmental Health Impact Assessment Studies; and 3) Malacology, housing the Mollusk Museum of the Southeast Asian Center for Medical Malacology. The Department has a multidisciplinary focus, with research ranging from field investigations to lab-based biotechnology, environmental epidemiology, and antibody development. Its studies have contributed to disease prevention and control, risk assessment and forecasting.

TROPICAL HYGIENE

The Department of Tropical Hygiene is one of the original units of the Faculty, founded in 1960, and has functioned as a separate department since 1974. Its research activities mainly consist of epidemiological research related to public health problems among rural populations in Thailand. To this end, the Department has developed Geographic Information Systems (GIS), and many

of its researchers are closely tied to BIOPHICS, specializing in data analysis and statistical modeling. Due to the highly specialized knowledge held by this Department, it provides many external organizations with training in these fields. Its findings are often used by the Thai Ministry of Public Health to support policy decisions, and its Rajanagarindra field research center also provides free health services to rural populations in the malaria-endemic region along the Thai-Myanmar border.

Prof. Srivicha Krudsood, Head

TROPICAL NUTRITION AND FOOD SCIENCE

Established in 1966, the Department of Tropical Nutrition and Food Science specializes in two main fields. When it comes to nutrition, research includes a range of areas, from malnutrition to obesity, as well as coronary heart disease, dyslipidemia, and the effects of natural treatments from medicinal plants. Food science research mainly takes a microbiological approach, and investigates probiotics, and glycosidase enzymes, which are extensively used in agriculture and the food industry. In addition to research, the Department provides training courses to vulnerable populations, nutritionists, and nurses, and has the only laboratory in Thailand that can determine vitamin levels (B1, B2) in serum and red blood cells.

Asst. Prof. Dumrongkiet Arthan, Head

TROPICAL PATHOLOGY

The Department of Tropical Pathology is sub-divided into three units--diagnostic pathology, electron microscopy, and tissue culture and immunocytochemistry. The Department is renowned for its knowledge in histopathology, and supports clinicians at the Hospital for Tropical Diseases with particularly challenging diagnoses. Through the electron microscopy unit it also provides structural microscopy analysis and training, and offers particular expertise in the pathogenesis of severe malaria, cytokine involvement and cell signaling in severe malaria. The unit also has state-of-the-art electron microscopes, providing both TEM and SEM facilities for researchers and students.

Asst. Prof. Urai Chaisri, Head

TROPICAL PEDIATRICS

The Department of Tropical Pediatrics was founded in 1974. It conducts research in the broad area of tropical pediatrics, with particular focus on vaccine trials for dengue, influenza, Japanese encephalitis, and rabies. The Department also conducts some epidemiological research, and research on intestinal parasites. The Department provides medical services through the Hospital for Tropical Diseases, located on the FTM campus. Staff conduct both inpatient and outpatient care services for general pediatrics and tropical infectious diseases among children at the Hospital, and provide medical consultation services related to tropical pediatrics to both local and international clinical staff.

Assoc. Prof. Chukiat Sirivichayakul, Head

Centers of Excellence

Centers of Excellence at the Faculty are highly specialized research units that drive research in their respective fields. They are different from Departments, in that they are solely responsible for research (whereas departmental responsibilities include teaching and services). These units often drive research in their respective fields, and work closely with policy makers and collaborators on groundbreaking projects.

CENTER OF EXCELLENCE FOR BIOMEDICAL AND PUBLIC HEALTH INFORMATICS (BIOPHICS)

BIOPHICS is one of the Faculty's most service-focused Centers of Excellence. Its goals are to provide the public with quality health informatics through teaching and reaching; the unit provides a range of development, management, and consulting services to both private and public organizations in Thailand and beyond. BIOPHICS manages databases for several large clinical trials, as well as the national electronic malaria information system (eMIS), as well as other large-scale health-informatics initiatives, and is a key player in monitoring the spread of various diseases in Thailand.

Assoc. Prof. Jaranit Kaewkungwal, Director

CENTER OF EXCELLENCE FOR ANTIBODY RESEARCH (CEAR)

CEAR was launched in 2009 to promote and increase discovery research at the Faculty of Tropical Medicine, and despite the unit's young age it is conducting some of the most high-profile research at the Faculty today. The human monoclonal antibodies (MAbs) developed by CEAR have been shown to neutralize all four serotypes of dengue *in vitro* and *in vivo*. These findings have resulted in a range of patents, and the head of the center, Assoc. Prof. Pongrama Ramasoota, was awarded the Outstanding Research Award from the National Research Council of Thailand for their pioneering work. The Center's research extends beyond dengue, and researchers have developed MAbs that can be used in the rapid diagnosis of influenza, leptospirosis, and foot-and-mouth disease.

Assoc. Prof. Pongrama Ramasoota, Director

MAHIDOL VIVAX RESEARCH UNIT (MVRU)

MVRU is another 'young' Center of Excellence at the Faculty, established in 2011. Run by Dr. Jetsumon Prachumsri, the unit focuses on the biology of malaria-parasite transmission, including mosquito and human liver stages. The Unit has access to the full malaria life cycle through its insectary, humanized mice containing liver-stage infections, as well as human patients at the Hospital for Tropical Diseases on campus. Together with the world-class expertise of the unit's researchers, MVRU is one of the only centers in the world with the unique combination of expertise, equipment, and access to the entire life-cycle of the malaria parasites, allowing it to undertake cutting-edge research into areas such as transmission-blocking vaccines, transcriptome and proteomic studies of *P. vivax* sporozoites and liver-stage parasites, and the study of *P. vivax* liver-stage biology.

Dr. Jetsumon Prachumsri, Director

VACCINE TRIAL CENTER (VTC)

The VTC is a clinical facility at the Faculty, which plans and conducts clinical trials for newly developed vaccines. This service is provided by FTM for many different institutions around the world, in conjunction with the Ministry of Public Health. The VTC carries out very important work, as its unique location at FTM allows it to test potential tropical-disease vaccines in the environment where they would be used. The center's most noteworthy current projects include a phase II trial of a HIV vaccine, an avian flu stockpiling project with WHO, a HPV vaccine trial, and a Phase III dengue vaccine trial.

Prof. Punnee Pitisuttithum, Director

Collaborations

The Faculty of Tropical Medicine has a range of collaborative initiatives with both regional and global organizations. These collaborations vary in scope, some are strictly research focused, others provide health and education, and others focus on regional policy development.

MALARIA CONSORTIUM ASIA

The Malaria Consortium is a leading international NGO dedicated to comprehensive malaria and neglected tropical disease control in Africa and Asia. The Charity has been engaged in programmes in the Greater Mekong Sub region since 2003, setting up offices in Cambodia and Thailand in 2008, and Myanmar in 2013. Activities in Asia aim to deliver sustainable, evidence-based health programmes, with a particular focus on strengthen the monitoring and evaluation capacity of national programmes and partners, operational research, cross-border coordination, resistance containment and working towards elimination.

Mr. Henry Braun, Director

SOUTHEAST ASIAN MINISTERS OF EDUCATION ORGANIZATION (SEAMEO) TROPICAL MEDICINE AND PUBLIC HEALTH (TROPMED) NETWORK

Established in 1966, SEAMEO TROPMED Network is a regional cooperation for education, training and research in tropical medicine and public health under the SEAMEO. The Network is governed by a Board consisting of High Officials representing the 10 Member countries with Associate Professor Dr. Pratap Singhasivanon serving as Secretary General/Coordinator of the Network. There are three Regional Centers in the Network - TROPMED Malaysia, TROPMED Philippines, and TROPMED Thailand at the Faculty of Tropical Medicine, Mahidol University. The Network Coordinating Office, hosted by the Royal Government of Thailand, is located at the Faculty of Tropical Medicine, Mahidol University. The Network facilitates and promotes international degree programs via the TROPMED Regional Centres, as well as short courses for health and health-related professionals. A limited number of scholarships are provided by the Network office for these degree programs and short courses. The entire Network also collaborates with development agencies for health development programs and projects.

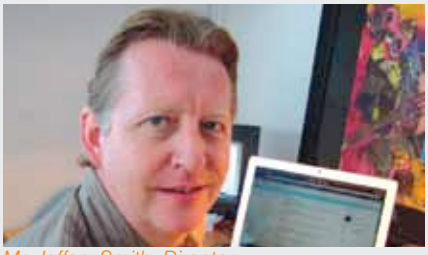

Professor Yaowalark Sukthana, Director of TROPMED Thailand

SILOM COMMUNITY CLINIC AT TROPMED

The Silom Community Clinic recently relocated to the Hospital for Tropical Diseases at FTM. It is a sexual health clinic, specifically for the male homosexual and transgender communities. They provide 30-minute checks for HIV and other sexually transmitted diseases, as well as consultations and treatments for those with different conditions. All services are provided for free, and the clinic operates in a confidential and supportive environment. The clinic is an important partner for future collaborations into sexually transmitted disease (STD) research, and the Faculty is proud to be able to host the clinic in the Hospital for Tropical Diseases.


Dr. Timothy Holtz, Director

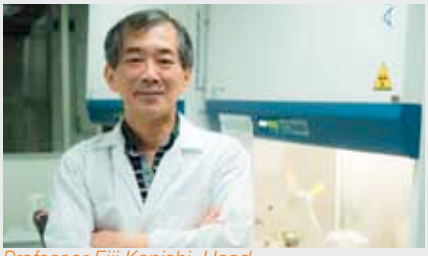
WORLDWIDE ANTIMALARIAL RESISTANCE NETWORK (WWARN)



Mr. Jeffery Smith, Director

WWARN, through its global research network, aims to improve monitoring of antimalarial drug efficacy and identify emerging drug resistance. The Network is working to build capacity to improve clinical research and support malaria control and elimination efforts in Asia and the Pacific. WWARN's Specimen Management Centre archives clinical research samples to aid identification and validation of molecular markers for antimalarial resistance. The regional director, Mr. Jeffery Smith, and the WWARN Asia team, is based at FTM in Bangkok.

BIKEN-ENDOWED DEPARTMENT OF DENGUE VACCINE DEVELOPMENT (BIKEN)



Professor Eiji Konishi, Head

The BIKEN Endowed Department of Dengue Vaccine Development was established as a joint collaboration with Osaka University, with the purpose of basic research to develop a dengue vaccine. This collaboration is supported by an endowment from the BIKEN Foundation, a private pharmaceutical organization, to the BIKEN Institute, a non-profit research organization. The unit is a strictly research-focused collaboration working on a six-year project (currently in its 3rd year). The unit, run by Prof. Eiji Konishi, is developing several types of dengue vaccine candidates that are effective against all four dengue serotypes, including an antibody-expressing vaccine (read more about the project on page 26).

MAHIDOL-OSAKA CENTER FOR INFECTIOUS DISEASES (MOCID)

Dr. Tamaki Okabayashi, Head

MOCID is a collaborative initiative between the Faculty of Tropical Medicine and the Research Institute for Microbial Diseases at Osaka University. It aims to perform basic research in the field of infectious diseases, leading to the development of prophylactic vaccines and therapeutic strategies. The unit's main focus during the past year has been on viral infectious diseases, particularly dengue and chikungunya, and the development of rapid-diagnosis kits to be used in clinical settings. The unit works closely with several departments at the Faculty, such as CEAR, the Department of Medical Entomology and the Department of Microbiology and Immunology.

MAHIDOL OXFORD TROPICAL MEDICINE RESEARCH UNIT (MORU)

Professor Nicholas Day, Director

Established in 1979 with the help of the Wellcome Trust, MORU is one of the Faculty's longest-standing collaborations, and though it remains an independent organization, it is closely integrated within the Faculty. MORU's main office is located at the FTM campus, but the unit has study sites and labs throughout Asia and Africa, from where it conducts research on a wide range of tropical diseases, their spread, and treatment. To read more about MORU, look at the special report on page 43.

Malaria

Malaria is one of the most challenging problems in global health, with the WHO estimating it caused more than 600,000 deaths in 2012. Because half the world's population is at risk of the disease, research on treatment and prevention is vital. Malaria is caused by protozoan parasites of the genus *Plasmodium*. These parasites are spread by *Anopheline* mosquitos. Globally, 41 different *Anopheles* vector species are capable of transmitting malaria, and 4 main *Plasmodium* parasites infect humans -- *P. falciparum*, *P. vivax*, *P. ovale*, and *P. malariae.* The simian *parasite, P. knowlesi,* has also been found occasionally to infect humans. Detection of malaria parasites in an endemic area can be difficult, since the parasites can circulate in the human blood at submicroscopic densities. The limited understanding of parasite biology, challenging logistical issues, and the emergence of drug resistance have together rendered the on-going fight against malaria difficult. FTM has been leading research into the disease in Asia for well over 50 years, and is currently engaged in many projects and collaborations seeking to eliminate malaria. In the period 2009-2013, Mahidol University was ranked 5th in the world with regards to publications on malaria research.

Thanks to early detection and improved treatment, our ability to cure malaria has increased considerably over the past decades. While the prevalence rates have declined significantly in many areas, important obstacles remain. One major challenge is the growth of artemisinin resistance, a worrying trend that has been extensively mapped by the Mahidol-Oxford Tropical Medicine Research Unit (MORU) TRAC project (Tracking Resistance to Artemisinin Collaboration). Artemisinin-based drugs, including artemisinin-combination therapies (ACTs) have been key components in the treatment of malaria since the antimalarial properties of the substance (qinghaosu) and its use in combination with other antimalarials were investigated by TropMed researchers. The emergence of drug-resistant strains is increasing the demand for new drugs and methods of stopping the spread of these resistant strains. To tackle this problem effectively, it is necessary to have accurate information about infection rates, access to quick, cheap, and easy-to-use diagnostic tools, and detailed knowledge about the mosquitos that spread the disease.

Research at the Faculty over the past year has been driven by these challenges, and can be grouped into the following main categories:

- Diagnostics and Prognostics
- Treatment/Drug development
- Epidemiology and Informatics
- Vector control

DIAGNOSTICS AND PROGNOSTICS:

Fast, reliable, and cheap diagnostic methods are crucial to providing reliable epidemiological information and ensuring early treatment, which increases the speed and likelihood of full recovery. Diagnosis can also tell us which type of malaria infection patients have contracted, and the genetic composition of the parasites. This information allows us to develop drugs that target common genetic components, and reveals correlations where certain types of patients tend to contract specific types of infections.

In a study published in 2013, Dr. Mallika Imwong from the Department of Molecular Tropical Medicine and Genetics used microsatellite genotyping to determine genetic variations in *Plasmodium vivax* malaria among pregnant women on the Thai-Myanmar border. Previous studies have found that relapses of *P. vivax* infections in patients from Thailand, Myanmar, and India, are often caused by parasites with a different genotype from the

Dr. Mallika Imwong has studied the genetics of Plasmodium parasites

one causing the initial infection. This suggests the heterologous activation of hypnozoites, likely acquired from earlier inoculations. Given the altered immunological and physiological status of pregnant women, it is important to ascertain whether the relapse patterns and genetic diversity of *P. vivax* populations differ between pregnant and non-pregnant patients. The study found very high genetic diversity among *P. vivax* populations in this region, and parasites causing infections in pregnant women tended to be more genetically diverse than those in non-pregnant patients. This could be a result of increased susceptibility to mosquito bite, reduced immunity to infection, and other physiological changes occurring in pregnant women.

A study published by a group from the Department of Tropical Pathology investigated two plasma angiopoitens, Ang -1 and Ang - 2, and their associations with patient outcomes. They reported that although these factors are not the causative agent in severe malaria cases, the level of Ang - 2 and the Ang - 2/Ang - 1 ratio were useful markers in the prognosis of multi-organ dysfunction in severe malaria. This finding will help with the prognosis of severe malaria patients in the future, and could potentially lead to the development of new treatment methods.

The Department of Tropical Pathology has also studied the role of the factor NF - kB p65 in apoptosis in cerebral malaria. One experiment found that NF - kB p65 was a major signaling factor, responsible for apoptosis in brain endothelial cells and intravascular leukocytes. This result opens the way for future investigations into the use of this factor in the diagnosis, prognosis and even the development of potential treatments for the disease.

TREATMENT/DRUG DEVELOPMENT:

The current regimen used to treat malaria cases in Thailand and other countries in the region is heavily based on research studies conducted by Prof. Sornchai Looareesuwan and other malaria scientists at FTM. Artemisinin has been used as a key component in malaria treatment, and indeed the first discovery of effective artemisinin-combination therapy (ACT) was made at the Faculty of Tropical Medicine. One of the biggest challenges in the treatment of malaria today is the emergence of artemisinin-resistant malaria strains, which have been observed in more and more places around the Southeast Asian region. This is worrying, and creates the need for new approaches to treating the disease.

Mapping out this resistance is crucial in order to get an accurate idea of where the problem is most urgent and to be able to respond appropriately. In the forefront of this research is the Mahidol-Oxford Tropical Medicine Research Unit (MORU), one of the Faculty's long-standing collaborations. During 2012-2013, MORU coordinated the TRAC project (Tracking Resistance to Artemisinin Collaboration), a study consisting of 15 sites in 10 countries (in both Asia and Africa), with the goal of mapping the spread and emergence of artemisinin-resistant *P. falciparum* in Southeast Asia and beyond. The study also looked at new *in-vitro* drug sensitivity tests for artemisinin resistance, and provided samples for further detailed molecular studies. The results of this project are currently in the publication process, and a follow-up study is already being planned (TRAC-2), which aims to identify in detail the current distribution boundaries of artemisinin resistance in Southeast Asia. Other than mapping the extent of resistance, MORU researchers have looked at the genetic structures underlying artemisinin resistance in the region, and discovered a molecular marker for artemisinin resistance, paving the way for future drug development as well as novel diagnostic methods.

The Mahidol *Vivax* Research Unit, or MVRU, is a Center of Excellence at the Faculty, specifically focusing on *P. vivax* malaria. Research is conducted on many different aspects of the disease. One project is working towards the long-term continuous culture of the blood-stage *P. vivax* parasite. *P. vivax* is a unique species of malaria that remains dormant in the liver, and can re-emerge years after initial infection. MVRU is studying this liver-stage malaria in humanized mice – i.e. mice that have human liver cells. Researchers are looking at factors that impact parasites in this liver-stage, with the goal of developing a drug that can target them. MVRU is unique, as it has the capacity to study the full life cycle of *P. vivax* parasites. It has the staff, expertise, location, and ready access to parasites and vectors required to study the disease, and with the in vitro culture of human liver cells and humanized mice, they also have the liver-stage of the parasite available at all times. This is a unique situation that does not exist anywhere else in the world.

EPIDEMIOLOGY AND INFORMATICS

In Thailand, malaria has been reduced significantly, and is currently only endemic in the border regions, primarily on the Thai-Myanmar border. Treatment in these areas is a high priority, and yet remains difficult due to the large proportion of migrant workers and refugees living in inaccessible areas the public-health system struggles to reach. The Faculty has been involved in these areas for a long time, based out of the Tropical Diseases Research Center (TDRC) in Kanchanaburi Province, and the Rajanagarindra Tropical Disease International Center (RTIC) in Ratchaburi Province (read more about these on page 48). These centers are run by FTM and serve as labs for the Faculty's researchers, field training sites, as well as clinics that provide healthcare services for the local population.

The TDRC in Kanchanaburi, and RTIC in Ratchaburi, have served as the Faculty's primary field centers for epidemiological research over the past years, thanks to a study conducted by the Department of Tropical Hygiene. Teams at TDRC and RTIC have been conducting several studies, particularly statistical modeling and mathematical modeling of malaria epidemiology along the border. With expertise in geographical information system (GIS) and remote sensing techniques, the team has also performed spatial-temporal analysis of the disease in the two provinces and beyond. Over the past few years, the RTIC team has established malaria health volunteers using a community empowerment approach, which has been successful in reducing cases and raising awareness about protection measures in the communities. The successful implementation of this approach means that it could be expanded to other regions.

It was also in Kanchanaburi where the Center of Excellence for Biomedical and Public Health Informatics (BIOPHICS) started the Electronic Malaria Information System (eMIS), in 2008. BIOPHICS obtained a small grant from "Microsoft Research" to use cell phones to monitor malaria case management in remote regions, and the project started as a proof-of-concept in Kanchanaburi Province. The proof-of-concept proved very successful, and over the next few years expanded to cover 7 provinces along the Thai-Cambodian border. BIOPHICS started collaborating with the Thai Ministry of Public Health, and received funding from both the WHO and the Bill and Melinda Gates Foundation (BMGF). By the end of 2011, the project covered all endemic provinces in Thailand, and is an integral component in the national malaria elimination program. eMIS

Anopheline mosquitos mating at MVRU

uses an online database that is accessed by healthcare staff through mobile phones with geo-tagging capabilities. When data about malaria-infected cases are entered into the system, an automatic follow-up schedule is generated for each specific type of malaria. The system allows medical staff to collect data on the spot, providing real-time evidence-based information to the central database, which gives a much more accurate picture of infection-rates. This can be used by policy-makers to make informed analyses and help in decision-making when taking preventive and control measures at outbreak locations. eMIS is now a national system for malaria information. The program is currently being adopted by the Bhutan Ministry of Health to serve as a foundation for their malaria and febrile cases information system.

VECTOR CONTROL:

Malaria is spread by the *Anopheles* mosquito, and understanding its life-cycle increases our ability to effectively control the spread of malaria. Researchers at the Faculty's Department of Entomology have been tracking and monitoring mosquito activities in the border regions of Thailand-Myanmar and Thailand-Cambodia, cataloging and mapping mosquito behavior. One part of this mapping effort has focused on tracking different mosquito species, as different species are susceptible to different malaria parasites, and are also sensitive to different insecticides. Understanding the relationship between mosquito and parasite can help us develop drugs or insecticides that prevent the spread of infection. Another focus is to look at mosquito targets, as this also affects the spread of the disease. If we know that certain types of mosquitos favor cattle, humans, or other targets, we are able to develop more effective measures in controlling their ability to spread the disease. Therefore, ongoing monitoring efforts are conducted by the Faculty's entomologists to monitor mosquito species distribution. This is done in cooperation with several institutes, such as Chiang Mai University, which has an extensive taxonomy database of mosquito species, the Mahidol Vivax Research Unit, which runs an insectary at the Faculty's Bangkok Campus, and the University of Wisconsin, which provides consultancy support through their researchers. One of the goals of this project is to develop a molecular technique to determine mosquito species based on the bite.

The Mahidol Vivax Research Unit is also running trials into the efficacy of transmission-blocking vaccines. This work is aided by the Kanchanaburi Research Center, and aims to evaluate the effectiveness of vaccines *ex vivo*, before further trials are carried out on potential human vaccines. A successful blocking vaccine would 'infect' the mosquito with antibodies that prevent the parasite from surviving in the mosquito midgut, meaning that human-to-human transmission rates via mosquito bite would decrease dramatically. Once a mosquito bites a human with this kind of vaccine, it should not be able to pass on the parasites to others. This is a unique project that, if successful, could reduce infection rates considerably.

Culturing *P. vivax* parasites at MVRU

The challenges to controlling and eradicating malaria from the globe are large and complex. To achieve these goals, the world will need to act in multifaceted ways, and in a coordinated and efficient fashion. The many different studies and ongoing work at FTM are a good example of the type of diverse approaches and collaborations that will be required into the future. The Faculty's history of groundbreaking research and its current activities mean it is well placed to continue to lead the fight against malaria in Asia.

Dengue

Dengue fever (DF), and its severe clinical manifestations, dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS), are caused by the dengue virus (DENV), which is endemic in most tropical countries. It has emerged as a major global public health problem because of the increased potential for vector breeding, and the growth of urban centers, which put a severe strain on public services. The disease is endemic in over 100 countries, and around 2.5 billion people are at risk, mainly in tropical and sub-tropical regions. The WHO estimates that between 50-100 million DF infections occur every year, with about 500,000 resulting in DHF. With an average DHF case-fatality rate of 2.5-5%, even with appropriate supportive treatment, it makes the disease a significant cause of childhood mortality in several Asian countries. The virus can be divided into 4 serotypes that infect humans (DENV1-4); it has been found that infection and immunity against one of the 4 serotypes can result in increased disease severity in a secondary infection with a different serotype. This poses a big challenge to the development of treatments and vaccines.

Indeed, there is still no vaccine to prevent infection, and no antiviral drug to treat infection, so a large part of dengue research is focused on these crucial aspects of the disease. Since reliable treatment is still unavailable, prevention through vector control and effective diagnosis have become all the more important, as early detection and access to proper medical care lowers fatality rates below 1%. Due to steadily rising infection rates, the disease has attracted more research attention, and today the Faculty of Tropical Medicine is one of the world's leaders in dengue research. The research conducted on the disease at FTM can broadly be divided into the following categories: Vaccine development; Epidemiology and informatics; Vector control; Diagnosis; Therapeutics

VACCINE DEVELOPMENT

The search for a vaccine against dengue has been a great challenge to researchers for over 4 decades, and despite much research in the area there is no successful vaccine on the market today. Unlike other flaviviruses, dengue has 4 serotypes, and secondary infection with a different serotype significantly increases the risk of severe disease, such as dengue hemorrhagic fever. Therefore, a successful vaccine must be equally effective against all serotypes. Another big obstacle is the lack of tenable animal models to conduct trials on, slowing progress considerably.

In a recently published article from the Department of Tropical Pediatrics, with colleagues from the Center of Vaccine Development, Mahidol University, researchers found that the challenges may be bigger than previously thought. They discovered that the correlation between the presence of dengue-neutralizing antibodies, as determined by the plaque reduction neutralization test (PRNT), and protection from infection, is not absolute. 48 subjects in Ratchaburi Province, Thailand, who had contracted symptomatic dengue infection, underwent PRNT to measure their pre-illness level of dengue-neutralizing antibodies. For dengue, and other flaviviruses like Japanese encephalitis, a PRNT50 titer of >10 is considered protective. This study found that 9 of the cases had a high level of pre-existing antibodies (titer >90) against the specific serotype they were infected with, indicating that high levels of pre-existing antibodies do not guarantee immunity from infection. This is very important, since PRNT titer is considered a key marker of protection in the development of dengue vaccines. Though a larger study is required before definite conclusions can be drawn, these findings raise important questions about the definition of protective levels of PRNT50 titers for dengue infection, and poses new challenges for vaccine development.

Researchers at the Faculty of Tropical Medicine are currently working together with the Sanofi Pasteur

Some of the dengue vaccine researchers at FTM

Company on a 2nd generation tetravalent dengue vaccine efficacy trial, currently in the 3rd phase of clinical trials. The candidate is a live attenuated dengue vaccine expressing pre-membrane (prM) and envelope (E) proteins of each dengue serotype, in which genes have been inserted in place of the corresponding genes of the previous generation YF 17D vaccine. The study is taking place in Ratchaburi Province, where dengue is highly endemic.

The BIKEN Endowed Department of Dengue Vaccine Development at FTM, led by Prof. Eiji Konishi, is taking an innovative approach to dengue-vaccine development. Traditionally, preventive measures except for vector control can be divided into two categories – 'vaccines' which provide active immunizations that are long-lasting at the cost of having a slower effect, and 'antisera', which provide passive immunization that are quick-acting but only last shorter periods of time. Prof. Konishi's team is working on an antibody-expressing vaccine that uses the strengths of both vaccines and antisera – to make a vaccine that is quick-acting and long-lasting. The goal is to transfect the antibody-expressing gene from B-cells into human cells, giving them the capability to produce virus-neutralizing antibodies. One problem is that the gene that has the capability of expressing the necessary antibody has a region that may cause enhancement of virus infection, so researchers need to modify this gene region to remove its enhancing ability. This work has been performed as a collaboration with CEAR (Center of Excellence for Antibody Research) directed by Assoc. Prof. Pongrama Ramasoota. The method has already encountered some success when tested in mice, and although it still requires more work, it is an exciting and unique approach with great potential.

EPIDEMIOLOGY

Dengue is endemic throughout Thailand, and it is estimated that the Asia-Pacific region has > 70% of the worldwide dengue disease burden. It is difficult to predict the severity of outbreaks as infections depend on the vectors' ability to reproduce and reach humans. Therefore, even within the same location, infection

rates can vary significantly over time. 2013 was an unusually challenging year with the highest infection rates in 20 years, highlighting the high impact of the disease.

Since rapid detection and treatment are key components of successful clinical outcomes, maintaining an accurate overview of outbreak locations and infection rates is important. FTM is conducting several epidemiological projects in Thailand, working closely with policy makers at the Ministry of Public Health, to increase our understanding of infection patterns and disease spread.

One challenge of reporting dengue infection is that diagnosis must be done in a laboratory setting, and since the main symptom – high fever – is similar to many other diseases, there is a risk for under-reporting dengue infection rates. In 2013, Prof. Punnee Pitisuttithum, from the Department of Clinical Tropical Medicine, co-published an international epidemiological study of acute febrile illness in children in Asia, which examined reported acute febrile illness cases in children. The study confirmed that clinical dengue infection was underdiagnosed, and in some cases misdiagnosed. The study highlights the urgent need for the development of a diagnostic tool that does not require advanced laboratory equipment unavailable in resource-limited settings.

Assoc. Prof. Jaranit Kaewkungwal, Director of BIOPHICS

In Bangkok, BIOPHICS has pioneered a system designed to notify of dengue and febrile illness outbreaks in school children, "Digital Disease Detection". The system will monitor school absenteeism among children in 1st to 6th grade. Each morning, teachers in the project will collect information about absent students on a tablet computer, and get in touch with parents to enquire whether the student is sick, and whether they have developed a febrile illness. This information will subsequently be used in statistical modelling software to develop an early warning system where unusually high numbers of absentees are reported as a risk index. This project is in its infancy, and currently limited to a select group of Bangkok schools, but if successful, it will expand to cover a larger region.

VECTOR CONTROL

Dengue is spread by mosquitoes of the species *A. aegypti* and *A. albopictus*, and our understanding about these vectors' life cycles can improve our ability to limit contact between vectors and humans, by developing effective insecticides or other strategies that prevent infection. The Department of Medical Entomology has conducted various studies over the past year, looking at innovative approaches to manage the vectors' influence.

One such example is the work of the Department of Medical Entomology, who investigated the effect of insecticide-treated curtains for dengue control in Thailand. Traditional dengue vector control measures tend to focus on immature stages, and when targeting adult populations - insecticide spraying. The problem with insecticide spraying is that its effects tend to be short-lasting, so the group measured the effectiveness of insecticide-treated curtains over time, to determine if infestation rates would be affected, and whether it is a viable vector-control method. Their findings showed that the curtains did not have a noticeable effect on

Insectary at the Department of Medical Entomology

mosquito populations in the houses. Their lack of effect may be partially explained by the housing style common in the study area, where thatch and open houses allow the mosquitoes alternative entry points, limiting the impact of the curtains. This project highlights the difficulties in designing effective vector control that is both long-lasting and practical, and especially the need to tailor vector-control solutions to local environmental conditions.

A novel strategy to vector control was undertaken by Dr. Morales Vargas at the Department of Medical Entomology, who together with Japanese and Malaysian research groups investigated the indirect effects of cigarette-butt waste on *Aedes aegypti.* This study investigated what exposure to one of the most abundant pieces of waste on the planet – cigarette butts – does to the most common dengue vector. Interestingly, they found that pregnant female mosquitoes were attracted to environments with cigarette butts, and preferred to lay their eggs there. Larvae from eggs maturing in this environment subsequently had a shorter life-span and lower fecundity than mosquitoes from the control group. This suggests that there is certainly potential in using cigarette butts in vector control strategies; however their adverse effects on humans and other non-target organisms need to be further investigated.

DIAGNOSIS

As mentioned previously, accurate diagnosis of dengue infection can only be done at laboratories, and the symptoms can be difficult to distinguish from other diseases, leading to problems of under-reporting and misdiagnosis.

A recent study published by a team of researchers from MORU, the Department of Tropical Hygiene and the Department of Clinical Tropical Medicine, found that accurate diagnosis is also even more difficult than previously thought. There are two highly accurate methods of diagnosing dengue – detecting viral presence by viral isolation, or detecting antibody presence using haemagglutination inhibition (HAI). There are other diagnostic methods too, but these methods have been considered extremely accurate, and though they are rarely used since they are very time-consuming and difficult, they are considered the gold standard against which other diagnostic tools are often compared against. The study group analysed the accuracy of these gold standard methods using Bayesian latent class models (LCM), a method that does not assume that they are perfect diagnostic indicators. Their findings show that the true sensitivity of the group's reference assays was as low as 62% when using Bayesian LCM. Because these gold standard methods are often used to measure the effectiveness of new diagnostic tests, these results have a large impact. The research suggests that a combination of clinical diagnostic methods and statistical models such as Bayesian LCM could offer increased specificity and sensitivity of dengue diagnosis.

A different approach to effective diagnosis is being undertaken by researchers from the Mahidol-Osaka Center for Infectious Diseases and the Center of Excellence for Antibody Research (CEAR), who are in the

process of developing a rapid diagnostic kit based on human monoclonal antibodies. Researchers at CEAR have already developed a kit that can diagnose and distinguish H5N1 influenza virus from other influenza virus using monoclonal antibodies, and the same method is being developed for dengue. The goal is to develop a simple diagnostic kit that provides quick and accurate diagnostics in resource-limited areas.

THERAPEUTICS

There is no effective antiviral drug specifically against dengue infection, although medical care by experienced physicians can decrease mortality rates from approximately 20% to less than 1%. Most treatment is focused on maintaining patients' body fluid volume, but research into antiviral therapeutics is under way. Various departments at the faculty have investigated several avenues into developing more effective therapeutic methods.

Researchers from the Department of Clinical Tropical Medicine looked at factors associated with severe clinical manifestation of dengue in Thai adults, and found that hematocrit >2% above the reference range or with an alanine aminotransferase level >120IU/l were at increased risk for developing DHF grades II-IV, with severe complications such as plasma leakage with hypotension and shock as a result. Women, and patients with mean arterial pressure of <80 mmHg were also at higher risk of severe dengue infection, with severe bleeding as the most common complication. These findings are useful tools to predict risk of severity, and can assists clinicians to prevent and reduce complications in patients.

One of the most important findings from the faculty in 2013 was based on the work led by CEAR and Osaka University, in collaboration with the Department of Social and Environmental Medicine, Tropical Pediatrics, and MOCID, together with several Japanese institutions. This group developed human monoclonal antibodies (HuMAbs) from nine Thai patients with DF and DHF, and isolated antibodies that showed strong viral neutralization activity to all serotypes. They evaluated their effect in vivo on suckling mice and monkeys infected with DENV-2, and found a near perfect ability to prevent both mouse and monkey lethality. These HuMAbs have been shown to be equally effective against all dengue serotypes, making them very promising candidates for therapeutic agents against dengue. Before such conclusions can be drawn, further tests are necessary, but the findings so far are very promising. More information about the work of CEAR can be found on page 39.

Dr. Tamaki Okabayashi,
Head of MOCID

Helminths and Flukes

Thailand has a wide variety of endemic parasites that cause many diseases in humans, livestock, and wildlife. Studying the complex life cycles and pathogenesis of many parasitoses is going to become more complex in the near future, when Thailand becomes part of the ASEAN community in 2015. This will allow people to move within the region more freely, and consequently animals and parasites will become more mobile. Information on the current taxonomy, incidence, and genetics of various parasite populations will be essential for monitoring changes that occur when the ASEAN community is formed. As around 50% of Southeast Asia's population are currently infected with various parasites, closely monitoring the situation and identifying any changes will be imperative to maintaining and improving community health standards. Several Departments at the Faculty are actively involved in research and treatments for parasitoses, including the Department of Helminthology, the Department of Tropical Pediatrics, the Department of Protozoology, and the Department of Clinical Tropical Medicine. The Department of Helminthology also runs education and diagnostic services.

Research into parasites at FTM covers many different aspects. Several studies from 2013 looked at parasite population genetics, which provided valuable information about the pathogens. One publication reported that isolated *Haplorchis taichui* intestinal fluke populations showed genetic differences from each other, indicating inbreeding depression, which may be significant in developing specific treatments for different regions. A collaboration between the Departments of Helminthology and Protozoology investigated *Enterocytozoon bieneusi*, revealing populations with genotypes that suggested zoonotic transmission potential. These findings help improve our overall understanding of medically important parasites, and elucidate possible advances in their diagnosis and treatment.

Epidemiology in helminthic infections is also being investigated. One study identified common clinical features of *Trichostrongylus* infections, and identified the regular consumption of fresh vegetables, not washing hands, and living in proximity to cattle, as factors that increased its incidence. A collaboration between the Department of Helminthology and groups in Spain and France reported the prevalence of the spirurid Nematode *Physaloptera ngoci* in murine species along the Mekong River. This study also provided morphological and biogeographical data on the nematode. Another project, run by the Department of Social and Environmental Medicine, located and characterized populations of the blood fluke *Schistosoma mekongi*'s snail host species, also along the Mekong. These studies all help provide more comprehensive background knowledge on their respective diseases.

A blood fluke of the genus Schistosoma

Research topics have also covered diagnostic methods and interactions between helminthiases and other medical conditions. The Departments of Clinical Tropical Medicine and Helminthology developed a novel test for gnathostomiasis infections, using skin testing to detect fractionated *G. spinigerum* antigens. Research into helminth interactions found that some *Trichinella* species actually decrease the severity of colitis in mice. This finding suggests that the nematode species could be used as a treatment for this condition. A literature review produced by the Department of Tropical Pediatrics identified several trends between helminth infections and allergies in children.

In summary, the research into parasitoses occurring at FTM helps our understanding of the diseases in many different ways, as well as contributing to other fields. Improving our understanding of species' distributions and infection prevalence will help us diagnose and treat diseases better, as well as monitor changes that will occur in the near future with the creation of the ASEAN region. Studies have also indicated the potential use of helminths as treatments for separate conditions, a good example of the value of continued scientific research in this area.

As well as conducting research, the Department of Helminthology provides many other services to the public. The Department runs a database on helminths found in Thailand, and can provide information about these to the public on request. They are able to identify helminths and diagnose different diseases using a variety of methods. A large selection of preserved worms and prepared microscope slides for educational purposes are available for sale, while others can be loaned out for exhibitions or displays.

The Department also runs professional development courses. These include an annual regional training course, which educates people on measures to limit the spread of soil-transmitted helminthiases, and is suitable for regional health workers. Courses are also run on Practical and Clinical Parasitology, where hospital staff can gain experience identifying organisms and diagnosing infections. Other training opportunities are available upon request. The Head of the Helminthology Department, Associate Professor Chalit Komalamisra, is very proud of the Department's work in the field. 'Our commitment to different areas of study, such as taxonomy, epidemiology, diagnosis and molecular biology, as well as the Department's work in education and health services, means that we are well positioned to face the challenges ahead of us in the future.'

Although the creation of the ASEAN region will bring challenges in terms of parasite transmission and control, there are also opportunities. FTM's collaborations with regional partners mean that it will be able effectively to share knowledge on diagnosis and treatment for various endemic parasites, while also being able to quickly learn how to treat new diseases from other regions. The Faculty's ongoing research into better understanding, treatment and prevention of parasitoses will continue to benefit many people in Thailand and throughout the ASEAN region.

Tropical Disease Research Centre (TDRC) Kanchanaburi: Special Focus

THE TROPICAL DISEASE RESEARCH CENTER, LOCATED IN KANCHANABURI

One of the biggest difficulties with studying and treating tropical diseases is that they often have the heaviest impact on rural and remote, relatively inaccessible populations. Reaching these endemic areas to take samples, provide treatments and conduct field studies can therefore be very difficult. Our Faculty is unique in being the only tropical medicine Faculty located in the Tropics, which gives us a proximity to the infections, vectors, and patients that many other institutions can only dream of. To make it even easier for our researchers to get closer to the study sites, the Faculty has set up permanent research centers in endemic regions in Thailand. Here, researchers have access to the highly specialized equipment and lab space needed to conduct their research. The location of these centers also benefits the local populations, who are more easily able to access quality healthcare, often free of charge. These research stations operate in various endemic locations around the country, and support both research and community-health activities. The Faculty's largest field research station is the Tropical Disease Research Center (TDRC), located in Kanchanaburi Province, near the Thai-Myanmar border. This location is ideal, as while being only 2 hours' drive from Bangkok, the area is subject to a range of tropical diseases.

The Mahidol Vivax Research Unit, or MVRU, is a key component of FTM's research into malaria, one of the most serious of the tropical diseases. Working from the Kanchanaburi field station, it is focused primarily on *P. vivax* malaria, but also works with other disease-causing species in Thailand, namely *P. falciparum,*

P. malariae, and *P. ovale*. Due to its location, MVRU has routine access to *P. vivax*-infected blood and can provide *P. vivax*-infected blood to Anopheles vectors; consequently, the MVRU is one of only a few centers in the world that support the validation of transmission-blocking vaccines, especially for *P. vivax.*

The unique location in Kanchanaburi provides researchers with unprecedented opportunities to investigate pathogens such as *P. vivax*, and advances are being made towards several research goals. Progress is being made into the development of non-falciparum diagnostic tools, as well as research into parasite development and transmission. The center's location also allows it to operate a community-health clinic, where local people can receive free health care they could not otherwise access.

The work is being carried out by Dr. Jetsumon Prachumsri, who is very optimistic about the opportunities made possible by the location of the facility. 'The location of the Kanchanaburi field station, in conjunction with departmental resources and staff expertise, means that FTM is a world leader in *P. vivax* research. We are the only lab with access to patients and mosquitoes, and the necessary skills to study the complete life cycle.'

The TDRC also hosts epidemiological studies conducted by the Department of Tropical Hygiene, who work closely with BIOPHICS to monitor the spread and concentration of malaria in the region. The border regions between Thailand and Myanmar are susceptible to the disease, since they are excellent breeding grounds for the parasite vector, Anopheles mosquitoes. Again, being in close proximity to this area makes studying malaria from TDRC efficient and effective.

In conjunction with other research stations, Kanchanaburi is playing a significant role in FTM's research output and work on many different aspects of different tropical diseases. The ongoing work at Kanchanaburi is vital to developing knowledge and treatments for malaria and other tropical diseases in the ASEAN region, and will continue to play an important role in consolidating the Faculty as a world leader in tropical medicine.

The location of the TDRC in Kanchanaburi is a great benefit to many different areas of research at FTM

HIV/AIDS

The World Health Organization (WHO) estimates that 500,000 people in Thailand are HIV positive. While ARV treatment can be effective with early intervention, a vaccine remains a major goal in the field. Since the RV144 trial – which achieved a 31% efficacy rate in preventing HIV infection – was completed by the Vaccine Trial Center and its collaborators at the Faculty, many other areas have been investigated by Faculty groups in order to build on this pioneering work. In addition to this research, the Faculty also provides various other services to the public, including diagnostic and medical treatments for those with the disease, as well as counseling services.

AIDS VACCINE

The Vaccine Trial Center is a center of excellence dedicated to carrying out clinical trials on vaccines, including several potential HIV candidates at FTM, with its collaborators (MOPH, AFRIMS, Chulalongkorn University, and Chiang Mai University). It is run by Professor Punnee Pitisuttithum, who has experience in conducting two efficacy trials of AIDS vaccine candidates. In 2013, the Center began an ongoing stage II trial with an ALVAC-HIV vaccine, rgp 120 B/E boost vaccine regimens, where additional boosting is added, stimulated to determine the immune responses generated in the blood (both B and T-cell antibodies) and local antibodies at mucosal sites (e.g., semen, cervical, secretion) [RV306]. The study is now fully enrolled, and is at the cutting edge of research in the area, and will significantly improve scientific understanding of the vaccine.

BIOPHICS is also a center of excellence at FTM. It has also been a data management center for HIV vaccine research. The Vaccine Trial Center and BIOPHICS together with their collaborations had successfully conducted RV144 which had led to subsequent findings on immunology and antibody responses in HIV vaccine trials. RV144 is the only HIV-1 vaccine efficacy trial to date that has demonstrated vaccine efficacy, with a modest level of protection of 31%. Humoral responses were the predominant immune response in this trial, along with vaccine-elicited CD4 T-cell responses. A case control study showed that IgG antibodies to the V1/V2 region of HIV-1 gp120 correlated with a decreased risk of infection, whereas IgA antibodies to the envelope correlated with a decreased vaccine efficacy in the vaccine group. Follow-up studies further supported the role of V2-specific immunity in vaccine efficacy with evidence of a virus sieve effect in infected vaccine recipients at this gp120 region. In addition, mAbs generated from RV144 vaccine recipients targeted a critical residue in V2 (K169), thus providing evidence that vaccine-induced antibodies could potentially mediate a virus sieve effect. These V2-specific antibodies can mediate antibody-dependent cellular cytotoxicity (ADCC), neutralization and low-level virus capture.

Staff from the Vaccine Trial Center

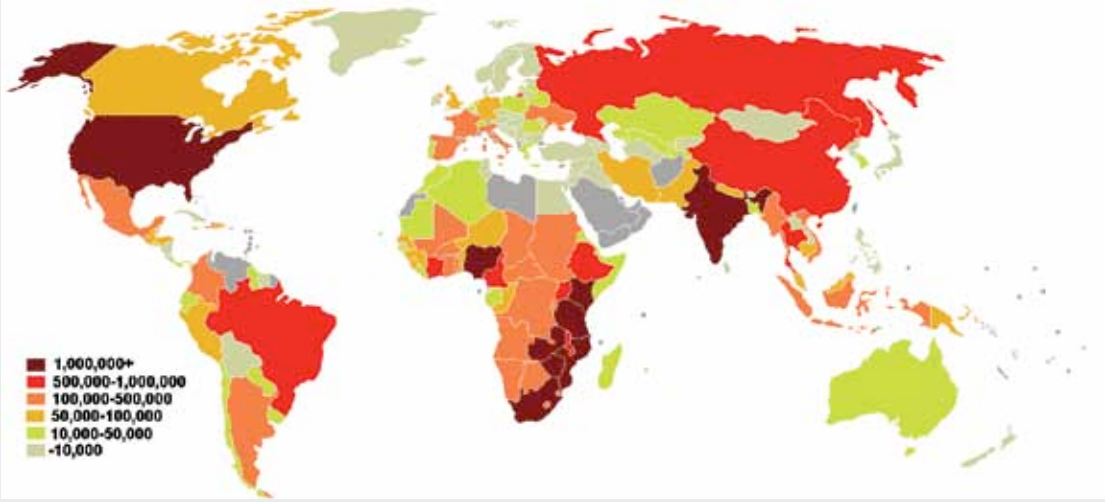
These generated new hypotheses to test in further efficacy clinical trials; namely, is there a functional role for V2-specific IgG antibodies or are they merely a marker of another functional immune response? Several RV144 follow-up studies as well as new vaccine studies are now collecting mucosal samples to probe these questions and determine the functional properties of vaccine-elicited IgA responses. In RV144, in the presence of low vaccine-elicited

IgA responses, either ADCC or NAb responses correlated with a decreased risk of infection. ADCC responses were predominantly directed to the C1 conformational region of gp120, the hypothesis is that C1 region Env-specific IgA could block C1-specific IgG effector function due to their ability to bind to different Fc receptors on effector cells. It was recently demonstrated that IgA antibodies elicited by RV144 could block C1 region specific IgG-mediated ADCC (via natural killer cells).

A third center of excellence, CEAR (the Center of Excellence for Antibody Research), has been conducting innovative research into the development of HIV vaccines. In one study, 50 monoclonal antibodies from hybridomas were identified as having neutralizing properties against HIV. This was the first study to use hybridomas in this way. This study has applications in vaccine development, as well as neutralizing antibody production. You can read more about this exciting work in the CEAR: Special Focus section (Page 39).

IMMUNOLOGY AND EPIDEMIOLOGY

Several studies have also been investigating the interaction between AIDS and tuberculosis at the



Global HIV prevalence

Department of Microbiology and Immunology. The work has identified specific markers involved with the higher incidence of certain other diseases in HIV patients. They also reported an association between the levels of granulysin in the blood and the presence of HIV/TB co-infection. Professor Srisin Khusmith elaborates: 'The immunological and molecular biological aspects in tuberculosis and HIV/TB co-infections were studied extensively at the Department of Microbiology and Immunology, including the potential function of granulysin, other related effector molecules and lymphocyte subsets. We reported for the first time that the alteration of circulating granulysin has a potential function in the host's immune response against TB and HIV/TB co-infection, which might serve as biomarkers of clinical disease before and after therapy. The influence of cytochrome *P450 2B6* haplotype on plasma efavirenz and nevirapine levels when co-administered with rifampicin in HIV/TB co-infected adults were also reported, which might be useful for personalized anti-retroviral therapy.'

The Department of Tropical Hygiene conducted a survey into the reasons behind the low uptake of Isoniazid as a therapy for HIV patients undergoing TB treatment in northern Thailand, identifying a lack of a national strategy as a contributing factor.

CURRENT TREATMENT AND FUTURE RESEARCH

As well as groundbreaking research into possible vaccines for the disease, FTM also helps those with the condition to access and receive treatment. ARV treatment centers have previously been the subject of several studies by the University.

The Silom Community Clinic @TropMed, located at the Hospital for Tropical Diseases, specializes in Voluntary Counselling and Testing (VCT) services as well as sexually transmitted disease (STD) diagnosis and treatment – with related services for homosexual men and transgender women who are sexually active with men. They provide diagnoses for HIV using rapid testing within 30 minutes, detection of acute HIV infection, as well as the opportunity to participate in cutting-edge behavioral and biomedical HIV prevention intervention clinical trials. Counselling is routinely available to patients, and all services are offered for free. The clinic is run in a confidential, understanding environment by staff with many years of experience working with this at-risk population.

Although much work remains to be done to develop an HIV vaccine with higher efficacy, FTM has successfully demonstrated that vaccines can be developed that have an effect on the virus. The Faculty, along with its collaborators, will continue its cutting-edge research into this area, while also providing quality healthcare to those with the disease. Due to the Faculty's history in this area, and the wide variety of preventive and treatment options it is pursuing, it is well placed to continue improving the efficacy of potential vaccines.

U.S. Ambassador Kristie Kenney visiting the Silom Community Clinic @ TropMed

Melioidosis

Melioidosis is caused by the Bacterium *Burkholderia pseudomallei*, and has a prevalence of around 21 cases per 100,000 people in Northeast Thailand. The mortality rate in these cases is approximately 40%. These alarming figures may in reality be even higher, as the disease often cannot be diagnosed in rural hospitals due to a lack of resources and facilities. The symptoms depend on the route of infection and so can vary greatly, but often start with a fever.

Inoculation can occur through inhalation, ingestion or by dermal exposure to the pathogen. As such, populations in Thailand that spend more time in contact with soil or water, like rice paddy farmers, pre dispose themselves to the disease. The prevalence and mortality rates of melioidosis make research into treatment, prevention and possible cures for the disease very urgently required. Several departments at FTM are helping combat the disease in different ways.

The FTM collaborates with Oxford University in the MORU (Mahidol-Oxford Tropical Medicine Research Unit) partnership. Since 1986, MORU has been working in Sappasithiprasong Hospital in Ubon Ratchathani. This work has included treating over 3000 patients with Melioidosis, as well as research that has helped shape the WHO's guidelines for treatment of the disease. MORU's work over this long period has also identified an increase in the prevalence of the disease. A study conducted between 1987 and 1991 found 4.4 cases per 100,000 people, which means current numbers are almost 5 times higher than they were in this period. Possible reasons for this increase include rising life expectancy and an increase in pre disposing conditions like diabetes mellitus. The relationship between diabetes mellitus and melioidosis has also been investigated in studies by the Department of Tropical Medicine.

Recent studies conducted by The Department of Tropical Hygiene at FTM have dealt with the broader impacts of this increasingly common disease, including the economic impacts. The study calculated the total economic burden of melioidosis in Sa Kaeo and Nakhon Phanom, two provinces in Northeast Thailand. The total costs of melioidosis, due to both direct and indirect causes were $152,159 and $465,303 respectively. The difference was attributed to the different rates of infection in the two areas. This finding highlights both the valuable research being carried out by the faculty, and why it is so important that it continues.

Other groups have looked at the epidemiological aspects of the disease. One study, including members from MORU, the Department of Tropical Hygiene, and the Department of Microbiology and Immunology , was the first to prove that ingestion of the bacterium is a major route of infection. The study also provided recommendations for lowering the risk of contracting the disease, including avoiding direct contact with rice paddy water where possible. Studies carried out by FTM have also investigated different contributing factors involved with contracting the disease, including lifestyle, occupations and other medical conditions such as diabetes mellitus.

Progress is also being made in the understanding of the factors relating to resistance. Four different FTM departments collaborated to produce a publication last year. Staff from MORU, the Department of Microbiology and Immunology, the

Assoc. Prof. Narisara Chantratita is an expert in Melioidosis research

Department of Clinical and Tropical Medicine and the Department of Tropical Hygiene produced the paper in conjunction with other groups worldwide. Their work identified a pathogen recognition receptor, TLR5, which when down regulated is associated with lower rates of organ failure and improved survival in melioidosis cases. This has possible applications in the development of treatments for the disease, and is potentially a major breakthrough.

Associate Professor Narisara Chantratita works in the Microbiology and Immunology Department at FTM, and is an expert on Melioidosis. She has investigated genetic and immunological factors in the pathogenesis of the disease, and also published potential methods for rapid detection of the pathogen in rural areas. She emphasises the future benefits of the current research:

'The access to an easy-to-use, accurate and reliable diagnostic tool for melioidosis will greatly reduce the impact of the disease,' she says. 'Being able to identify individuals carrying the infection will enable earlier interventions with antibiotics, and also help us to get a better picture of the true prevalence and mortality of the disease.'

Although there is still much to discover about melioidosis, FTM is working on many fronts to tackle the disease. MORU 'aims to improve diagnosis, assess and improve treatment methods, and monitor morbidity and mortality with the aim of decreasing them.' This accurately summarizes the many different projects being undertaken, and sets out clear goals for research in the future. The ongoing work of FTM, through both its Departments and collaborations, is dedicated to achieving these goals.

A *Burkholderia pseudomallei* colony, cultured at MORU

CEAR - Special Focus

The Center of Excellence for Antibody Research (CEAR), was founded at FTM in 2009. The goal of the Center is to produce therapeutic products against infectious diseases. The Center currently employs 12 full-time staff. It is equipped with state-of-the-art facilities, including apparatus necessary for flow cytometry, viral culture and real-time PCR. As antibodies are central to the body's immune defenses against many diseases, CEAR is working on a wide range of diseases. Exciting results produced by the Center have included the development of candidate vaccines and the identification of new antibodies involved with resistance to disease, which both have the potential to be extremely valuable treatment tools for many diseases. This work has been achieved through partnerships with several other international organizations. In recognition of this essential research, CEAR Director, Assoc. Prof. Pongrama Ramasoota recently accepted an award on behalf of the CEAR team. In conjunction with this valuable research, CEAR also provides services for other Departments at FTM.

Research conducted by a group including Dr. Ramasoota has focused on monoclonal antibodies (MAbs) involved with neutralizing HIV-1. They were able to use samples taken from HIV patients to produce hybridomas, which expressed 50 different antibodies with neutralizing capabilities against HIV-1 (NhMAbs). They found that more hybridomas were produced from participants with higher CD4 cell counts, and that NhMAb-producing hybridomas with strong neutralizing activity were associated with patients who had HIV within the last 12 months. The study concluded that future HIV-investigation participants should be selected for high CD4 cell counts and neutralizing antibody production. These findings have potentially huge implications in using neutralizing antibody production to develop new therapies, as well as HIV-1 vaccine development.

For their work on this and other projects in 2013, including dengue, influenza, and foot and mouth disease, Dr. Ramasoota and his group received the Outstanding Research Award from the National Research Council of Thailand. The award recognized the Department's excellent research into the use of monoclonal antibodies in dengue treatment. The award was presented to the center of excellence at a ceremony in February.

Research conducted at CEAR has also been looking at the role of antibodies in the treatment of dengue infections. Several studies into dengue have been completed in the last 12 months, with many interesting findings. One study identified the role of antibody-dependent enhancement in severe cases, which although not yet fully understood may have implications in developing future treatments. Another study mapped human DENV-NS1 epitopes, increasing our understanding of disease pathogenesis. This study also provides a pathway for the development of future drugs or vaccines. In a third study, 19 human MAbs were identified as having neutralizing properties to more than one dengue serotype. This finding will help elucidate the role of certain epitopes associated with the virus. Another group, including staff from CEAR and collaborators from the University of Osaka, has also been studying human monoclonal antibodies (HuMAbs). They identified 17 separate HuMAbs, which showed elevated neutralization activity to all

CEAR Director, Assoc. Prof. Pongrama Ramasoota

viral serotypes. These HuMAbs were able to almost totally prevent fatalities due to DENV-2 in a murine model, making them very strong candidates for future therapies for dengue virus. The project team has submitted patents for these findings in several countries, and their ground-breaking findings may have a profound impact on dengue therapeutics in the future. In recognition for their outstanding work, Dr. Ramasoota and his group received the Outstanding Research Award from the National Research Council of Thailand.

CEAR has produced publications in many other areas, as well, as antibodies have potential applications in dealing with many other diseases. One group used a novel MAb to develop a test for foot and mouth disease in livestock. The assay reliably differentiates infected animals from vaccinated ones, and will be very useful in limiting the spread of the disease. A group comprising several CEAR researchers has also investigated treatments for Japanese encephalitis (JE). They found that HuMAbs produced by hybridomas with neutralizing properties against dengue virus were also effective against JE. A group made up of staff from various FTM departments, including Director Ramasoota, also published a paper outlining the efficacy of different treatments on the parasite ***Schistosoma mansoni***. These publications demonstrate the wide range of topics being investigated at CEAR.

The Center also benefits from productive partnerships with several organizations, which are not limited to other Departments at FTM. The Mahidol-Osaka Center for Infectious Diseases, or MOCID, is a collaboration between Mahidol FTM and the Institute for Microbial Diseases at Osaka University, in Japan. CEAR has been a major contributor from FTM in this partnership, and research groups comprising scientists from both organizations have produced 5 publications in the last 12 months. The BIKEN Institute has also contributed to this partnership, helping to fund research into an antibody-expressing dengue vaccine. The Japanese International Cooperation agency (JICA) has also worked with Mahidol, producing several papers through various research projects. This ongoing sharing of knowledge and expertise benefits both sides of the partnership, and is one aspect of research that FTM values very highly.

As well as conducting ground-breaking research into antibody applications in diseases, CEAR provides services and assistance to other departments at FTM. They work closely with the Hospital for Tropical Diseases, and are able to provide dengue virus diagnosis via PCR. In addition to this, the Center can provide services to FTM staff, such as flow cytometry, protein interaction array analysis, and real-time PCR.

Although it has only been operating for 5 years, CEAR has already made many significant contributions to the field. While many different diseases still present significant health problems in Thailand and elsewhere in the world, CEAR's work to date has been invaluable in improving the treatments and developing possible cures for many of these. The dedication of its staff, as well as their expertise and collaborations, mean that they are well placed to continue these innovations into the future.

Some of the staff from CEAR

Toxoplasmosis

Toxoplasmosis is a disease caused by the parasitic protozoan *Toxoplasma gondii*. Although felines are the definitive host, the parasite can infect most warm-blooded organisms, including humans. The protozoan is found worldwide and currently infects up to a third of the global human population. While often asymptomatic, it can be transmitted vertically to cause congenital defects, and can be fatal in immunocompromised patients.

FTM's research into toxoplasmosis dates back to 1992, and was originally led by Asst. Prof. Thaiyooth Chintana and later on by Dean Yaowalark Sukthana. It was found that human seroprevalence in Thai people is lower than in France and South America, accounting for around 12-15%. The burden of congenital toxoplasmosis was less than 1 in 8000 for live births, while severe clinical manifestations were observed in HIV/AIDS infected patients, whose immunocompromised status resulted in CNS abscesses with a high mortality rate. To diagnose toxoplasmosis is not straight forward. Even though the serological method is a mainstay for antibody detection in acquired or congenital infections, late reactivation cases need more modalities to make diagnoses, such as brain imaging or molecular techniques.

In 2012, Dean Yaowalark's group proposed a promising diagnostic tool, a duplex reverse transcription-PCR (duplex RT-PCR) assay specific to tachyzoite-bradyzoite genes, for toxoplasmic encephalitis in Thai HIV-infected patients with 100% specificity and 87.5% sensitivity. This diagnostic method was rapid, easy and 4 times cheaper than procedures used in the CDC diagnostic recommendations. It worked very well for blood samples, even after drug treatment had been started.

Toxoplasma research at FTM also covers investigating transmission to humans, including looking at eating habits and zoonotic potential. It was found that despite a low contamination rate from consuming pork meat, heavy parasite loads were present in each pork sample, which exceeded the infective threshold for potential infections. FTM's researchers are also investigating the prevalence of the parasite in different populations, to help give a more complete picture of the disease. One study, published by a group including Dean Yaowalark Sukthana, found high levels of *Toxoplasma gondii* in Australian commercially reared chickens. This finding has important implications for public health, and also highlights some of the large areas still to be covered by research. 'Having a better understanding of the prevalence of *Toxoplasma gondii* allows us to identify potential outbreaks and at-risk groups in the community,' she says. 'Knowing the prevalence of the disease at a certain time point also allows researchers to identify potential outbreaks more easily in the future.'

Although *T. gondii* infections are often asymptomatic, they can have severe consequences in some patients. The high prevalence of infection in the population means that monitoring natural reservoirs and having access to rapid diagnostic tests is important for controlling the disease. The Faculty will continue working to improve both diagnosis and treatment of the disease, as well as environmental factors to control and prevent transmission from animals to humans, which will benefit groups at high risk, especially HIV patients.

Dean Yaowalark Sukthana has published papers on different aspects of toxoplasmosis

Tropical Nutrition and Food Science: Special Focus

The Department of Tropical Nutrition and Food Science was founded in 1966, and though it is one of the smaller Departments in terms of Faculty staff, it is in high demand among students and professionals alike as nutrition-related diseases have grown dramatically both in Thailand and the region. A recurring theme in this year's Annual Review has been the growing impact of non-infectious diseases, often caused by lifestyle factors and age. Highlighted as future challenges by both the Dean and the Director of the Hospital for Tropical Diseases, the importance of these diseases cannot be overlooked. The Department of Tropical Nutrition and Food Science is specialising to a large extent on these new challenges.

As the name suggests, the Department's research focus is in two main areas - nutrition and food science. Nutrition research ranges from malnutrition problems to obesity, and includes investigating dietary patterns, the role of genetic and protein changes in nutritional status, dyslipidemia, cardiovascular disease, osteoporosis, and epigenetics studies. Food science relates to microbiological studies on plant extracts with anti-cholangiocarcinomal, mosquitocidal, anti-HIV, and anti-obesity properties, as well as probiotics development and the use of glycosidase enzymes in agriculture and the food industry.

As mentioned above, due to the high interest in metabolic syndromes, the Department sees a high demand from students and healthcare professionals alike. It organised the training course entitled 'Methods in Nutritional Assessment and Research' for the 9th year running, and continues to see a high demand from students.

Prof. Rungsunn Tungtronchitr is one of the senior researchers at the Department, and he has investigated the relationship between genetics and various metabolic syndrome-related problems. One study, with the Department of Clinical Tropical Medicine and others, investigated the link between PCSK1 genetic variants and obesity in Thai children and their families. Single nucleotide polymorphisms (SNPs) in this gene have been associated with obesity in European populations, and both obesity and type 2 diabetes in Chinese populations. Prof. Tungtrongchitr's findings supported these studies and found that variant genotypes in the rs6234-6235 pair are at significantly more risk of being obese, and severely obese.

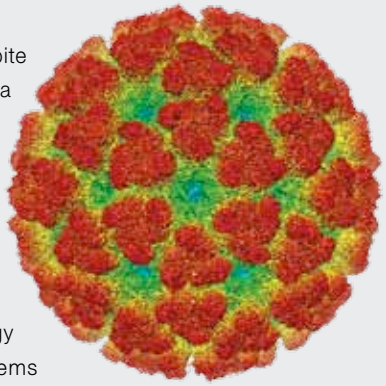
A large ongoing study has been looking at behavioral and lifestyle factors related to the risk of type 2 diabetes mellitus. A disease that has increased significantly in prevalence in Thailand over the past decades, it is notoriously difficult to diagnose because disease progression is slow, without clear symptoms. Clinical diagnosis can therefore take up to a decade, making prevention a much more effective strategy than treatment. The ongoing study aims to identify behavioral and lifestyle factors associated with the disease, enabling early preventive measures for at-risk groups.

An example of food science research at the Department is an investigation of the health benefits of Mao-Luang (*Antidesma bunius* L. Spreng), a fruit commonly consumed in northeast Thailand. Rich in polyphenol, Mao-Luang has been reported to have strong antioxidant activity, so this study investigated its effects on hyperlipidemic rats. Its effect on safety biochemical markers, antioxidant status, oxidative stress and inflammation markers as well as heart pathology will be investigated to assess the fruit's health benefits.

Asst. Prof. Dumrongkiet Arthan, Head of the Department of Tropical Nutrition and Food Science

The Department's research covers broad categories, and their popular training and close ties to the Ministry of Public Health and international institutions make them influential in shaping policy and treatment practices in Thailand and the Southeast Asian region at large - an impact that reflects the new challenges facing public health in the region.

Chikungunya



Chikungunya virus (CHIKV) is transmitted to humans by the bite of infected *Aedes* mosquitoes, like dengue. Once present, it causes a range of symptoms, including swollen and painful joints, muscular pain, headaches, and rashes. It is has lower morbidity and mortality rates than similar diseases, such as malaria and dengue, but was reported in 2005-6 as causing fatalities in India, Reunion Island, and Mauritius. The disease was first reported in Thailand in 1960, and has been present ever since. In recent years, the prevalence of the disease has increased, making studies into its diagnosis, epidemiology and treatment more urgently required. FTM is working on these problems in several different ways.

Research at FTM into CHIKV over the last 12 months has produced 2 papers. The first study successfully isolated CHIKV and dengue viruses by adsorbing them to magnetic beads coated with anionic polymer. This finding has applications in early detection of chikungunya, and is a significant step forward in the identification of the disease. Assistant Professor Natthanej Luplertlop, from the Department of Microbiology and Immunology, was one of the authors of this paper. 'The viruses captured in this method can be successfully propagated, which enables simple diagnosis from very low viral burden', he says. 'The reduced cost, high sensitivity and rapidity of testing make this a very useful tool in the fight against the disease.'

The second study was concerned with the pathogenesis of CHIKV and its action in human skin cells, or keratinocytes. The study characterized the action of the virus and mosquito saliva proteins in suppressing the immune response, enabling the virus to survive in the host. This understanding of the mechanisms of the disease will help develop improved treatments, and may even benefit the study of other diseases. Orapim Puiprom is a research fellow from CEAR who worked on the study. 'Skin cells are the body's first line of defense against CHIKV, and their transmission in keratinocytes remains poorly understood. Improving our knowledge on how a virus replicates at this early stage of infection opens up many different possibilities in terms of treatment, diagnosis and even possible future vaccines.'

Factors like climate change and increased movement of people across borders within the ASEAN region have the potential to increase the prevalence of certain diseases. The work at FTM on the diagnosis, pathogenesis, and possible treatments for chikungunya will be instrumental in combating the disease now and into the future.

Asst. Prof. Natthanej Luplertlop has been investigating different aspects of Chikungunya virus

Scrub typhus

Scrub typhus is a tropical disease caused by the bacterium *Orientia tsutsugamushi*. The pathogen is transported by larval mites of the family *Trombiculidae*, commonly called 'chiggers'. Humans contract the disease when bitten by a mite carrying the bacterium. Symptoms often include fever, myalgia, muscle pain, cough, gastrointestinal symptoms, rash, and eschar (pieces of dead tissue cast off from the surface of the skin), although scrub typhus can occur without these. The disease is believed to infect around 1 million people per year, with a fatality rate of around 10%. As with other neglected tropical diseases, these figures are made even more concerning by several factors. A 2013 review article published by the Mahidol-Oxford Tropical Medicine Research Unit (MORU) stated that the range of scrub typhus requires more research, as does the variety of host species. This is due to evidence of the disease further into Africa, the Middle East and South America than currently documented. These findings, combined with inaccuracies in diagnosis of the condition, make the work of FTM into scrub typhus very important.

A study conducted last year by MORU looked at the accuracy of current methods of diagnosis for scrub typhus. The study determined Immunoglobulin M (IgM) status in samples using an indirect immunofluorescence assay at different time points. The results showed that samples kept at 4°C for 2 days were classified as negative after initially being positive in 20-32% of cases. This high level of variability underlines the difficulties surrounding diagnosis, and strongly suggests that the disease is under-reported. It is also an important reason why studies in this area need to continue.

A Family Trombiculidae mite, the vector for scrub typhus

As little is also known about the pathophysiology of the disease, a study by MORU has investigated the routes of infection in murine models. They found that *O. tsutsugamushi* load was highest in the lungs and spleens of mice inoculated with two different strains of the bacterium. This study helps shed light on the epidemiology and pathogenesis of the disease, which will contribute to improved treatments and even vaccine development in the future.

MORU has also focused on monitoring the incidence of scrub typhus in hospital studies in the Northeast of Thailand and Laos. The WHO has stated that 'Scrub typhus is probably one of the most under-diagnosed and under-reported febrile illnesses requiring hospitalisation in the region.' To alter this trend, MORU has been collecting data on cases presenting to hospitals in the region, and comparing the genetic and antigenic makeup of the pathogens identified. This work is another example of MORU's multi-disciplinary approach to characterizing the disease, in order to enable future advances in treatment.

The work summarised here gives an indication of the progress made by FTM in the treatment of scrub typhus, but also highlights the large amount still unknown about the disease. Many challenges remain in respect to scrub typhus, including increasing our understanding of the disease to improve diagnostic tools and future vaccine development. MORU and the FTM are working continuously to raise awareness, and improve the diagnosis and treatment of this neglected tropical disease.

Mahidol-Oxford Tropical Medicine Research Unit (MORU): Special Focus

The Mahidol-Oxford Tropical Medicine Research Unit (MORU) is a collaboration between the two Universities, and is committed to 'fighting infectious tropical diseases affecting rural communities in Asia and elsewhere in the developing world.' To meet this goal, the collaboration has been working since 1979 and includes a main office and lab in Bangkok at Mahidol, with other study sites spread widely through both Asia and Africa. MORU is committed to improving the diagnosis and treatment of malaria and dengue, and neglected tropical diseases, such as scrub and murine typhus, melioidosis, Japanese encephalitis and leptospirosis. In 2013, it published 124 journal articles on different subjects. Apart from research, MORU is also committed to developing people's skills to provide health care. They also help institutions for use as community resources, promote public engagement and dissemination of knowledge, and provide guidance with governance and financial management, to ensure that programs are sustainable in the long term.

RESEARCH AREA: MALARIA

MORU is investigating many different aspects of malaria, both in Thailand and further afield. Through 15 sites in 10 countries, the TRAC (Tracking Resistance to Artemisinin Collaboration) study has been monitoring artemisinin resistance in malaria parasites. The program has identified Myanmar as the center of resistance, and is consequently working with local authorities there to stop new strains spreading to Africa.

Prof. Nicholas Day, Director MORU

Related collaborations with other institutes have identified the genetic and phenotypic causes of resistance. This information is very useful in the process of developing diagnostics and treatments for artemisinin resistant parasites.

Studies have looked at the presence of malaria in pregnant women. One study in the Thai-Myanmar border region found that post-partum women showed a higher prevalence of *P. vivax* malaria, while *P. falciparum* cases became less common. While these differences were attributed to decreases in exposure to falciparum and an increased chance of relapse for vivax, the study highlights the need for improved monitoring and treatment of vivax malaria in post-partum women.

Another study in Uganda found parasitaemia levels and timing of infection were indicators of complications in birth, but that the presence of fever in mothers was not. This study recommended screening, diagnosing and treating infected pregnant women as quickly as possible, regardless of symptoms.

The collaboration has also investigated a range of other topics relating to the disease. Studies into genetic resistance to therapies, drug efficacy, pharmacokinetics, prognostic indicators and immunology have all been carried out. This diverse range of study topics has helped improve greatly the overall understanding of malaria.

You can read more about FTM's malaria research on page 21.

RESEARCH AREA: DENGUE

MORU has conducted two studies into dengue in the last year. The first study looked at the accuracy of tests used to diagnose the disease in a Hospital in Sri Lanka, and revealed a lower than expected rate of detection using the current diagnostic assay. The group also suggested an improved method for detection, which will potentially lead to the better application of treatments and better patient outcomes. The other investigation surveyed community attitudes and knowledge about dengue in Vientiane, Lao PDR. This study highlighted several trends concerning community understanding, but most significantly, 93% of the participants believed they did not have enough information on dengue. This finding highlights the importance of MORU's community education work, described further below.

You can read more about FTM's dengue research on page 25.

RESEARCH AREA: SCRUB TYPHUS AND MURINE TYPHUS

Scrub typhus or bush typhus (caused by *Orientia tsutsugamushi*, transmitted by trombiculid mites, or "chiggers") and murine typhus (caused by *Rickettsia typhi*, transmitted mainly by rat fleas) are both highly under-reported diseases that are thought to be highly prevalent in many rural communities.

The prevalence of scrub typhus among humans, reported in a review article from MORU, was > 1 million cases per year. This article also highlighted the probable extended range of the disease. It is confirmed in Eastern Russia and Korea, Southeast Asia, Afghanistan, and Northern Australia, but is thought to extend to Africa and South America.

A study by MORU has highlighted problems associated with the standard diagnostic test for scrub typhus and murine typhus, specifically the immunofluorescence assay. The study found that the subjective nature of determining endpoint titers, and other factors like experience level of professionals made the diagnoses potentially unreliable. Another study investigated the diagnosis of concurrent types of typhus infection. These are good examples of how MORU's work into neglected tropical diseases is helping to improve our understanding of limitations, and areas which need improvement.

You can read more about MORU's typhus research on page 44.

RESEARCH AREA: MELIOIDOSIS

Melioidosis is a bacterial infection, which is thought to be highly under-reported. A recent study by MORU reported an incidence of 21 cases per 100,000 people in Ubon Ratchathani Province, a number which has increased in recent years. Around 40% of these cases are fatal, meaning that this neglected tropical disease is a major killer in Thailand, particularly among rural populations.

Since background knowledge about the disease is scant, MORU has been investigating melioidosis in a number of different ways. One study defined the clinical definitions of melioidosis, while another identified contributing factors to contracting the disease. Major improvements in the treatment of the disease included work on new methods for taking samples and identifying the pathogen.

Other work studied the disease at the molecular level. One group identified a gene associated with resistance, while another investigated the role of interferons in the immune response to the disease.

You can read more about melioidosis research on page 37.

TRAINING PEOPLE AND INSTITUTIONS

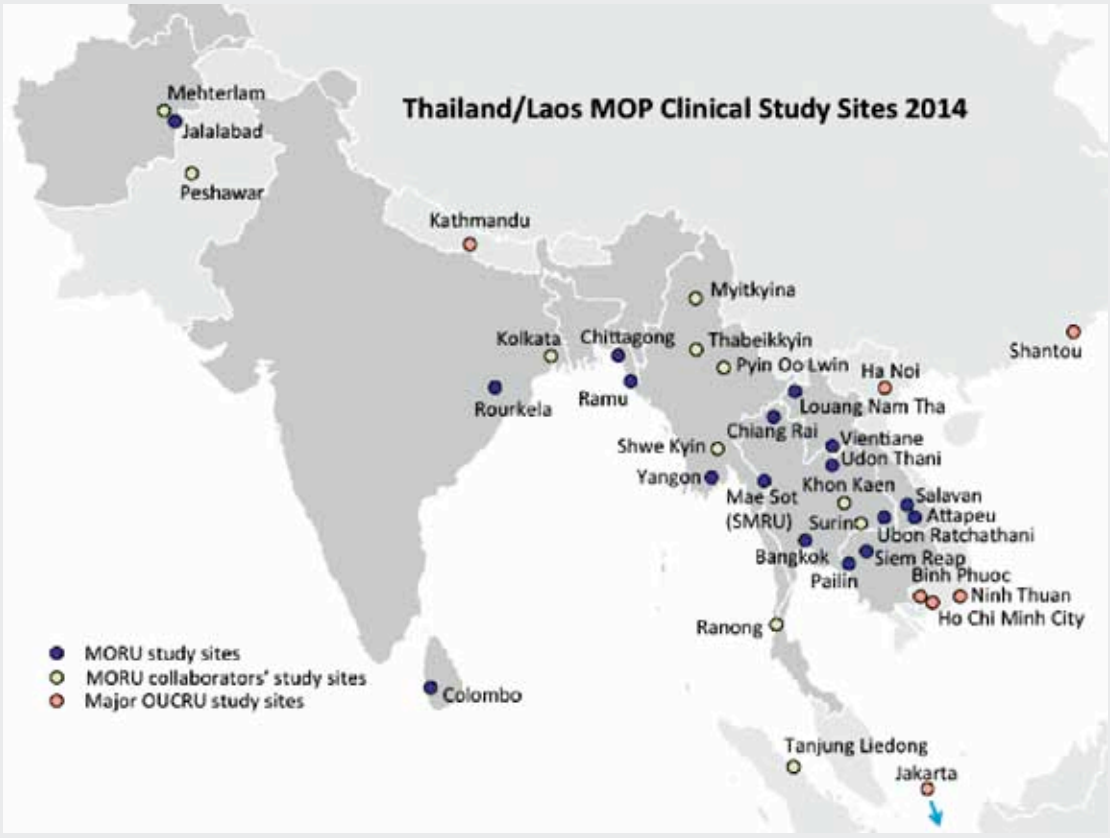
MORU has a commitment to training people in local areas around the region. This will help to develop a 'clinical mass' of locally trained healthcare providers, who will be instrumental in prevention and treatment of diseases

currently affecting the population. These professionals are also important contributors to research into different diseases, and benefit local hospitals through improved understanding and collaborations with other centers.

PUBLIC ENGAGEMENT AND KNOWLEDGE SHARING

As many MORU studies are carried out in smaller rural communities, developing positive relationships with local people is crucial. MORU strives to engage people in the work being undertaken, in order to increase understanding of issues facing society from a medical point of view, but also to increase awareness and interest in the next generation.

The work conducted by MORU has already drastically improved the standard of healthcare in rural Asian communities; however, many problems still remain to be dealt with. The emergence of artemisinin resistance along the Thai/Myanmar border is a good example. This problem has the potential to reverse the progress made against the disease, and could put many lives in danger. MORU's work to improve diagnostics and treatments for malaria, as well as monitor parasitic resistance, means it is very well placed to combat this change. In addition to this, the local community members that have been trained in health care and medical research will play a significant role in delaying and halting the spread of the resistant parasites. These impacts will continue to improve the prognoses for people contracting malaria and other tropical diseases in the future, and confirm MORU as a key player in the fight against them.



MORU study sites in Asia

Hospital for Tropical Diseases

AN EVENTFUL YEAR

The Hospital for Tropical Diseases was founded 53 years ago, and in the future, the year 2013 will be looked back upon as a landmark year in the Hospital's history. Indeed, it is often mentioned as one of the past year's biggest highlights at the Faculty – and for good reason. In April 2013, the Hospital moved into new facilities, the modern glass and steel high-rise, Rajanagarindra Building. With its state of the art facilities and equipment, the new building is one of the Faculty's largest investments ever. In addition to this significant move, the Hospital was awarded Hospital Accreditation by the Thai Healthcare Accreditation Institute in recognition for the many years dedicated to improving quality of care, safety procedures, and data management at the Hospital. This is the culmination of a 10-year process, and an important milestone for the Hospital.

The Hospital Director, Assistant Professor Udomsak Silachamroon, is proud of the achievements of the past year, but emphasizes that the day-to-day work at the Hospital has remained largely the same. 'The main responsibilities haven't changed – we still focus on the well-being of our patients first – just like before.' The new building provides staff and patients with a better environment in the way of facilities, equipment, and more space, but the fundamental high-quality care and expertise of doctors, nurses, and support staff remains unchanged. The Hospital is a specialist hospital with unmatched expertise in tropical medicine. The fact that the Hospital has access to some of the country's top tropical medical researchers, with their offices next door, is a unique advantage. Similarly, the researchers benefit from having close access to clinical cases near their labs, making their research much easier. The Hospital's fever clinic is highly regarded by the community, and receives referrals from all over the country. In 2013, the Hospital served 64,082 out-patients and 2,386 in-patients.

Over the past years, preparations have been made to start offering specialized residency training in travel medicine at the Hospital's travel clinic. This is now about to start – the first doctors are commencing their three-year training in June 2014, the first such residency training in the world. The curriculum has been developed in collaboration with many universities and institutes in Thailand, and will provide doctors with a unique specialization in travel medicine – a field in extremely high demand in Thailand.

In addition to housing the Hospital, the new hospital building now also contains the Silom Community Clinic, a free sexual-health clinic for men who have sex with men, and transgender women who have sex with men. The Clinic was previously located in Silom, but moved to the Hospital for Tropical Diseases when the new building opened this past year. Founded in 2003 as a 'safe haven' for homosexual males and transgender women to receive sexual-health services, it provides testing and treatment of all sexually transmitted diseases, as well as counseling services free of charge, and in a supportive environment. It is also involved in various research projects related to HIV/AIDS, and the proximity to FTM increases its scope to conduct joint projects with Faculty researchers that specialize in the disease.

Asst. Prof. Dr. Udomsak Silachamroon
Director of the Hospital for Tropical Diseases

The Hospital is an academic hospital – the main focus is patients' welfare, and to provide students and researchers with an opportunity to learn about the diseases – not on how many patients we treat. Our goal is to train doctors, researchers, and healthcare professionals, and to develop ever more effective

treatments. The initiatives mentioned above are perfect examples of this. Of the 250 beds available at the Hospital, 100 are allocated to research projects, 100 for inpatient treatment, and 50 for TropMed Homecare, the Faculty's elder-care service which is described in more detail in the following section.

CHANGING TIMES

Thailand has undergone a dramatic change since the Hospital was founded 50 years ago. It is much more developed, and Bangkok, where most of our patients live, has undergone intense modernization. With this change in living conditions comes a change in the demand for healthcare services. Therefore, there are now much fewer cases of malaria, and steadily decreasing cases of parasitic infections in general. However, this decrease in traditional tropical diseases is offset by a growth in other diseases, not necessarily limited to the Tropics, but important societal problems, nonetheless: heart disease, obesity-related diseases, and an aging society are some of them. Though we remain a specialized tropical medicine Hospital, it is our responsibility to adapt to these shifts, and support society in these emerging problem areas, as well. The Hospital therefore established the TMD clinic (TM stands for Tropical Medicine, and D, 'dee' – means 'good' in Thai), where we provide more general medical specialists such as a cardiologist, pulmonologist, and a neurologist. At the same time, this year the Faculty has introduced TropMed Homecare, a service for the elderly, where apartments are provided within the Hospital, with ready access to medical care and support. This is achieved through close collaboration with the Hospital for Tropical Diseases, which has allocated 50 beds to Homecare members' treatment. These changes reflect some of the new medical challenges affecting Thai society, and since the Hospital was partially funded with public taxes, we feel it is important to provide services in the most needed areas.

The Hospital has 250 beds, and is a center for both excellent medical care and scientific research

Field Stations

BACKGROUND

The Faculty of Tropical Medicine has long been committed to improving the health of rural communities in Thailand. To achieve this, two main components are essential. The first is an active research environment, involving many different groups investigating different aspects of various diseases. The second is the logistical capabilities to reach these often isolated communities easily, in order to provide the best possible healthcare and services.

In both these components, the efforts of FTM benefit greatly from the Faculty's field stations. Located in different parts of the country, they provide researchers with access to the diseases they are studying *in situ*, while also offering invaluable healthcare services. These include various diagnoses, treatments and vaccines, often free of charge.

KANCHANABURI

FTM has a field station at Kanchanaburi, less than 150km from Bangkok. The Tropical Disease Research Center, or TDRC, was opened in 2003. Since then, it has been a focal point of field research for FTM, and has been involved with many different studies. The Malaria Vivax Research Unit (MVRU) has conducted many studies using the presence of vivax malaria in the local population. Dr. Jetsumon Prachumsri leads this group, and acknowledges the location of the field center as an essential part of the work. 'The field center allows us to combine the expertise of our staff and equipment in a location where they can make a very real difference to the health of the local community.' You can read more about TDRC on page 31.

Staff at TDRC have access to a wide range of equipment, the benefits of which are maximized by the location of the center

UBON RATCHATHANI

The Mahidol Oxford Research Unit, or MORU, is a collaboration between Mahidol University and Oxford University, backed by the Wellcome Trust. You can read more about their important work on page 43. The unit runs a field station in Ubon Ratchathani, where it has been working through Sappasithiprasong Hospital, since 1986. This province, in Northeast Thailand, has a relatively high incidence of the bacterial disease melioidosis, and MORU has been investigating its epidemiology and treatment here over the last 20 years.

10 randomized clinical trials have been completed here, along with other studies that have successfully halved the mortality rate among the patient population due to melioidosis. The center has also been used as the location for studies on *Staphylococcus aureus* infection and cryptococcal meningitis.

SHOKLO MALARIA RESEARCH UNIT

Shoklo Malaria Research Unit (SMRU) is a joint venture between Mahidol University, MORU, and the Wellcome Trust. It is located in Mae Sot, Tak Province, and also receives funding from the Bill and Melinda Gates Foundation, DFID, and the European Union. The unit was formed to start helping refugees along Thai-Myanmar border in 1986, and now provides quality healthcare to marginalized people (including refugees and displaced people) on both sides of the Thai/Myanmar border.

Staff working at SMRU

In order to achieve this, SMRU detects and treats tuberculosis and malaria while also dealing with maternal and pediatric health problems, such as nutrition-related conditions. Research on maternal and child diseases is also a focus at SMRU. This has extended to diseases like pneumonia, *Aeromonas* bacteremia, and malaria during and after pregnancy. The center is involved with studies investigating the treatment and epidemiology of malaria, as well as malarial entomology. Work has been carried out on the treatment of tuberculosis in the region.

RAJANAGARINDRA TROPICAL DISEASE INTERNATIONAL CENTER

The Rajanagarindra Tropical Disease International Center (RTIC) is located in Ratchaburi Province, west of Bangkok, and close to the border with Myanmar. It aims 'to deliver the highest standard of health services related to the tropical diseases, to improve the quality of life of people in rural communities'. Constructed in late 2000, it was formally opened in 2001, with the generous help of Her Royal Highness Princess Galyani Vadhana Krom Luang Naradhiwas Rajanagarindra. The RTIC can accommodate up to 40 people for research or education and training.

Since its opening, the center has been an important part of FTM's malaria research, with studies carried out into epidemiology, socio-behavioral and genetic aspects of the disease. The RTIC has also facilitated similar research into various helminthiases. The center is committed to providing free-of-charge healthcare to the local people. A major part of improving the overall health of any community is education, and RTIC has provided this through both school education programs and professional training for local healthcare workers.

THE FUTURE

FTM's field stations are a valuable resource for many reasons. They are of great benefit to all those involved, whether they are researchers looking for the opportunity to investigate a disease *in situ*, or members of a local community seeking essential healthcare. They are a shining example of the Faculty's commitment to improving the overall health of the region, through both research and the application of the best available treatments. The productive on-going work at these stations will continue to be of great value to both the scientific community and the wider population for many years to come.

RTIC combines local healthcare services and research facilities

Education and Training

EDUCATION

Since its foundation in 1960, the Mahidol Bangkok School of Tropical Medicine (Mahidol BSTM) has developed into a central hub for tropical medicine education in the ASEAN region. The School offers 8 (to be 10 in the second half of 2014) courses ranging from postgraduate diploma level to PhD level in a range of tropical medicine-related fields. In the past academic year, 190 students were enrolled at Mahidol BSTM. The School aims to equip clinicians, researchers, and other health personnel with the tools to develop their careers and to make a positive impact on healthcare problems in the tropics and beyond. In 2013, 40 students graduated from the School and moved on to careers in public and private sector healthcare services, consulting, national and international agencies, and research institutions in Thailand. Asia, and beyond. The School is now looking to expand, and over the past year, the School has made a concerted effort to make it easier for international students to study at BSTM, having set up a range of partial and full scholarships available for AEC member countries. Communication channels have improved, and the application process and administrative processes have been streamlined. Therefore, applying to, and studying at the School as an international student have become even more attractive.

Mahidol BSTM is proud of its close relationship and collaboration with the Faculty's researchers and the Hospital for Tropical Diseases. Students are in an environment where clinical cases of the various diseases studied are daily events, offering them valuable practical experience unavailable in most places. The relatively small size of the School compared with the number of researchers at the Faculty has the added advantage of providing a closer relationship with their supervisors, and a large pool of expertise to draw on. The Faculty's extensive network in Thailand also allows students unique fieldwork opportunities in endemic areas around the border regions of Thailand.

One of the highlights of the past year has been the introduction of two new programs at the School, the Diploma and MSc programs in Biomedical and Health Informatics. These are cross-disciplinary courses developed in collaboration between the Department of Tropical Hygiene and BIOPHICS. The course combines statistical and medical disciplines to teach students to plan, monitor, and evaluate population health, and epidemiological models from a statistical perspective. Successful implementation of public-health programs depends on accurate monitoring and statistical modeling of the spread and impact of disease, and as our technological capabilities to capture complex information from our surroundings increase, the role of biostatisticians will become even more important. BIOPHICS has led the development of bioinformatics in Thailand, and BSTM is lucky to be able to provide students with the unique expertise and experience obtained through their work. The feedback from the first cohort of students has been extremely positive so far, and we are proud to be able to offer these unique courses at the School.

Prof. Sasithon Pukrittayakamee
Deputy Dean for Education

Next year will see the introduction of two new programs at the School – Diploma and MSc programs in School Health. The prevention of disease by effective education at an early age makes an enormous impact in society. These programs aim to give health professionals, teachers, and social workers a unique chance to specialize in health promotion in a school

setting, by developing their knowledge about disease control, school safety, environmental impact assessment, and school health research. This course has been under development for several years, and the School has started accepting applications for the start of the semester in August.

STUDENT LIFE

Student life at BSTM offers an excellent academic environment at a campus located in the heart of Bangkok, with a wide selection of cultural and entertainment opportunities. The Hospital for Tropical Diseases and the various Departments are all located on the same campus, making student life very convenient from the start. Thanks to the proximity to the research departments there is a constant stream of presenters, guest lectures, and other academic events going on within walking distance. The University offers affordable student accommodation on campus, and there are a myriad of choices in the nearby areas. Student Affairs organize various activities, cultural events, and workshops throughout the year, ranging from cooking classes to specialized software courses, and if you venture beyond campus, Bangkok can offer everything that a global metropolis should.

Enrolment numbers in each FTM course

YEAR 2013	
D.T.M. & H.	19
M.C.T.M.	9
M.C.T.M. (Trop.Ped.)	2
M.Sc.(TM)	51
Ph.D.(TM)	86
D.B.H.I.	0
M.Sc.(BHI)	14
Ph.D.(CTM)	9
Total	**190**

TRAINING

Further to the postgraduate and diploma courses offered by the Mahidol BSTM, the Faculty of Tropical Medicine organizes a wide variety of training courses throughout the year, reflecting the various specializations of the Faculty's departments and centers. Twelve courses were held in 2013, with a total of 250 participants from 20 countries. Some courses are recurring events, such as the School Health and Nutrition Programme in Asia, which has an excellent reputation, and which is being expanded into a course at Mahidol BSTM starting next year. Others are newly developed initiatives such as the Training Course on Management of Malaria, which was designed in cooperation with WHO to improve the capacity to manage malaria in the Southeast Asian Region. All courses are organized or co-organized by departments at the Faculty, and are attended by public-health professionals and clinicians from around the world. The courses constitute a crucial component in the skill development of professionals in the region.

COURSE/WORKSHOP	PARTICIPANTS	ORGANIZED BY	COLLABORATION
Training Course on HIV/AIDS for Programme Officers	5	FTM	Japan International Cooperation Agency (JICA)
Wellcome Trust Advanced Courses: Genomic Epidemiology of Malaria	25	MORU	
2nd Training Course on School Health and Nutrition in South East Asia	42	Lao MOE and MOH	FTM
Training Course on Tropical Medicine for Lao Doctors	5	FTM	Princess Sirindhorn Project
Training on Tropical Medicine for Tokyo University	5	FTM	Tokyo University
Elective Program in Tropical Medicine	11	FTM	
Epidemiology of Tropical Diseases	6	FTM	
Elective Program in Tropical Medicine	28	FTM	
International Training on Dengue	27	TCISTP/FTM	Thailand Chapter of the International Society of Tropical Pediatrics
Training Course on Management of Malaria	45	FTM	WHO Collaborating Center for Malaria
Training on Global Infectious Diseases Control	6	FTM	Tokyo Metropolitan Government
3rd Annual Training Course on School Health and Nutrition Programme in Asia	45	FTM	Pollution Control Department/ Japan Consortium for Global School Health Research/ JICA/Asian Center of International Parasite Control (ACIPAC)

A summary of the professional training opportunities provided by FTM and partners

The Year in Review

April – In April 2013, the Hospital for Tropical Diseases moved into the new Rajanagarindra Building – one of the Faculty's largest investments to date, and a significant upgrade in space and facilities. The new building houses the Hospital, including the Travel Clinic, the Central Laboratory Unit, and the Silom Community Clinic.

May – On 16 May, Dean Yaowalark Sukthana hosted the first 'Meet the Dean' event. These meetings occur regularly throughout the year, and are run in a very open format. They allow the student body to ask any questions they have about the University, and also provide a forum for feedback or suggestions on any topic about the Faculty.

June – on 3-4 June, Dean Yaowalark and Assoc. Prof. Pornthep Chantavanich co-chaired a workshop on 'Travel Safety and Essential First Aid'. The workshop helped to share and update travel-medicine knowledge with tourism entrepreneurs and tour guides. This workshop was sponsored by the Ministry of Tourism and Sports, in cooperation with the Faculty of Tropical Medicine, Mahidol University, and the Thai Society of Travel Medicine.

July - The Suphapimol family and Mr. Rien generously donated 400,000 Baht to support the construction and fit-out of the Hospital for Tropical Diseases. A ceremony was held in the Bunditnaenaew Building at FTM.

August – During 5-9 August, the Faculty, in association with the Thailand Chapter of the International Society of Tropical Pediatrics (TCISTP), conducted the International Training Course on Dengue. It was attended by medical personnel from 12 countries, and covered topics on the epidemiology, management, and control of dengue.

September – the 7th World Melioidosis Congress was held between 18-20 September, and included a pre-conference field trip to Sappasithiprasong Hospital, in Ubon Ratchathani Province. Keynote speakers included Assoc. Prof. Direk Limmathurotsakul of the Department of Tropical Hygiene, and Dr. Sopon Mekthon, Deputy Permanent Secretary for Public Health, Ministry of Public Health, Thailand.

The Rajanagarindra Building, the new home for TropMed's Hospital for Tropical Diseases

Participants in the International Training Course on Dengue

Professor Rajata Rajatanavin, President of Mahidol University, gives the opening address at JITMM 2013

Assoc. Prof. Pongrama Ramasoota at the award ceremony

October – Between 7-18 October, FTM and SEAMEO ran the Regional Course on Advanced Epidemiology. The training provided background knowledge on different epidemiologic study designs, as well as their applications and limitations. The course also dealt with the application of statistics and other methods to expand the scope, validity and applications of studies. The course was highly successful and was attended by health professionals from 9 countries.

November – The Global Infectious Diseases Control Training Course was held in conjunction with the Ministry of Public Health, Thailand. The 2-week course was offered to doctors, nurses and medical staff, and was attended by participants from two countries.

December – JITMM 2013 was held between 11-13 December, with the theme 'Towards Global Health: an Asian Paradigm of Tropical Medicine.' Over 600 delegates saw presentations by keynote speakers Dr. Suwit Wibulpolprasert, Dr. Louis Miller, and Prof. Dr. Stephen Ward.

January 2014 – During the political protests and disruption in Bangkok, the Hospital remained open and security measures were put into place to ensure that all essential healthcare services were provided continuously.

February – Assoc. Prof. Pongrama Ramasoota received the Outstanding Research Award from the National Research Council of Thailand for his research *"Therapeutic and Diagnostic Monoclonal Antibodies Against Tropical Diseases"*

March – On 11 March, the Hospital for Tropical Diseases was formally awarded Hospital Accreditation (HA) by the Healthcare Accreditation Institute of Thailand – recognition for a decade-long process of quality and safety improvement at the Hospital. The Hospital Director, Assoc. Prof. Udomsak Silachamroon received the certificate from HRH Princess Soamsawali, in a ceremony held at IMPACT Arena, Muang Thong Thani, in Bangkok.

Researcher Directory

Faculty of Tropical Medicine, Mahidol University

DEPARTMENT OF CLINICAL TROPICAL MEDICINE

Telephone: 0 2354 9100-04 ext. 3160-64, 02 3069192; Fax: 0 2354 9168
www.tm.mahidol.ac.th/eng/tmcd/tmcd_index.htm

Prof. PUNNEE PITISUTTITHUM, *Head Department*
E-mail: punnee.pit@mahidol.ac.th; ext. 2060, 2061
AOE: Tropical Medicine, Clinical studies (Phase I, II,III Drug Trials) of Tropical Diseases eg. Cryptococcal meningitis in AIDS; oral candidiasis, Chinese herbal medicine for AIDS. Vaccine Trials(Phase I, II, III) of HIV/AIDS vaccine, Human Papilloma Virus vaccine against cervical cancer, Cholera oral vaccine, Shigella vaccine, Rota virus vaccine, Varicella vaccine, Measle vaccine etc.

Dr. WIRONGRONG CHIERAKUL
Deputy Head Department
E-mail: wirongrong@mahidol.ac.th, kae@tropmedres.ac; ext.3167
AOE: Tropical infectious disease esp. Melioidosis, Leptospirosis, Scrub typhus

Prof. SASITHON PUKRITTAYAKAMEE
Deputy Dean for Education
E-mail: sasithon.puk@mahidol.ac.th, sasithon@tropmedres.ac; ext. 3160 ext14
AOE: Tropical medicine

Assoc. Prof. KESINEE CHOTIVANICH
E-mail: kesinee.cho@mnahidol.ac.th, nok@tropmedres.ac; ext. 1427, 2036, 3161ext25
AOE: Pharmacodynamic of antimalaria drugs, Pathophysiology of malaria.

Assoc. Prof. YUPAPORN WATTANAGOON
E-mail: yupaporn.wat@mahidol.ac.th; ext. 1423, 3169
AOE: Internal medicine

Asst. Prof. JITTIMA DHITAVAT
E-mail: jittima.dhi@mahidol.ac.th, jittima_pu@yahoo.com; ext. 2068,3160 ext 23
AOE: - Dermatology, Mycology, Cell Biology

Asst. Prof. UDOMSAK SILACHAMROON
Director of Bangkok Hospital for Tropical Diseases
E-mail: udomsak.sil@mahidol.ac.th; ext. 3167
AOE: Internal medicine/Pulmonary medicine/TB

Asst. Prof. WEERAPONG PHUMRATANAPRAPIN
E-mail: weerapong.phu@mahidol.ac.th; ext.3166
AOE: Internal medicine/Nephrology

Dr. CHATPORN KITTITRAKUL, *Lecturer*
E-mail: chatporn.kit@mahidol.ac.th; ext. 3160 ext 13
AOE: Internal medicine, Viral hepatitis, Diarrhea, *H. pylori*

Dr. MALEERAT SUTHERAT, *Lecturer*
E-mail: tmmaleeray@mahidol.ac.th; ext. 3160 ext 22
AOE: - Diagnostic radiology, Ultrasonography, CT imaging, MR imaging

Prof. POLRAT WILAIRATANA
Deputy Dean for Value Creation
E-mail: polrat.wil@mahidol.ac.th; ext. 3165
AOE: Gastroenterology, Pathophysiology of severe malaria, Clinical management of malaria

Assoc. Prof. BENJALUCK PHONRAT
E-mail: benjaluck.pho@mahidol.ac.th; ext. 2060
AOE: Nutrition, HIV/AIDS, Vaccines

Assoc. Prof. WATTANA LEOWATTANA
E-mail: wattana.leo@mahidol.ac.th, leowattana@yahoo.com; ext. 2039, 081-4878848
AOE: - Clinical Pathology, - Clinical Chemistry, - Laboratory Automation, - Family Medicine, - Hepatitis, - Malaria

Asst. Prof. APICHART NONTPRASERT
E-mail: apichart.non@mahidol.ac.th; ext. 2047, 3160 ext 15
AOE: - Stem cell research for drug toxicity screening and drug metabolism in hepatocyte-like cells, Pathological examination of brain and other vital organs in animals, Toxicological studies in animal and *in vitro* models

Asst. Prof. NOPPADON TANGPUKDEE
Assistant to the Dean for Resource Management
E-mail: noppadon.tan@mahidol.ac.th; ext.3160 ext 24
AOE: Toxicology and Safety

Assoc. Prof. VIPA THANACHARTWET
E-mail: vipa.tha@mahidol.ac.th; ext. 2064
AOE: Nephrology in Tropical Medicine / Dialysis

Dr. BORIMAS HANBOONKUNUPARKARN, *Lecturer*
E-mail: borimas.han@mahidol.ac.th; ext. 3160 ext 18
AOE: - Hepatic ischemia-reperfusion injury and liver transplantation, Intravisceral arterial shunt circulation

Dr. CHAYASIN MANSANGUAN, *Lecturer*
E-mail: chayasin.man@mahidol.ac.th, chayasin@hotmail.com; ext.3160 ext 20
AOE: Internal medicine

Dr. PONGDEJ WICHIENPRASAT, *Lecturer*
E-mail: pongdej.wic@mahidol.ac.th, pongdej.md@yahoo.com; ext.3160 ext 19
AOE: Neurological medicine

Dr. PRAKAYKAEW CHARUNWATTHANA, *Lecturer*
E-mail: *Prakaykaew@mahidol.ac.th, jib@tropmedres.ac;* ext 3160 ext 12
AOE: Malaria

Asst. Prof. SUPAT CHAMNANCHANUNT
E-mail: *supat.cha@mahidol.ac.th*; ext. 2060
AOE: Hematology

Dr. VORADA CHOOWICHIAN, *Lecturer*
E-mail: *vchoovichian@gmail.com*; ext.3160 ext 16
AOE: Internal medicine

Dr. KOBPORN BOONNAK, *Lecturer*
E-mail: *kobporn.boo@mahidol.ac.th*; ext. 2060
AOE: Viral Immunology

Ms. SATHANEE INUNCHOT, *Scientist*
E-mail: *sathanee.inu@mahidol.ac.th*; ext. 2039
AOE: Clinical Tropical Medicine, Lab studies

Ms. YUTATIRAT SINGHABOOT
Research Technical Officer
E-mail: *yutatirat.sin@mahidol.ac.th*; ext. 2039
AOE: Infectious disease, Epidemiology

Ms. PATCHARANANT TANAROJPONGSATHON
Research Technical Officer
E-mail: *patcharana.tha@mahidol.ac.th*; ext. 1892
AOE: Clinical Infectious disease

Ms. SOMPONG MINGMONGKOL
Medical Technologist
E-mail: *Sompong.min@mahidol.ac.th*;
AOE: Medical Technology

Ms. CHUANPIT PREECHAWUTHIWONG
General Administration Officer (Secretary)
E-mail: *chuanpit.pre@mahidol.ac.th*; ext.9192

Mr. KONGPOP PUPAE
General Administration Officer
E-mail: *kong@tropmedres.ac*; ext. 1427

Dr. SANT MUANGNOICHAROEN, *Lecturer*
E-mail: *sant.mua@mahidol.ac.th*; ext. 3160 ext 21
AOE: - Clinical Pharmacology, Pharmacokinetics, Pharmacodynamics, Infectious Diseases, Drug Metabolism, Methods development HPLC-UV Mass spectrometer, Clinical trails

Dr. VIRAVARN LUVIRA, *Lecturer*
E-mail: *viravarn.luv@mahidol.ac.th*; ext.3160 ext 26
AOE: Internal medicine, Infectious Diseases

Dr. WATCHARAPONG PIYAPHANEE, *Lecturer*
E-mail: *watcharapong.piy@mahidol.ac.th*; ext. 3166
AOE: Internal medicine, Travel Medicine

Ms. NATTAPORN PIARAKSA, *Scientist*
E-mail: *nattaporn.pia@mahidol.ac.th*; ext. 2039
AOE: Clinical Pathophysiology

Ms. WIKANDA SOKHUMA, *Scientist*
E-mail: *wikanda.sok@mahidol.ac.th*; ext. 2039
AOE: Biotechnology

Ms. NARUMON THANTUMNU
Research Technical Officer
E-mail: *nurumon.tha@mahidol.ac.th*; ext. 1892
AOE: Study coordinator

Ms. YUPA SUBMEE, *Research Technical Officer*
E-mail: *yupa.sap@mahidol.ac.th*; ext. 1892
AOE: Clinical Tropical Medicine

Mr. SURONG PRASARTPAN
Medical Science Associate
E-mail: *surong.pra@mahidol.ac.th*;
AOE: -

Ms. AUGJIMA KASEMHARUTHAISUK
General Administration Officer
E-mail: *augjima.kas@mahidol.ac.th*; ext. 3164

Ms. CHUTHAMAT CHANTHAWARI
General Administration Officer
E-mail: *Chuthamat.cha@mahidol.ac.th*; ext. 3163

DEPARTMENT OF HELMINTHOLOGY

Telephone: 0-2306-9180, 0-2306-9181 ext. 9180-1; Fax: 0-2643-5600

Assoc. Prof. CHALIT KOMALAMISRA, *Head of Department*
B.Sc (Biol.), M.Sc (Trop. Med.), D.A.P.& E, Dr. Med. Sci.
E-mail: *chalit.kom@mahidol.ac.th;* ext. 13
AOE: Medical helminthology

Assoc. Prof. PARON DEKUMYOY
Deputy Head of Department
B.S. (Biol.), M.Sc. (Trop. Med.), Ph.D. (Trop. Med.)
E-mail: *paron.dek@mahidol.ac.th;* Tel: 9180-1 ext. 15
AOE: Medical helminthology/Immunodiagnosis of helminthiases

Assoc. Prof. WICHIT ROJEKITTIKHUN
B.Sc. (Med. Tech.), M.Sc. (Trop. Med.), D.A.P.& E., Ph.D. (Med. Sci.)
E-mail: *wichit.roj@mahidol.ac.th*; Tel: 9180-1 ext. 24
AOE: Medical helminthology (esp. Gnathostoma & Immunodiagnosis)

Asst. Prof. POOM ADISAKWATTANA
B.Sc. (Med. Tech.), Ph.D. (Biomedical Sciences)
E-mail: *poom.adi@mahidol.ac.th*;
Tel: 9180-1 ext. 19
AOE: Molecular parasitology/Immunology

Dr. URUSA THAENKHAM, *Lecturer*
B.S. (Biol.), M.Sc. (Environ. Biol.), Ph.D.(Trop.Med.)
E-mail: *urusa.tha@mahidol.ac.th*;
Tel: 9180-1 ext. 25
AOE: Molecular parasitology/ Molecular Ecology and Evolution of Helminths

Mrs. SUPAPORN NUAMTANONG, *Senior Scientist*
B.S. (Biol.), M.Sc. (Trop. Med.)
E-mail: *supaporn.nua@mahidol.ac.th*;
Tel: 9180-1 ext. 26
AOE: Medical helminthology

Dr. TIPPAYARAT YOONUAN, *Scientist*
B.S. (Microbiol.), B.B.A. (General Management), Ph.D.(Trop.Med.)
E-mail: *tippayarat.yoo@mahidol.ac.th*;
Tel: 9180-1 ext. 16
AOE: Medical helminthology

Mr. KITTIPONG CHAISIRI, *Scientist*
MSc(Zoology, Kasetsart University))
E-mail: *kittipong.cha@mahidol.ac.th*;
Tel: 9180-1
AOE: Rodent taxonomy and biodiversity of helminths, parasite ecology

Mr. AKKARIN POODEEPIYASAWAT, *Scientist*
B.Sc (Biol.)
E-mail: *akkarin.poo@mahidol.ac.th*;
Tel: 9180-1
AOE: Medical helminthology

Mrs. SUPAPORN NAOWARAT
General Affairs Officer
B.A. (General Management)
E-mail: *supaporn.nao@mahidol.ac.th*;
Tel: 9180-1ext. 13

Assoc. Prof. JITRA WAIKAGUL
B.Sc. (Biol.), M.Sc. (Trop. Med.), M.Sc. (Parasit.), Ph.D. (Med. Sci.)
E-mail: *jitra.wai@mahidol.ac.th*;
Tel: 9180-1 ext. 21
AOE: Taxonomy/Biology of helminths

Asst. Prof. DORN WATTHANAKULPANICH
B.Sc. (Med. Tech.), M.Sc. (Trop. Med.), M.D., Ph.D.
E-mail: *dorn.wat@.mahidol.ac.th*;
Tel: 9180-1 ext. 22
AOE: Medical helminthology

Asst. Prof. TEERA KUSOLSUK
M.D., D.A.P.&E., M.Sc. (Community Med.), D.T.M.&H.
E-mail: *teera.kus@mahidol.ac.th*;
Tel: 9180-1 ext. 12
AOE: Medical helminthology

Assoc. Prof. WANNA MAIPANICH, *Expert Scientist*
B.Sc. (Biol.), M.S.P.H. (Med. Parasit.), D.A.P.& E.
E-mail: *wanna.mai@mahidol.ac.th*;
Tel: 9180-1
AOE: Medical helminthology

Mr. SURAPOL SA-NGUANKIAT, *Senior Scientist*
B.Ed. (Gen. Sci.), D.A.P.& E.
E-mail: *surapol.san@mahidol.ac.th*;
Tel: 9180-1 ext. 17
AOE: Soil-transmitted helminths

Mr. WALLOP PAKDEE, *Scientist*
B.Sc.(Biol),M.Sc.(Trop.Med.)
E-mail: *wallop.pak@.mahidol.ac.th*;
Tel: 9180-1 ext. 20
AOE: Immunodiagnosis of helminthiasis

Ms. ORAWAN PHUPHISUT, *Scientist*
MSc(Zoology, Chulalongkorn University)
E-mail: *orawan.phu@mahidol.ac.th*;
Tel: 9180-1
AOE: Genetic diversity

Mrs. SOMCHIT PUBAMPEN
Senior Medical Science Associate
Cert. in Med. Tech., B.B.A. (Money & Banking)
E-mail: *somchit.pub@mahidol.ac.th*;
Tel: 9180-1ext. 18
AOE: Medical helminthology

DEPARTMENT OF MEDICAL ENTOMOLOGY

Telephone: +66 2306 9100; Fax: 66 2643 5582

Assoc. Prof. CHAMNARN APIWATHNASORN, *Head of Department*
Ph.D. (Medical Entomology), Liverpool School of Tropical Medicine, UK., Ph.D. (Trop. Med.), Mahidol University
E-mail: *chamnarn.api@mahidol.ac.th*,
ext. 1579
AOE: Medical entomology / Mosquito taxonomy / Ecology / Field study

Asst. Prof. JIRAPORN RUANGSITTICHAI
Ph.D. (Biology), Mahidol University
E-mail: *jiraporn.rua@mahidol.ac.th*;
ext. 1575, 2100
AOE: Medical Entomology/ Molecular biology/ Molecular taxonomy

Assoc. Prof. NARUMON KOMALAMISRA
Dr.Med.Sc., St. Marianna University, Japan
E-mail: *narumon.kom@mahidol.ac.th*;
ext. 1843
AOE: Medical entomology /Isoenzyme of vectors/ Vector genetics/Molecular entomology / Vector control

Ms. PREEYANATE DATHONG, *Scientist*
Bachelor of Science, Chulalongkorn University
E-mail: *preeyanate.dah@mahidol.ac.th*;
ext. 1574
AOE: Entomology

Dr. RONALD ENRIQUE MORALES VARGAS, *Lecturer*
Ph.D. (Medical Entomology), Nagasaki University, Japan.
E-mail: *ronald.mor@mahidol.ac.th*, *remov62@yahoo.com*;
ext. 1574
AOE: Microbiology, Medical Entomology/ Taxonomy, Ecology, Vector Control Virology / Mosquito Borne Virus

Dr. SIRILUCK ATTRAPADUNG, *Lecturer*
Ph.D. (Biomedical Science), Srinakharinwirot University
E-mail: *siriluck.att@mahidol.ac.th*;
ext. 1576
AOE: Microbiology, Biopesticides

Dr. SUNGSIT SUNGVORNYOTHIN, *Lecturer*
Ph.D. (Entomology), Kasetsart University.
E-mail: *sungsit.sun@mahidol.ac.th*;
ext. 1576, 2100
AOE: Mosquito ecology, Molecular identification of medical insect.

Ms. KEAWMALA PALAKUL, *Senior Scientist*
Bachelor of Education
E-mail: *keawmala.pal@mahidol.ac.th*;
ext. 9176
AOE: Vector control by using medicinal plants

Dr. PATCHARA SRIWICHAI, *Lecturer*
Ph.D. (Tropical medicine), Mahidol University
E-mail: *patchara.sri@mahidol.ac.th*;
ext. 1575
AOE: Medical entomology, Molecular immune in medical insect vectors

Dr. RAWEEWAN SRISAWAT, *Scientist*
Ph.D. (Trop. Med.), Mahidol University
E-mail: *raweewan.sri@mahidol.ac.th*
AOE: Insecticide resistance

Dr. RUTCHARIN POTIWAT, *Lecturer*
Ph.D. (Biomedical Sciences), Chulalongkorn University
E-mail: *rutcharin.pot@mahidol.ac.th*;
ext. 1573
AOE: Dengue and Chikungunya virus coinfection / Molecular genetics / Medical Entomology / Protemic profile of Medical insect allergen

Dr. SUCHADA SUMRUAYPHOL, *Lecturer*
Ph.D. (Trop. Med.), Mahidol University, Thailand.
E-mail: *suchada.sum@mahidol.ac.th*;
ext. 1573
AOE: Medical Entomology, Vector Ecology, Taxonomy, Molecular Biology

Assoc. Prof. SUPATRA THONGRUNGKIAT,
M.Sc. (Trop. Med.), Mahidol University.
E-mail: *supatra.tho@mahidol.ac.th*;
ext. 1578
AOE: Medical entomology/Mosquito colonization/ Malaria parasite and vector/Dengue virus and vector/Mosquito inoculation technique

Mr. SAMRERNG PRUMMONGKOL *Scientist*
(1 January-30 April 2013)
M.sc. (Public Health), Mahidol University
E-mail: samrerng.pru@mahidol.ac.th; ext. 1845
AOE: Medical Entomology, Parasitology, Field study

Mr. YUDTHANA SAMUNG, *Research Technical Officer*
M.Sc. (Public Health), Mahidol University
E-mail: yudthana.sam@mahidol.ac.th; ext. 2109, 1578
AOE: Medical Entomology, Field study

Mrs. SAMRUAY SRUMNAM
Laboratory Staff
E-mail: somruay.sru@mahiddol.ac.th
AOE: Biopesticides

Mrs. WANPHEN RAINTHONG
Medical Science Assistant
E-mail: wanphen.ria@mahidol.ac.th; ext. 2109
AOE: Specimen collections

Mr. CHARLIE ATTASIT
Medical Science Assistant
E-mail: chalee.att@mahidol.ac.th; ext. 1845
AOE: Biopesticides

Mrs. JITTRARAT SRITHONG
Medical Science Assistant
E-mail: jittarart.see@mahidol.ac.th
AOE: Biopesticides

Ms. NUCHTHATHIP RODPHADUNG
General Affairs Officer
B.A (General Management), Suan Sunandha Rajabhat Institute
E-mail: headtmen@mahidol.ac.th
AOE: Administration

Ms. SUPAWAN PATONG
Janitress
E-mail: supawan.pat@mahidol.ac.th ext. 1572
AOE: General affairs

Mr. THEERAWIT PHANPHOOWONG, *Scientist*
M.Sc. (Infectious diseases and Epidemiology), Mahidol University
E-mail: theerawit.pha@mahidol.ac.th
AOE: Insecticide resistance, Vector Control

Mr. ANON PHAYAKKAPHON, *Research Officer*
B.Sc. (Health education), Suan Dusit Rajabhat University
E-mail: anon.pha@mahidol.ac.th; ext. 2109
AOE: Poisonous insect and field study

Mrs. KWANTAVEE SAWANGDEE
Medical Science Assistant
E-mail: kwantavee.saw@mahidol.ac.th; ext. 2109
AOE: Specimen collections

Mr. PRAMOTE ATTASIT
Medical Science Assistant
(1 January-30 September 2013)
E-mail: pramote.aut@mahidol.ac.th; ext. 2109
AOE: Specimen collections

Mrs. JAREEPORN KAMTANEE
Medical Science Assistant
E-mail: jareeporn.kam@mahidol.ac.th; ext. 1845
AOE: Biopesticides

Mrs. AISA TOGVANG
Medical Science Assistant
E-mail: aisa.tog@mahidol.ac.th
AOE: Biopesticides

Mrs. PRATHUN BUNMAK
Janitress
E-mail: prathuan.bun@mahidol.ac.th ext. 1572
AOE: General affairs

DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

http://www.tm.mahidol.ac.th/eng/tmmi/tmmi_index.htm
Telephone : 02-354-9100 ext.1592-9 , 1666, 1671-1673, 2090-2098: 02-306-9172
Fax: 0-2643-5583

Asst. Prof. YUVADEE MAHAKUNKIJCHAROEN
Head
B.Sc., M.Sc., Ph.D.
E-mail: yuvadee.mah@mahidol.ac.th;
Tel: 1596, 2094
AOE: Immunology /Microbiology/Aeromonas

Asst. Prof. THAREERAT KALAMBAHETI
Deputy head,
B.Sc., M.Sc., Ph.D.
E-mail: thareerat.kal@mahidol.ac.th;
Tel: 1592, 2093
AOE: Bacteriology Molecular biology/Immunology

Assoc. Prof. MANAS CHONGSA-NGUAN
B.Sc., M.P.H., Ph.D.
E-mail: manas.cho@mahidol.ac.th;
Tel: 9173
AOE: Immunodiagnosis of Tropical Infections

Asst. Prof. NITAYA INDRAWATTANA
B.Sc., M.Sc., Ph.D.
E-mail: nitaya.ind@mahidol.ac.th;
Tel: 1598, 2092
AOE: Regenerative medicine/Biosensor/Molecular microbiology

Asst. Prof. NATTHANEJ LUPLERTLOP
M.D., Ph.D.(Anatomy), DTM&H, M.Sc.(Cosmetic science), Dip.Dermatology
E-mail: natthanej.lup@mahidol.ac.th;
Tel: 1673
AOE: Molecular immunovirology, Dermatological mycology, Anti-aging

Dr. MUTHITA VANAPORN
Lecturer
B.Sc., Ph.D.
E-mail: muthita.van@mahidol.ac.th;
Tel: 1595, 2090
AOE: Molecular microbiology/Bacterial pathogenesis

Dr. NATHAMON KOSOLTANAPIWAT
Lecturer
B.Sc. (Medical Technology), Ph.D. (Microbiology)
E-mail: nathamon.kos@mahidol.ac.th;
Tel: 9172
AOE: Virology/Molecular microbiology

Prof. SRISIN KHUSMITH
B.Sc., M.Sc., Doctor't D'Etat es Sciences
E-mail: srisin.khu@mahidol.ac.th;
Tel: 1594, 2096
AOE: Immunology/Microbiology/Molecular biology/ Malaria/ Tuberculosis/HIV

Assoc. Prof. NARISARA CHANTRATITA
B.Sc., M.Sc., Ph.D.
E-mail: narisara@tropmedres.ac;
Tel: 1599, 2097
AOE: Immunology/Bacteriology/Molecular Biology/ Melioidosis

Asst. Prof. PORNSAWAN LEAUNGWUTIWONG
B.Sc., M.Sc., Ph.D.
E-mail: pornsawan.lea@mahidol.ac.th;
Tel: 1597, 2098
AOE: Medical virology

Dr. JINTANA PATARAPOTIKUL
Lecturer
B.Sc., M.Sc., Ph.D.
E-mail: jintana.pat@mahidol.ac.th;
Tel: 1666, 1668
AOE: Immunology/Molecular biology of malaria/ Human genetics

Dr. PORNPAN PUMIRAT
Lecturer
B.Sc., Ph.D.
E-mail: pornpan.pum@mahidol.ac.th;
Tel: 1595, 2090
AOE: Bacteriology/Immunology/Molecular microbiology

Ms. AKANITT JITTMITTRAPHAP
Lecturer
B.Sc., M.Sc.
E-mail: akanitt.jit@mahidol.ac.th;
Tel: 1597, 2098
AOE: Immunology /Molecular biology of viruses

Mrs. SUPORN PAKSANONT
Scientist
B.Sc., M.Sc.
E-mail: suporn.pak@mahidol.ac.th;
Tel: 1592, 2094
AOE: Using of radioisotopes in tropical medicine and biology/Immunology

Mr. WITAWAT TUNYONG
Medical Technologist
B.Sc., D.M.M
E-mail: witawat.tun@mahidol.ac.th;
Tel: 1671
AOE: Bacterial identification

Ms. SIRIPORN CHATTANADEE
Med. Tech. Asst.
Cert. Medical Science Technology
E-mail: siriporn.che@mahidol.ac.th;
Tel: 1671, 1673
AOE: Bacterial identification/Serological diagnosis of Leptospirosis

Ms. THIDA KONGNGOEN
Scientist
B.Sc.
E-mail: thida.kon@mahidol.ac.th/ kunthidakk@gmail.com;
Tel: 2092
AOE: Microbiology and Immunology

Ms. WATCHARAMAT MUANGKAEW
Scientist
B.Sc.
E-mail: watcharamat.mua@mahidol.ac.th;
Tel: 2094
AOE: Microbiology

Mrs. SAIJAI SAWANNG-AROM
Business Assistant
Dip. Business Administration
E-mail: saijai.sva@.mahidol.ac.th,
Tel: 9172, 1592
AOE: Administration

Mrs PHANITA CHANKET
Scientist
B.Sc., D.M.M., M.Sc.
E-mail: teerarut.cha@mahidol.ac.th;
Tel: 1592, 2093
AOE: Bacteriology/Molecular biology

Mrs. JARINEE TONGSHOOB
Research Assistant
B.Sc., M.Sc.
E-mail: jarinee.pan@mahidol.ac.th;
Tel: 1592, 2096
AOE: Immunology/Malaria

Ms. NATNAREE SAIPROM
Scientist
B.Sc.
E-mail: natnareesatprom@hotmail.com;
Tel: 1595, 2097
AOE: Flow cytometry/Rickettsiology (scrub typhus)

Ms. SARUNPORN TANDHAVANANT
Scientist
B.Sc., M.Sc.
E-mail: sarunporn.tan@mahidol.ac.th;
Tel: 2097
AOE: Immunology/Bacteriology/Molecular Biology

Mr. NARIN THIPPORNCHAI
Scientist
B.Sc.
E-mail: narin.thp@mahidol.ac.th;
Tel: 2098
AOE: Microbiology and Immunology

Mrs. SUKANYA BUAPHUN
General Affairs Officer
B.Ed.
E-mail: sukanya.bua@.mahidol.ac.th;
Tel: 9172, 1592

DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS

Prof. SONGSAK PETMITR, *Head of Department*
Ph.D. (Biochemistry)
E-Mail: Songsak.pet@mahidol.ac.th;
Tel: 1582
AOE: Molecular biology, Molecular Carcinogenesis

Dr. SUPACHAI TOPANURAK, *Lecturer*
Ph.D. (Biotechnology)
E-Mail: supachai.top@mahidol.ac.th;
Tel: 1690
AOE: Proteomics and Tropical disease

Dr. USA BOONYUEN, *Lecturer*
Ph.D. (Biochemistry)
E-Mail: usa.boo@mahidol.ac.th;
Tel: 9138
AOE: Molecular Biology, Enzymology, Protein Modeling Molecular docking

Dr. WANG NGUITRAGOOL, *Lecturer*
Ph.D. (Biophysics)
E-Mail: Wang.ngu@mahidol.ac.th;
Tel: 2049
AOE: malaria, membrane protein biochemistry, physiology, and molecular biology

Dr. PANEE CHAKSANGCHAICHOTE, *Researcher*
Ph.D. (Tropical Medicine)
E-Mail: panee.cha@mahidol.ac.th;
Tel: 2083
AOE: Molecular cancer, Microbiology

Ms. NONGLUCKSANAWAN RITTHISUNTHORN
Scientist
M.Sc. ((Biomedical Sciences)
E-Mail: noglucksanawan.rit@mahidol.ac.th
AOE: Molecular Biology

Ms. THITILUCK SWANGSRI, *Scientist*
M.Sc. (Public Health)
E-Mail: Thitiluck.swa@mahidol.ac.th;
Tel: 2083
AOE: Molecular diagnosis

Ms. TIPPARAT THIANGTRONGJIT, *Scientist*
M.Sc. (Med. Tech.)
E-Mail: Tipparat.thi@mahidol.ac.th;
Tel: 2026
AOE: Molecular diagnosis

Ms. SIRIRATTANA WONGKITITRAKUL
General Affair Officer
B.Acc. (Bachelor of Accounting)
E-Mail: Sirirattana.won@mahidol.ac.th;
Tel: 9138

Prof. CHARLES J. WOODROW
Visiting Professor
Ph.D.
E-Mail: charlie@tropmedres.ac
AOE: Infectious diseases, malaria

Assoc. Prof. MALLIKA IMWONG
Ph.D. (Tropical Medicine)
E-Mail: Mallika.imw@mahidol.ac.th, noi@tropmedres.ac; Tel: 1406
AOE: Molecular genetic of drug resistance in malaria

Asst. Prof. PIENGCHAN SONTHAYANON,
Ph.D. (Tropical Medicine)
E-Mail: Piengchan.son@mahidol.ac.th, piengchan@tropmedres.ac; Tel: 2025
AOE: PCR-based diagnostic method

Dr. CHARIN THAWORNKUNO, *Lecturer*
Ph.D. (Applied BioScience)
E-Mail: Charin.tha@mahidol.ac.th;
Tel: 1587
AOE: Proteomics and genomics of microorganism, Molecular biology of cancer

Dr. NAOWARAT TANOMSING, *Lecturer*
Ph.D. (Tropical Medicine)
E-Mail: Naowarat.tan@mahidol.ac.th, Naowarat@tropmedres.ac; Tel: 1254
AOE: Malaria, Molecular biology

Dr. ONRAPAK REAMTONG, *Lecturer*
Ph.D. (Chemistry)
E-Mail: onrapak.rem@mahidol.ac.th;
Tel: 1582
AOE: Mass spectrometry, Proteomics, Biochemistry

Dr. SANTI MANEEWATCHARARANGSRI, *Lecturer*
Ph.D. (Biomedical Sciences, Molecular immunology)
E-Mail: santi.man@mahidol.ac.th;
Tel: 1607
AOE: PCR-based diagnostic method

Ms. RATTIYA JANKANA
General service
E-Mail: Rattiya.jan@mahidol.ac.th;
Tel: 9138

DEPARTMENT OF PROTOZOOLOGY

Telephone: 0 2-306-9182; Fax: 02-6435601
Website: www.tm.mahidol.ac.th/en/tmpz/tmpz_index.htm

Assoc. Prof. PORNTIP PETMITR, *Head*
E-Mail: *porntip.pet@mahidol.ac.th*; ext. 9183
AOE: - Biochemistry of Plasmodium falciparum, - Differential diagnosis of malarial parasites and human Entamoeba by molecular techniques, - Cultivation of asexual and sexual stages of *P. falciparum*, - Molecular detection of human Entamoeba and Cryptosporidium in water samples

Ms. RACHATAWAN CHIABCHALARD, *Lecturer*
B.Sc.(Physical Therapy), M.Sc.(Biology)
E-mail: *rachatawan.chi@mahidol.ac.th*
AOE: Intestinal Protozoa

Dr. SAENGDUEN MOONSOM, *Lecturer*
Ph.D. (Molecular Genetics and Genetic Engineering), Institute of Molecular, Biosciences, Mahidol University
E-mail: *saengduen.moo@mahidol.ac.th*; ext. 9183
AOE: - Protein biochemistry and Structural Biology, - Cell Biology of Entamoeba, - Molecular Biology, - Toxin-host interaction, - Animal vaccination development, - Polyclonal and monoclonal antibody production

Dr. KHUANCHAI KOOMPAPONG, *Lecturer*
B.Sc (Public Health) (Hons), Ph.D. (Tropical Medicine)
E-mail: *khuanchai.koo@mahidol.ac.th*; ext. 9183
AOE: - Molecular epidemiology of Cryptosporidium spp., - Zoonotic and environmental transmission of intestinal protozoa

Ms. KANTHINICH THIMA, *Scientist*
Cert. Medical Science Technology, Bachalor of Public Health
E-mail: *kanthinich.thi@mahidol.ac.th*; ext. 9183
AOE: - Culture of Giardia intestinalis, - Culture of Trichomonas vaginalis, - Culture of Plasmodium falciparum, - Diagnosis of Cryptosporidium parvum, Cyclospora cayetanensis, Isospora belli and Microsporidia spp., by special staining, - Diagnosis of Intestinal protozoa by a simple smea

Ms. CHANTIRA SUTTHIKORNCHAI, *Researcher*
B.Sc.(Biology), M.Sc.(Trop.Med.)
E-mail: *chantira.sut@mahidol.ac.th*; ext. 9183
AOE: Culture of *Cryptosporidium* in vivo, Environmental transmission of intestinal protozoa , Food and water borne protozoa

Ms. HATTAYA INCHOENG
General Affairs Officer
M.B.A Ramkhamhaeng University
E-mail: *hattaya.inc@mahidol.ac.th*; ext. 9183

Prof. YAOWALARK SUKTHANA
B.Sc., D.V.M., M.D.(Hons)., Dip. of Thai Broad in Oto Rhino Laryngology, D.T.M.&H., M.C.T.M.
E-mail: *yaowalark.suk@mahidol.ac.th*
Telephone: 0-2306-9198;
Fax: 0-2354-9198, 0-2643-5601
AOE: Oto-Rhino-Laryngology/Toxoplasma gondii

Dr. SUPALUK POPRUK, *Lecturer*
B.Sc. (Med. Tech.), Ph.D. (Trop. Med.)
E-mail: *supaluk.pop@mahidol.ac.th*; ext. 9183
AOE: Molecular genetics of intestinal Protozoa, Development for intestinal protozoa diagnosis

Dr. AONGART MAHITTIKOR, *Lecturer*
Ph.D. (Tropical Medicine)
E-mail: *aongart.mah@mahidol.ac.th*; ext. 9183
AOE: - Molecular diagnosis of protozoal infections, - Genotyping of coccidian and microsporidia

Mr. AMORN LEKKLA, *Researcher*
B.Sc.(Health Education), M.Sc.(Public Health)
E-mail: *amorn.lek@mahidol.ac.th*; ext. 9183
AOE: Diagnostic Intestinal Protozoa/Free living amoeba

Mr. PONGRUJ RATTAPRASERT, *Scientist*
B.Sc. (Medical technology), M.Sc. (Tropical Medicine)
E-mail: *pongruj.rat@mahidol.ac.th*; ext. 9183
AOE: - Molecular identification of medical protozoa, - Molecular detection of drug resistant markers

Ms. RUENRUETAI UDONSOM, *Scientist*
M. Sc. (Trop. Med.)
E-mail: *ruenruetai.udo@mahidol.ac.th*; ext. 9183
AOE: Toxoplasmosis diagnosis, Zoonoses protozoa, Cell cultivation

DEPARTMENT OF SOCIAL AND ENVIRONMENTAL MEDICINE

Telephone: 66 (0) 2-354-9100-19; ext. 1562-4
Website: www.tm.mahidol.ac.th/social-environment/

Assoc. Prof. KAMOLNETR OKANURAK, *Head*
Ph.D. (Medical Anthropology)
E-mail: *kamolnetr.oka@mahidol*.ac.th
AOE: Health seeking behavior, community participation in disease control, adherence to tuberculosis treatment

Asst. Prof. SUWALEE WORAKHUNPISET, *Deputy Head*
Ph.D. (Trop. Med)
E-mail: *suwalee.wor@mahidol.ac.th*
AOE: Environmental Toxicology, Environmental Management, Environmental, Health Impact Assessment

Assoc.Prof. WARANYA WONGWIT
Ph.D. (Chemistry: Biochemistry Option)
E-mail: *waranya.won@mahidol.ac.th*
AOE: Environmental Toxicology, Determination of heavy metals in environmental and biological samples, Biology of schistosome

Assoc. Prof. KRAICHAT TANTRAKARNAPA
Ph.D.(Environmental Engineering)
E-mail: *kraichat.tan@mahidol.ac.th*
AOE: Environmental Health Impact Assessment, Environmental Management System, Environmental Health, Computer Applications in Environmental Management, Occupational Health and Safety

Asst. Prof. VORANUCH WANGSUPHACHART,
Ph.D. (Medical Epidemiology)
E-mail: *voranuch.wan@mahidol.ac.th*
AOE: Environmental-Eco-Epidemiology, Water-Sanitation and Health Linkages, Health Risk Assessment, Environmental Health Impact Assessment, Risk Forecasting and Mathematical Modeling of infectious disease dynamics

Dr. YANIN LIMPANONT, *Lecturer*
Ph.D
E-mail: *yanin.lim@mahidol.ac.th*
AOE: Reproductive study in mollusks, Disease and parasite in fish and shellfish, Histopathology of shellfish disease

Ms. AMPAI SOROS, *Lecturer*
M.Sc. (Water and Environmental Resources Management)
E-mail: *ampai.sor@mahidol.ac.th*
AOE: Environmental Health, Environmental Management

Mr. WIWAT WANARANGSIKUL, *Senior Researcher*
M.A. (Medical and Health Social Science)
E-mail: *wiwat.wan@mahidol.ac.th*
AOE: Health Behavior, Ethno Medicine and Local Wisdom in Health

Mr. PHIRAPHON CHUSONGSANG, *Scientist*
M.Sc. (Public Health) Mahidol University
E-mail: *phiraphol.chu@mahidol.ac.th*
AOE: Blood Fluke, Epidemiology, Tropical Diseases and Health Social Science Geographical Information System

Ms. RACHNEEKORN MINGKHWAN, *Scientist*
B.Sc. (Food Technology)
E-mail: *ruchneekorn.min@mahidol.ac.th*
AOE: Environmental Toxicology.

Assoc.Prof. WIJITR FUNGLADDA
Dr.P.H. (Social Epidemiology)
E-mail: *wijit.fun@mahidol.ac.th*
AOE: Epidemiological, social and behavioral aspects of malaria, leptospirosis, and other tropical diseases

Assoc.Prof. PONGRAMA RAMASOOTA
Ph.D (Microbiology)
E-mail: *pongrama.ram@mahidol.ac.th*
AOE: - Construction of antibody library for the development of avian influenza virus diagnostic test, using phage antibody technique. (funded by Thailand Research Fund, Metee Wijai), - Rapid detection of aerosal pathogenic bacteria (M. tuberculosis and Legionnaire's) using molecular techniques. (Funded by Thailand tropical diseases research program, T2), -Epitope mapping of monoclonal antibody specific to Burkholderia pseudomallei using phage display technique. (Funded by Thailand Research Fund)

Asst. Prof. PRAPIN THARNPOOPHASIAM
Ph.D. (Trop. Med.), Mahidol University
E-mail: *prapin.tha@mahidol.ac.th*
AOE: Environmental Toxicology, Monitoring of water quality

Dr. PANNAMTHIP PITAKSAJJAKUL, *Lecturer*
Ph.D. (Tropical Medicine)
E-mail: *pannamthip.pit@mahidol.ac.th*
AOE: Molecular Biology, Monoclonal Antibody production and characterization, Antibody engineering, Applied biotechnology in tropical disease and env. science

Ms. PUSADEE SRI-AROON, *Expert Scientist*
M. A. (Health Social Science), Mahidol University
E-mail: *pusadee.sri@mahidol.ac.th*
AOE: Malacology, Tropical Diseases and Health Social Science

Mrs. YUPA CHUSONGSANG, *Scientist*
M.Sc. (Public Health)
E-mail: *yupa.chu@mahidol.ac.th*
AOE: Liver fluke (Opisthorchis viverrini), Parasitology

Ms. HATHAIRAD HANANANTACHAI, *Scientist*
M.Sc., B.Sc. (Biochemistry)
E-mail: *hathairad.han@mahidol.ac.th*
AOE: Molecular Biology, Human Genetics

Mrs. SUPHISCHA SATSAMAI
General Administration Officer
B.Ed.(Library Science)
E-mail: *suphischa.sat@mahidol.ac.th*

DEPARTMENT OF TROPICAL HYGIENE

Telephone: 66 (0) 2-306-9188-9
Website: http://www.tm.mahidol.ac.th/hygiene/

Prof. SRIVICHA KRUDSOOD, *Head*
B.Sc., M.D., D.T.M.& H., M.Sc., Thai Board in Internal Medicine, Ph.D.(Trop.Med.)
E-mail: *srivicha.kru@mahidol.ac.th*; ext. 1421
AOE: Clinical trial of anti-malarial drugs; Clinical management of malaria

Asst. Prof. SARANATH LAWPOOLSRI NIYOM, *Deputy Head*
M.D., D.T.M.& H., Ph.D.(Epidemiology)
E-mail: *saranath.law@mahidol.ac.th*; ext. 1606
AOE: The epidemiology of malaria and other tropical diseases; Spatial and mathematical modeling; Application of Geographical Information system (GIS) and Remote Sensing (RS)

Assoc. Prof. PRATAP SINGHASIVANON,
M.B.B.S., D.T.M. & H., M.P.H., Dr.P.H.(Epidemiology)
E-mail: *pratap.sin@mahidol.ac.th*; ext. 1695
AOE: Epidemiology of Tropical Diseases / Data Processing and Computer Utilization in Medical Researches / Application of GIS in Monitoring Multi-drug Resistant Malaria in Greater Mekong Sub-Region of Southeast Asia

Assoc. Prof. JARANIT KAEWKUNGWAL
B.Sc., M.Ed., M.A., Ph.D.(Applied Statistics & Program Evaluation)
E-mail: *jaranit.kae@mahidol.ac.th*; ext. 103
AOE: Research Methodology; Data Management; Statistical Modeling

Asst. Prof. DIREK LIMMATHUROTSAKUL,
M.D., MSc. (Medical Statistics) , Ph.D. (Life and Biomolecular sciences)
E-mail: *direk@tropmedres.ac*; ext. 1426
AOE: Tropical infectious disease, including melioidosis, leptospirosis and ricketsiosis; Statistics, research methodology and epidemiology; Bayesian data analysis, and evaluating diagnostic tests with an imperfect gold standard

Dr. PODJANEE JITTAMALA, *Lecturer*
M.D., Dip Thai Board of Pediatrics; Dip Thai Board of Pediatric Infections
E-mail: *podjanee@tropmedres.ac*; ext. 107
AOE: Medical doctor; Pediatrician; Infectious Pediatrician

Dr. WIRICHADA PAN-NGUM, *Lecturer*
MORSE (Mathematics Operational Research, Statistics and Economics), M.Sc.(Applied Statistics); Ph.D. (Infectious Diseases)
E-mail: *wirichada.pan@mahidol.ac.th*; ext. 104
AOE: Mathematical modeling of anti-malarial drug resistance; Clinical data management

Dr. NGAMPHOL SOONTHORNWORASIRI, *Lecturer*
B.Sc.(Mathematics), M.Sc.(Applied Mathematics), Ph.D.(Mathematics)
E-mail: *ngamphol.soo@mahidol.ac.th*; ext. 1608
AOE: Statistical Modeling, Bayesian analysis, Time series Models

Ms. PANNAMAS MANEEKARN, *Lecturer*
B.Sc.(Nursing), M.Sc.(Preventive Medicine)
E-mail: *pannamas.man@mahidol.ac.th*; ext. 1684
AOE: Laboratory studies

Dr. SURAPON YIMSAMRAN, *Senior Researcher*
B.Ed.(Biology), M.Sc.(Epidemiology), Ph.D.(Geoinformatics)
E-mail: *surapon.yim@mahidol.ac.th*; ext. 1690
AOE: Epidemiology of Tropical Diseases; Data Processing and Computer Utilization in Medical Researches; Geoinformatics

Mr. IRWIN FERNANDEZ CHAVEZ, *Lecturer*
M.Sc.(Epidemiology)
E-mail: *irwin.cha@mahidol.ac.th*; ext. 1694
AOE: Epidemiology of infectious diseases; Statistical methods; Geographic Information Systems; Information and Computer Technology

Mr. WANCHAI MANEEBOONYONG, *Researcher*
B.Ed.(General Science), M.Sc. Public Health (Infectious Diseases)
E-mail: *wanchai.man@mahidol.ac.th*; ext. 1694
AOE: Epidemiology of Tropical Diseases

Ms. CHOTIPA KULRAT, *Researcher*
B.Sc.(Physic), M.Sc.(Geoinformatics)
E-mail: *chotipa.kul@mahidol.ac.th*; ext. 1690
AOE: Geoinformatics

Mr. PATIWAT SA-ANGCHAI, *Researcher*
B.Sc.(Agricultural), M.Sc.(Geoinformatics)
E-mail: *patiwat.saa@mahidol.ac.th*; ext. 1690
AOE: Geoinformatics

Mr. PITAK WUTHISEN, *Research Assistant*
B.Sc.(Biology), M.Sc.(Tropical Medicine)
E-mail: *pitak.wut@mahidol.ac.th*; ext. 109

Mr. NIPON THANYAVANICH
Research Assistant
B.Sc.(Health Education), B.A.(Political Science), M.Sc.(Infectious Diseases)
E-mail: nipon.tha@mahidol.ac.th; ext. 1690
AOE: Laboratory studies

Mrs. NATEFA RAKMANEE
Research Assistant
B.Sc.(Health Education), M.Sc.(Trop.Med.)
E-mail: natefa.uth@mahidol.ac.th; ext. 1690
AOE: Laboratory studies

Mr. WUTHICHAI CHAIMOONGKUN
Research Technical Officer
B.A.(Business Administration)
E-mail: wuthichai.cha@mahidol.ac.th; ext. 1690
AOE: GIS

Mr. SUPALARP PUANGSA-ART
Scientist
B.Sc.(Agriculture), B.A.(Political Science), M.Sc.(Tropical Medicine), M.Sc.(Biostatistics)
E-mail: supalarp.pua@mahidol.ac.th; ext. 1690
AOE: Field research

Mr. SUTHIPORN PROMMONGKOL
Medical Science Technician
Cert. Medical Science Technology
E-mail: suthiporn.pro@mahidol.ac.th; ext. 1690
AOE: Field research

Mrs. KAMORNWAN CHAIPAKDEE
Secretary, General Administration Officer
B.Ed. (Social Study)
E-mail: kamornwan.cha@mahidol.ac.th; ext. 110

Mrs. WAREE WIRIYARAT
General Administration Officer
B.A. (General Management Major)
E-mail : waree.wir@mahidol.ac.th

Mrs. THAMONWAN KAMPANUCH
General Officer
E-mail: thamonwan.kam@mahidol.ac.th; ext. 1690

Mr. PRASERT RAKMANEE
Research Assistant
B.Sc.(Environmental Science), M.Sc.(Trop.Med.)
E-mail: prasert.ruk@mahidol.ac.th; ext. 1690
AOE: Field research

Ms. CHOTIMA CHARUSABHA
Research Technical Officer
B.Sc.(Computer)
E-mail: chotima.cha@mahidol.ac.th; ext. 108
AOE: Administration

Ms. SUNTAREE SANGMUKDANUN
Research Technical Officer
B.Sc.(Biology)
E-mail: suntaree.san@mahidol.ac.th; ext. 1686

Ms. PIMPHEN CHAROEN
Scientist
M.Sc. (Mathematics)
E-mail: p.charoen@imperial.ac.uk
AOE: Epidemiology, Biostatistics

Mr. PRAKIT KITSUPEE
Computer Programmer
B.BA.(Business Computer)
E-mail: prakit.kit@mahidol.ac.th; ext. 1690

Ms. KETSARAPORN THONGPAKDEE
General Administration Officer
B.A. (Communication)
E-mail: ketsaraporn.tho@mahidol.ac.th; ext. 112

Mr. SAMARN SONKLOM
Animal Caretaker
E-mail: samarn.son@mahidol.ac.th; ext. 1690
AOE: Animal handling

Ms. BUPPA THONGBAI
General Officer
E-mail: buppa.tho@mahidol.ac.th; ext. 113

DEPARTMENT OF TROPICAL NUTRITION & FOOD SCIENCE

Telephone: 0-2354-9100-19, 0-2306-9100-9 ext. 1582-5; Fax: 0 2644-7934
Webpage : http://www.tm.mahidol.ac.th/nutrition/

Asst. Prof. DUMRONGKIET ARTHAN, *Head*
Ph.D. (Biochemistry)
E-mail: *dumrongkiet.art@mahidol.ac.th, headtmnu@mahidol.ac.th*; ext. 1581
AOE: Molecular enzymology, Cancer biology, Protein biochemistry

Prof. RUNGSUNN TUNGTRONGCHITR
Ph.D. (Tropical Medicine)
E-mail: *rungsunn.tun@mahidol.ac.th*
ext. 1582-4
AOE: Molecular nutrition, Nutritional epidemiology, Biochemical nutrition

Assoc. Prof. KARUNEE KWANBUNJAN
Dr.oec.troph.(Nutrition and Food Science)
E-mail: *karunee.kwa@mahidol.ac.th*
ext. 1582-4
AOE: Biochemistry nutrition/Nutrition epidemiology

Dr. AMORNRAT AROONNUAL, *Lecturer*
Ph.D. (Biotechnology)
E-mail: *amornrat.aro@mahidol.ac.th*
ext. 1582-4
AOE: Molecular biology, Food microbiology, Food safety

Dr. APANCHANID THEPOUYPORN, *Researcher*
Ph.D. (phytopharmaceutical Science)
E-mail: *apanchanid.the@mahidol.ac.th*
ext. 1582-4
AOE: Anti-HIV protein from plants, Molecular Biology

Dr. ANONG KITJAROENTHAM
Researcher
Ph.D. (Biochemistry)
E-mail: *anong.kit@mahidol.ac.th*
ext. 1582-4
AOE: Chromatography

Ms. KRIYAPORN SONGMUAENG, *Scientist*
M.Sc. (Environmental biology)
E-mail: *kriyaporn.son@mahidol.ac.th*
ext. 1582-4
AOE: Radioisotopes in medical science and biology

Mr. SOMCHAI PUDUANG, *Medical Science Associate*
Certificate of Medical Science Technician (Cert. Med. Sc. Tech.)
E-mail: *somechaitropmed@hotmail.com*
ext. 1582-4
AOE: Vitamin B2, B6 determination

Mrs. ANUN SUJAREE, *Janitor*
E-mail: -
ext. 1582

Asst. Prof. TALABPORN HARNROONGROJ
Dr. oec.troph. (Nutrition and Food Science)
E-mail: *talabporn.har@mahidol.ac.th*
ext. 1582-4
AOE: Community nutrition, Biochemistry Nutrition

Dr. SARUNYA KAEWPRASERT
Lecturer
Ph.D. (Nutritional Biochemistry)
E-mail: *sarunya.kae@mahidol.ac.th*
ext. 1582-4
AOE: Biochemistry Nutrition

Dr. PATTANEEYA PRANGTHIP, *Lecturer*
Ph.D. (Nutrition)
E-mail: *pattaneeya.pra@mahidol.ac.th*
ext. 1582-4
AOE: Animal model of obesity and diabetes mellitus, Antioxidant analysis

Dr. PORNRUTSAMI JINTARID, *Scientist*
Ph.D. (Biochemistry)
E-mail: *pornrutsami.jin@mahidol.ac.th*
ext. 1582-4
AOE: Molecular Biology, Nutrition research, Nutritional biochemistry

Mrs. WANYARAT NAKOSIRI
Scientist
M.Sc. (Tropical medicine)
E-mail: *wanyarat.nak@mahidol.ac.th*; ext. 1582-4
AOE: Radioisotopes in medical science and biology

Mrs. YAOVAMARN CHANTARANIPAPONG
Medical Science Associate
Highest EducationLaboratory Assistant)
E-mail: *yaowamarn.cha@mahidol.ac.th*
ext. 1582-4
AOE: Folate determination

Ms. SAIJAI PAISIRI
General Affairs Officer
B.A.(General Management)
E-mail: *boonyapa.pai@mahidol.ac.th*
ext. 1582-4
AOE: Administration

DEPARTMENT OF TROPICAL PATHOLOGY

Telephone: 0 -2354 – 9100-4 ext. 1670, 0-2306-9184, 0-2360-9185; Fax: 0-2306-9184
Website: http://www.th.mahidol.ac.th/pathology/

Asst. Prof. URAI CHAISRI, *Head*
B.Sc. (Biol.), M.Sc. (Trop. Med.), Ph.D. (Trop. Med.)
Faculty of Tropical Medicine, Mahidol University
E-mail: *urai.cha@mahidol.ac.th*
ext. 1628, 1670
AOE: Electronmicroscopy, Immunology

Assoc. Prof. PARNPEN VIRIYAVEJAKUL, *Deputy Head*
B.S. (Biology-Genetics), MD., D.T.M. & H., M.C.T.M., Dip.Thai Board of Anatomical Pathology, Ph.D. Liverpool School of Tropical Medicine, University of Liverpool, UK
E-mail: *parnpen.vir@mahidol.ac.th*; ext. 1677
AOE: Anatomical pathology, Pathogenesis of malaria, Opportunistic infections and tissue cytokines in AIDS

Dr. GARETH TURNER,
Mahidol Oxford Tropical Medicine Research Unit, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand
AOE: Pathophysiology, Tropical diseases

Assoc. Prof. YAOWAPA MANEERAT
D.V.M., Ph.D. (Pathobiology) Faculty of Science, Mahidol University
E-mail: *yaowapa.man@mahidol.ac.th*
ext.1629, 9185
AOE: Tissue culture and Immunohistochemisty

Ms. RUNGRAT NINTASEN *Scientist*
B.Sc. (Microbiology), M.Sc. Infectious disease and Epidemiology (Microbiology) Faculty of Public Health, Mahidol University, Ph.D. (Trop. Med.)
E-mail: *rungrat.nin@mahidol.ac.th*
ext. 1678
AOE: Laboratory techniques for histopathological, cytological investigations and molecular microbiology

Mr. VASANT KHACHONSAKSUMET
Medical Science Associate
B.Sc.(Biol.), M.Sc. (Infectious Diseases) Faculty of Public Health, Mahidol University
E-mail: *vasant.kha@mahidol.ac.th*;
ext. 1676
AOE: Microscopy

Assoc. Prof. MARIO RIGANTI, *CONSULTANT*
M.D., Dip. American Board of Pathology. University of Pennsylvania
E-mail: -
ext. 1674
AOE: General Pathology and Tropical Pathology; Gnathostomiasis

Assoc. Prof. EMSRI PONGPONRATN
D.V.M., Ph.D. (Trop. Med.), Faculty of Tropical Medicine, Mahidol University
E-mail: *emsri.pon@mahidol.ac.th*
ext. 1621
AOE: Electronmicroscopy: Pathology of malaria

Dr. SUMATE AMPAWONG
D.V.M., M.Sc., Ph.D.
E-mail: *a_sumate@hotmail.com*;
acsumate@mahidol.ac.th
ext.9185

Ms. SUPATTRA SUWANMANEE, *Scientist*
B.N.S., M.Sc. (Anatomy) Faculty of Science, Mahidol University
E-mail: *supattra.suw@mahidol.ac.th*
ext. 9185
AOE: Electronmicroscopy

Mrs. WIMON NGOENKONG
General Affairs Officer
B.Ed. (Psychology and Guidance) Chandrakasem Teacher College
E-mail: *wimon.ngo@mahidol.ac.th*;
ext. 1670

DEPARTMENT OF TROPICAL PEDIATRICS

Telephone: 0-2640-9920, 0-2354-9161, Fax: 0-2354-9163
Website : http://www.tm.mahidol.ac.th/eng/tmpd/tmpd_index.htm

Assoc. Prof. CHUKIAT SIRIVICHAYAKUL, *Head*
Diploma Thai Board of Pediatrics, Medical Council
E-mail: *chukiat.sir@mahidol.ac.th*
AOE: Pediatrics

Asst. Prof. WATCHAREE CHOKEJINDACHAI, *Deputy head*
Ph.D. University of London, United Kingdom
E-mail: *watcharee.cho@mahidol.ac.th*
AOE: Pediatrics, Infectious and Tropical Diseases

Mr. PORNTHEP CHANTHAVANICH, *Lecturer*
Diploma Thai Board of Pediatric Infectious Diseases, Medical Council
E-mail: *pornthep.cha@mahidol.ac.th*
AOE: Pediatrics

Asst. Prof. RAWEERAT SITCHARUNGSI,
Diploma Thai Board of Pediatrics, Medical Council
E-mail: *raweerat.sit@mahidol.ac.th*
AOE: Pediatric, Allergic Diseases

Dr. SUPAWAT CHATCHEN, *Lecturer*
M.D., Ph.D. (Molecular Genetics and Genetic Engineering), Mahidol University
E-mail: *supawat.cha@.mahidol.ac.th*
AOE: Molecular Genetics and Genetic Engineering

Mrs. PATAPORN WISETSING, *Scientist (Specialist)*
Bachelor of Education, Chandra Kasem Teachers College
E-mail: *pataporn.wis@mahidol.ac.th*
AOE: General Science

Ms. UDOMLUK THANGTAWEEWAROAJ
General Affair Officer
B.A. (Medical Secretary), Mahidol University
E-mail: *udomlak.tha@mahidol.ac.th*

Mrs. SANTANA THAMTHAI
General Affair Officer
Bachelor of Management (Accounting), Suan Dusit Rajabhat University
E-mail: *santana.tha@mahidol.ac.th*

Mrs. NATHAKAN NARIN
Scientist Assistant
Secondary Education, Chang ar Kart Amrung School
E-mail: *nathakan.nar@mahidol.ac.th*

Mrs. CHANTHIP KONGROD
Janitress
Secondary Education, Wat Noy Noi School
E-mail: *chanthip.kon@mahidol.ac.th*

Prof. KRISANA PENGSAA
Diploma Thai Board of Pediatrics, Medical Council
E-mail: *krisana.pen@mahidol.ac.th*
AOE: Pediatrics

Asst. Prof. KRIENGSAK LIMKITTIKUL
Diploma Thai Board of Pediatrics, Medical Council
E-mail: *kriengsak.lim@mahidol.ac.th*
AOE: Pediatrics

Dr. WEERAWAN HATTASINGH, *Lecturer*
Diploma Thai Board of Pediatrics, Medical Council
E-mail: *weerawan.hat@.mahidol.ac.th*
AOE: Pediatric Infectious Diseases

Mr. CHANATHEP POJJAROEN-ANANT, *Scientist (Specialist)*
M.Sc. (Trop. Med.), Mahidol University
E-mail: *chanathep.poj@mahidol.ac.th*
AOE: Malaria, Parasite

Ms. PIMOLPACHR SRIBURIN, *Scientist*
B.Sc. (Biology), Srinakharinwirot University
E-mail: *pimolpachr.sir@mahidol.ac.th*
AOE: Biology

Ms. SUNISA KHIAOKHWANG
General Affair Officer
Bachelor Degree of Management Marketing, Sripatum University
E-mail: *sunisa.khi@mahidol.ac.th*

Mrs. TIPAPORN PIMALAI
Scientist Assistant
High Qualification Professional Certificate, Samut Prakan School
E-mail: *tipaporn.pim@mahidol.ac.th*

Mrs. PUDTAMAPORN TIANGTHUM
Scientist Assistant
High Qualification Professional Certificate, Samsen Wittayalai
E-mail: *pudtamaporn.tia@mahidol.ac.th*

Ms. AMORN CHAROENDONG
Janitress
Secondary Education, Ban-Klong-Sipsam School
E-mail: *amorn.cha@mahidol.ac.th*

CENTER OF EXCELLENCE FOR BIOMEDICAL AND PUBLIC HEALTH INFORMATICS (BIOPHICS)

Telephone: +66(2) 354 9181- 86; Fax : +66(2) 354 9187
Website : http://www.jaranitk@biophics.org, amnatk@biophics.org

Assoc.Prof.JARANIT KAEWKUNGWAL
Chief of Executive
jaranitk@biophics.org

Assoc.Prof.WARANYA WONGWIT
Chief of Regulatory & Quality Assurance
waranyaw@biophics.org

Asst.Prof.SARANATH LAWPOOLSRI NIYOM
Chief of Biomedical Informatics
saranathl@biophics.org

Mr. AMNAT KHAMSIRIWATCHARA
Computer Technical Officer
amnatk@biophics.org

Mr. PONGTHEP MIANKAEW
Computer Technical Officer
pongthepm@biophics.org

Mr. WATTANAPON UNEAM
Computer Technical Officer
wattanaponu@biophics.org

Ms. PAWINEE JARUJAREET
Statistician
pawineej@biophics.org

Mr. PODJADEACH KHUNTHONG
Computer Programmer
podjadeachk@biophics.org

Ms. RUNGRAWEE PAWARANA
Computer Programmer
rungrawee@biophics.org

Mr. SURASAK SAWANG
Computer Programmer
surasaks@biophics.org

Mr. AUMNUYPHAN SANGVICHEAN
Computer Programmer
aumnuyphan@biophics.org

Ms. SAOWALUK THANAWATCHARANGKUR
General Administration Officer
saowalukt@biophics.org

Ms. MONTIRA YUAYAI
Data Manager
montiray@biophics.org

Mr. JESADA HONGTO
Programmer
jesadah@biophics.org

Ms. PANPEN NARUKATPICHAI
Document Control Administrator
panpenn@biophics.org

Mr. SURADEJ LUANG-AROON
Driver
-

Mr.PUNYANUCH METTATUA
Data Manager Assistant
punyanuchm@biophics.org

Mr. SURADECH TIANTONG
Junior Programmer
suradecht@biophics.org

Mr. NARUEPHON WATTANASUNTHORNSIN
Re search Assistant
naruephonw@biophics.org

Mr. PAISAN HOMHUAN
Computer System Manager
paisanh@biophics.org

Mr. PICHAYA BOONRAK
Statistician
pitchayab@biophics.org

Ms. AKANID SONGSRIJAN
System Analyst
akanids@biophics.org

Ms. WIRAPORN THONGPRARONG
System Analyst
wirapornt@biophics.org

Ms. PATTANAN KAEWKAEW
System Analyst
pattanank@biophics.org

Ms. ONANONG NAKMOOL
System Analyst
onanongn@biophics.org

Ms. SUKANYA JAIKLAEW
Help Desk
sukanyaj@biophics.org

Mr. PEERAWAT WANSATID
Programmer
peerawatw@biophics.org

Ms. PHIMONPHAN PHOUNGPHAN
Programmer
phimonphanp@biophics.org

MR. KOMCHALUCH TAWEESANEEPITCH
Public Health Officer
komchalucht@biophics.org

Mr. KASEMSAK JANDEE
Public Health Officer
kasemsakj@biophics.org

Ms. MONTIDA AUAYPORN
Statistician
montidaa@biophics.org

Ms. ARAYA SUWANNALOP
Clerk
-

Ms. SARINYA KRONGRUNGROJ
Programmer
sarinyak@biophics.org

CENTER OF EXCELLENCE FOR ANTIBODY RESEARCH (CEAR)

Telephone: 66 (0) 2-354-9100-4 ext. 2042, 66 (0) 2-306-9186
Website : http://www.tm.mahidol.ac.th/cear/

Assoc. Prof. PONGRAMA RAMASOOTA,
Ph.D (Microbiology)
AOE: - Construction of antibody library for the development of avian influenza virus diagnostic test, using phage antibody technique. (unded by Thailand Research Fund, Metee Wijai), - Rapid detection of aerosal pathogenic bacteria (M. tuberculosis and Ligionnaire) using molecular techniques. (Funded by Thailand tropical diseases research program, T2), -Epitope mapping of monoclonal antibocy specific to Burkoidoria pseudomallei using phage display technique. (Funded by Thailand Research Fund)
E-mail: *pongrama.ram@mahidol.ac.th*

Dr. PANNAMTHIP PITAKSAJJAKUL, *Lecturer*
Ph.D. (Tropical Medicine)
AOE: Molecular Biology, Monoclonal Antibody production and characterization, Antibody engineering, Applied biotechnology in tropical disease and environmental?
E-mail: *pannamthip.pit@mahidol.ac.th*

Dr. CHONLATIP PIPATTANABOON, *Researcher*
Ph.D., B.Sc.
AOE: - Antibody characterization, gene expression, epitope mapping, virology and immunology of dengue virus
E-mail: *Chonlatip.pip@mahidol.ac.th*

Ms. SUJITRA KEADSANTI
Researcher Assistance
M.Sc., B.Sc.
AOE: - Animal cell culture and viral culture
E-mail: *sujitra.kea@mahidol.ac.th*

Mr. SURACHET BENJATHUMMARAK,
Researcher Assistance
M.Sc., B.Sc.
AOE: - Molecular biology, Bacteriology
E-mail: *surachet.ben@mahidol.ac.th*

Ms. DUANGDUEN PHIENPICHARN
General Affair Officer
BE (English) Chandra-Kasem-Teachers College
AOE: Administration
E-mail: *duangduen.phi@mahidol.ac.th*

MAHIDOL-OXFORD TROPICAL MEDICINE RESEARCH UNIT (MORU)

Telephone: 66 (0) 2-203-6333
Website : http://www.tropmedres.ac/

Prof. NICHOLAS WHITE
Chairman, Southeast Asia research Units

Prof. NICHOLAS DAY
Unit Director

Prof. ARJEN DONDORP
Deputy Director/Head of Malaria

Prof. FRANCOIS NOSTEN
Director, SMRU

Dr. PAUL NEWTON
Dictor, Laos Unit

Mr. JONATHAN TRUSLOW
Chief Operating Officer

Mr. DIREK LIMMATHUROTSAKUL
Head of Microbiology

Mr. JOEL TARNING
Head of Pharmacology

Mr. LIJIANG SONG
Head of Pharmacology Lab

Ms. PHAIK YEONG CHEAH
Head of CTSG

Mr. JEREMY CHALK
Head of Data Management

Mr. GARETH TURNER
Head of Pathology

Ms. KESINEE CHOTIVANICH
Head of Malaria Laboratory

Ms. MALLIKA IMWONG
Head of Malaria Molecular

Ms. LISA WHITE
Head of Mathematical Modelling

Mr. BEN COOPER
Senior Mathematical Modeller

Ms. KANCHANA PONGSASWAT
HR & Administration Manager

Ms. WIDANAN KHUMHAENG
Chief Financial Officer

Mr. DEAN SHERWOOD
Head of IT

Ms. PORNJARUS SUKHAPIWAT
Purchasing & Logistics Manager

Ms. SAWANYA ISMAEL
Director's Executive Assistant

MAHIDOL VIVAX RESEARCH UNIT (MVRU)

Telephone: 66 (0) 2-354-9100-4 ext. 2042
Website : http://www.tm.mahidol.ac.th/mvru/client/main.html

Dr. JETSUMON SATTABONGKOT PRACHUMSRI, Ph.D.
jetsumon.pra@mahidol.ac.th

Dr. RAPATBHORN PATRAPUVICH, Ph.D.
rapatbhorn.pat@mahidol.ac.th

Dr. WANLAPA ROOBSOONG , Ph.D.
wanlapa.ros@mahidol.ac.th

Dr. RACHANEEPORN JENWITHISUK, Ph.D.
jrachaneeporn@gmail.com

Ms. NATTAWAN RACHAPHAEW, M.Sc.
nattawan.rac@mahidol.ac.th

Mr. CHALERMPON KUMPITAK, M.Sc.
chalermpon.kum@mahidol.ac.th

Mr. TEERAWAT SAESEU, M.Sc.
teerawatsaeseu@gmail.com

Mr. APISAK DUANGMANEE, M.Sc.
apisak.dua@mahidol.ac.th

Mr. SIRASATE BANTUCHAI, M.Sc.
sirasate.ban@mahidol.ac.th

Ms. JUNYALUCK RUKIT, M.Sc.
junya_rukit@hotmail.com

Ms. PORNPIMOL CHOBSON, M.Sc.
ppchobson@gmail.com

Ms. SIRIWAN RUNGIN, M.Sc.
noo_aor@windowslive.com

Mr. KIRAKORN KIATTIBUTR, B.S.
kirakorn.kia@mahidol.ac.th

Ms. NUTCHA THEERAWARODOM, B.E.
mithuna.june@gmail.com

Mrs. SADANUNT MANEEWIHOK, B.S.
sadanunt.man@mahidol.ac.th

Ms. NOPPANUN SRUMNAM, B.B.A.
noppanan99@live.com

Ms. SAIFON SUDJAI, B.S.
ssd_dsaifon@hotmail.com

Mr. RACHASAK BOONHOK
Ph.D. Candidate
rimmune111@hotmail.com

Dr. RHEA LONGLEY
rhea.longley@gmail.com

Ms. PRAPAPORN WANGWENG
High School Diploma
poohlak@gmail.com

Mr. PANAPOL BOONLERS
High School Diploma
panapol2509@gmail.com

VACCINE TRIAL CENTRE (VTC)

Telephone: 66 (0) 2-354-9100-4 ext. 2060#11
Website : http://www.tm.mahidol.ac.th/vtc/

Prof. PUNNEE PITISUTITHUM
D.C.M., M.B., B.S., D.T.M.&H.
punnee.pit@mahidol.ac.th

Asst. Prof. VALAI BUSSARATID
M.D., M.Sc.
valai.bus@mahidol.ac.th

Asst. Prof. WIRACH MAEK-A-NANTAWAT
M.D., D.T.M.&H.

Asst. Prof. JITTIMA DHITAVAT
D.Phil., M.D., M.Sc.
jittima.dhi@mahidol.ac.th

Asst. Prof. SUPAT CHAMNACHANANT
M.D., D.T.M.&H.
supat.cha@mahidol.ac.th

Prof. EMERITUS PRAVAN SUNTHARASAMAI
pravan.sun@mahidol.ac.th

Prof. EMERITUS SWANGJAI PUNGPAK

Prof. EMERITUS SIRIWAN VANIJANONTA

Assoc. Prof. VARUNEE DESAKORN
B.Sc., M.P.H, M.Sc.
varunee.des@mahidol.ac.th

Assoc. Prof. BENJALUCK PHONRAT
B.Sc., M.Sc.
benjaluck.pho@mahidol.ac.th

SUPPORT OFFICES

Telephone: 66 (0) 2-354-9199
Website : http://www.tm.mahidol.ac.th/eng/index-eng-php

THE OFFICE OF THE DEAN (OOD)

The **Office of the Dean** is managed by the Secretary of the Faculty, Assistant Professor Kasinee Buchachart, who also serves as Assistant to the Dean for Student Affairs and Special Activities. It is the administrative nerve center of the Faculty, and it supports the Faculty's activities through a broad range of services. The office is divided into eight functional units:

- Administration and General Affairs
- Human Resources
- Finance
- Procurement
- Educational Technology
- Information Technology
- Asset Management
- Legal and Property

Together, these units enable the Faculty's operations to run smoothly by ensuring legal compliance, effective financial management, administrative and infrastructural support, and other specialist expertise.

OFFICE OF EDUCATIONAL ADMINISTRATION (OEA)

The Office of Education Administration (OEA) coordinates all educational curriculums that the Faculty of Tropical Medicine offers. Our responsibilities fall under eight main categories:

Documents and General Administration: We manage all documents and registration forms, as well as perform administrative tasks such as producing handouts and photocopies. We also facilitate communication, both internal and external. Finally, we organize the opening and closing ceremonies for all courses.

Finance and Procurement: In terms of financial matters, the OEA is responsible for developing the yearly financial plan as well as organizing our various fundraisers. We handle all accounting, invoices, receipts, and inventory maintenance.

Corporate Communication: We produce the School Public Relations plan that covers all communication between the School and the general public. We handle all e-mail correspondence regarding international program information, provide advice to prospective students, and update the information on the school website. We also manage application submissions and verify enrollment of foreign applicants, as well as coordinate regular events such as our open house and road shows.

Teaching and Learning Coordination: The OEA not only manages student course registration, we also coordinate all teaching and classroom timetables. We handle remuneration for all internal and external lecturers. The OEA organizes special events, such as guest lectures and student academic forums. We also produce the Student Manual.

Registration and Teaching-Learning Evaluation: We manage all student records as well as maintain a comprehensive school student database, which includes both current students and alumni. As we strive to provide a high-quality education at TropMed, one of our most important responsibilities is facilitating the teacher and course evaluations, which are used to improve the quality of teaching at the Faculty. In addition, we assist students to develop their research projects, as well as manage on ongoing projects.

Laboratory and Audio-visual Media: The OEA coordinates all management and maintenance for laboratory facilities and equipment used as tools for teaching and training

Educational Quality Development: We organize all Education Assessment Reports and exam paper collection. We also identify and report any educational risk factors that may prohibit our students from receiving a proper education. Finally, we organize laboratory field trips and ensure they are in accordance with the TropMed educational standards.

Student's activity and Student's service: To assist our students and add enjoyment to their experience of studying in Bangkok, we develop and implement an action plan for various student activities. We coordinate all student events such as community service projects, "Freshy" Day, the Welcome field trip, MU International Day, and various sporting events. The OEA organizes cultural ceremonies, like Wai Khru Day, and other ceremonies, like convocation. We document all of these events by taking photos. We also make the Tropmed International Student Guide, which provides practical information to international students, by informing them about health service centers, visa assistance, and other information about additional student funding sources.

Telephone: 66 (0) 2-354-9100-4 ext, 1539
Email: chiraporn.pra@mahidol.ac.th

OFFICE OF INTERNATIONAL COOPERATION (OIC)

The Office of International cooperation (OIC) is responsible for coordinating TropMed's many different international partnerships. The Dean has emphasized that collaborative studies and the sharing of knowledge will benefit the sciences as a whole, and so society in general. This means that there are many projects such as collaborations with other leading research institutions, visiting lecturers, and public relations under the control of the OIC. The services provided by the OIC are broken down into five main areas:

International Training/Attachment is responsible for various training and networking opportunities, including:

- Short Training Courses
- Study Visits and Tours
- Research Attachments
- Elective and Rotation Programs
- Meetings, Workshops and Seminars
- International Volunteering

The **Local International Center** coordinates several international collaborations, such as:

- SEAMEO TROPMED Thailand
- MORU
- Malaria Consortium
- Silom Clinic @ Tropmed
- SEAMEO TROPMED Network
- WWARN
- Osaka University

International Public Relations and ICT Readiness is in charge of communicating with the international community though:

- International Visibility
- News & Announcements
- Domestic Stakeholder Services
- International Marketing
- International Operators
- International Special Events
- International Customer Services

This unit is also responsible for compiling and maintaining databases of different training opportunities, visitors and MOUs.

International Cooperation and Special Projects are responsible for coordinating many different international partnerships, including:

- MOU/Agreement
- International Visitors
- International Support Funds
- OIC's Organization Development
- International Advisor/Consultant
- International Academic Peers
- Special Project/Collaborations
- Annual Administrative Report

Administrative Affairs is concerned with many different areas, such as:

- Office Administration
- Cultural Study/Hospitality
- Routine Correspondence
- VISA and passport assistance
- International Scholarships
- Visiting Professors
- Recommendation letters
- Documentary Management

Telephone: 66 (0) 2-306-9118
Website: http://www.tm.mahidol.ac.th/ENG/TMIRU/TMIRU_INDEX.HTM

OFFICE OF RESEARCH SERVICES (ORS)

The office of research services coordinates and supports research at TropMed in several different ways. Mrs. Pornpimon Adams oversees six different units, which each play a vital role in the ongoing research at the faculty.

Research Administration has two major roles within the faculty, English editing and grant management. Relevant parties are notified on the release of grant opportunities, and the office works closely with researchers to prepare and submit both domestic and international grant applications. They also provide help with the post award stage. English editing is also available to staff and students for items including journal manuscripts, thesis abstracts, communications and reports.

The Ethics Committee Secretariat is the communication channel between theethics committee and applicants. They are responsible for ensuring all paperwork is submitted correctly, and that applicants are notified of decisions made by the committee. The Secretariat office also deals with all necessary paperwork to maintain Federalwide assurance.

Database and IT management are responsible for all computer programming and software installation needs. They maintain the databases on the many researchers and projects occurring at FTM. The unit can also set up video conferencing, and keeps the ORS website up to date.

Conference and Event Planning are responsible for organizing and hosting various domestic and international conferences throughout the year. The largest of these, JITMM, received over 700 delegates in 2013. The unit also coordinates other events, including training workshops, guest speakers and other presentations.

Publications and Graphic Design

This unit provides design and layout services for a range of publications. They have been instrumental in dealing with posters and promotional material, notifications for upcoming events and publications such as this review.

Bio-Safetyis the newest unit at ORS, having been created in the last 12 months. The unit is responsible for monitoring the use of pathogens and other dangerous organisms at FTM. They also work closely with the ethics committee, to ensure that methods are followed to minimize the chance of injury or illness to staff working with these dangerous pathogens.

Telephone: 66 (0) 2-354-9100-4 ext, 1524, 1525, 66 (0) 2-306-9123
Website: http//www.tm.mahidol.ac.th/research/client/ORS.html

OFFICE OF POLICY AND STRATEGIC PLANNING (OPS)

The Office of Policy and Strategic Planning is headed by Prof. Rungsunn Tungtrongchitr , the Dean for Central Management, and Ms. Yaowapa Pratoomsuwan. It carries out a range of activities which are very important to the successful running of TropMed. The six staff work in three key areas, planning and policy development, database and quality assurance and budgeting and finance. The work carried out in these areas is outlined here.

Planning and Policy Development

- Writing all administrative strategies of the Faculty.
- Monitoring, reporting, and carrying out institutional research.
- Writing the HR manpower plan.
- Analyzing the Faculty structure, in terms of establishment and collaboration efforts.
- Coordinate and negotiate business-related budgets and host international academic meetings.
- To execute the project of Routine to Research (R to R)
- Coordinating the seminar for organization development.

Database and Quality Assurance

- Writing the Self-Assessment Report (SAR) of the Faculty in accordance with Educational Criteria for Performance Excellence
- Coordinating Faculty surveys.
- Facilitating the recoding and monitoring of data at Mahidol University.
- Maintaining the Office of Strategic planning and Policy Website.

Budgeting and Finance

- Governmental support budget.
- Writing the annual expense proposal and 4-year investment plan.
- Writing the budget action plan.

Telephone: 66 (0) 2-354-9121 ext, 9100
Website: http//www.tm.mahidol.ac.th/eng/index-eng.php

APPENDICES

Faculty of Tropical Medicine, Mahidol University

List of Publications

1. Achan J, Adam I, Arinaitwe E, Ashley EA, Awab GR, Ba MS, Barnes KI, Bassat Q, Borrmann S, Bousema T, Dahal P, D'Alessandro U, Davis TME, Dondorp AM, Dorsey G, Drakeley CJ, Fanello CI, Faye B, Flegg JA, Gaye O, Gething PW, Gonzalez R, Guerin PJ, Hay SI, Hien TT, Janssens B, Kamya MR, Karema C, Karunajeewa HA, Kone M, Lell B, Marsh K, Mayxay M, Menendez C, Mens PF, Meremikwu M, Moreira C, Mueller I, Nabasumba C, Nambozi M, Ndiaye JL, Newton PN, Nguyen TN, Nosten F, Nsanzabana C, Omar SA, Ouedraogo JB, Penali LK, Pene M, Phyo AP, Piola P, Price RN*, Sasithon P, Rosenthal PJ, Same-Ekobo A, Sawa P, Schallig H, Shekalaghe SA, Sibley CH, Smith J, Smithuis F, Some AF, Stepniewska K, Talisuna AO, Tarning J, Tjitra E, Tine RCK, Tinto H, Valecha N, Van Herp M, Van Vugt M, White NJ, Woodrow CJ, Yavo W, Yeka A, Zongo I, Grp WDS. The effect of dosing regimens on the antimalarial efficacy of Dihydroartemisinin-Piperaquine: a pooled analysis of individual patient data. *Plos Med* 2013 Dec;10(12):e1001564.
2. Adams P, Wongwit W, Pengsaa K, Khusmith S, Fungladda W, Chaiyaphan W, Limphattharacharoen C, Prakobtham S, Kaewkungwal J*. Ethical issues in research involving minority populations: the process and outcomes of protocol review by the Ethics Committee of the Faculty of Tropical Medicine, Mahidol University, Thailand. *BMC Med Ethics* 2013 Sep;14:33.
3. Adhikari B, Tangpukdee N, Krudsood S, Wilairatana P*. Factors associated with cerebral malaria. *Southeast Asian J Trop Med Public Health* 2013 Nov;44(6):941-9.
4. Adisakwattana P*, Nuamtanong S, Kusolsuk T, Chairoj M, Yenchitsomanas P, Chaisri U*. Non-encapsulated *Trichinella* spp., *T. papuae*, diminishes severity of DSS-induced colitis in mice. *Asian Pac J Allergy Immunol* 2013 Jun;31(2):106-14.
5. Akapirat S, Avihingsanon A, Ananworanich J, Schuetz A, Ramasoota P, Luplertlop N, Ono K-I, Ikuta K, Utachee P, Kameoka M*, Leaungwutiwong P*. Variables influencing anti-human immunodeficiency virus type 1 neutralizing human monoclonal antibody (NhMAb) production among infected Thais. *Southeast Asian J Trop Med Public Health* 2013 Sep;44(5):825-41.
6. Akkarachinorate K, Udnan P, Chaisiri K, Komalamisra C, Dekumyoy P, Pakdee W, Praevanich R, Mongkhonmu S, Watthanakulpanich D*. Subcutaneous larva migrans of a sparganum in a gnathostomiasis-endemic area. *Case Reports in Clinical Medicine* 2013 Dec;2(9):530-4.
7. Alam SM, Liao HX, Tomaras GD, Bonsignori M, Tsao CY, Hwang KK, Chen HY, Lloyd KE, Bowman C, Sutherland L, Jeffries TL, Kozink DM, Stewart S, Anasti K, Jaeger FH, Parks R, Yates NL, Overman RG, Sinangil F, Berman PW, Pitisuttithum P, Kaewkungwal J, Nitayaphan S, Karasavva N, Rerks-Ngarm S, Kim JH, Michael NL, Zolla-Pazner S, Santra S, Letvin NL, Harrison SC, Haynes BF. Antigenicity and immunogenicity of RV144 Vaccine AIDSVAX Clade E Envelope immunogen is enhanced by a gp120 N-terminal deletion. *J Virol* 2013 Feb;87(3):1554-68.
8. Anantaphruti MT*, Thaenkham U, Kusolsuk T, Maipanich W, Saguankiat S, Pubampen S, Phuphisut O. Genetic variation and population genetics of *Taenia Saginata* in North and northeast Thailand in relation to *Taenia asiatica*. *J Parasitol Res* 2013 Jun;2013:310605.
9. Anantaphruti MT*, Thaenkham U, Watthanakulpanich D, Phuphisut O, Maipanich W, Yoonuan T, Nuamtanong S, Pubampen S, Sanguankiat S. Genetic Diversity of *Taenia asiatica* from Thailand and other geographical locations as revealed by cytochrome c oxidase subunit 1 sequences. *Korean J Parasitol* 2013 Feb;51(1):55-9.
10. Anekthananon T, Pukritayakamee S, Ratanasuwan W, Jittamala P, Werarak P, Charunwatthana P, Suwanagool S, Lawpoolsri S, Stepniewska K, Sapchookul P, Puthavathana P, Fukuda C, Lindegardh N, Tarning J, White NJ, Day N, Taylor WRJ. Oseltamivir and inhaled zanamivir as influenza prophylaxis in Thai health workers: a randomized, double-blind, placebo-controlled safety trial over 16 weeks. *J Antimicrob Chemother* 2013 Mar;68(3):697-707.

11. Arnold BJ, Tangpukdee N, Krudsood S, Wilairatana P*. Risk factors of shock in severe falciparum malaria. *Southeast Asian J Trop Med Public Health* 2013 Jul;44(4):541-50.
12. Arnutti P, Kotepui M, Asanprakit W, Punyarit P, Chavalitshewinkoon-Petmitr P, Harnroongroj T, Petmitr S*. Determination of whole transcription profiles and specific pathways in invasive ductal breast carcinoma. *Int J Clin Exp Pathol* 2013 May;6(6):1112-20.
13. Auburn S, Marfurt J, Maslen G, Campino S, Ruano Rubio V, Manske M, MacHunter B, Kenangalem E, Noviyanti R, Trianty L, Sebayang B, Wirjanata G, Sriprawat K, Alcock D, MacInnis B, Miotto O, Clark TG, Russell B, Anstey NM, Nosten F, Kwiatkowski DP, Price RN. Effective Preparation of *Plasmodium vivax* field isolates for high-throughput whole genome sequencing. *PLoS ONE* 2013 Jan;8(1):e53160.
14. Aung KLL, Thanachartwet V*, Desakorn V, Chamnanchanunt S, Sahassananda D, Chierakul W, Pitisuttithum P. Factors associated with severe clinical manifestation of dengue among adults in Thailand. *Southeast Asian J Trop Med Public Health* 2013 Jul;44(4):602-12.
15. Aung MN, Leowattana W*, Win KN, Tangpukdee N, Muangnoicharoen S. Chronic hepatitis B prognostic markers other than pre-treatment viral load predicted composite treatment outcome. *J Infect Dev Ctries* 2013 Jul;7(7):541-9.
16. Awab GR, Pukrittayakamee S, Jamornthanyawat N, Yamin F, Dondorp AM, Day NP, White NJ, Woodrow CJ, Imwong M*. Prevalence of antifolate resistance mutations in *Plasmodium falciparum* isolates in Afghanistan. *Malar J* 2013 Mar;12:96.
17. Bamrungsak B, Petmitr S, Jittmittraphap A, Maneekan P, Akapirat S, Luengwutiwong P*. Prevalence of cervical and anal cytological abnormalities in low-and high-risk sexual behavior populations in Bangkok, Thailand. *Thai AIDS J* 2013 Aug;25(2):105-13.
18. Bhengsri S*, Lertiendumrong J, Baggett HC, Thamthitiwat S, Chierakul W, Tisayaticom K, Tanwisaid K, Chantra S, Kaewkungwal J. Economic burden of bacteremic melioidosis in eastern and northeastern, Thailand. *Am J Trop Med Hyg* 2013 Aug;89(2):369-73.
19. Bhumiratana A, Intarapuk A, Sorosjinda-Nunthawarasilp P, Maneekan P, Koyadun S. Border malaria associated with multidrug resistance on Thailand-myanmar and Thailand-cambodia borders: transmission dynamic, vulnerability, and surveillance. *Biomed Res Int* 2013 Jun;2013:363417. (Review)
20. Bhumiratana A, Sorosjinda-Nunthawarasilp P, Kaewwaen W, Maneekan P, Pimnon S. Malaria-associated rubber plantations in Thailand. *Travel Med Infect Dis* 2013 Jan;11(1):37-50. (Review)
21. Blessborn D, Skold K, Zeeberg D, Kaewkhao K, Skold O, Ahnoff M. Heat stabilization of blood spot samples for determination of metabolically unstable drug compounds. *Bioanalysis* 2013 Jan;5(1):31-9.
22. Boel ME, Rijken MJ, Leenstra T, Pyae Phyo A, Pimanpanarak M, Keereecharoen NL, Proux S, Laochan N, Imwong M, Singhasivanon P, White NJ, McGready R, Nosten FH. Malaria in the post-partum period; a prospective cohort study. *PLoS ONE* 2013 Mar;8(3):e57890.
23. Boonsilp S, Thaipadungpanit J*, Amornchai P, Wuthiekanun V, Bailey MS, Holden MT, Zhang C, Jiang X, Koizumi N, Taylor K, Galloway R, Hoffmaster AR, Craig S, Smythe LD, Hartskeerl RA, Day NP, Chantratita N, Feil EJ, Aanensen DM, Spratt BG, Peacock SJ. A single multilocus sequence typing (MLST) scheme for seven pathogenic *Leptospira* Species. *PLoS Negl Trop Dis* 2013 Jan;7(1):e1954.
24. Capeding MR, Chua MN, Hadinegoro SR, Hussain IIHM, Nallusamy R, Pitisuttithum P, Rusmil K, Thisyakorn U, Thomas SJ, Huu Tran N, Wirawan DN, Yoon I-K, Bouckenooghe A, Hutagalung Y, Laot T, Wartel TA*. Dengue and other common causes of acute febrile illness in Asia: an active surveillance study in children. *PLoS Negl Trop Dis* 2013 Jul;7(7):e2331.
25. Carrara VI, Lwin KM, Phyo AP, Ashley E, Wiladphaingern J, Sriprawat K, Rijken M, Boel M, McGready R, Proux S, Chu C, Singhasivanon P, White N, Nosten F*. Malaria burden and Artemisinin resistance in the mobile

and migrant population on the Thai-Myanmar border, 1999-2011: an observational study. *PLoS Med* 2013 Mar;10(3):e1001398.

26. Chaikitgosiyakul S, Chaisri U, Viriyavejakul P, Ampawong S, Turner GDH, Pongponratn E*. A preliminary study of Insulin-like Growth Factor 1 Receptor (IGF-1R) in placental malaria. *J Trop Med Parasitol* 2013 Jun;36(1):23-8.
27. Chairat K, Tarning J*, White NJ, Lindegardh N. Pharmacokinetic properties of anti-influenza neuraminidase inhibitors. *J Clin Pharmacol* 2013 Feb;53(2):119-39.
28. Chankhamhaengdecha S, Hadpanus P, Aroonnual A, Ngamwongsatit P, Chotiprasitsakul D, Chongtrakool P, Janvilisri T. Evaluation of multiplex PCR with enhanced spore germination for detection of *Clostridium difficile* from stool samples of the hospitalized patients. *Biomed Res Int* 2013 Mar;2013:875437.
29. Chantratita N*, Tandhavanant S, Myers ND, Seal S, Arayawichanont A, Kliangsa-Ad A, Hittle LE, Ernst RK, Emond MJ, Wurfel MM, Day NP, Peacock SJ, West TE. Survey of innate immune responses to *Burkholderia pseudomallei* in human blood identifies a central role for lipopolysaccharide. *PLoS ONE* 2013 Nov;8(11):e81617.
30. Chantratita N*, Tandhavanant S, Wongsuvan G, Wuthiekanun V, Teerawattanasook N, Day NP, Limmathurotsakul D, Peacock SJ. Rapid detection of *Burkholderia pseudomallei* in blood cultures using a monoclonal antibody-based immunofluorescent assay. *Am J Trop Med Hyg* 2013 Nov;89(5):971-2.
31. Chemoh W, Sawangjaroen N*, Nissapatorn V, Suwanrath C, Chandeying V, Hortiwakul T, Andiappan H, Sermwittayawong N, Charoenmak B, Siripaitoon P, Lekkla A, Sukthana Y. *Toxoplasma gondii* infection: What is the real situation? *Exp Parasitol* 2013 Dec;135(4):685-9.
32. Cheng AC, Currie BJ, Dance DAB, Funnell SGP, Limmathurotsakul D, Simpson AJH, Peacock SJ. Clinical definitions of Melioidosis. *Am J Trop Med Hyg* 2013 Mar;88(3):411-3.
33. Cheng Y, Ito D, Sattabongkot J, Lim CS, Kong DH, Ha KS, Wang B, Tsuboi T*, Han ET*. Serological responses to a soluble recombinant chimeric *Plasmodium vivax* circumsporozoite protein in VK210 and VK247 population. *Malar J* 2013 Sep;12(1):323.
34. Cheng Y, Wang Y, Ito D, Kong DH, Ha KS, Chen JH, Lu F, Li J, Wang B, Takashim E, Sattabongkot J, Tsuboi T, Han ET. The *Plasmodium vivax* merozoite surface protein 1 paralog is a novel erythrocyte-binding ligand of *P. vivax*. *Infect Immun* 2013 May;81(5):1585-95.
35. Chheng K, Carter MJ, Emary K, Chanpheaktra N, Moore CE, Stoesser N, Putchhat H, Sona S, Reaksmey S, Kitsutani P, Sar B, van Doorn HR, Uyen NH, Van Tan L, Paris D, Blacksell SD, Amornchai P, Wuthiekanun V, Parry CM, Day NPJ, Kumar V. A prospective study of the causes of febrile illness requiring hospitalization in children in Cambodia. *PLoS ONE* 2013 Apr;8(4):e60634.
36. Choudhury AAK, Conlan JV, Racloz VN, Reid SA, Blacksell SD, Fenwick SG, Thompson ARC, Khamlome B, Vongxay K, Whittaker M. The economic impact of pig-associated parasitic zoonosis in Northern Lao PDR. *EcoHealth* 2013 Mar;10(1):54-62.
37. Chumpolbanchorn K, Lymbery AJ, Pallant LJ, Pan S, Sukthana Y, Thompson RC*. A high prevalence of *Toxoplasma* in Australian chickens. *Vet Parasitol* 2013 Sep;196(1-2):209-11.
38. Chung AW, Ghebremichael M, Robinson H, Brown E, Choi I, Rolland M, Dugast A, Suscovich TJ, Liao L, Mahan AE, Streeck H, Rerks-Ngarm S, Nitayaphan S, de Souza MS, Pitisuttithum P, Francis D, Michael NL, Kim JH, Bailey-Kellog C, Ackerman ME, Alter G. Distinct HIV-specific antibody Fc-profiles in RV144 and VAX003 vaccinees. *AIDS Res Hum Retroviruses* 2013 Nov;29(11):A63-A4. (Meeting abstract)
39. Corbel V*, Nosten F, Thanispong K, Luxemburger C, Kongmee M, Chareonviriyaphap T. Challenges and prospects for dengue and malaria control in Thailand, Southeast Asia. *Trends Parasitol* 2013 Dec;29(12):623-33.
40. Cotama S, Dekumyoy P, Samung Y, Lek-Uthai U*. Salivary glands proteins expression of *Anopheles dirus* A fed on *Plasmodium vivax*- and *Plasmodium falciparum*-Infected human blood. *J Parasitol Res* 2013 Jul;2013:535267.

41. Da DF, Dixit S, Sattabonkot J, Mu J, Abate L, Ramineni B, Ouedraogo JB, MacDonald NJ, Fay MP, Su XZ, Cohuet A, Wu Y. Anti-Pfs25 human plasma reduces transmission of *Plasmodium falciparum* isolates that have diverse genetic backgrounds. *Infect Immun* 2013 Jun;81(6):1984-9.
42. Das D, Tripura R, Phyo AP, Lwin KM, Tarning J, Lee SJ, Hanpithakpong W, Stepniewska K, Menard D, Ringwald P, Silamut K, Imwong M, Chotivanich K, Yi P, Day NP, Lindegardh N, Socheat D, Nguon C, White NJ, Nosten F, Dondorp AM*. Effect of high-dose or split-dose artesunate on parasite clearance in artemisinin-resistant falciparum malaria. *Clin Infect Dis* 2013 Mar;56(5):e48-58.
43. Davis XM, Hay KA, Plier DA, Chaves SS, Lim PL, Caumes E, Castelli F, Kozarsky PE, Cetron MS, Freedman DO*, Pérignon A, Carosi G, Parola P, Simon F, Burchard GD, Tachikawa N, Kurai H, von Sonnenburg F, Doyle PW, Ghesquiere WG, Cahill JD, McKinley G, Jensenius M, Wang A, Eason J, Piyaphanee W, Silachamroon U, Mendelson M, Vincent P, López-Vélez R, Perez Molina JA. International travelers as sentinels for sustained influenza transmission during the 2009 influenza A(H1N1)pdm09 pandemic. *J Travel Med* 2013 May-Jun;20(3):177-84.
44. Day N. The researcher of the future … takes advantage of international opportunities. *Lancet* 2013 Feb;381(Suppl 1):S8-S9. (Editorial Material)
45. Day NPJ. Panton-Valentine leucocidin and staphylococcal disease. *Lancet Infectious Diseases* 2013 Jan;13(1):5-6.
46. De Beaudrap P*, Turyakira E, White LJ, Nabasumba C, Tumwebaze B, Muehlenbachs A, Guerin PJ, Boum Y, McGready R, Piola P. Impact of malaria during pregnancy on pregnancy outcomes in a Ugandan prospective cohort with intensive malaria screening and prompt treatment. *Malar J* 2013 Apr;12:139.
47. Dieng H*, Rajasaygar S, Ahmad AH, Ahmad H, Rawi CS MD, Zuharah WF, Satho T, Miake F, Fukumitsu Y, Saad AR, Ghani IA, Morales Vargus RE, Ab Majid AH, AbuBakar S. Turning cigarette butt waste into an alternative control tool against an insecticide-resistant mosquito vector. *Acta Trop* 2013 Dec;128(3):584-90.
48. Dondorp AM*. Editorial commentary: single-dose primaquine as gametocytocidal treatment in patients with uncomplicated falciparum malaria. *Clin Infect Dis* 2013 Mar;56(5):694-6.
49. Dondorp AM*, Ringwald P. Artemisinin resistance is a clear and present danger. *Trends Parasitol* 2013 Aug;29(8):359-60. (Letter)
50. Douglas NM, Simpson JA, Phyo AP, Siswantoro H, Hasugian AR, Kenangalem E, Poespoprodjo JR, Singhasivanon P, Anstey NM, White NJ, Tjitra E, Nosten F, Price RN*. Gametocyte dynamics and the role of drugs in reducing the transmission potential of *Plasmodium vivax*. *J Infect Dis* 2013 Sep;208(5):801-12.
51. Duangrithi D, Thanachartwet V*, Desakorn V, Jitruckthai P, Phojanamongkolkij K, Rienthong S, Chuchottaworn C, Pitisuttithum P. Impact of diabetes mellitus on clinical parameters and treatment outcomes of newly diagnosed pulmonary tuberculosis patients in Thailand. *Int J Clin Pract* 2013 Nov;67(11):1199-209.
52. Dung DT, Hop NT, Thaenkham U, Waikagul J*. Genetic differences among Vietnamese *Haplorchis taichui* populations using the COI genetic marker. *J Helminthol* 2013 Mar;87(1):66-70.
53. Elliott I*, Dittrich S, Paris D, Sengduanphachanh A, Phoumin P, Newton PN. The use of dried cerebrospinal fluid filter paper spots as a substrate for PCR diagnosis of the aetiology of bacterial meningitis in the Lao PDR. *Clin Microb Infect* 2013 Oct;19(10):E466-E72.
54. Eziefula AC, Staedke SG, Yeung S, Webb E, Kamya M, White NJ, Bousema T, Drakeley C. Study protocol for a randomised controlled double-blinded trial of the dose-dependent efficacy and safety of primaquine for clearance of gametocytes in children with uncomplicated falciparum malaria in uganda. *BMJ Open* 2013 Mar;3(3):002759.
55. Flegg JA*, Guérin PJ, Nosten F, Ashley EA, Phyo AP, Dondorp AM, Fairhurst RM, Socheat D, Borrmann S, Björkman A, Mårtensson A, Mayxay M, Newton PN, Bethell D, Se Y, Noedl H, Diakite M, Djimde AA, Hien TT,

White NJ, Stepniewska K. Optimal sampling designs for estimation of *Plasmodium falciparum* clearance rates in patients treated with artemisinin derivatives. *Malar J* 2013 Nov;12(1):411.

56. Fowkes FJI, McGready R, Johnstone-Robertson S, Nosten F, Beeson JG. Antibody boosting and longevity following tetanus immunization during pregnancy. *Clin Infec Dis* 2013 Mar;56(5):749-50.
57. Gohler A, Trung TT, Hopf V, Kohler A, Wuthiekanun V, Peacock S, Limmathurotsakul D, Steinmetz I. Environmental presence of *Burkholderia pseudomallei* in rice fields as determined by direct PCR from soil samples. *Int J Med Microbiol* 2013 Sep;303(Suppl1):75. (Meeting abstract)
58. Gottardo R, Bailer RT, Korber BT, Gnanakaran S, Phillips J, Shen XY, Tomaras GD, Turk E, Imholte G, Eckler L, Wenschuh H, Zerweck J, Greene K, Gao HM, Berman PW, Francis D, Sinangil F, Lee C, Nitayaphan S, Rerks-Ngarm S, Kaewkungwal J, Pitisuttithum P, Tartaglia J, Robb ML, Michael NL, Kim JH, Zolla-Pazner S, Haynes BF, Mascola JR, Self S, Gilbert P, Montefiori DC*. Plasma IgG to Linear Epitopes in the V2 and V3 regions of HIV-1 gp120 correlate with a reduced risk of infection in the RV144 vaccine efficacy trial. *PLoS ONE* 2013 Sep;8(9):e75665.
59. Greaves D*, Coggle S, Pollard C, Aliyu SH, Moore EM. *Strongyloides stercoralis* infection. *BMJ* 2013 Jul;347(7919):f4610. (Review)
60. Hamady D*, Ruslan NB, Ahmad AH, Rawi CS, Ahmad H, Satho T, Miake F, Zuharah WF, FuKumitsu Y, Saad AR, Rajasaygar S, Vargas RE, Majid AH, Fadzly N, Ghani IA, AbuBakar S. Colonized *Aedes albopictus* and its sexual performance in the wild: implications for SIT technology and containment. *Parasit Vectors* 2013 Jul;6:206.
61. Hanson J*, Dondorp AM, Day NP, White NJ. Microvascular dysfunction in severe *Plasmodium falciparum* malaria reply. *J Infect Dis* 2013 Jan;207(2):370-1. (Letter)
62. Hanson J*, Lam SW, Alam S, Pattnaik R, Mahanta KC, Uddin Hasan M, Mohanty S, Mishra S, Cohen S, Day N, White N, Dondorp A. The reliability of the physical examination to guide fluid therapy in adults with severe falciparum malaria: an observational study. *Malar J* 2013 Oct;12:348.
63. Hanson JP, Lam SWK, Mohanty S, Alam S, Pattnaik R, Mahanta KC, Hasan MU, Charunwatthana P, Mishra SK, Day NPJ, White NJ, Dondorp AM*. Fluid resuscitation of adults with severe falciparum malaria: effects on acid-base status, renal function, and extravascular lung water. *Crit Care Med* 2013 Apr;41(4):972-81.
64. Harris JP*, Lopman BA, Cooper BS, O'Brien SJ. Does spatial proximity drive norovirus transmission during outbreaks in hospitals? *BMJ Open* 2013 Jul;3(7):e003060.
65. Hendriksen ICE, Maiga D, Lemnge MM, Mtove G, Gesase S, Reyburn H, Lindegardh N, Day NPJ, von Seidlein L, Dondorp AM, Tarning J*, White NJ. Population pharmacokinetic and pharmacodynamic properties of intramuscular quinine in Tanzanian children with severe falciparum malaria. *Antimicrobl Agents Chemother* 2013 Feb;57(2):775-83.
66. Hendriksen ICE*, White LJ, Veenemans J, Mtove G, Woodrow C, Amos B, Saiwaew S, Gesase S, Nadjm B, Silamut K, Joseph S, Chotivanich K, Day NPJ, Von Seidlein L, Verhoef H, Reyburn H, White NJ, Dondorp AM. Defining falciparum-malaria-attributable severe febrile illness in moderate-to-high transmission settings on the basis of plasma PfHRP2 concentration. *J Infect Dis* 2013 Jan;207(2):351-61.
67. Horikoshi M, Yaghootkar H, Mook-Kanamori DO, Sovio U, Taal HR, Hennig BJ, Bradfield JP, St Pourcain B, Evans DM, Charoen P, Kaakinen M, Cousminer DL, Lehtimäki T, Kreiner-Møller E, Warrington NM, Bustamante M, Feenstra B, Berry DJ, Thiering E, Pfab T, Barton SJ, Shields BM, Kerkhof M, Van Leeuwen EM, Fulford AJ, Kutalik Z, Zhao JH, Den Hoed M, Mahajan A, Lindi V, Goh LK, Hottenga JJ, Wu Y, Raitakari OT, Harder MN, Meirhaeghe A, Ntalla I, Salem RM, Jameson KA, Zhou K, Monies DM, Lagou V, Kirin M, Heikkinen J, Adair LS, Alkuraya FS, Al-Odaib A, Amouyel P, Andersson EA, Bennett AJ, Blakemore AIF, Buxton JL, Dallongeville J, Das S, De Geus EJC, Estivill X, Flexeder C, Froguel P, Geller F, Godfrey KM, Gottrand F, Groves CJ, Hansen

T, Hirschhorn JN, Hofman A, Hollegaard MV, Hougaard DM, Hyppönen E, Inskip HM, Isaacs A, Jørgensen T, Kanaka-Gantenbein C, Kemp JP, Kiess W, Kilpeläinen TO, Klopp N, Knight BA, Kuzawa CW, McMahon G, Newnham JP, Niinikoski H, Oostra BA, Pedersen L, Postma DS, Ring SM, Rivadeneira F, Robertson NR, Sebert S, Simell O, Slowinski T, Tiesler CMT, Tönjes A, Vaag A, Viikari JS, Vink JM, Vissing NH, Wareham NJ, Willemsen G, Witte DR, Zhang H, Zhao J, Wilson JF, Stumvoll M, Prentice AM, Meyer BF, Pearson ER, Boreham CAG, Cooper C, Gillman MW, Dedoussis GV, Moreno LA, Pedersen O, Saarinen M, Mohlke KL, Boomsma DI, Saw SM, Lakka TA, Körner A, Loos RJF, Ong KK, Vollenweider P, Van Duijn CM, Koppelman GH, Hattersley AT, Holloway JW, Hocher B, Heinrich J, Power C, Melbye M, Guxens M, Pennell CE, Bønnelykke K, Bisgaard H, Eriksson JG, Widén E, Hakonarson H, Uitterlinden AG, Pouta A, Lawlor DA, Smith GD, Frayling TM, McCarthy MI, Grant SFA, Jaddoe VWV, Jarvelin MR, Timpson NJ, Prokopenko I, Freathy RM. New loci associated with birth weight identify genetic links between intrauterine growth and adult height and metabolism. *Nature Genet* 2013 Jan;45(1):76-82.

68. Indrawattana N, Sungkhachat O, Sookrung N, Chongsa-Nguan M, Tungtrongchitr A, Voravuthikunchai SP, Kong-Ngoen T, Kurazono H, Chaicumpa W*. *Staphylococcus aureus* clinical isolates: antibiotic susceptibility, molecular characteristics, and ability to form biofilm. *Biomed Res Int* 2013 Sep;2013:314654.
69. Instiaty I, Lindegardh N, Jittmal P, Hanpithakpong W, Blessborn D, Pukrittayakamee S, White NJ, Tarning J*. Comparison of oseltamivir and oseltamivir carboxylate concentrations in venous plasma, venous blood, and capillary blood in healthy volunteers. *Antimicrob Agents Chemother* 2013 Jun;57(6):2858-62.
70. Ito D, Hasegawa T, Miura K, Yamasaki T, Arumugam TU, Thongkukiatkul A, Takeo S, Takashima E, Sattabongkot J, Han ET, Long CA, Torii M, Tsuboi T*. RALP1 Is a rhoptry neck erythrocyte-binding protein of *Plasmodium falciparum* merozoites and a potential blood-stage vaccine candidate antigen. *Infect Immun* 2013 Nov;81(11): 4290-8.
71. Jain VK, Rivera L, Zaman K, Espos Jr RA, Sirivichayakul C, Quiambao BP, Rivera-Medina DM, Kerdpanich P, Ceyhan M, Dinleyici EC, Cravioto A, Yunus M, Chanthavanich P, Limkittikul K, Kurugol Z, Alhan E, Caplanusi A, Durviaux S, Boutet P, Ofori-Anyinam O, Chandrasekaran V, Dbaibo G*, Innis BL. Vaccine for prevention of mild and moderate-to-severe influenza in children. *N Engl J Med* 2013 Dec;369(26):2481-91.
72. Jensenius M*, Han PV, Schlagenhauf P, Schwartz E, Parola P, Castelli F, von Sonnenburg F, Loutan L, Leder K, Freedman DO, Simon F, Delmont J, Carosi G, Chappuis F, Caumes E, Pérignon A, Burchard GD, Torresi J, Brown G, Kain K, Boggild A, Keystone JS, Pandey P, Pradhan R, Murphy H, Coyle CM, Wittner M, de Vries P, Grobusch MC, Gadroen K, Rapp C, Aoun O, Kanagawa S, Kato Y, Mizunno Y, Gkrania-Klotsas E, McCarthy A, Weber R, Steffen R, Hagmann S, Henry M, Miller AO, Hale DC, Anand R, Gelman SS, Kozarsky PE, Fairley J, Franco-Paredes C, Barnett ED, Libman MD, Ward B, Maclean J, Tachikawa N, Kurai H, Sagara H, López-Vélez R, Pérez-Molina JA, Chen LH, Wilson ME, Cahill JD, McKinley G, Licitra C, Crespo A, Doyle P, Ghesquiere W, Stauffer WM, Walker PF, Gurtman A, Basto F, Abreu C, Hynes N, Sack R, McKenzie R, Askling HH, Bronner U, Lalloo DG, Beeching NJ, Connor BA, Shaw M, Hern A, Haulman N, Roesel D, Jong EC, Field V, Lim PL, Wilder-Smith A, Piyaphanee W, Silachamroon U, Lynch MW, Tenenboim S, McLellan S, Mendelson M, Vincent P, Vincelette J, Holtom P, Goad J, Anglim A, Wang A, Eason J, MacDonald S, Nutman TB, Klion AD, Phu PT, Anderson N, Batchelor T, Meisch D, Muller R, Valdez LM, Siu H, Kass R, Perret C, Valdivieso F, Yates J, Ansdell V, Anderson S. Acute and potentially life-threatening tropical diseases in western travelers--a GeoSentinel multicenter study, 1996-2011. *Am J Trop Med Hyg* 2013 Feb;88(2):397-404.
73. Jiang J, Paris DH, Blacksell SD, Aukkanit N, Newton PN, Phetsouvanh R, Izzard L, Stenos J, Graves SR, Day NPJ, Richards AL. Diversity of the 47-kD HtrA nucleic acid and translated amino acid sequences from 17 recent human isolates of Orientia. *Vector-Borne Zoonotic Dis* 2013 May;13(6):367-75.

74. Jintaridth P*, Tungtrongchitr R, Preutthipan S, Mutirangura A*. Hypomethylation of Alu elements in post-menopausal women with osteoporosis. *PLoS ONE* 2013 Aug;8(8):e70386.
75. Kaehler N, Piyaphanee W*, Kittitrakul C, Kyi YP, Adhikari B, Sibunruang S, Jearraksuwan S, Tangpukdee N, Silachamroon U, Tantawichien T. Sexual behavior of foreign backpackers in the Khao San Road area, Bangkok. *Southeast Asian J Trop Med Public Health* 2013 Jul;44(4):690-6.
76. Kaewkungwal J, Pitisuttithum P*, Rerks-Ngarm S, Nitayaphan S, Khamboonruang C, Kunasol P, Suntharasamai P, Pungpak S, Vanijanonta S, Bussaratid V, Maek ANW, Dhitavat J, Thongcharoen P, Pawarana R, Sabmee Y, Benenson MW, Morgan P, O'Connell RJ, Kim J. Issues in women's participation in a Phase III community HIV vaccine trial in Thailand. *AIDS Res Hum Retroviruses* 2013 Nov;29(11):1524-34.
77. Kager LM*, Schouten M, Wiersinga WJ, de Boer JD, Lattenist LCW, Roelofs JJTH, Meijers JCM, Levi M, Dondorp AM, Esmon CT, van 't Veer C, van der Poll T. Overexpression of the endothelial protein C receptor is detrimental during pneumonia-derived gram-negative sepsis (Melioidosis). *PLoS Negl Trop Dis* 2013 Jul;7(7):e2306.
78. Kager LM*, Weehuizen TA, Wiersinga WJ, Roelofs J, Meijers JCM, Dondorp AM, van't Veer C, van der Poll T. Endogenous alpha(2)-antiplasmin is protective during severe gram-negative sepsis (Melioidosis). *Am J Respir Crit Care Med* 2013 Oct;188(8):967-75.
79. Kangwanrangsan N, Tachibana M, Jenwithisuk R, Tsuboi T, Riengrojpitak S, Torii M, Ishino T*. A member of the CPW-WPC protein family is expressed in and localized to the surface of developing ookinetes. *Malar J* 2013 Apr;12(1):129.
80. Kanoksil M, Jatapai A, Peacock SJ, Limmathurotsakul D*. Epidemiology, microbiology and mortality associated with community-acquired bacteremia in Northeast Thailand: a multicenter surveillance study. *PLoS ONE* 2013 Jan;8(1):e54714.
81. Kitisin T, Kosiyachinda P, Luplertlop N*. Potential anti-oxidative activity of crude rice oil extracted from cadmium-contaminated rice as determined using an *in vitro* primary human fibroblast cell model. *J Agric Sci* 2013 Jan;5(1):104-21.
82. Kitisin T, Maneekan P, Luplertlop N*. *In-vitro* characterization of silk sericin as an anti-aging agent. *J Agric Sci* 2013 Mar;5(3):54-62.
83. Kitisin T, Visoottivisetha P, Drechselc H, Kosiyachindad P, Luplertlop N*. Anti-oxidative property of crude rice oil extracted from cadmium-contaminated rice. *J Environ Sci Health Part B-Pestic Contam Agric Wastes* 2013 Jun;48(10):823-9.
84. Khilji SUS, Rudge JW*, Drake T, Chavez I, Borin K, Touch S, Coker R, CamFlu Project C. Distribution of selected healthcare resources for influenza pandemic response in Cambodia. *Int J Equity Health* 2013 Oct;12:82.
85. Khortwong P, Kaewkungwal J. Thai health education program for improving TB migrant's compliance. *J Med Assoc Thai* 2013 Mar;96(3):365-73.
86. Kloprogge F, Piola P, Dhorda M, Muwanga S, Turyakira E, Apinan S, Lindegardh N, Nosten F, Day NP, White NJ, Guerin PJ, Tarning J*. Population pharmacokinetics of lumefantrine in pregnant and nonpregnant women with uncomplicated *Plasmodium falciparum* malaria in Uganda. CPT pharmacometrics. *Syst Pharmacol* 2013 Nov;2:e83.
87. Kongklieng A, Kaewkong W, Intapan PM, Sanpool O, Janwan P, Thanchomnang T, Lulitanond V, Sri-Aroon P, Limpanont Y, Maleewong W*. Molecular differentiation of *Schistosoma japonicum* and *Schistosoma mekongi* by Real-Time PCR with high resolution melting analysis. *Korean J Parasitol* 2013 Dec;51(6):651-6.
88. Kongtip P*, Nankongnab N, Woskie S, Phamonphon A, Tharnpoophasiam P, Wilaiwan K, Srasom P. Organophosphate urinary metabolite levels during pregnancy, delivery and postpartum in women living in agricultural areas in Thailand. *J Occup Health* 2013 Sep;55(5):367-75.

89. Konishi E*, Kuno G. In memoriam: Susumu Hotta (1918-2011). *Emerg Infect Dis* 2013 May;19(5):843-4.
90. Kulpeng W*, Sornsrivichai V, Chongsuvivatwong V, Rattanavipapong W, Leelahavarong P, Cairns J, Lubell Y, Teerawattananon Y. Variation of health-related quality of life assessed by caregivers and patients affected by severe childhood infections. *BMC Pediatr* 2013 Aug;13(1):122.
91. Kulsantiwong J, Prasopdee S, Piratae S, Khampoosa P, Suwannatrai A, Duangprompo W, Boonmars T, Ruangjirachuporn W, Ruangsittichai J, Viyanant V, Hebert Paul DN, Tesana S. Species-specific primers designed from RAPD products for *Bithynia funiculata*, the first intermediate host of liver fluke, *Opisthorchis viverrini*, in North Thailand. *J Parasitol* 2013 Jun;99(3):433-7.
92. Kulsantiwong J, Prasopdee S, Ruangsittichai J, Ruangjirachuporn W, Boonmars T, Viyanant V, Pierossi P, Hebert Paul DN, Tesana S*. DNA barcode identification of freshwater snails in the family *Bithynidae* from Thailand. *PLoS ONE* 2013 Nov;8(11):e79144.
93. Kurt K, Rasigade JP, Laurent F, Goering RV, Žemličková H, Machova I, Struelens MJ, Zautner AE, Holtfreter S, Bröker B, Ritchie S, Reaksmey S, Limmathurotsakul D, Peacock SJ, Cuny C, Layer F, Witte W, Nübel U. Subpopulations of *Staphylococcus aureus* clonal complex 121 are associated with distinct clinical entities. *PLoS ONE* 2013 Mar;8(3):58155.
94. Kyaw MP, Nyunt MH, Chit K, Aye MM, Aye KH, Aye MM, Lindegardh N, Tarning J, Imwong M, Jacob CG, Rasmussen C, Perin J, Ringwald P, Nyunt MM*. Reduced susceptibility of *Plasmodium falciparum* to artesunate in southern Myanmar. *PLoS One* 2013 Mar;8(3):e57689.
95. Kyaw NL, Thanachartwet V*, Kiertiburanakul S, Desakorn V, Chamnanchanunt S, Chierakul W, Manosuthi W, Pitisuttithum P, Sungkanuparph S. Baseline CD4 cell counts and outcomes among adult treatment naïve HIV patients after taking fixed dose combination GPO-VIR-S and GPO-VIR-Z in Thailand. *Southeast Asian J Trop Med Public Health* 2013 Mar;44(2):232-43.
96. Lamorde M, Byakika-Kibwika P, Mayito J, Nabukeera L, Ryan M, Hanpithakpong W, Lefevre G, Back DJ, Khoo SH, Merry C. Lower artemether, dihydroartemisinin and lumefantrine concentrations during rifampicin-based tuberculosis treatment. *Aids* 2013 Mar;27(6):961-5.
97. Leder K*, Torresi J, Libman MD, Cramer JP, Castelli F, Schlagenhauf P, Wilder-Smith A, Wilson ME, Keystone JS, Schwartz E, Barnett ED, von Sonnenburg F, Brownstein JS, Cheng AC, Sotir MJ, Esposito DH, Freedman DO, Burchard GD, Ward BJ, Maclean J, Kain KC, Boggild AK, Caumes E, Pérignon A, Parola P, Simon F, Delmont J, Loutan L, Chappuis F, Jensenius M, Grobusch MP, de Vries PJ, Gadroen K, McCarthy AE, Brown GV, Field V, Kanagawa S, Kato Y, Mizunno Y, Stauffer WM, Walker PF, Ursing J, Fröberg G, Askling HH, Weber R, Tachikawa N, Kurai H, Sagara H, Lim PL, Haulman N, Roesel DJ, Jong EC, Connor BA, Carosi G, Hale DC, Anand R, Gelman SS, Gkrania-Klotsas E, López-Vélez R, Pérez-Molina JA, Kozarsky PE, Wu HM, Fairley JK, Franco-Paredes C, Rapp C, Aoun O, Borwein S, Cahill JD, McKinley G, Hagmann S, Henry M, Miller AO, Mendelson M, Vincent P, Coyle CM, Doyle PW, Ghesquiere WG, Chen LH, Vincelette J, Piyaphanee W, Silachamroon U, Hynes NA, Sack R, McKenzie R, Perret C, Shaw MT, Hern A, Phu PT, Anderson NM, Batchelor T, Meisch D, Lalloo DG, Beeching NJ, Wang A, Eason J, MacDonald S, Licitra C, Crespo A, Anderson S, Yates JA, Ansdell VE, Pandey P, Pradhan R, Murphy H, Nutman TB, Klion AD, Smith CC, MacConnachie AA, Jenks NP, Kerr CA, Valdez LM, Siu H, Flores-Figueroa J, Okhuysen PC. GeoSentinel surveillance of illness in returned travelers, 2007-2011. *Ann Intern Med* 2013 Mar;158(6):456-68.
98. Lee AS, Cooper BS, Malhotra-Kumar S, Chalfine A, Daikos GL, Fankhauser C, Carevic B, Lemmen S, Martinez JA, Masuet-Aumatell C, Pan A, Phillips G, Rubinovitch B, Goossens H, Brun-Buisson C, Harbarth S*. Comparison of strategies to reduce meticillin-resistant *Staphylococcus aureus* rates in surgical patients: A controlled multicentre intervention trial. *BMJ Open* 2013 Sep;3(9):e003126.

99. Lertkanokkun S, Okanurak K*, Kaewkungwal J, Meksawasdichai N. Healthcare providers' knowledge, attitudes & practices regarding tuberculosis care. *JITMM Proceedings* 2013;2:1-10.
100. Lenhart A, Trongtokit Y, Alexander N, Apiwathnasorn C, Satimai w, Vanlerberghe V, Van der Stuyft P, J MaCall P. A cluster-randomized trial of insecticide-treated curtains for dengue vector control in Thailand. *Am J Trop Med Hyg* 2013 Feb;88(2):254-9.
101. Liao HX, Bonsignori M, Alam SM, McLellan JS, Tomaras GD, Moody MA, Kozink DM, Hwang KK, Chen X, Tsao CY, Liu P, Lu X, Parks RJ, Montefiori DC, Ferrari G, Pollara J, Rao M, Peachman KK, Santra S, Letvin NL, Karasavvas N, Yang ZY, Dai K, Pancera M, Gorman J, Wiehe K, Nicely NI, Rerks-Ngarm S, Nitayaphan S, Kaewkungwal J, Pitisuttithum P, Tartaglia J, Sinangil F, Kim JH, Michael NL, Kepler TB, Kwong PD, Mascola JR, Nabel GJ, Pinter A, Zolla-Pazner S, Haynes BF. Vaccine induction of antibodies against a structurally heterogeneous site of immune pressure within HIV-1 envelope protein variable regions 1 and 2. *Immunity* 2013 Jan;38(1):176-86.
102. Lim C, Wannapinij P, White L, Day NP, Cooper BS, Peacock SJ, Limmathurotsakul D*. Using a web-based application to define the accuracy of diagnostic tests when the gold standard is imperfect. *PLoS ONE* 2013 Nov;8(11):e79489.
103. Lim P, Dek D, Try V, Eastman RT, Chy S, Sreng S, Suon S, Mao S, Sopha C, Sam B, Ashley EA, Miotto O, Dondorp AM, White NJ, Su XZ, Char MC, Anderson JM, Amaratunga C, Menard D, Fairhurst RM*. Ex vivo susceptibility of *Plasmodium falciparum* to antimalarial drugs in western, Northern, and eastern Cambodia, 2011-2012: association with molecular markers. *Antimicrob Agents Chemother* 2013 Nov;57(11):5277-83.
104. Limmathurotsakul D*, Dance DAB, Wuthiekanun V, Kaestli M, Mayo M, Warner J, Wagner DM, Tuanyok A, Wertheim H, Yoke Cheng T, Mukhopadhyay C, Puthucheary S, Day NPJ, Steinmetz I, Currie BJ, Peacock SJ. Systematic review and consensus guidelines for environmental sampling of *Burkholderia pseudomallei*. *PLoS Negl Trop Dis* 2013 Mar;7(3):e2105.
105. Limmathurotsakul D*, Kanoksil M, Wuthiekanun V, Kitphati R, Destavola B, Day NP, Peacock SJ*. Activities of daily living associated with acquisition of melioidosis in northeast Thailand: a matched case-control study. *PLoS Negl Trop Dis* 2013 Feb;7(2):e2072.
106. Limpanont Y, Kang HS, Hong HK, Jeung HD, Kim BK, Le TC, Kim YO, Choi KS*. Molecular and histological identification of Marteilioides infection in Suminoe Oyster *Crassostrea ariakensis*, Manila Clam *Ruditapes philippinarum* and Pacific Oyster *Crassostrea gigas* on the South coast of Korea. *J Invertebr Pathol* 2013 Nov;114(3):277-84.
107. Lin JT, Patel JC, Kharabora O, Sattabongkot J, Muth S, Ubalee R, Schuster AL, Rogers WO, Wongsrichanalai C, Juliano JJ. *Plasmodium vivax* isolates from Cambodia and Thailand show high genetic complexity and distinct patterns of *P. vivax* multidrug resistance gene 1 (pvmdr1) polymorphisms. *Am J Trop Med Hyg* 2013 Jun;88(6):1116-23.
108. Liu P, Yates NL, Shen X, Bonsignori M, Moody MA, Liao HX, Fong Y, Alam SM, Overman RG, Denny T, Ferrari G, Ochsenbauer C, Kappes JC, Polonis VR, Pitisuttithum P, Kaewkungwal J, Nitayaphan S, Rerks-Ngarm S, Montefiori DC, Gilbert P, Michael NL, Kim JH, Haynes BF, Tomaras GD*. Infectious virion capture by HIV-1 gp120-specific IgG from RV144 vaccinees. *J Virol* 2013 Jul;87(14):7828-36.
109. Liverani M*, Waage J, Barnett T, Pfeiffer DU, Rushton J, Rudge JW, Loevinsohn ME, Scoones I, Smith RD, Cooper BS, White LJ, Goh S, Horby P, Wren B, Gundogdu O, Woods A, Coker RJ. Understanding and managing zoonotic risk in the new livestock industries. *Environ Health Perspect* 2013 Aug;121(8): 873-7.
110. Logue K, Chan ER, Phipps T, Small ST, Reimer L, Henry-Halldin C, Sattabongkot J, Siba PM, Zimmerman PA, Serre D. Mitochondrial genome sequences reveal deep divergences among Anopheles punctulatus sibling species in Papua New Guinea. *Malar J* 2013 Feb;12(1):64.

111. Lorsuwannarat N, Saowakon N, Ramasoota P, Wanichanon C, Sobhon P. The anthelmintic effect of plumbagin on *Schistosoma mansoni*. *Exp Parasitol* 2013 Jan;133(1):18-27.

112. Luangasanatip N*, Hongsuwan M, Lubell Y, Limmathurotsakul D, Teparrukkul P, Chaowarat S, Day NP, Graves N, Cooper BS. Long-term survival after intensive care unit discharge in Thailand: a retrospective study. *Crit Care* 2013 Oct;17(5):R219.

113. Lupisan S*, Limkittikul K, Sosa N, Chanthavanich P, Bianco V, Baine Y, Van der Wielen M, Miller JM. Meningococcal polysaccharide A O-acetylation levels do not impact the immunogenicity of the quadrivalent meningococcal tetanus toxoid conjugate vaccine: results from a randomized, controlled Phase III study of healthy adults aged 18 to 25 years. *Clin Vaccine Immunol* 2013 Oct;20(10):1499-507.

114. Luplertlop N*, Suwanmanee S. Dermatophytosis: from bench to bedside. *J Trop Med Parasitol* 2013 Dec;36(2):75-87. (Review)

115. Maek-a-Nantawat W*, Phonrat B, Bussaratid V, Nuamtanong S, Pakdee W, Dekumyoy P. Serum IgE and skin test using partially purified specific *Gnathostoma Spinigerum* antigen by immunoblot test detecting 24kD protein among patients with Angioedema or Eosinophilia. *J Allergy Clin Immunol* 2013 Feb;131(2):AB65. (Meeting abstract)

116. Makaroon T, Kasemsuwan S, Ratanavanichrojn N, Hananantachai H, Mingkhwan R, Khaodhiar S, Tulayakul P*. Critical factors on chemical properties and heavy metals in water for livestock farms in Thailand. *Thai J Vet Med* 2013 Dec;43(4):581-8.

117. Maneekan P, Leaungwutiwong P, Misse D, Luplertlop N*.T helper (TH) 1 and TH2 cytokine expression profile in dengue and malaria infection using magnetic bead-based Bio-Plex assay. *Southeast Asian J Trop Med Public Health* 2013 Jan;44(1):31-6.

118. Matteelli A*, Schlagenhauf P, Carvalho AC, Weld L, Davis XM, Wilder-Smith A, Barnett ED, Parola P, Pandey P, Han P, Castelli F, Murphy H, Weber R, Steffen R, von Sonnenburg F, Jenks NP, Kerr CA, Borwein S, Leder K, Torresi J, Brown GV, Keystone JS, Kain KC, Jensenius M, Wang A, Eason J, MacDonald S, McCarthy AE, Anderson NL, Batchelor T, Meisch D, López-Vélez R, Pérez-Molina JA, Field V, Schwartz E, Gkrania-Klotsas E, Loutan L, Chappuis F, Caumes E, Pérignon A, Lim PL, Burchard GD, Libman MD, Ward BJ, Maclean JD, Stauffer WM, Walker PF, Hale DC, Anand R, Gelman SS, Connor BA, Simon F, Delmont J, Valdez LM, Siu H, Coyle CM, Wittner M, Gurtman AC, Haulman NJ, Roesel D, Jong EC, Shaw MT, Hern A, Cahill JD, McKinley G, Licitra C, Crespo A, Rapp C, Aoun O, Kass R, Mendelson M, Vincent P, Hynes NA, Sack RB, McKenzie R, Nutman TB, Klion AD, Hagmann S, Henry M, Miller AO, Chen LH, Wilson ME, Flores-Figueroa J, Okhuysen PC, Kanagawa S, Kato Y, Mizunno Y, de Vries PJ, Gadroen K, Kozarsky PE, Fairley J, Franco-Paredes C, Piyaphanee W, Silachamroon U, Perret C, Valdivieso F, Yates JA, Ansdell VE, Muller R, Benoit E, Chen E, Holtom PD, Goad JA, Anglim A, Doyle PW, Ghesquiere WG, Tachikawa N, Kurai H, Sagara H. Travel-associated sexually transmitted infections: an observational cross-sectional study of the GeoSentinel surveillance database. *Lancet Infect Dis* 2013 Mar;13(3):205-13.

119. McCarthy AE, Weld LH, Barnett ED, So H, Coyle C, Greenaway C, Stauffer W, Leder K, Lopez-Velez R, Gautret P, Castelli F, Jenks N, Walker PF, Loutan L, Cetron M*, Torresi J, Brown GV, Carosi G, Keystone JS, Kain KC, Perez-Molina JA, Jensenius M, Wittner M, Piyaphanee W, Silachamroon U, Schlagenhauf P, Weber R, Steffen R, Libman MD, Ward BJ, Maclean D, von Sonnenburg F, Gurtman AC, Kozarsky PE, Franco-Paredes C, Schwartz E, Nutman TB, Klion AD, Chappuis F, Kerr CA, Hale DC, Gelman SS, Burchard GD, Gkrania-Klotsas E, Hagmann S, Miller AO, Haulman N, Roesel D, Jong EC, Lim PL, Wilder-Smith A, Pandey P, Murphy H, Parola P, Simon F, Delmont J, Caumes E, Pérignon A, Holtom PD, Goad JA, Anglim A, Licitra C, Crespo A, Mendelson M, Vincent P, Doyle PW, Ghesquiere WG, de Vries PJ, Gadroen K, Hynes NA, Sack R, McKenzie R, Kanagawa S, Kato Y, Chen LH, Wilson ME, Connor BA, Freedman DO, Perret C, Valdivieso F, Lynch MW,

Cahill JD, McKinley G, Wang A, MacDonald S. Spectrum of illness in international migrants seen at GeoSentinel clinics in 1997-2009, part 2: migrants resettled internationally and evaluated for specific health concerns. *Clin Infect Dis* 2013 Apr;56(7):925-33.

120. McNamara CW, Lee MCS, Lim CS, Lim SH, Roland J, Nagle A, Simon O, Yeung BKS, Chatterjee AK, McCormack SL, Manary MJ, Zeeman AM, Dechering KJ, Kumar TRS, Henrich PP, Gagaring K, Ibanez M, Kato N, Kuhen KL, Fischli C, Rottmann M, Plouffe DM, Bursulaya B, Meister S, Rameh L, Trappe J, Haasen D, Timmerman M, Sauerwein RW, Suwanarusk R, Russell B, Renia L, Nosten F, Tully DC, Kocken CHM, Glynne RJ, Bodenreider C, Fidock DA, Diagana TT, Winzeler EA. Targeting Plasmodium PI(4)K to eliminate malaria. *Nature* 2013 Dec;504(7479):248-53.
121. Meechan P, Tungtrongchitr A, Chaisri U, Maklon K, Indrawattana N, Chaicumpa W, Sookrung N*. Intranasal, liposome-adjuvanted cockroach allergy vaccines made of refined major allergen and whole-body extract of *Periplaneta americana*. *Int Arch Allergy Immunol* 2013 Jul;161(4):351-62.
122. Meeyai A, Cooper BS, Coker R. Analysis of 2009 pandemic influenza a/h1n1 outcomes in 19 european countries: association with completeness of national strategic plans. *BMJ Open* 2013 Mar;3(3):002253.
123. Miao M, Wang Z, Yang Z, Yuan L, Parker DM, Putaporntip C, Jongwutiwes S, Xangsayarath P, Pongvongsa T, Moji H, Dinh Tuong T, Abe T, Nakazawa S, Kyaw MP, Yan G, Sirichaisinthop J, Sattabongkot J, Mu J, Su XZ, Kaneko O, Cui L. Genetic diversity and lack of artemisinin selection signature on the *Plasmodium falciparum* ATP6 in the Greater Mekong Subregion. *PLoS ONE* 2013 Mar;8(3):e59192.
124. Miotto O, Almagro-Garcia J, Manske M, Macinnis B, Campino S, Rockett KA, Amaratunga C, Lim P, Suon S, Sreng S, Anderson JM, Duong S, Nguon C, Chuor CM, Saunders D, Se Y, Lon C, Fukuda MM, Amenga-Etego L, Hodgson AV, Asoala V, Imwong M, Takala-Harrison S, Nosten F, Su XZ, Ringwald P, Ariey F, Dolecek C, Hien TT, Boni MF, Thai CQ, Amambua-Ngwa A, Conway DJ, Djimdé AA, Doumbo OK, Zongo I, Ouedraogo JB, Alcock D, Drury E, Auburn S, Koch O, Sanders M, Hubbart C, Maslen G, Ruano-Rubio V, Jyothi D, Miles A, O'Brien J, Gamble C, Oyola SO, Rayner JC, Newbold CI, Berriman M, Spencer CC, McVean G, Day NP, White NJ, Bethell D, Dondorp AM, Plowe CV, Fairhurst RM, Kwiatkowski DP. Multiple populations of artemisinin-resistant *Plasmodium falciparum* in Cambodia. *Nature Genet* 2013 Jun;45:648-55.
125. Moolphate S*, Lawpoolsri S, Pungrassami P, Sanguanwongse N, Yamada N, Kaewkungwal J. Barriers to and motivations for the implementation of a treatment programme for latent tuberculosis infection using isoniazid for people living with HIV, in upper northern Thailand. *Glob J Health Sci* 2013 Mar;5(4):60-70.
126. Morales Vargas RE, Phumala-Morales N, Tsunoda T, Apiwathnasorn C, Dujardin JP. The phenetic structure of *Aedes albopictus*. *Infec Genet Evol* 2013 Jan;13(1):242-51.
127. Mori H, Mahittikorn A*, Thammasonthijarern N, Chaisiri K, Rojekittikhun W, Sukthana Y. Presence of zoonotic *Enterocytozoon bieneusi* in cats in a temple in central Thailand. *Vet Parasitol* 2013 Nov;197(3–4):696-701.
128. Mori H*, Mahittikorn A, Watthanakulpanich D, Komalamisra C, Sukthana Y. Zoonotic potential of *Enterocytozoon bieneusi* among children in rural communities in Thailand. *Parasite* 2013 Apr;20:14.
129. Nalini A*, Ramakrishna A, Dekumoy P, Kumar RR, Pakdee W, Saini J, Hegde VS. Severe form of radiculo - Myelo - Neuropathy with meningo - Encephalitis secondary to *Angiostrongylus cantonensis* infection: unusual corpus callosal lesions and serial magnetic resonance imaging findings. *Neurol India* 2013 Jul;61(4):414-8.
130. Namvongsa V, Sirivichayakul C*, Songsithichok S, Chanthavanich P, Chokejindachai W, Sitcharungsi R. Differences in clinical features between children and adults with dengue hemorrhagic fever/dengue shock syndrome. *Southeast Asian J Trop Med Public Health* 2013 Sep;44(5):772-9.
131. Nantakomol D, Paul R, Palasuwan A, Day NP, White NJ, Imwong M*. Evaluation of the phenotypic test and genetic analysis in the detection of glucose-6-phosphate dehydrogenase deficiency. *Malar J* 2013 Aug;12(1):289.

132. Newton PN*, Stepniewska K, Dondorp A, Silamut K, Chierakul W, Krishna S, Davis TM, Suputtamongkol Y, Angus B, Pukrittayakamee S, Ruangveerayuth R, Hanson J, Day NP, White NJ. Prognostic indicators in adults hospitalized with falciparum malaria in Western Thailand. *Malar J* 2013 Jul;12:229.
133. Ngaosuwankul N, Thippornchai N, Yamashita A, Morales Vargus RE, Tunyong W, Mahakunkijchareon Y, Ikuta K, Singhasivanon P, Okabayashi T*, Leaungwutiwong P. Detection and characterization of enteric viruses in flood water from the 2011 Thai Flood. *Jpn J Infect Dis* 2013 Sep;66(5):398-403.
134. Nkhoma SC, Nair S, Al-Saai S, Ashley E, McGready R, Phyo AP, Nosten F, Anderson TJC. Population genetic correlates of declining transmission in a human pathogen. *Mol Ecol* 2013 Jan;22(2):273-85.
135. Nkhoma SC, Stepniewska K, Nair S, Phyo AP, McGready R, Nosten F, Anderson TJC*. Genetic evaluation of the performance of malaria parasite clearance rate metrics. *J Infect Dis* 2013 Jul;208(2):346-50.
136. Orth H*, Jensen BO, Holtfreter MC, Kocheril SJ, Mallach S, MacKenzie C, Muller-Stover I, Henrich B, Imwong M, White NJ, Haussinger D, Richter J*. *Plasmodium knowlesi* infection imported to Germany, January 2013. *Eurosurveillance* 2013 Oct;18(40):4-6.
137. Pambudi S, Kawashita N, Phanthanawiboon S, Omokoko MD, Masrinoul P, Yamashita A, Limkittikul K, Yasunaga T, Takagi T, Ikuta K, Kurosu T*. A small compound targeting the interaction between nonstructural proteins 2B and 3 inhibits dengue virus replication. *Biochem Biophys Res Commun* 2013 Oct;440(3):393-8.
138. Pan-ngum W, Blacksell SD, Lubell Y, Pukrittayakamee S, Bailey MS, de Silva HJ, Lalloo DG, Day NPJ, White LJ, Limmathurotsakul D*. Estimating the true accuracy of diagnostic tests for dengue infection using Bayesian latent class models. *PLoS ONE* 2013 Jan;8(1):e50765.
139. Paris DH, Shelite TR, Day NP, Walker DH*. Review article: Unresolved problems related to scrub typhus: a seriously neglected life-threatening disease. *Am J Trop Med Hyg* 2013 Aug;89(2):301-7.
140. Pasaribu AP, Chokejindachai W*, Sirivichayakul C, Tanomsing N, Chavez I, Tjitra E, Pasaribu S, Imwong M, White NJ, Dondorp AM. A randomized comparison of dihydroartemisinin-piperaquine and artesunate-amodiaquine combined with primaquine for radical treatment of vivax malaria in sumatera, Indonesia. *J Infect Dis* 2013 Dec;208(11):1906-13.
141. Patramool S*, Bernard E, Hamel R, Luplertlop N, Chazal N, Surasombatpattana P, Ekchariyawat P, Daoust S, Thongrungkiat S, Thomas F, Briant L, Missé D. Isolation of infectious chikungunya virus and dengue virus using anionic polymer-coated magnetic beads. *J Virol Methods* 2013 May;193(1):55-61.
142. Phetsouvanh R, Thojaikong T, Phoumin P, Sibounheuang B, Phommasone K, Chansamouth V, Lee SJ, Newton PN, Blacksell SD*. Inter- and intra-operator variability in the reading of indirect immunofluorescence assays for the serological diagnosis of scrub typhus and murine typhus. *Am J Trop Med Hyg* 2013 May;88(5):932-6.
143. Phommasone K, Paris DH, Anantatat T, Castonguay-Vanier J, Keomany S, Souvannasing P, Blacksell SD, Mayxay M, Newton PN*. Concurrent infection with murine typhus and scrub typhus in Southern Laos-the mixed and the unmixed. *PLoS Neg Trop Dis* 2013 Aug;7(8):e2163.
144. Phonrat B, Pitisuttithum P, Chamnanchanunt S, Puthavathana P, Ngaosuwankul N, Louisirirotchanakul S, Dhitavat J, Thirapakpoomanunt S, Chokevivat V, Wibulpolprasert S. Safety and immune responses following administration of H1N1 live attenuated influenza vaccine in Thais. *Vaccine* 2013 Mar;31(11):1503-9.
145. Pimsuka S, Mahakunkijcharoen Y, Saiwichai T, Hirunpetcharat1 C*. Optimization of conditions for identification of apoptotic splenic cells in mice infected with blood-stage *Plasmodium yoelii* and cured with MSP119-specific antibody and CpG oligodeoxynucleotide. *The 29th National Graduate Research Conference* 2013 Oct:HS370-6.
146. Pipattanaboon C, Sasaki T, Nishimura M, Setthapramote C, Pitaksajjakul P, Leaungwutiwong P, Limkittikul K, Puiprom O, Sasayama M, Chaichana P, Okabayashi T, Kurosu T, Ono K, Ramasoota P*, Ikuta K*. Cross-reactivity of human monoclonal antibodies generated with peripheral blood lymphocytes from dengue patients with Japanese encephalitis virus. *Biologics* 2013 Aug;7:175-87.

147. Pissawong T, Maneewatch S, Thueng-In K, Srimanote P, Dong-Din-On F, Thanongsaksrikul J, Songserm T, Tongtawe P, Bangphoomi K, Chaicumpa W*. Human monoclonal ScFv that bind to different functional domains of M2 and inhibit H5N1 influenza virus replication. *Virol J* 2013 May;10(1):148.

148. Pitabut N, Sakurada S, Tanaka T, Ridruechai C, Tanuma J, Aoki T, Kantipong P, Piyaworawong S, Kobayashi N, Dhepakson P, Yanai H, Yamada N, Oka S, Okada M, Khusmith S*, Keicho N. Potential function of granulysin, other related effector molecules and lymphocyte subsets in patients with TB and HIV/TB coinfection. *Int J Med Sci* 2013 Jun;10(8):1003-14.

149. Pitisuttithum P*, Excler J-L, Kim J. Beyond RV144 efficacy results: an update. *Procedia Vaccinol* 2013 Jul;7:49-56.

150. Podnecky NL, Wuthiekanun V, Peacock SJ, Schweizer HP*. The BpeEF-OprC efflux pump is responsible for widespread trimethoprim resistance in clinical and environmental *Burkholderia pseudomallei* isolates. *Antimicrob Agents Chemother* 2013 Sep;57(9):4381-6.

151. Popruk S*, Pintong A, Radomyos P. Diversity of *Blastocystis subtypes* in humans. *J Trop Med Parasitol* 2013 Dec;36(2):88-97. (Review)

152. Praditpol C, Mahakunkijcharoen Y, Saiwichai T, Hirunpetcharat C*. Optimization of regulatory T cell assay by flow cytometry for evaluation of CD4+ regulatory T cell response in mice immunized by blood-stage malaria infection and cure with malaria-specific antibody and CpG ODN. The 29th National Graduate Research Conference 2013 Oct:HS145-51. (Conference Proceedings)

153. Prapansilp P*, Medana I, Mai NT, Day NP, Phu NH, Yeo TW, Hien TT, White NJ, Anstey NM, Turner GD. A clinicopathological correlation of the expression of the angiopoietin-Tie-2 receptor pathway in the brain of adults with *Plasmodium falciparum* malaria. *Malar J* 2013 Feb;12(1):50.

154. Prasongsukarn K, Chaisri U, Chartburus P, Wetchabut K, Benjathummarak S, Khachansaksumet V, Maneerat Y*. Phenotypic alterations in human saphenous vein culture induced by tumor necrosis factor-alpha and lipoproteins: a preliminary development of an initial atherosclerotic plaque model. Lipids Health Dis 2013 Sep;12(1):132.

155. Puiprom O, Morales Vargas RE, Potiwat R, Chaichana P, Ikuta K, Ramasoota P, Okabayashi T*. Characterization of chikungunya virus infection of a human keratinocyte cell line: Role of mosquito salivary gland protein in suppressing the host immune response. *Infec Genet Evol* 2013 Jul;17:210-5.

156. Pumirat P, Tunyong W, Luplertlop N*. Medical Mycology. *Journal of Medicine and Health Sciences* 2013 Aug;20(2): 31-44.

157. Punsawad C, Maneerat Y, Chaisri U, Nantavisai K, Viriyavejakul P*. Nuclear factor kappa B modulates apoptosis in the brain endothelial cells and intravascular leukocytes of fatal cerebral malaria. *Malar J* 2013 Jul;12:260.

158. RekiČD, RÖshammar D, Bergstrand M, Tarning J, Calcagno A, D'Avolio A, Ormaasen V, Vigan M, Barrail-Tran A, Ashton M, Gisslén M, ÄbelÖ A. External validation of the bilirubin-atazanavir nomogram for assessment of atazanavir plasma exposure in HIV-1-infected patients. *AAPS J* 2013 Apr;15(2):308-15.

159. Rerks-Ngarm S, Paris RM, Chunsutthiwat S, Premsri N, Namwat C, Bowonwatanuwong C, Li SS, Kaewkungkal J, Trichavaroj R, Churikanont N, De Souza MS, Andrews C, Francis D, Adams E, Flores J, Gurunathan S, Tartaglia J, O'Connell RJ, Eamsila C, Nitayaphan S, Ngauy V, Thongcharoen P, Kunasol P, Michael NL, Robb ML, Gilbert PB, Kim JH. Extended evaluation of the virologic, immunologic, and clinical course of volunteers who acquired HIV-1 infection in a phase III vaccine trial of ALVAC-HIV and AIDSVAX B/E. *J Infect Dis* 2013 Apr;207(8):1195-205.

160. Rojekittikhun W*, Mahittikorn A, Prummongkol S, Puangsa-art S, Chaisiri K, Kusolsuk T. Prevalence of gastrointestinal parasitic infections in refuge dogs and cats and evaluation of two conventional examination techniques. *J Trop Med Parasitol* 2013 Dec;36(2):58-67.

161. Sagaki P, Thanachartwet V*, Desakorn V, Sahassananda D, Chamnanchanunt S, Chierakul W, Pitisuttithum P, Ruangkanchanasetr P. Clinical factors for severity of *Plasmodium falciparum* malaria in hospitalized adults in Thailand. *PLoS ONE* 2013 Aug;8(8):e71503.
162. Saonanon P*, Tirakunwichcha S, Chierakul W. Case report of orbital cellulitis and necrotizing fasciitis from melioidosis. *Ophthalmic Plast Reconstr Surg* 2013 May-Jun;29(3):E81-E4.
163. Sasaki T, Setthapramote C, Kurosu T, Nishimura M, Asai A, Omokoko MD, Pipattanaboon C, Pitaksajjakul P, Limkittikul K, Subchareon A, Chaichana P, Okabayashi T, Hirai I, Leuangwutiwong P, Misaki R, Fujiyama K, Ono KI, Okuno Y, Ramasoota P*, Ikuta K*. Dengue virus neutralization and antibody-dependent enhancement activities of human monoclonal antibodies derived from dengue patients at acute phase of secondary infection. *Antiviral Res* 2013 Jun;98(3):423-31.
164. Senthong P, Millington CL, Wilkinson OJ, Marriott AS, Watson AJ, Reamtong O, Eyers CE, Williams DM, Margison GP*, Povey AC. The nitrosated bile acid DNA lesion O6-carboxymethylguanine is a substrate for the human DNA repair protein O6-methylguanine-DNA methyltransferase. *Nucleic Acids Res* 2013 Mar;41(5):3047-55.
165. Seo S, Englund JA, Nguyen JT, Pukrittayakamee S, Lindegardh N, Tarning J, Tambyah PA, Renaud C, Went GT, De Jong MD, Boeckh MJ*. Combination therapy with amantadine, oseltamivir and ribavirin for influenza A infection: safety and pharmacokinetics. *Antivir Ther* 2013;18(3):377-86.
166. Shanks GD*, White NJ. The activation of vivax malaria hypnozoites by infectious diseases. *Lancet Infect Dis* 2013 Oct;13(10):900-6. (Review)
167. Siengsanan-Lamont J*, Robertson ID, Blacksell SD, Ellis T, Saengchoowong S, Suwanpukdee S, Yongyuttawichai P, Cheewajorn K, Jangjaras J, Chaichoun K, Wiriyarat W, Ratanakorn P. A study of risk factors for infection with HPAI H5N1 in small poultry farms in Thailand using a questionnaire survey. *Zoonoses Public Health* 2013 May;60(3):209-14.
168. Singchai P, Jittmittraphap A, Luplertlop N, Kalambaheti T, Wongchotigul V, Pongsuwanna Y, Leaungwutiwong P*. Comparison of A simple restriction fragment length polymorphism assay and neutralization for subtyping of coxsackie B viruses. *JITMM Proceedings* 2013 Mar;2:11-7.
169. Singha O, Kengkoom K, Chaimongkolnukul K, Cherdyu S, Pongponratn E, Ketjareon T, Panavechkijkul Y, Ampawong S*. Pulmonary edema due to oral gavage in a toxicological study related to aquaporin-1, -4 and -5 expression. *J Toxicol Pathol* 2013 Sep;26(3):283-91.
170. Sirilak S, Okanurak K*, Wattanagoon Y, Chatchaiyalerk S, Tornee S, Siri S. Community participation of cross-border migrants for primary health care in Thailand. *Health Policy Plan* 2013 Sep;28(6):658-64.
171. Sitcharungsi R, Bunupuradah T, Pornvoranunt A, Apornpong T, Ananworanich J, Khupulsup K, Nouanthong P, Vilaiyuk S, Phasomsap C, Kamchaisatian W, Pancharoen C, Puthanakit T, Sirivichayakul C, Benjaponpitak S*. Immunoglobulin values in healthy Thai children aged ≤ 24 months determined by nephelometry. *Asian Pac J Allergy Immunol* 2013 Dec;31(4):307-13.
172. Sitcharungsi R*, Sirivichayakul C. Allergic diseases and helminth infections. *Pathog Glob Health* 2013 Apr;107(3):110-5. (Review)
173. Sitepu MS, Kaewkungwal J, Luplertlop N, Soonthornworasiri N, Silawan T, Poungsombat S, Lawpoolsri S*.Temporal patterns and a disease forecasting model of dengue hemorrhagic fever in Jakarta based on 10 years of surveillance data. *Southeast Asian J Trop Med Public Health* 2013 Mar;44(2):206-17.
174. Sjatha F, Takizawa Y, Kotaki T, Yamanaka A, Konishi E*. Comparison of infection-neutralizing and -enhancing antibody balance induced by two distinct genotype strains of dengue virus type 1 or 3 DNA vaccines in mice. *Microbes Infect* 2013 Nov;15(12): 828-36.
175. Smithuis FM, Kyaw MK, Phe UO, van der Broek I, Katterman N, Rogers C, Almeida P, Kager PA, Stepniewska

K, Lubell Y, Simpson JA, White NJ*. Entomological determinants of insecticide-treated bed net effectiveness in Western Myanmar. *Malar J* 2013 Oct;12:364.

176. Smithuis FM, Kyaw MK, Phe UO, van der Broek I, Katterman N, Rogers C, Almeida P, Kager PA, Stepniewska K, Lubell Y, Simpson JA, White NJ*. The effect of insecticide-treated bed nets on the incidence and prevalence of malaria in children in an area of unstable seasonal transmission in western Myanmar. *Malar J* 2013 Oct;12:363.
177. Sonthayanon P*, Chierakul W, Wuthiekanun V, Limmathurotsakul D, Amornchai P, Smythe LD, Day NP, Peacock SJ. Molecular confirmation of co-infection by pathogenic leptospira spp. and *Orientia tsutsugamushi* in patients with acute febrile illness in Thailand. *Am J Trop Med Hyg* 2013 Oct;89(4):797-9.
178. Sriboonvorakul N, Leepipatpiboon N*, Dondorp AM, Pouplin T, White NJ, Tarning J, Lindegardh N. Liquid chromatographic-mass spectrometric method for simultaneous determination of small organic acids potentially contributing to acidosis in severe malaria. *J Chromatogr B* 2013 Dec;941:116-22.
179. Srisombundit V, Tungthumniyom N, Linchongsubongkoch W, Lekcharoensuk C, Sariya L, Ramasoota P, Lekcharoensuk P. Development of an inactivated 3Cpro-3ABC (mu3ABC) ELISA to differentiate cattle infected with foot and mouth disease virus from vaccinated cattle. *J Virol Methods* 2013 Mar;118(1-2):161-7.
180. Stoesser N, Emary K, Soklin S, An KP, Sophal S, Chhomrath S, Day NPJ, Limmathurotsakul D, Nget P, Pangnarith Y, Sona S, Kumar V, Moore CE, Chanpheaktra N, Parry CM. The value of intermittent point-prevalence surveys of healthcare-associated infections for evaluating infection control interventions at Angkor Hospital for Children, Siem Reap, Cambodia. *Trans R Soc Trop Med Hyg* 2013 Apr;107(4):248-53.
181. Subrungruang I, Thawornkuno C, Chawalitchewinkoon-Petmitr P, Pairojkul C, Wongkham S, Petmitr S*. Gene expression profiling of intrahepatic cholangiocarcinoma. *Asian Pac J Cancer Prev* 2013 Jan;14(1):557-63.
182. Sukkasem S, Yanai H, Mahasirimongkol S, Yamada N, Rienthong D, Palittapongarnpim P, Khusmith S*. Drug resistance and IS6110-RFLP patterns of *Mycobacterium tuberculosis* in patients with recurrent tuberculosis in northern Thailand. *Microbiol Immunol* 2013 Jan;57(1):21-9.
183. Suntornsut P, Kasemsupat K, Silairatana S, Wongsuvan G, Jutrakul Y, Wuthiekanun V, Day NPJ, Peacock SJ, Limmathurotsakul D*. Short report: Prevalence of melioidosis in patients with suspected pulmonary tuberculosis and sputum smear negative for acid-fast bacilli in northeast Thailand. *Am J Trop Med Hyg* 2013 Nov;89(5): 983-5.
184. Suriyaprom K, Tungtrongchitr R, Harnroongroj T. Impact of COMT Val (108/158) Met and DRD2 Taq1B gene polymorphisms on vulnerability to cigarette smoking of Thai males. *J Mol Neurosci* 2013 Mar;49(3):544-9.
185. Suriyaprom K*, Tungtrongchitr R, Thawnashom K, Pimainog Y. BDNF Val66Met polymorphism and serum concentrations of BDNF with smoking in Thai males. *Genet Mol Res* 2013 Oct;12(4):4925-33.
186. Sutthikornchai C, Mahitikorn A, Sukthana Y*. Quantitative PCR detection of *Toxoplasma gondii* in minced pork from selected morning markets in Bangkok, Thailand. *J Trop Med Parasitol* 2013 Dec;36(2):68-74.
187. Sutthikornchai C, Mori H, Mahittikorn A, Lekkla A, Sukthana Y*. Detection of *Cryptosporidium* and *Giardia* in water samples from the border areas of Thailand. *Siam Technology College Journal* 2013 Jan-Dec;1(1-2):59-65.
188. Suwancharoen D, Mungaomklan A, Chaimongkol E, Tangkanakul W, Fungladda W, Yoshida S. Leptospirosis on a rafting tour in Thailand. *Journal of BGTHA* 2013 Jul;21:48-52.
189. Taai K, Baimai V, Thongsahuan S, Saeung A, Otsuka Y, Srisuka W, Sriwichai P, Somboon P, Jariyapan N, Choochote W*. Metaphase karyotypes of *Anopheles paraliae* (Diptera: Culicidae) in Thailand and evidence to support five cytological races. *Trop Biomed* 2013 Jun;30(2):238-49.
190. Tainchum K, Polsomboon S, Grieco JP, Suwonkerd W, Prabaripai A, Sungvornyothin S, Chareonviriyaphap T, Achee NL. Comparison of *Aedes aegypti* (Diptera: Culicidae) resting behavior on two fabric types under consideration for insecticide treatment in a push-pull strategy. *J Med Entomol* 2013 Jan;50(1):59-68.

191. Takala-Harrison S, Clark TG, Jacob CG, Cummings MP, Miotto O, Dondorp AM, Fukuda MM, Nosten F, Noedl H, Imwong M, Bethell D, Se Y, Lon C, Tyner SD, Saunders DL, Socheat D, Ariey F, Phyo AP, Starzengruber P, Fuehrer HP, Swoboda P, Stepniewska K, Flegg J, Arze C, Cerqueira GC, Silva JC, Ricklefs SM, Porcella SF, Stephens RM, Adams M, Kenefic LJ, Campino S, Auburn S, MacInnis B, Kwiatkowskid DP, Su XZ, White NJ, Ringwald P, Plowe CV. Genetic loci associated with delayed clearance of *Plasmodium falciparum* following artemisinin. *Proc Natl Acad Sci U S A* 2013 Jan;110(1):240-5.

192. Takeno S, Wisanuyotin S, Jiravuttipong A, Sirivichayakul C, Limkittikul K*. Risk factors and outcome of atypical acute post-streptococcal glomerulonephritis in pediatrics. *Southeast Asian J Trop Med Public Health* 2013 Mar;44(2):281-8.

193. Tanayapong S, Pengsaa K, Thisayakorn U*. Changing epidemiology of dengue patients in Ratchaburi, Thailand. *Asian Biomed* 2013 Aug;7(4):561-6.

194. Tandhavanant S, Wongsuvan G, Wuthiekanun V, Teerawatanasuk N, Day NP, Limmathurotsakul D, Peacock SJ, Chantratita N*. Monoclonal antibody-based immunofluorescence microscopy for the rapid identification of *Burkholderia pseudomallei* in clinical specimens. *Am J Trop Med Hyg* 2013 Jul;89(1):165–8. (Short report)

195. Tangpukdee N, Krudsood S, Wilairatana P*. Bilirubin cut-off level to predict fatal outcome of severe falciparum malaria with jaundice. *Trop Med Surg* 2013 Mar;1(2):109.

196. Tangpukdee N, Krudsood S, Wilairatana P*. Schizontemia as an indicator of severe malaria. *Southeast Asian J Trop Med Public Health* 2013 Sep;44(5):740-3.

197. Tanomsing N, Imwong M*, Sutherland CJ, Dolecek C, Hien TT, Nosten F, Day NPJ, White NJ, Snounou G. Genetic marker suitable for identification and genotyping of *Plasmodium Ovale Curtisi* and *Plasmodium Ovale Wallikeri*. *J Clin Microbiol* 2013 Dec;51(12):4213-6.

198. Tarning J*, Kloprogge F, Dhorda M, Jullien V, Nosten F, White NJ, Guerin PJ, Piola P. Pharmacokinetic properties of artemether, dihydroartemisinin, lumefantrine, and quinine in pregnant women with uncomplicated plasmodium falciparum malaria in uganda. *Antimicrob Agents Chemother* 2013 Oct;57(10):5096-103.

199. Thaipadungpanit J*, Wuthiekanun V, Chantratita N, Yimsamran S, Amornchai P, Boonsilp S, Maneeboonyang W, Tharnpoophasiam P, Saiprom N, Mahakunkijcharoen Y, Day NPJ, Singhasivanon P, Peacock SJ, Limmathurotsakul D. *Leptospira* species in floodwater during the 2011 floods in the bangkok metropolitan region, Thailand. *Am J Trop Med Hyg* 2013 Oct;89(4):794-6.

200. Thanachartwet V*, Desakorn V, Sahassananda D, Kyaw Win KKY, Supaporn T. Acute renal failure in patients with severe falciparum malaria: using the WHO 2006 and RIFLE criteria. *Int J Nephrol* 2013 Jan;2013:841518.

201. Thanapongpichat S, McGready R, Luxemburger C, Day NP, White NJ, Nosten F, Snounou G*, Imwong M*. Microsatellite genotyping of *Plasmodium vivax* infections and their relapses in pregnant and non-pregnant patients on the Thai-Myanmar border. *Malar J* 2013 Aug;12:275.

202. Thanchomnang T, Tantrawatpan C, Intapan PM*, Sri-Aroon P, Limpanont Y, Lulitanond V, Janwan P, Sanpool O, Tourtip S, Maleewong W. Pyrosequencing for rapid molecular identification of *Schistosoma japonicum* and *S. mekongi* eggs and cercariae. *Exp Parasitol* 2013 Sep;135(1):148-52.

203. Tomaras GD, Ferrari G, Shen X, Alam SM, Liao HX, Pollara J, Bonsignori M, Moody MA, Fong Y, Chen X, Poling B, Nicholson CO, Zhang R, Lu X, Parks R, Kaewkungwal J, Nitayaphan S, Pitisuttithum P, Rerks-Ngarm S, Gilbert PB, Kim JH, Michael NL, Montefiori DC, Haynes BF. Vaccine-induced plasma IgA specific for the C1 region of the HIV-1 envelope blocks binding and effector function of IgG. *Proc Natl Acad Sci U S A* 2013 May;110(22):9019-24.

204. Tongboonchoo C, Tungtrongchitr A, Phonrat B, Preutthipan S, Tungtrongchitr R*. Association of MTHFR C677T polymorphism with bone mineral density of osteoporosis in postmenopausal Thai women. *J Med Assoc Thai* 2013 Feb;96(2):133-9.

205. Touch S, Yoonuan T, Nuamtanong S, Homsuwan N, Phuphisut O, Thaenkham U, Waikagul J*. Seasonal variation of *Opisthorchis viverrini* metacercarial infection in cyprinid fish from Southern Cambodia. *J Trop Med Parasitol* 2013 Jun;36(1):1-7.

206. Vaid N*, Langan KM, Maude RJ. Post-exposure prophylaxis in resource-poor settings: review and recommendations for pre-departure risk assessment and planning for expatriate healthcare workers. *Trop Med Int Health* 2013 May;18(5):588-95.

207. Vanlerberghe V*, Trongtokit Y, Jirarojwatana S, Jirarojwatana R, Lenhart A, Apiwathnasorn C, McCall PJ, Van der Stuyft P. Coverage-dependent effect of insecticide-treated curtains for dengue control in Thailand. *Am J Trop Med Hyg* 2013 Jul;89(1):93-8.

208. Vanloubbeeck Y*, Pichyangkul S, Bayat B, Yongvanitchit K, Bennett JW, Sattabongkot J, Schaecher K, Ockenhouse CF, Cohen J, Yadava A, P. vivax vaccine study group.Comparison of the immune responses induced by soluble and particulate Plasmodium vivax circumsporozoite vaccine candidates formulated in AS01 in rhesus macaques. *Vaccine* 2013 Dec;31(52):6216-24.

209. Veciana M, Chaisiri K, Morand S, Miquel J, Ribas A. New biogeographical and morphological information on Physaloptera ngoci Le-Van-Hoa, 1961 (Nematoda: Physalopteridae) in South-east Asian rodents. *Parasite* 2013 Jul;20:23.

210. Vink JP*, Laubscher M, Vlutters R, Silamut K, Maude RJ, Hasan MU, De Haan G. An automatic vision-based malaria diagnosis system. *J Microsc* 2013 Jun;250(3):166-78.

211. Viputtigul K, Tungpukdee N, Ruangareerate T, Luplertlop N, Wilairatana P, Gaywee J, Krudsood S*. C-terminal polymorphism of *Plasmodium falciparum* merozoite surface protein-1 (MSP-1) from Tak Province, Thailand. *Southeast Asian J Trop Med Public Health* 2013 Jan;44(1):1-12.

212. Viroonudomphol D, Hanroongroj T, Tribanyatkul S, Pinyosirikul U. Tobacco smoke and side-stream cigarette smoke induce the risk of cardiovascular disease. *Ann Nutr Metab* 2013 Sep;63(Suppl. 1):1142,1334. (Meeting Abstract)

213. Vlek ALM*, Cooper BS, Kypraios T, Cox A, Edgeworth JD, Auguet OT. Clustering of antimicrobial resistance outbreaks across bacterial species in the intensive care unit. *Clin Infect Dis* 2013 Jul;57(1):65-76.

214. Wang B, Lu F, Cheng Y, Li J, Ito D, Sattabongkot J, Tsuboi T, Han ET. Identification and characterization of the *Plasmodium falciparum* RhopH2 ortholog in *Plasmodium vivax*. *Parasitol Res* 2013 Feb;112(2):585-93.

215. Watthanakulpanich D, Pongvongsa T, Sanguankiat S, Nuamtanong S, Maipanich W, Yoonuan T, Phuphisut O, Boupha B, Moji K, Sato M, Waikagul J*. Prevalence and clinical aspects of human *Trichostrongylus colubriformis* infection in Lao PDR. *Acta Trop* 2013 Apr;126(1):37-42.

216. Watthanaworawit W*, Turner P, Turner C, Tanganuchitcharnchai A, Richards AL, Bourzac KM, Blacksell SD, Nosten F. Short report: a prospective evaluation of real-time PCR assays for the detection of *Orientia tsutsugamushi* and *Rickettsia* spp. for early diagnosis of rickettsial infections during the acute phase of undifferentiated febrile illness. *Am J Trop Med Hyg* 2013 Aug;89(2): 308-10.

217. West TE, Chantratita N, Chierakul W, Limmathurotsakul D, Wuthiekanun V, Myers ND, Emond MJ, Wurfel MM, Hawn TR, Peacock SJ, Skerrett SJ. Impaired TLR5 functionality is associated with survival in melioidosis. *J Immunol* 2013 Apr;190(7):3373-9.

218. White NJ*. Pharmacokinetic and pharmacodynamic considerations in antimalarial dose optimization. *Antimicrob Agents Chemother* 2013 Dec;57(12):5792-807. (Review)

219. White NJ*. Primaquine to prevent transmission of falciparum malaria. *Lancet Infect Dis* 2013 Feb;13(2):175-81.

220. White NJ*, Turner GDH, Day NPJ, Dondorp AM. Lethal malaria: marchiafava and bignami were right. *J Infect Dis* 2013 Jul;208(2):192-8. (Review)

221. Wichit S, Yongpradoem H, Surasombatpattana P, Leaungwuttiwong P, Kalambaheti T, Jampangern W, Jittmittraphap A*. Cloning and application of recombinant dengue virus prM-M protein for serodiagnosis of dengue virus infection. *Southeast Asian J Trop Med Public Health* 2013 Mar;44(2):218-25.
222. Wilairatana P*, Tangpukdee N, Krudsood S. Definition of hyperparasitemia in severe falciparum malaria should be updated. *Asian Pac J Trop Biomed* 2013 Jul;3(7):586.
223. Wilairatana P*, Tangpukdee N, Krudsood S. Glucose-6-phosphate dehydrogenase (G6PD) deficiency status should be screened in all vivax malaria patients in Thailand where severe G6PD deficiency is predominant. *Trop Med Surg* 2013 Feb;1(1):102.
224. Wilairatana P*, Tangpukdee N, Krudsood S. Misconcepts in management of severe malaria. *Trop Med Surg* 2013 Mar;1(2):111.
225. Wiriya B, Clausen JH, Inpankaew T, Thaenkham U, Jittapalapong S*, Satapornvanit K, Dalsgaard A. Fish-borne trematodes in cultured Nile tilapia (*Oreochromis niloticus*) and wild-caught fish from Thailand. *Vet Parasitol* 2013 Nov;198(1–2):230-4.
226. Worby CJ, Jeyaratnam D, Robotham JV, Kypraios T, O'Neill PD*, De Angelis D, French G, Cooper BS. Estimating the effectiveness of isolation and decolonization measures in reducing transmission of methicillin-resistant *Staphylococcus aureus* in Hospital General Wards. *Am J Epidemiol* 2013 Jun;177(11):1306-13.
227. Wuthiekanun V, Amornchai P, Paris DH, Langla S, Thaipadunpanit J, Chierakul W, Smythe LD, White NJ, Day NPJ, Limmathurotsakul D*, Peacock SJ. Rapid isolation and susceptibility testing of *Leptospira* spp. Using a new solid medium, LVW agar. *Antimicrob Agents Chemother* 2013 Jan;57(1):297-302.
228. Yamaji H*, Konishi E. Production of Japanese encephalitis virus-like particles in insect cells. *Bioengineered* 2013 Nov;4(6):438-42.
229. Yamaji H, Nakamura M, Kuwahara M, Takahashi Y, Katsuda T, Konishi E. Efficient production of Japanese encephalitis virus-like particles by recombinant lepidopteran insect cells. *Appl Microbiol Biotechnol* 2013 Feb;97(3):1071-9.
230. Yamanaka A*, Hendrianto E, Mulyatno KC, Susilowati H, Ginting AP, Sary DD, Soegijanto S, Konishi E. Correlation between complement component levels and disease severity in dengue patients in Indonesia. *Jpn J Infect Dis* 2013 Sep;66(5):366-74.
231. Yamanaka A*, Kotaki T, Konishi E. A mouse monoclonal antibody against dengue virus type 1 mochizuki strain targeting envelope protein domain II and displaying strongly neutralizing but not enhancing activity. *J Virol* 2013 Dec;87(23):12828-37.
232. Yamanaka A, Thongrungkiat S*, Ramasoota P, Konishi E. Genetic and evolutionary analysis of cell-fusing agent virus based on Thai strains isolated in 2008 and 2012. *Infect Genet Evol* 2013 Oct;19:188-94.
233. Yamane K, Yanagida T, Li TY, Chen XW, Dekumyoy P, Waikagul J, Nkouawa A, Nakao M, Sako Y, Ito A, Sato H, Okamoto M*. Genotypic relationships between *Taenia saginata, Taenia asiatica* and their hybrids. *Parasitology* 2013 Nov;140(13):1595-601.
234. Yodsheewan R, Maneewatch S, Srimanote P, Thueng-in K, Songserm T, Dong-din-on F, Bangphoomi K, Sookrung N, Choowongkomon K, Chaicumpa W*. Human monoclonal ScFv specific to NS1 protein inhibits replication of influenza viruses across types and subtypes. *Antiviral Res* 2013 Oct;100(1):226-37.
235. Zhu G, Xia H, Zhou H, Li J, Lu F, Liu Y, Cao J, Gao Q*, Sattabongkot J*. Susceptibility of *Anopheles sinensis* to *Plasmodium vivax* in malarial outbreak areas of central China. *Parasites Vectors* 2013 Jun;6:176.

List of Presentations

DEPARTMENT OF CLINICAL TROPICAL MEDICINE

INTERNATIONAL ORAL PRESENTATIONS

1. Pitisuttithum P University. Beyond RV144 efficacy results: update and future plan. Joint International Tropical Medicine Meeting 2013 (JITMM 2013),11 – 13 December 2013, Centara Grand & Bangkok Convention Centre at Central World Bangkok, Thailand.
2. Yeekian C. Geratikornsupak N, Lertiendumrong J, Tongsiri S, Dhitavat J, Phonrat B, Pitisuttithum P. Medical burden and economic burden of chronic hepatitis b patients at queen savang vadhana memorial hospital. Joint International Tropical Medicine Meeting 2013 (JITMM 2013),11 – 13 December 2013, Centara Grand & Bangkok Convention Centre at Central World Bangkok, Thailand.
3. Dondorp A and Chotivanich K Late haemolysis fater artesunate for severe malaria. Joint International Tropical Medicine Meeting 2013 (JITMM 2013),11 - 13 December 2013, Centara Grand & Bangkok Convention Centre at Central World Bangkok, Thailand.
4. Hanboonkunupakarn B, Ashley E, Jittamala P, Tarning J, Panapipat S, Pukrittayakamee S, Day N, White NJ. An open-label crossover study to evaluate potential pharmacokinetic interactions of orally administered primaquine and dihydroartemisinin-piperaquine in healthy adult thai subjects. Joint International Tropical Medicine Meeting 2013 (JITMM 2013), 11 - 13 December 2013, Centara Grand & Bangkok Convention Centre at Central World Bangkok, Thailand.

INTERNATIONAL POSTER PRESENTATIONS

1. Wilairatana P, Arnold BJ, Tanpukdee N, Krudsood S. Associated factors of circulatory shock in adult patients with severe *falciparum* malaria .Presented at ASTMH 62nd Annual Meeting, 13 - 17 November,2013, Marriott Wardman Park,Washington DC,USA.
2. Krudsood S, Looareesuwan P, Tangpukdee N, Wilairatana P. Presenting schizontemia and severity outcome in adult patients infected with *Plasmodium falciparum* malaria. Presented at ASTMH 62nd Annual Meeting, 13 – 17 November,2013 Marriott Wardman Park, Washington DC,USA.
3. Tangpukdee N, Wilairatana P, Krudsood S, Presenting atypical lymphocytes and *thrombocytopenia* in malaria infection resemble to dengue infection. Presented at ASTMH 62nd Annual Meeting 13 - 17 November 2013, Marriott Wardman Park Washington DC,USA.
4. Wichianprasat P, Mansanguan C, Tangpukdee N, Krudsood S. A rare case : acute transverse myelitis from gnathosomiasis. Presented at ASTMH 62nd Annual Meeting 13 - 17 November 2013,Marriott Wardman ,Park Washington DC, USA.
5. Li SS, Gilbert PB, Tomaras GD, Kijak G, Ferrari G, Thomas R, Zolla-Pazner S , Evans DT,Li Y, Goottardo R, Dai JY, Janes H, Morris D, Fong Y, Edlefsen PT, Li F, Magaret CA, Frahm N, Alpert MD, Rerks-Ngarm S, Pitisuttithum P, Kaewkungwal J, Nitayaphan S, Robb ML, O'Connell RJ, Michael NL, Kim JH, McElrath, and Geraghty DE. Association of FcγRIIC Polymorphism With Vaccine Efficacy And Correlates of HIV-1 infection risk in RV144. Presented at AIDS Vaccine 2013,7-10 October 2013,Barcelona, Spain.
6. Herrera C, Schuetz A, Olejniczak N, Assawadarachai V, Karasavva N, Nitayaphan S, Kaewkungwal J, Ngauy V, Pitisuttithum P, Rerks-Ngarm S, N.L. <ocjae;, O'connell RJ, Excler J, Shattock RJ and Kim JH. Preliminary evaluation of mucosal immune responses with mucosal tissue explants in humans vaccinated with ALVAC/ AIDSVAX B/E during the ongoing RV305 trial. Presented at AIDS Vaccine 2013, 7-10 October 2013, Barcelona, Spain.

DEPARTMENT OF CLINICAL TROPICAL MEDICINE (Continued)

7. Chung AW, Ghebremichael M, Robinson H, Brown E, Choi I, Rolland M, Dugast A, Suscovich TJ, Liao L, Mahan AE, Streeck H, Rerks-Ngarm S, Nitayaphan S, De Souza MS, Pittisuttithum P, Francis D, N.L. Michael, Kim JH, Bailey-Kellog C, Ackerman ME,and Alter G. Distinct HIV-specific antibody Fc-profiles in RV 144 and VAX003 vaccinees. Presented at AIDS Vaccine 2013,7-10 October 2013, Barcelona, Spain.
8. Karasavvas N, Karnasuta C, De Souza MS, Madnote S, Inthawong D, Savadsuk H, Rittiroongrad S, Chantakulkij S, Nitayaphan S, Pitisuttithum P, Thongcharoen P, Siriyanon V, Andrews CA, O'Connell RJ, Michael NL, Ngauy V, and Kim JK. Antibody Responses to Recombinant gp120,gp70 V1V2 proteins and cyclic V2 peptide in Thai Phase I/II vaccine trials using different vaccine regimens. Presented at AIDS Vaccine 2013,7-10 October 2013, Barcelona, Spain
9. Karasavvas N, Karnasuta C, Ngauy V, Vasan S, Trichavaroj R, De Souza MS, Savadsuk H, Inthawong D, Rittiroongrad S, Madnote S, Madnote S, Nitayaphan S, Pitisuttithum P, Rerks-Ngarm S, O'Connell RJ, Michael NL, and Kim JK. Investigation of antibody responses induced in RV 305 a late boost vaccination of HIV-1 uninfected volunteers that participated in RV 144, a Thai trial. Presented at AIDS Vaccine 2013,7-10 October 2013, Barcelona, Spain
10. Prentice H, Geraghty DE, Tomaras GD, Fong Y, Nelson W, Kijak GH, Zolla-Pazner S, Nitayaphan S, Rerks-Ngarm S, Kaewkungwal J, Pitisuttithum P, Gilbert PB, Haynes BF, Kim JH, Michael N, and Thomas R. HLA class II genes interact with the Immune correlates from the RV144 vaccine efficacy trial and impact HIV-1 acquisition. Presented at AIDS Vaccine 2013,7-10 October 2013, Barcelona,Spain
11. Limwattanayingyong A, Arun-Ngamwong T, Wattanakiwichai J, Yamoon D, Debyasuvarn T, Dhitarat J, Kaewkungal J, Namwat C, Premsri N, Churikanont N, Excler J, O'Connell R, Eamsila C, Kim J, Karasavvas N, Vasan S, Ngauy V, Pitisuttithum P, and Rerks-Ngarm S. Acceptability and quality of new mucosal secretion collection procedures in an HIV vaccine trial in Thailand. Presented at AIDS Vaccine 2013,7-10 October 2013 ,Barcelona,Spain
12. Nicely NI, Wiehe K, Kepler TB, Jaeger FH, Dennison SM, Liao H, Alam SM, Rerks-Ngarm S, Nitayaphan S, Pitisuttithum P, Kaewkungwal J, Michael NL, Kim JH, and Haynes BF. Structural analysis of the unmutated common ancestor antibodies of the HIV envelope V2 antibodies CH58 and CH59 derived from RV144 vaccinees. Presented at AIDS Vaccine 2013,7-10 October 2013, Barcelona,Spain
13. Wiehe K, Easterhoff D, Luo K, Williams W, Vandergrift N, Lloyd E, Stolarchuk C, Parks R, Nicely N, Nicely N, Kaewkungwal J, Nitayaphan S, Pitisuttithum P. Rerks-Ngarm S, Michael N, Kim J, Tomaras G, Bonsignori M, Kepler TB, Moody AM, Liao H, and Haynes BF. Phylogenetic conseration of a dominant antibody light chain HIV Env V2 binding motif in human and rhesus Macaque Amtobpdoes. Presented at AIDS Vaccine 2013,7-10 October 2013, Barcelona,Spain
14. Rolland M, Edlefsen PT, Gottardo R, Montefiori DC, Zolla-Pazner S, Moody A, Liao LH, Liu P, Tomaras GD, Haynes BF, Bailer RT, Koup RA, Mascola JR, Shen X, Korber BT, Tovanabutra S, Rerks-Ngarm S, Nitayaphan S, Pitisuttithum P, Kaewkungwal J, Robb ML, Michael NL, Mullins JI, Gilbert PB, and Kim JH. Genetic and immunological evidence for a role of Env-V3 antibodies in the RV144 trial. Presented at AIDS Vaccine 2013,7-10 October 2013, Barcelona,Spain
15. Schuetz A, Phuangngern Y, De Souza MS, Sukhumvittaya S, Jongrakthaitae S, Rerknimitr R, Saengrawan P, Ananworanich J, Vasan S, Ratto-Kim S, Pitisuttithum P, Michael N, O'Connell RJ, Ngauy V, Rerks- Ngarm S, and Kim JH. Evaluation of peripheral and mucosal cellular immune responses induced by late boost strategies in HIV-negative participants prior enrolled in RV144. Presented at AIDS Vaccine 2013,7-10 October 2013,Barcelona,Spain
16. Seaton K, Yates N, Williams W, Liao L, Decamp A, Fong Y, Montefiori D, Spearman P, Elizaga M, Barnett S, Koutsoukos M, Bourguignon P, Protocol Team G, Protocol Team H, Protocol Team R, Protocol Team V, McElrath J, Corey L, Michael N, Pitisuttithum P, Rerks-Ngarm S, Kim J, Voss G, Gilbert P, Haynes B, and Tomas G. Human HIV-1 vaccine induced antibody durability and Env lgG3 Responses. Presented at AIDS Vaccine 2013. ,7-10 October 2013, Barcelona,Spain

DEPARTMENT OF HELMINTHOLOGY

INTERNATIONAL PRESENTATIONS

1. Chaisiri K, McGarry J, Makepeace B. A review of symbiotic and potentially pathogenic bact of mites (Subclass: Acari): implications for pathogen transmission. Joint International Tropical Medicine Meeting 2013 (JITMM2013) 11 - 13 December 2013 Centara Grand & Bangkok Convention Centre At CentralWorld, Bangkok, Thailand.
2. Adisakwattana P, Nuamtanong S, Kusolsuk T, Chairoj M, Yenchitsomanas PT and Chaisri U. Non-encapsulated *Trichinella* spp., *T. papuae,* diminishes severity of DSS-induced colitis in mic. Joint International Tropical Medicine Meeting 2013 (JITMM2013) 11 - 13 December 2013 Centara Grand & Bangkok Convention Centre At CentralWorld, Bangkok, Thailand.
3. Sa-nguankiat S, Wanichsuwan M, Bhunnachet E, Jungarat N, Panraksa K, Komalamisra C, Maipanich W, Yoonuan T, Pubampen S, Adisakwattana P, Watthanakulpanich D. Health status of immigrant children and environmental survey of child daycare centers in Samut Sakhon Province, Thailand. Joint International Tropical Medicine Meeting 2013 (JITMM2013) 11 - 13 December 2013 Centara Grand & Bangkok Convention Centre At CentralWorld, Bangkok, Thailand.
4. Kusolsuk T, Dekumyoy P, Chaisiri K, Sanguankiat S, Okamoto M, Yanagida T, Sako Y, Komalamisra C, Aueawiboonsri S, Ito A. Massive *Taenia solium* tapeworm infection in a patient in Thailand: a report of a case. Joint International Tropical Medicine Meeting 2013 (JITMM2013) 11 - 13 December 2013 Centara Grand & Bangkok Convention Centre At CentralWorld, Bangkok, Thailand.
5. Maipanich W, Dekumyoy P, Sa-nguankiat S, Pubampen S, Poodeepiyasawat A and Watthanakulpanich D. Houseflies with helminthic objects, good indicator of an unsanitary environment. Joint International Tropical Medicine Meeting 2013 (JITMM2013) 11 - 13 December 2013 Centara Grand & Bangkok Convention Centre At CentralWorld, Bangkok, Thailand.
6. Phuphisut O, Yoonuan T, Sanguankiat S, Maipanich W, Pubampen S, Komalamisra C, Adisakwattana P. Development of multiplex PCR for detection of soil-transmitted helminthes in human fecal samples. Joint International Tropical Medicine Meeting 2013 (JITMM2013) 11 - 13 December 2013 Centara Grand & Bangkok Convention Centre At CentralWorld, Bangkok, Thailand.

DEPARTMENT OF MEDICAL ENTOMOLOGY

INTERNATIONAL PRESENTATIONS

1. Morales Vargas RE, Charaterization of the salivary gland proteins of the *Aedes aegypti, Aedes albopictus* and *Aedes scutellaria*. Poster presentation at the Joint International Tropical Medicine Meeting 2013, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand. 11-13 December 2013.
2. Potiwat R, Apiwathnasorn C, Attrapadung S, Sungvornyothin S, Samung Y, Payakkapol A, Chittsamart B. New record of bat bugs ectoparasite (Hemiptera: Cimicidae) from the cave-dwelling bats. Poster Presentation in the International Symposium on "10th Year Anniversary of Veterinary Public Health Centre for Asia Pacific (VPHCAP)" at The Imperial Mae Ping Hotel, Chiang Mai, Thailand during 3-6 July, 2013.
3. Ruangsittichai J, Changbunjong T, Weluwanarak T, Apiwathnasorn C, Sungvornyothin S, Sriwichai P, Sumruayphol S. DNA barcoding of the parasitic flies, *Stomoxys* flies (Diptera: Muscidae), from natural sources in Thailand. Poster presentation at the Joint International Tropical Medicine Meeting 2013, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand. 11-13 December 2013.
4. Horata N, Netphokaew K, Boonlert T, Phukhunngern T, Choowongkomon K, Prummungkol S, Sriwichai P, Attrapadung S. Larvicidae activity of *Peltophorum pterocarpum* extract against *Aedes aegypti, Culex quinquefasciatus* and *Anopheles dirus* Poster presentation at the Joint International Tropical Medicine Meeting 2013, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand. 11-13 December 2013.

DEPARTMENT OF MEDICAL ENTOMOLOGY (Continued)

5. Srisawat R, Sungvornyothin S, Jacquet M, Komalamisra N, Apiwathnasonr C, Dujardin JP, Boyer S. Preservation of blood fed *Aedes albopictus* from field to laboratory and its incidence on host species identification. Poster presentation at the Joint International Tropical Medicine Meeting 2013, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand. 11-13 December 2013.
6. Komalamisra N, Srisawat R, Morales Vargas RE and Phanphoowong T. Mosquito insecticide resistance: ASEAN status with emphasis in Thailand. Oral presentation at the Joint International Tropical Medicine Meeting 2013, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand. 11-13 December 2013
7. Puiprom O, Morales Vargas RE, Potiwat R, Chaichana P, Ikuta K, Ramasoota P, Okabayashi T. The effect of *Aedes* saliva gland extract on Chikungunya virus infected human keratinocyte cells. Presented at 65th Annual Meeting of the Japan Society of Medical Entomology and Zoology. Ebetsu, Hokkaido Japan. April 5th - 7th, 2013
8. Palakul K. Plant extracts strengths of the Department of Medical Entomology: an alimentary supply and bio-insecticide novel alternative. Oral presentation at the Joint International Tropical Medicine Meeting 2013, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand. 11-13 December 2013
9. Palakul K. Innovation of machine for producing sesame oil by combining of hydraulic pressure and cultural methods of Mae Hong Son province. Oral presentation at the Chamjuri Vichakarn Meeting 2013, Puman Hotel, Bangkok, Thailand. 2-4 April 2013
10. Palakul K. Alternative mosquitoes repellent. Oral presentation at the Chamjuri Vichakarn Meeting 2013, Puman Hotel, Bangkok, Thailand. 2-4 April 2013
11. Morales Vargas RE, Ruangsittichai J, Komalaminsra N, Phumala Morales N, Tsunoda T, Pierre Dujardin J. Genetic and phenetic relatedness between *Aedes albopictus* populations from Japan and Southeast Asia. Presented at 65th Annual Meeting of the Japan Society of Medical Entomology and Zoology. Ebetsu, Hokkaido Japan. April 5th - 7th, 2013.
12. Morales Vargas RE, Okabayashi T, Apiwathnasorn C, Phumala Morales N. Emergence control of mosquito vectors and surveillance of mosquito and water borne viruses in natural disaster areas. Presented at International Meeting on Emerging Diseases and Surveillance. Vienna, Austria. February 15th - 18th, 2013.

NATIONAL PRESENTATIONS

1. Komalamisra N, Morales Vargas RE, Srisawat R, Prummongkol S, Phanphoowong T. Chemical control of mosquitoes: emergence control of mosquito vector in flood disaster areas. Oral Presentation at NSTDA Annual Conference 2013: NAC2013, 31 March - 3 April 2013, Thailand Science Park Convention Center, Pathum Thani.

DEPARTMENT OF MICROBIOLOGY & IMMUNOLOGY

INTERNATIONAL ORAL PRESENTATIONS

1. Sansanee C. Chaiyaroj, Ngaosuwannakul N, Thongpan M, Srinoulprasert Y, Chansrichavala P. Enhancement of innate immune response to *Penicillium marneffei* conidia by cooperative interaction of pattern recogntion receptors. 15th International congress of Immunology, 22-27 August 2013, Milan, Italy.
2. Mori H, Mahittikorn A, Kosoltanapiwat N, Moonsom S, Popruk S, Rojekittikhun W, Yindee M, Sukthana Y. Zoonotic enterocytozoon in Thailand: surveillance in humans, domestic animals, and wildlife. WAAVP 2013: 24th International Conference of the World Association for the Advancement of Veterinary Parasitology, 25-29 August 2013, Perth, Australia.
3. Chantratita N, Eoin West T, Tandhavanant S, Myers ND, Seal S, Arayawichanont A, Kliangsa-ad A, Ernst RK, Emond MJ, Wurfel MM, Day NPJ, Sharon J. Peacock. Innate immune response to *Burkholderia pseudomallei* in human blood identifies an important role for lipopolysaccharide. The 7th World Melioidosis Congress 2013. 18-20 September 2013 Royal Orchid Sheraton Hotel, Bangkok, Thailand.

DEPARTMENT OF MICROBIOLOGY & IMMUNOLOGY (Continued)

4. Dunachie S, Jenjaroen K, Ariyaprasert P, Chantratita N, Hongsuwan M, Wuthiekanun L, Limmathurotsakul D, Teparrakkul P, Day NP. T-cell responses in patients with acute melioidosis in Ubon Ratchathani, Thailand. The 7th World Melioidosis Congress 2013. Royal Orchid Sheraton Hotel, Bangkok, Thailand. September 18-20, 2013.
5. Chantratita N, Tandhavanant S, Myers ND, Chierakul W, Robertson JD, Mahavanakul W, Singhasivanon P, Peacock SJ, and West TE. Screen of whole blood responses to flagellin identifies known TLR5 variation associated with outcome in melioidosis. The 7th World Melioidosis Congress 2013. Royal Orchid Sheraton Hotel, Bangkok, Thailand. September 18-20, 2013.
6. Chantratita N, Wikraiphat C, Heiss C, Saiprom N, Azadi P, Burtnick MN, Peacock SJ, and Brett PJ. Identification of novel modifications in *Burkholderia pseudomalleili* popolysaccharide. The 7th World Melioidosis Congress 2013. Royal Orchid Sheraton Hotel, Bangkok, Thailand. September 18-20, 2013.
7. David P, AuCoin1, Raymond L. Houghton, Michael Dillon1, Syamal Raychaudhuri, Direk Limmathurotsakul, Bart J. Currie, Derek S. Serovich, Alex R. Hoffmaster, Brea Duval, Dana E. Reed, Narisara Chantratita, Sharon J. Peacock, Richard Bowen, Paul J. Brett, Mary N. Burtnick, and Thomas R. Kozel. Optimization of a lateral flow immunoassay (LFI) for the rapid diagnosis of melioidosis. The 7th World Melioidosis Congress 2013. Royal Orchid Sheraton Hotel.
8. Sriburin T, Pengsaa P, Limkittikul K, Kosoltanapiwat N, Thippornchai N, Maneekarn P, Leaungwutiwong P. Predicting of dengue severity by immunodiagnostic assay, molecular detection and clinical data. The Third International Conference on Dengue and Dengue Haemorrhagic Fever 2013 (Dengue 2013). The conference will be held on 21-23 October 2013 at The Imperial Queen's Park Hotel, Bangkok, Thailand. The theme of this conference is "Global Dengue: Challenges and Promises"
9. Chantratita N, Tandhavanant S, Myers N. D, Srisamang P, Emond M.J, Peacock S. J, West T. E. Human cytokine responses to *Staphylococcus aureus* are correlated with LPS-induced responses and are associated with a TLR4 polymorphism. 12th FIMSA Advanced Training Course 2013. The Imperial Meping Hotel, Chiangmai, Thailand. October 22-25, 2013.
10. Chantratita N. Bacteria and host interaction in melioidosis. Tackling Infectious Diseases and Zoonosis Yangon University of Public Health. November 20-22, 2013.
11. Sriburin T, Pengsaa K, Limkittikul K, Kosoltanapiwat N, Thippornchai N, Maneekarn P, Leaungwutiwong P. Predicting of dengue severity by immunodiagnostic assay, molecular detection and clinical data. Joint International Tropical Medicine Meeting, Centara Grand at Central World, Bangkok, Thailand, December 11-13, 2013.
12. Vanaporn M, Pumirat P, Tyson MS, Harding S, Korbsrisate S, Titball RW. Trehalase regulates growth and virulence in *Burkholderia pseudomallei*. Joint International Tropical Medicine Meeting, Centara Grand at Central World, Bangkok, Thailand, December 11-13, 2013.

INTERNATIONAL POSTER PRESENTATIONS

1. Tangteerawatana P, Krudsood S, Troye-Blomberg M, Khusmith S. Imbalance of pro- and anti-imflammatory cytokines are associated with severe malaria in single, but not repeated *P.falciparum* infection. Malaria Vaccine for the World Conference, CHUV, Lausanne, Switzerland, April 22-24, 2013.
2. Mahittikorn A, Mori H, Kosoltanapiwat N, Moonsom S, Popruk S, Yindee M, Sukthana Y. Zoonotic Blastocystis in wildlife in western Thailand. WAAVP 2013: 24th International Conference of the World Association for the Advancement of Veterinary Parasitology, 25-29 August 2013, Perth, Australia.
3. Tandhavanant S, Wongsuwan G, Wuthiekanun V, Teerawatanasuk N, Day NPJ, Limmathurotsakul D, Peacock SJ, and Chantratita N. Monoclonal antibody-based immunofluorescence microscopy for the rapid identification of *Burkholderia pseudomallei* in clinical specimens. The 7th World Melioidosis Congress 2013. 18-20 September 2013 Royal Orchid Sheraton Hotel, Bangkok, Thailand.

DEPARTMENT OF MICROBIOLOGY & IMMUNOLOGY (Continued)

4. Hantrakun V, Rongkard P, Amornchai P, Tandhavanant S, Langla S, Wuthiekanun V, Day NPJ, Chantratita N, Peacock SJ, and Limmathurotsakul D. Presence of environmental *B. pseudomallei* and *B. thailandensis* in East Thailand. The 7th World Melioidosis Congress 2013. 18-20 September 2013 Royal Orchid Sheraton Hotel, Bangkok, Thailand.
5. Limmathurotsakul D, Wongsuvan G, Aanensen D, Ngamwilai S, Saiprom N, Rongkard P, Thaipadungpanit J, Kanoksil M, Chantratita N, Day NPJ, Peacock SJ. Melioidosis caused by *Burkholderia pseudomallei* in drinking water in northeast Thailand. The 7th World Melioidosis Congress 2013. 18-20 September 2013 Royal Orchid Sheraton Hotel, Bangkok, Thailand. The 7th World Melioidosis Congress 2013. 18-20 September 2013 Royal Orchid Sheraton Hotel, Bangkok, Thailand.
6. Duval BD, Elrod MG, Gee JE, AuCoin DP, Chantratita N, Hoffmaster AR. Evaluation of Two Monoclonal Antibody Based Assays for the Detection of *Burkholderia pseudomallei* and *Burkholderia mallei*. The 7th World Melioidosis Congress 2013. 18-20 September 2013 Royal Orchid Sheraton Hotel, Bangkok, Thailand.
7. Burtnick M, Wikraiphat C, Chantratita N, Brett P. Serodiagnosis of human melioidosis using rapid latex agglutination assays. The 7th World Melioidosis Congress 2013. 18-20 September 2013 Royal Orchid Sheraton Hotel, Bangkok, Thailand.
8. Kulsantiwong P , Chantratita N, Dunachie S, Utaisincharoen P. Comparison of cytokine gene expression profile between *Burkholderia pseudomallei* wild type and LPS mutant in infected primary human monocytes. The 7th World Melioidosis Congress 2013. 18-20 September 2013 Royal Orchid Sheraton Hotel, Bangkok, Thailand.
9. Wikraiphat C, Tandhavanant S, Saiprom N, Peacock SJ, Chantratita N. *Burkholderia pseudomallei* modifies O-polysaccharide to modulate immune recognition. The 7th World Melioidosis Congress 2013. Royal Orchid Sheraton Hotel, Bangkok, Thailand. September 18-20, 2013.
10. Ngamdee W, Tandhavanant S, Wikraiphat C, Peacock S. J, and Chantratita N. *Burkholderia pseudomallei* inhibits swarming motility of *B. thailandensis*. The 7th World Melioidosis Congress 2013. Royal Orchid Sheraton Hotel, Bangkok, Thailand. September 18-20, 2013.
11. Pumirat P, Boonyuen U, Vanaporn M, Pinweha P, Tandhavanant S, Korbsrisate S and Chantratita N. Role of *Burkholderia pseudomallei* oxidoreductase under salt stress. The 7th World Melioidosis Congress 2013. Royal Orchid Sheraton Hotel, Bangkok, Thailand. September 18-20, 2013.
12. Vanaporn M, Pumirat P, Tyson MS, Harding S, Korbsrisate S, Titball RW. Trehalase Regulates Growth and Virulence in *Burkholderia pseudomallei*. World Melioidosis Congress 2013, Bangkok, Thailand 18-20 September 2013.
13. Tandhavanant S, Wongsuvan G, Wuthiekanun V, Teerawattanasook N, Day NPJ, Limmathurotsakul D, Peacock SJ, and Chantratita N. Rapid detection of *Burkholderia pseudomallei* in blood cultures using a monoclonal antibody-based immunofluorescent assay.
14. Pitabut N, Sakurada S, Tanaka T, Dhepakson P, Yanai H, Yamada N, Okada M, Khusmith S, Keicho N. Potential function of granulysin, perforin, IFNγ and lymphocyte subsets in patients with TB and HIV/TB coinfection. 18th Congress of the APSR, The Conference Center, Pacifico Yokohama 1-1-1, Minato Mirai, Nishi-ku, Yokohama, Japan, November 11-14, 2013
15. Adams P, Prakobtham S, Limphattaracharoen C, Khusmith S, Pengsaa K, Kaewkungwal J. Use of "IRB Quality Metrics" for Performance Assurance of the Ethics Committee at the Faculty of Tropical Medicine (FTM-EC), Mahidol University, Thailand. The 7th World Melioidosis Congress 2013. Royal Orchid Sheraton Hotel, Bangkok, Thailand. September 18-20, 2013.

DEPARTMENT OF MICROBIOLOGY & IMMUNOLOGY (Continued)

16. Pitabut N, Sakurada S, Tanaka T, Dhepakson P, Yanai H, Yamada N, Okada M, Keicho N, Khusmith S. Association of granulysin, perforin, IFN-γ and lymphocyte subsets influences the clinical outcome in Thai patients with TB and HIV/TB coinfection. Joint International Tropical Medicine Meeting, Centara Grand at Central World, Bangkok, Thailand, December 11-13, 2013.
17. Mahakunkijcharoen Y, Aramwittaya T, Muangkaew W, Paksanont S and Hirunpetcharat C. Controversial findings of monoclonal antibodies specific for *Aeromonas* spp. against hemolysins. Joint International Tropical Medicine Meeting, Centara Grand at Central World, Bangkok, Thailand, December 11-13, 2013.
18. Suttisunhakul V, Wikraiphat C, Burtnick M, Wuthiekanun V, Brett P. and Chantratita N. Rapid latex agglutination assays for serodiagnosis of human melioidosis. Joint International Tropical Medicine Meeting, Centara Grand at Central World, Bangkok, Thailand, December 11-13, 2013.
19. Kong-ngoen T, Sookrung N, Chongsa-nguan M, Tungtongchitr A, Buranasinsup S, Jangsangthong A, Kurazono H, and Chaicumpa W, Indrawattana N. Prevalence of enterotoxigenic and shiga toxin *Escherichia coli* isolated from diarrhea swine in Ratchaburee and Kanchanaburee, Thailand. Joint International Tropical Medicine Meeting, Centara Grand at Central World, Bangkok, Thailand, December 11-13, 2013.
20. Kosoltanapiwat N, Leaungwutiwong P, Thippornchai N, Mori H, Mahittikorn A, Yindee M, Okabayashi T. Detection of hepatitis E virus in deer and monkey in Thailand. The Joint International Tropical Medicine Meeting (JITMM 2013), 11-13 December 2013, Bangkok, Thailand.
21. Pumirat P and Luplertlop N. The *In-vitro* antibacterial effect of colored rice crude extracts against common bacteria associated with skin and soft-tissue infections. Joint International Tropical Medicine Meeting, Centara Grand at Central World, Bangkok, Thailand, December 11-13, 2013.

NATIONAL ORAL PRESENTATIONS

1. Khusmith S, Wilairatana P, Krudsood S, Petmitr P, Pongponratn E, Viriyavejakul P, Chotivanich K, Imwong M, Patarapotikul J, Maneerat Y, Chokejindachai W, Muangnoicharoen S, Sakuntabhai A, Sirawaraporn W, Udomsangpetch R. Holistic approaches to malaria prevention and management: from Bio - Molecular to community research. The Second NRU Summit Sirikit National Convention Center, May 7-8, 2013 , Bangkok, Thailand and The Annual meeting of CENID, The Sukosol Hotel, Bangkok, Thailand, November 6, 2013.
2. Chantratita N. Live or die: genetic polymorphisms in sepsis. Siriraj Immunology Meeting on Translational Immunology Application in Medicine. Faculty of Medicine (Siriraj Hospital), Mahidol University, Bangkok, Thailand. 4-6 September 2013.
3. Praditpol C, Mahakunkijcharoen Y, Saiwichai T, Hirunpetcharat C. Optimization of regulatory T cell assay by flow cytometry for evaluation of $CD4^+$ regulatory T cell response in mice immunized by blood-stage malaria infection and cure with malaria-specific antibody and CpG ODN. The 29th National Graduate Research Conference, Mae Fah Luang University, October 24-25, 2013.
4. Khusmith S, Wilairatana P, Krudsood S, Petmitr P, Pongponratn E, Viriyavejakul P, Chotivanich K, Imwong M, Patarapotikul J, Maneerat Y, Chokejindachai W, Muangnoicharoen S, Sakuntabhai A, Sirawaraporn W, Udomsangpetch R. Outputs and outcomes of holistic approaches to malaria prevention and Management: from Bio-Molecular to community research. Center for Emerging and Neglected Infectious Diseases (CENID) Meeting 2013, the Sukosol Hotel, Bangkok, November 6, 2013.
5. Khusmith S. Th1 and Th2 cytokine and cytokine receptor gene polymorphisms in relation to functional changes in patients with severe and mild malaria. Center for Emerging and Neglected Infectious Diseases (CENID) Annual Meeting, The Sukosol Hotel, Bangkok, March 11-12, 2013.

DEPARTMENT OF MICROBIOLOGY & IMMUNOLOGY (Continued)

6. Khusmith S. Functional Th1 and Th2 cytokine gene polymorphisms conditioning malaria severity. Center for Emerging and Neglected Infectious Diseases (CENID) Meeting, the Sukosol Hotel, Bangkok, November 6, 2013.

NATIONAL POSTER PRESENTATIONS

1. Horata N and Khusmith S. ICAM-1 binding types of *Plasmodium falciparum* isolates causing severe and uncomplicated malaria. 13th Annual TRF Conference, The Regent Cha-um Beach Resort, October 16-18, 2013
2. Indrawattana N, Sookrung N, Kong-ngoen T, Seesuay W, Chongsa-ngon M, Tungtongchitr A, Chaicumpa W. Preparation of fully human monoclonal antibody to enterotoxin A (SEA) of *Staphylococcus aureus* by using phage display technology for further development to therapuetic antibody. Thailand Research Fund Meeting, Cha am, Thailand 16-18 October, 2013.
3. Vanaporn M, Pumirat P, Tyson MS, Harding S, Korbsrisate S, Titball RW. Trehalase regulates growth and virulence in *Burkholderia pseudomallei*. Thailand Research Fund Meeting, Cha am, Thailand. 16-18 October, 2013.
4. Pimsuka S, Mahakunkijcharoen Y, Saiwichai T, Hirunpetcharat C. Optimization of conditions for identification of apoptotic splenic cells in mice infected with blood-stage *Plasmodium yoelii* and cured with MSP119-specific antibody and CpGoligodeoxynucleotide. The 29th National Graduate Research Conference, Mae Fah Luang University, October 24-25, 2013.

DEPARTMENT OF PROTOZOOLOGY

INTERNATIONAL PRESENTATIONS

1. Mahittikorn A. Are animals considered as zoonotic risks of intestinal protozoa? Part 1. Wildlife and livestock. JITMM 2013, December 11-13, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand.
2. Popruk S. Subtype distribution of *Blastocystis* in humans. JITMM 2013, December 11-13, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand.
3. Moonsom S, Chung J, Chavez IF, Morales RE, Singhasivanon P. Multidisciplinary collaboration of Thailand One Health University Network, responding to emerging and reemerging diseases: Lesson learned and achievement. JITMM 2013, December 11-13, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand.
4. Abdullah IN, Kibuuka R, Pelican K, Sungpradit S, Moonsom S, Saulan SF, Artama TW, Othman BH, Bejo SKB, Ismail NHB, Xuan LTT, Mlimbila J, Ntahobakulira I,Tushemerirwe F, Samuel WP, Denis TN, Tefera M Y, Marande SK, Langley D,Wingert D, Peck M, Nzietchueng S, Rwego I, Farnham M. Building One Health systems and capacity through problem/case based teaching and learning. OHCEA'S 1st One Health Conference 2013, September, 23-27, Addis Ababa, Ethiopia.

INTERNATIONAL POSTER PRESENTATIONS

1. Mahittikorn A, Hirotake Mori, Nathamon Kosoltanapiwat, Saengduen Moonsom, Supaluk Popruk, Marnoch Yindee, Yaowalark Sukthana. Zoonotic *Blastocystis* in wildlife in western Thailand. WAAVP 2013: 24th International conference of the world association for the advancement of veterinary parasitology.
2. Kosoltanapiwat N, Leaungwutiwong P, Thippornchai N, Mori H, Mahittikorn A, Yindee M, Tamaki Okabayashi. Detection of hepatitis E virus in deer and monkey in Thailand. JITMM 2013, December 11-13, Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand.

DEPARTMENT OF PROTOZOOLOGY (Continued)

3. Chavez IF, Moonsom S, Morales RE, Hamilton K, Chung J, Pekol A, Singhasivanon . Integrating One Health into existing curricula: a field-based approach. PMAC 2014, January 27-31. Royal Cliff Grand Hotel, Pattaya, Thailand.
4. Moonsom S, Khomkhum N, Leetachewa S, Roytrakul S, Kobayashi S, Nozaki T, Chavalitshewinkoon Petmitr P. Comparative proteomic analysis of amoebiasis causing *Entamoeba histolytica* and *Entamoeba moshkovskii*. The 8th International Symposium of The Protein Society of Thailand 2013, August 5-7, Convention Hall, Chulabhorn Research Institute, Bangkok, Thailand.
5. Sutthikornchai C, Mori H, Mahittikorn A, Lekkla A, Sukthana Y*. Detection of *Cryptosporidium* and *Giardia* in water samples from the border areas of Thailand. WAAVP 2013: 24th International conference of the world association for the advancement of veterinary parasitology.

NATIONAL PRESENTATION

1. Moonsom S, Khomkhum N, Leetachewa S, Roytrakul S, Kobayashi S, Nozaki T, Chavalitshewinkoon Petmitr P. Proteomic analysis of Entamoeba histolytica: a causative agent of amoebiasis and Entamoeba moshkovskii. การประชุม "นักวิจัยรุ่นใหม่พบเมธีวิจัยอาวุโส สกว" ครั้งที่ 13, 16-18 October 2013, The regent resort cha-am, huahin, Phetchaburi.

DEPARTMENT OF SOCIAL AND ENVIRONMENTAL MEDICINE

INTERNATIONAL POSTER PRESENTATION

1. Limpanont Y, Chusongsang P, Chusongsang Y, Limsomboon J, Chareonjai P, Worakhunpiset S, Wongwit W. Effects of temperature on the life cycle of *Schistosoma mansoni* and its snail intermediate host, Biomphalaria glabrata, in laboratory setting. Poster presentation: Joint International Tropical Medicine Meeting; 11-13 December 2013. Centara Grand & Bangkok Convention Centre at Central World, Bangkok, Thailand.

DEPARTMENT OF TROPICAL HYGIENE

INTERNATIONAL ORAL PRESENTATION

1. Kulrat C, Yimsamran S, Sa-Angchai P and Rukmanee N. Oral Presentation by "Ms. Chotipa Kulrat". Application of remote sensing technology for the classification of malaria risk areas in a Thai-Myanmar border Province. Geoinformatics, LST, MODIS, NDVI. Joint International Tropical Medicine Meeting 2013 (JITMM 2013) "Towards Global Health: an Asian Paradigm of Tropical Medicine" Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand.

INTERNATIONAL POSTER PRESENTATION

1. Thanyavanich N, Lawpoolsri S, Yimsamram S, Puangsa-art S, Maneeboonyang W, Chavez IF, Wuthisen P, Charusabha C, Rukmanee P, Prommongkol S, Rukmanee N and Chaimungkun W. Poster Presentation by "Mr. Nipon Thanyavanich". Prevalence and impact of intestinal parasitic infections in pregnant women in 3 health centers along the Thai-Myanmar border, Suan Phung district, Ratchaburi province: Field base study. Joint International Tropical Medicine Meeting 2013 (JITMM 2013) "Towards Global Health: an Asian Paradigm of Tropical Medicine" Centara Grand & Bangkok Convention Centre at CentralWorld, Bangkok, Thailand.

DEPARTMENT OF TROPICAL NUTRITION AND FOOD SCIENCE

INTERNATIONAL PRESENTATIONS

1. Suthangkornkul R, Sirichaiyakul P, Thepouyporn A, Sungvornyothin S, Arthan D. Identification of plant natural products with inhibition of recombinant mosquito alpha-glucosidase. The 8th International symposium of the protein society of Thailand 5-7 August 2013, at Chulabhorn Research Institute convention center.
2. Thepouyporn A, Sirichaiyakul P, Suthangkornkul R, Tamaki O, Matsuura Y, Takeda N, Arthan D, Expression and characterization of the antimicrobial peptide gambicin from *Culex quinquefasciatus.* Joint International Medicine Meeting (JITMM 2013) 11-13 December 2013 at Centara Grand Hotel.
3. Jintaridth P, Tungtrongchitr R, Preutthipan S, Mutirangura A. Hypomethylation of *Alu* Elements in post-menopausal women with osteoporosis. Joint International Medicine Meeting (JITMM 2013) 11-13 December 2013 at Centara Grand Hotel.
1. Jintaridth P, Tungtrongchitr R, Preutthipan S, Mutirangura A. Hypomethylation of ***Alu*** Elements in post-menopausal women with osteoporosis. The 4th International Conference on Nutrition and Physical Activity (NAPA) 2013 in Aging, Obesity and Cancer.

NATIONAL PRESENTATIONS

1. Aroonnual A, Pipatthana M, Maryoon P, Janvilisri T, Chankhamhaengdecha S, panbangred W. Isolation and identification of antimicrobial compound from bifidobacterium with inhibitory activity against *Clostridium difficile*. TRF Meeting 2013.
2. Palakul K[1], Songmuaeng K, Sutthisai N[3], Wisetsing P[4], Pojjaroenanant C[5]. Innovation of machine for producing sesame oil by combining of hydraulic pressure and cultural methods of Mae Hong Sorn province. 5th Chamchuri Conference 2-4 April 2013, Pullman Bangkok, King Power Hotel, Bangkok, Thailand.
3. Palakul K[1], Wisetsing P, Songmuaeng K, Komalamisra N[1], Yimsumran S[4], Pojjaroenanant P[5], Apiwathnasorn C[1]. Alternative mosquitoes repellent. 5th Chamchuri Conference 2-4 April 2013, Pullman Bangkok, King Power Hotel, Bangkok, Thailand.

DEPARTMENT OF TROPICAL PATHOLOGY

INTERNATIONAL POSTER PRESENTATIONS

1. Maneerat Y, Benjathammaraksa S, Eshita Y, Kumsiri R, Wetchabut K, Nuamtanong S, Kalambaheti T, Waikagul J. Down regulation of NKG2D and Fc gamma receptor I in peripheral blood mononuclear cells induced by excretory secretory antigens from the third stage *Gnathostoma spinigerum* larvae (L3), 15th International Congress of Immunology, Milan, Italy, 22-27 August 2013.
2. Wilainam P, Nintasen R, Wilairatana P, Viriyavejakul P, Activation of mast cells in the skin of *P. falciparum* patients. Joint International Tropical Medicine Meeting, Centara Grand & Bangkok Convention Centre at Central World, 11-13 December 2013.
3. Ritthisunthorn N, Maneewatch S, Adisakwattana P, Chaisri U, Kalambaheti T, Saengjaruk P. Evaluation of IgM/IgG antibodies specific LipL32 domain(s) for development of early-phase serodiagnosis of human leptospirosis. Joint International Tropical Medicine Meeting, Centara Grand & Bangkok Convention Centre at Central World, 11-13 December 2013.

Research in Progress

FACULTY OF TROPICAL MEDICINE RESEARCH PROJECTS
Fiscal Year 2013 (1 October 2012 - 30 September 2013)

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF CLINICAL TROPICAL MEDICINE			
1	A phase III trial of Aventis Pasteur live recombinant ALVAC-HIV (vCP1521) priming with VaxGen gp120 B/E (AIDSVAX B/E) boosting in HIV-uninfected Thai adults (Clinic)	The Henry M. Jackson Foundation for The Advancement of Military Medicine, Inc. and The Government of Thailand Ministry of Public Health	Prof. Punnee Pitisuttithum
2	A worldwide, phase I, dose-escalating study of the safety, tolerability, and immunogenicity of a three-dose regimen of MRKAd5HIV-1 gag vaccine in healthy adults	Merck & Co., Inc	Prof. Punnee Pitisuttithum
3	Measurement of anogenital wart burden, and cost of illnesses in Bangkok	Merck Research Foundation	Prof. Punnee Pitisuttithum
4	The research project for technology transfer of chronic lymphede treatment targeting at medical, public health, and community personnel in Thailand Southern Border Regions	Government Budget	Dr. Wichai Ekataksin
5	Effect of primaquine and its metabolite on the infectivity of *P. falciparum* gametocyte	Wellcome Trust of Great Britain	Assoc. Prof. Kesinee Chotivanich
6	Bioequivalence study of 4 mg Perindopril tablets preparations in healthy Thai male volunteers	International Bio Service Co., Ltd	Assist. Prof. Weerapong Phumratanaprapin
7	*In vivo* bioequivalence study of 160 mg Fenofibrate film-coated tablet preparation in healthy Thai male volunteers	International Bio Service Co., Ltd	Asst. Prof. Weerapong Phumratanaprapin
8	Rabies exposure risk among foreign backpackers from non-ASEAN countries traveling in Southeast Asia	N/A	Dr. Watcharapong Piyaphanee
9	VNTR-based PCR (VNTR Typing for *Plasmodium falciparum* and *Plasmodium vivax*	BIOTECH	Assoc. Prof. Mallika Imwong
10	Molecular characterization of drug resistance in the human malarias	Intermediate level fellowship, Welcome Trust of Great Britain	Assoc. Prof. Mallika Imwong
11	Safety and efficacy study of Impomea pes-caprae ointment produced by Faculty of Tropical Medicine	Faculty of Tropical Medicine, Mahidol University	Dr. Watcharapong Piyaphanee
12	A randomized, international, double-blinded (With In-House Blinding), controlled With GARDASILTM, dose-ranging, tolerability, immunogenicity, and efficacy study of a multivalent human papillomavirus (HPV) L1 virus-like particle (VLP) vaccine administered to 16 to 26 year old women	MSD (Thailand)	Prof. Punnee Pitisuttithum

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF CLINICAL TROPICAL MEDICINE (Continued)			
13	Detection of artemisinin resistance *P. falciparum: in vitro*	Mahidol-Oxford Tropical Medicine Research Unit	Assoc. Prof. Kesinee Chotivanich
14	A phase III clinical trial to study the immunogenicity, tolerability, and manufacturing consistency of V503 (A multivalent human papillomavirus [HPV] L1 virus-like particle [VLP] vaccine) in preadolscents and adolescents (9 to 15 year olds) with a comparison to young woman (6 to 26 year olds)	Merck & Co., Inc	Prof. Punnee Pitisuttithum
15	Safety, immunogenicity and efficacy studies of WRSS1, a live attenuated *Shigella sonnei* vaccine candidate, in healthy Thai adults	Merck & Co., Inc	Prof. Punnee Pitisuttithum
16	Novel invention of induced pluripotent stem cells for prediction of drug toxicity in human	Government Budget	Assist. Prof. Apichart Nontprasert
17	The efficacy of moisturizing lotion with Lichochalcone in treatment of dryskin and Pruitus in end-stage renal disease patients	Department of Clinical Tropical Medicine, Faculty of Tropical Medicine	Dr. Vorada Choovichian
18	Incidence and spectrum of health problems among travels to Lao PDR	Department of Clinical Tropical Medicine and Travel Medicine Unit	Dr. Watcharapong Piyaphanee
19	The efficacy of antimalarial treatment for *Plasmodium vivax* at Thai -Cambodia border, Thailand.	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Prakaykaew Charunwatthana
20	Efficacy of moisturizing lotion containing Licochalcone for xerosis in chronic hemodialysis [HD] patients: a double blinded randomized-intra-individual comparator controlled study: a pilot study	Department of Clinical Tropical Medicine and DKSH	Dr. Vorada Choovichian
21	Etiology and outcome of acute fever cases attending Hospital for Tropical Diseases	Faculty of Tropical Medicine, Mahidol University	Dr. Viravarn Luvira
22	Plasma antioxidant power and vitamin C level in patients with dengue infection	Faculty of Tropical Medicine, Mahidol University	Dr. Borimas Hanboonkunupakarn
23	The study of chronic kidney disease in elderly	Mahidol University (Government Budget)	Asst. Prof. Weerapong Phumratanaprapin
24	The efficacy antimalarial *Plasmodium vivax* patient	Mahidol University (Government Budget)	Dr. Prakaykaew Charunwatthana
25	Influenza vaccine in elderly	Mahidol University (Government Budget)	Prof. Punnee Pitisuttithum
26	Hemodynamic parameters in adult patients with dengue	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Vipa Thanachartwet

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF CLINICAL TROPICAL MEDICINE (Continued)			
27	Measurement of hemoglobin in adult patients with dengue viral infection using non-invasive method	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Supat Chamnanchanunt
28	Causative agents of fever among patients presenting at urban Thai hospital	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Udomsak Silachamroon
DEPARTMENT OF HELMINTHOLOGY			
1	Study on *Paragonimus* population: morphology, molecular biology, enzymology and epidemiology aspects	Ministry of Foreign Affairs	Assoc. Prof. Jitra Waikagul
2	Genetic variation and population structure studies of fish-borne trematodes for increasing control impact of opisthorchiasis and chlolangiocarcinoma	The Thailand Research Fund	Assoc. Prof. Jitra Waikagul
3	*Angiostrongylus cantonensis* in freshwater snails collected from 18 different localities of Thailand: prevalence and parasitic burden, biochemical components, antigenicity and population genetics	Government Budget	Assoc. Prof. Chalit Komalamisra
4	Study on the recombinant proteins expressed from Mucin-1 gene of *Toxocara canis* in prokaryotic and eukaryotic cells for diagnosis of human toxocariasis	Faculty of Tropical Medicine, Mahidol University	Dr. Dorn Watthanakulpanich
5	Analysis of an electro-eluted antigen (< 30 kDa) of *Strongyloides stercoralis* infective larvae using IgG1-4 –ELISA for diagnosis of strongyloidiasis	Faculty of Tropical Medicine, Mahidol University	Mr. Wallop Pakdee
6	Health status of immigrant children and environmental survey of the children day care centre in Samutsakorn province	Faculty of Tropical Medicine, Mahidol University	Mr. Surapol Sa-nguankiat
7	Identification and characterization of *Trichinella spiralis*-derived immunomodulatory molecules for novel therapies of inflammatory diseases	Faculty of Tropical Medicine, Mahidol University	Dr. Poom Adisakwattana
8	Experimental co-infection study of high virulence pathogenic *Leptospira* in helminth infected hamster	Faculty of Tropical Medicine, Mahidol University	Mr. Kittipong Chaisiri
9	Development of effective immunodiagnosis for detection gnathostomiasis by using recombinant cathepsin L.	Faculty of Tropical Medicine, Mahidol University	Mrs. Supaporn Nuamtanong
10	Proteomics studies of cytoplasmic membrane proteins expressed on TNF-α induced cholangiocarcinoma cell line	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Poom Adisakwattana

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF HELMINTHOLOGY (Continued)			
11	Development of technique ofr discriminating species and estimating numbers of metacercariae of fish-borne trematodes in an area of mixed infection between Opisthorchiid liver flukes and Heterophyid intestinal flukes by using multiplex real-time PCR	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Urusa Thaenkham
12	Production of recombinant Cathepsin L from *Paragonimus pseudoheterotremus* for diagnostic development of paragonimiasis	The Thailand Research Fund and Mahidol University	Dr. Tippayarat Yoonuan
13	Separation of *Toxocara* excretory-secretory antigens as a diagnostic antigens for human toxocariasis	National Science and Technology Development Agency	Dr. Dorn Watthanakulpanich
14	Development of multiplex PCR for detection of soil-transmitted helminthes in human stool samples	Faculty of Tropical Medicine, Mahidol University	Ms. Orawan Phuphisut
15	Proteomics and immununomics analysis of excretory-secretory products from infective *Gnathostoma spinigerum* for development of immunodiagnosis	Faculty of Tropical Medicine, Mahidol University	Mrs. Supaporn Nuamtanong
16	Pilot study: community-based comprehensive, multi-disciplinary surveillance of enteric/food and waterborne pathogens in Kanchanaburi and Nakhon Pathom Provinces, Thailand. (Pathogenic intestinal parasites, bacteria, enteric virus and insects)	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Chalit Komalamisra
17	Transcriptomics and proteomics analysis of potential secretory proteins of *Schistosoma Mekongi* for development of immunodiagnosis and vaccine	Faculty of Tropical Medicine, Mahidol University	Dr. Poom Adisakwattana
DEPARTMENT OF MEDICAL ENTOMOLOGY			
1	Feeding behavior, ecological studies, and molecular identification of *Anopheles dirus* complex in man-habitat	Faculty of Tropical Medicine, Mahidol University	Dr. Sungsit Sungwornyothin
2	Classification of medical arthropod vectors in Thailand by DNA barcode	Government Budget	Dr. Jiraporn Ruangsittichai
3	Study of genetic variation for identification of mosquitoes in Thailand by molecular techniques	The Thailand Research Fund	Dr. Jiraporn Ruangsittichai
4	Tropic behavior and ecological characteristics of *Anopheles dirus* complex in man-made habitat	The Thailand Research Fund	Dr. Sungsit Sungwornyothin
5	DNA barcode: the technical challenge for *Anopheles* mosquito blood meal identification to reverse host from laboratory model versus field.	Faculty of Tropical Medicine, Mahidol University	Dr. Patchara Srivichai
6	Climate changes effects on mosquito-borne viruses maintenance : dynamic population of the vectors of dengue and Chikungunya viruses	Faculty of Tropical Medicine, Mahidol University	Dr. Ronald Enrique Morales Vargas

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF MEDICAL ENTOMOLOGY (Continued)			
7	Effect of temperature on development and insecticide susceptibility of dengue vectors.	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Narumon Komalamisra
8	Comparison and evaluation of Loop-mediated isothermal amplification (LAMP) and RT-PCR as diagnostic tool for dengue virus detection in *Aedes* among epidemic area	Faculty of Tropical Medicine, Mahidol University	Dr. Rawewan Srisawat
9	Application of morphometrics and molecular biology to identify *Ae. scutellaris* in Thailand	Faculty of Tropical Medicine, Mahidol University	Dr. Suchada Samruaypol
10	Quantitative transovarial tranmission to dengue-2 virus in both sexes of dark- and pale-form *Ae. aegypti*	Faculty of Tropical Medicine, Mahidol University	Mr. Teerawit Panpoowong
11	Proteomic profile associated with pyrethroid resistance in *Ades aegypti*	The Thailand Research Fund and Mahidol University	Dr. Raweewan Srisawat
12	The effects of different temperatures on the interaction between *Aedes* Mosquitoes and dengue virus especially viral susceptibility, dissemination, transmission and disease pathogenesis.	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Supatra Thongrungkiat
13	*Plasmodium knowlesi* the fifth species of human malaria : investigaton for mosquito vector in Thailand	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Patchara Srivichai
14	Exploring transmission-blocking vaccine target in *Anopheles dirus* for inhibition of malaria transmission	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Patchara Srivichai
15	Production and characterization of rhamnolipid, biosurfactant, trom *Pseudomonas aeruginosa* B189 for mosquitoes control	Faculty of Tropical Medicine, Mahidol University	Dr. Siriluck Attrapadung
16	Molecular identification of Endosymbiotic bacteria from Bat Bugs (Leptocimex inordinatus)	Faculty of Tropical Medicine, Mahidol University	Dr. Rutcharin Potiwat
17	The study of mosquito vectors emphasis on Lorrainea, Sukusea and Stegomyia inhabiting mangrove forest of Thailand by morphometrics and molecular biology	Mahidol University	Dr. Suchada Sumruaypol
18	Detection of viral disease and molecular distinguish of the natural Bat Bug species from the cave	Mahidol University	Dr. Rutcharin Potiwat
19	Stability enhancement of mosquito repellency from Zngthoxy limonella oil by using encapsulation technique	Mahidol University	Dr. Siriluck Attrapadung

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF MEDICAL ENTOMOLOGY (Continued)			
20	Identification of transmission-blocking compounds from the Malaria Box	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Suchada Sumruaypol
21	Herbal mosquito repellents masts	Faculty of Tropical Medicine, Mahidol University	Mrs. Keawmala Palakul
22	A surveillance of Bat Bugs species and discovery of genetic relationships among human Bed Bug	Faculty of Tropical Medicine, Mahidol University	Dr. Rutcharin Potiwat
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY			
1	Genetic polymorphisms in HIV infected patients receiving antiretrovaral therapy	The Thailand Research Fund	Prof. Srisin Khusmith
2	Genotypic diversity and the ability to invade host cell among environmental *Legionella isolates* in Thailand	Government Budget	Assist. Prof. Tareerat Kalambaheti
3	Genetic diversity of *Brucella* strains isolated from cow and goat farm	Government Budget	Assist. Prof. Tareerat Kalambaheti
4	Associations between genetic polymorphisms, innate immune responses and outcomes from sepsis in Thai patients with melioisosis and *S. aureus* infection	Welcome Trust of Great Britain	Assist. Prof. Narisara Chantratita
5	Gemomic approaches to metabolite exploitation from Xenorhabdus, Photorhabdus	Johann Wolfgang Goetite Universtitaet Frankfurt Am Main	Assist. Prof. Narisara Chantratita
6	Holistic approach to malaria prevention and management: from bio-molecular to community research	The Commission on Higher Education (National Research University)	Prof. Srisin Khusmith
7	Roles of the secreted Twin-arginine translocation (TAT) protein and oxidoreductase of *Burkholderia pseudomallei* under salt stress.	Faculty of Tropical Medicine, Mahidol University	Dr. Pornpan Pumirat
8	Inhibiton of *Aeromonas hemolysin* by monoclonal antibodies	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Yuwadee Mahakunkijjaroen
9	The role of treahalase in stress response and virulence of *Burkholderia pseudomallei*	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Muthita Vanaporn
10	Preparation of fully human monoclonal antibodiy to enterotoxin A (SEA) of *Staphylococcus aureus* by using phage display technology for further developmetn to therapuetic antibody	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Assist. Prof. Nitaya Indrawattana

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY (Continued)			
11	Role of cycle inhibiting factor (Cif) in host protein expression and prevalence of Cif in *Burkholderia pseudomallei*	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Pornpan Pumirat
12	Surveillance of emerging and re-emerging aoonotic diseases in wildlife and domestic animals in the areas of forest, residences, and agricultures interface in Thailand	Faculty of Tropical Medicine, Mahidol University	Dr. Nathamon Kosoltanapiwat
13	*In vitro* activity of *Psidium guajava* crude extracts against clinically isolated pathogenic fungi	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Natthanej Luplertlop
14	Immunoproteomics for identification of MHC class I-restricted epitopes of enterovirus 71	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Nathamon Kosoltanapiwat
15	Ultrasonic observation and 'Omics technological application for invasive virulence factors identification, cytokines and secreted extracellular reactive oxygen species expression that provokes the pathogenesis of *Trichophyton rubrum* in primary dendritic cells and continuous monocyte derived cells model	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Natthanej Luplertlop
16	The antibiotic resistance profile and its mechanisms in *Escherichia coli* and *Klebsiella pneumoniae* from hospital isolations in 2007-2012	Faculty of Tropical Medicine, Mahidol University	Dr. Muthita Vanaporn
17	Detection of hepatitis E virus in raw pork, pig liver and pork products	Faculty of Tropical Medicine, Mahidol University	Mr. Narin Thippornchai
18	Development of monoclonal antibody-based dot-blot ELISA for the detection of *Listeria monocytogenes* in food	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Nitaya Indrawattana
19	Determination of antibody titer among children vaccinated with heptavalent pneumococcal conjugate vaccine by Opsonophagocytic Killing Assay	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Tareerat Kalambaheti
20	The potential implications of Nisin in common dermatological problems on the *in vitro* characterizations	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Natthanej Luplertlop
DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS			
1	The qualification and quantification of proteins of mefloquine-sensitive and mefloquine-resistant *Plasmodium falciparum* using mass spectrometry.	Faculty of Tropical Medicine, Mahidol University	Dr. Onrapak Riumthong

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS (Continued)			
2	Optimization of protein sample preparation techniques for proteomic study of *Plasmodium vivax* in liver stage	Faculty of Tropical Medicine, Mahidol University	Dr. Supachai Topanurak
3	The study of biotransformation of oseltamivir analogue by Carboxylesterase 1 (CES1).	Faculty of Tropical Medicine, Mahidol University	Dr. Usa Dokprom
4	Proteomics profile of cholangiocarcinoma cell line treated with isoflavones and its derivatives	Mahidol University	Dr. Charin Thawornkuno
5	Molecular study of antimalarial drug target genes in *Plasmodium malariae* and *Plasmodium ovale* from infected patients in Thailand	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Naowarat Tanomsing
6	Molecular detection of *Burkholderia pseudomallei* in crude soil sample for environmental survey	Li Ka Shing Foundation - University of Oxford Global Health Foundation	Assist. Prof. Piengchan Sonthayanon
7	The qualification and quantification of proteins of mefloquine resistant *Plasmodium falciparum*	Mahidol-Oxford Tropical Medicine Research Unit	Dr. Onrapak Riumthong
8	Molecular characterization of drug resistance in *P. vivax*.	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Mallika Imwong
9	Development of antigens-base immunodiagnosis test for acute febrile illness caused by *Leptospira* spp.	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Santi Maneewatchararangsri
10	Identification of mass fingerprinting of *Leptospira* spp. using matrix assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS)	The Thailand Research Fund, and Mahidol University	Assist. Prof. Piengchan Sonthayanon
11	Prevalence of pathogenic *Leptospira* spp. from rodents in Thailand	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Piengchan Sonthayanon
12	Effect of additional mutation (Mahidol) in G6PD Viangchan	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Usa Dokprom
13	Production of rapid immunoscreening test for detection of IgM and IgG antibody specific to LipL32 protein in acute leptospirosis	Faculty of Tropical Medicine, Mahidol University	Ms. Nonglucksanawan Ritthisunthorn
14	Molecular epidemiology of drug resistance in human malarias in Thailand	Mahidol University (Government Budget)	Assoc. Prof. Mallika Imwong
15	Optimization of protein sample preparation techniques for proteomic study of *Plasmodium vivax* in liver stage	Faculty of Tropical Medicine, Mahidol University	Dr. Supachai Topanurak

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS (Continued)			
16	Development of magnetic nanoparticles as the prototype for the enrichment of *Leptospira* spp.	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol Universityy	Dr. Charin Thawornkuno
17	Molecular characterization of antigenic surface protein genes of *Plasmodium malariae*	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol Universityy	Dr. Naowarat Tanomsing
18	Discovery of essential host factors for the development of *P. falciparum* and *P. vivax* in liver stage	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol Universityy	Dr. Supachai Topanurak
19	Expression profiling of reticulocyte binding proteins of *Plasmodium vivax*	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol Universityy	Dr. Wang Nguitragool
20	Elucidating the function of plasmodium perforin-like proteins in infection of *Anopheles* mosquitoes	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol Universityy	Dr. Wang Nguitragool
21	Transfection of liver-stage *Plasmodium vivax* for studies of parasite biology, drug screening, and vaccine development	The Thailand Research Fund	Dr. Wang Nguitragool
22	Identification of novel biomarker genes for cholangiocarcinoma detection	Faculty of Tropical Medicine, Mahidol University	Dr. Panee Chaksangchaichot
23	Molecular detection and typing of *Orientia tsutsugamushi* in chigger mites from wild-caught rodents in Thailand	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Piengchan Sonthayanon
24	The identification and characterization of the target proteins of a candidate antimalarial drug	Faculty of Tropical Medicine, Mahidol University	Dr. Onrapak Riumthong
DEPARTMENT OF PROTOZOOLOGY			
1	*Toxoplasma gondii* genotyping in domestic and wild felids in Thailand	Commission on Higher Education	Assoc. Prof. Yaowalark Sukthana
2	Molecular characterization of DNA polymerase δ of *Plasmodium falciparum* and Its role in DNA peplication and DNA repair	Biotech	Assoc. Prof. Porntip Petmitr
3	Molecular characterization of *Plasmodium falciparum* polynucleotide kinase	The Thailand Research Fund	Assoc. Prof. Porntip Petmitr
4	PCR assays for detection of *Toxoplasma gondii* in Thai commercial meat products	Mahidol University	Ms. Rachatawan Chiabchalard
5	Identifying the sources of environmental contamination by *Cryptosporidium*	The Thailand Research Fund	Assoc. Prof. Yaowalark Sukthana

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF PROTOZOOLOGY (Continued)			
6	Development of intestinal protozoan diagnosis by Multiplex Real Time PCR	The National Research Concil of Thailand	Dr. Rachatwan Chiabchalard
7	Development of a loop-mediated isothermal amplification (LAMP) for rapid identification of *Naegleria fowleri*	Faculty of Tropical Medicine, Mahidol University	Dr. Ongart Mahitikorn
8	Development of nested PCR and real-time PCR assays for diagnosis of *Plasmodium knowlesi*	Faculty of Tropical Medicine, Mahidol University	Mr. Pongrut Ratprasert
9	Conmparative proteomic study of *Entamoeba histolytica* and *Entamoeba moshkovskii*; causative agent of human amoebiasis	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Saengduen Moonsom
10	Development technique of differentiation of free-living *Amoebae*	The Thailand Research Fund	Assoc. Prof. Yaowalark Sukthana
11	The Role of marine bivalves as a sentinel organism for monitoring food-and water-borne Protozoa-related diseases in coastal waters	The Thailand Research Fund	Assoc. Prof. Yaowalark Sukthana
12	The detection and quantification of *Toxoplasma gondii* captive wildlife in Thailand	Department of Protozoology	Dr. Ongart Mahitikorn
13	Development of differential diagnosis of *Entamoeba histolytica*, *E. moskovskii*, and *E. dispar* by specific monoclonal antibodies	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Saengduen Moonsom
14	The study of nutritional status, intestinal parasitic infection and antioxidant enzymes in children living in orphan house	Faculty of Tropical Medicine, Mahidol University	Dr. Supaluk Popruk
DEPARTMENT OF SOCIAL AND ENVIRONMENTAL MEDICINE			
1	Development of microorganism killing activity for electronic air filter	The Thailand Research Fund	Assoc. Prof. Pongrama Ramasoota
2	Development of monoclonal antibody specific to 3 ABC protein of foot and mouth disease virus using phage display technology	The Thailand Research Fund	Assoc. Prof. Pongrama Ramasoota
3	Impact of temperature on *Schistosoma mansoni* infection in snail intermediate host *Biomphalaria glabrata*.	Faculty of Tropical Medicine, Mahidol University	Dr. Yanin Limpanon
4	Effect of climate change on gastro-intestinal infectious diseases	The Commission on Higher Education (National Research University)	Assist. Prof. Suwalee Worakunpiset
5	Variable of infection rate of intermediated host of liver fluke, *Opisthorchis viverrini* at endemic areas in Chacheongsao Province, Thailand.	Department of Social and Environmental Medicine, Faculty of Tropical Meidicine, Mahidol University	Mrs. Yupa Chusongsang

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF SOCIAL AND ENVIRONMENTAL MEDICINE (Continued)			
6	Therapeutic and diagnostic human monoclonal antibodies against Chikungunya virus.	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Pannamtip Pitaksajakul
7	Public health assessment of the Nam Theun 2 dydroelectric dam, Laos	Bureau de Project de l' Institut Pasteur au Laos	Mrs. Pusadee Sri-aroon
8	Malacological investigation of Nam Theun 2 Hydroelectric Project in Khammouane Province, Central Lao PDR (PhaseII)	Bureau de Project de l' Institut Pasteur au Laos	Mrs. Pusadee Sri-aroon
9	Recombinant human IgG monoclonal antibody production with cross-neutralizing activity to all serotypes of dengue virus	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Pannamthip Pitaksajjakul
10	Genetic variation of High susceptible and low susceptible snail intermediate host *Neotricula aperta*, from Mekong River, Nong Khai to blood fluke *Schistosoma mekongi*	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Yanin Limpanon
11	Epitope mapping of neutralizing human monoclonal antibody against dengue viruses	The Thailand Research Fund and Mahidol University	Assoc. Prof. Pongrama Ramasoota
12	Dengue vaccine development based on epitope from human monoclonal antibodies that nutrallized all 4 serotype of dengue virus	National Research Consil of Thailand (NRCT)	Assoc. Prof. Pongrama Ramasoota
13	Social and environmental factors affecting the preventive behaviors of dengue hemorrhagic fever	Faculty of Tropical Medicine, Mahidol University	Mr. Wiwat Wanarangsikul
14	Health risk assessment of heavy metals contamination in the environment near industrial estate area, Ayutthaya	Faculty of Tropical Medicine, Mahidol University	Ms. Rachaneekorn Mingkhwan
15	Distribution and seasonal variation of *Neotricula aperta*, snail intermediate host of blood Fluke *Schistosoma mekongi*, along Mekong River, Thailand	Faculty of Tropical Medicine, Mahidol University	Dr. Yanin Limpanon
16	Reduction of ADE activity for neutralizing human monoclonal antibody against dengue virus by Fc modification	Faculty of Tropical Medicine, Mahidol University	Dr. Pannamthip Pitaksajjakul
17	Assessment of the carcinogenic potential of chemicals release from plastic food containers and packaging through cell transformation assay	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Suwalee Worakunpiset
18	Critical proteins of non-alcoholic fatty liver disease after bisphenol a exposure	Faculty of Tropical Medicine, Mahidol University	Dr. Prapin Tharnpoophasiam
19	Development of rapid immunochromatography strip test for dengue virus	The Thailand Research Fund	Dr. Pannamthip Pitaksajjakul
20	Development of competitive ELISA test for differentiate between foot and mouth disease infected animal from vaccinated animal	The Thailand Research Fund	Assoc. Prof. Pongrama Ramasoota

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF TROPICAL HYGIENE			
1	A phase II,randomized, open label, multicentre study to assess the antimalarial efficacy and safety of arterolane (RBx11160) maleate and piperaquine phosphate coadministration and coartem in patients with acute uncomplicated *Plasmodium falciparum* malaria	Ranbaxy Laboratories Ltd., India	Prof. Srivicha Krudsood
2	Evaluation of fosmidomycin, when administered concurrently to adult subjects with acute uncomplicated *Plasmodium malaria*	Jomaa Pharma GmbH, Hamburg, Germany	Prof. Srivicha Krudsood
3	Th1 and Th2 cytokine expression in common mosquito borne infected samples in Thailand	The Thailand Research Fund	Assist. Prof. Natthanej Luplerdlop
4	Proteomics characterization of *Aedes aegypti*	Bourse Scholarship, IRD, France	Assist. Prof. Natthanej Luplerdlop
5	Molecular techniques for identification of protective epitope and pathogenic peptides of LipL32 protein of *Leptospira* spp.	The Thailand Research Fund	Dr. Santi Maneewatchararangsri
6	Dynamics of microscopic and submicroscopic *P. falciparum* gametocytemia after early treatment of artesunate-mefloquine	The Thailand Research Fund	Dr. Saranath Lawpoolsri
7	Prevalence and impact of intestinal parasitic infections in pregnant women in 3 health centers along the Thai-Myanmar border, Suan Phung district, Ratchaburi province : Field base study	Faculty of Tropical Medicine, Mahidol University	Mr. Nipon Thanyavanich
8	Role of phosphoinositide 3-kinase and matrix metalloproteinases induce chronic arthritis in Chikungunya pathogenesis	Faculty of Tropical Medicine, Mahidol University	Ms. Suntaree Sangmukdanun
9	Production of human VL complementary single-variable domain that interfere and/or neutralize IL-17 biological functions	Faculty of Tropical Medicine, Mahidol University	Dr. Santi Maneewatchararangsri
10	Mathermatical modeling of optimal combinations of dengue diagnosis strategies	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Wirichada Panngam
11	Integrated studies of epidemiological, clinical, and biomolecular aspects of dengue virus	The Commission on Higher Education (National Research University)	Assoc. Prof. Pratap Singhasivanon
12	Comparative study on the recurrence of helminthiases after selective treatment and mass treatment with single dose of 400 mg albendazole among hill-tribe Karens in border-line between Thailand and Myanmar, Amphoe Suanphung, Ratchaburi Province.	Faculty of Tropical Medicine, Mahidol University	Mr. Wanchai Maneebunyang
13	Effect of land use change on malaria transmission in Suanphung district Ratchaburi.	Faculty of Tropical Medicine, Mahidol University	Mr. Patiwat Sa-angchai

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF TROPICAL HYGIENE (Continued)			
14	Surveillance and spatial-temporal distribution of Chikungunya and its impact among residents living in an area along Thai-Myanmar border of Ratchaburi province.	Faculty of Tropical Medicine, Mahidol University	Mr. Pitak Wutisen
15	Study of lipopolysaccharide and biofilm formation in relapsing meliodosis	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Assist. Prof. Direk Limmathurotsakul
16	Long-term continuous culture of *Plasmodium vivax* stages	University of South Florida, USA	Assoc. Prof. Pratap Singhasivanon/ Dr. Jetsumon Prachumsri
17	Diagnosis of ARF in severe malaria by neutrophil gelatinase-associated lipocalin (NGAL) and liver fatty acid binding proteins (L-FABP)	The National Research Concil of Thailand	Prof. Srivicha Krudsood
18	Investigating urine protein markers in acute renal failure complicating severe malaria	The National Research Concil of Thailand	Assist. Prof. Natthanej Lublertlop
19	Mathematical modeling to design a preparedness plan for the emergence of leptospirosis due to flooding and other environmental changes in Thailand.	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Wirichada Panngam
20	Cell phone-based vaccination program for stateless children	Bill & Melinda Gates Foundation	Assist. Prof. Jaranit Kaewkungwal
21	Forecasting model of malaria incidence with climate variables: a case study in Ratchaburi, Thailand.	Mahidol University	Dr. Ngamphol Soonthornworasiri
22	Impact of diabetes mellitus on treatment response for tuberculosis among pulmonary tuberculosis patients in Upper North Thailand	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Dr. Saranath Lawpoolsri
23	The comparative epidemiology of *P. falciparum* and *P. vivax* transmission in Papua New Guinea, Thailand and Brazil	Barcelona Center for International Health Research, Spain	Assoc. Prof. Pratap Singhasivanon/ Dr. Jetsumon Prachumsri
24	DENFREE-Dengue Research Framework for Resisting Epidemics in Europe	Institute Pasteur, France	Assoc. Prof. Pratap Singhasivanon
DEPARTMENT OF TROPICAL NUTRITION AND FOOD SCIENCES			
1	Determination of genes expression profile associated to the prognosis of breast cancer and cholangiocarcinoma using Affymetrix Gene Chip and development of diagnostic kits for prognostic detection of these cancers in Thai patients by real-time PCR technique	Government Budget	Prof. Songsak Petmitr
2	Development of health behaviors and nutritional status of the Tsunami victims in Phang-nga Province	Brescia University, Italy	Assoc. Prof. Karunee Kwanbunjan

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF TROPICAL NUTRITION AND FOOD SCIENCES (Continued)			
3	Studies on toxicity of heme and oxidative stress after exposure of antimalarial drugs on mouse macrophage cell line (RAW264.7)	Faculty of Tropical Medicine, Mahidol University	Ms. Kriyaporn Songmuaeng
4	Identification of plant natural products with inhibition of recombinant mosquito alpha-glucosidase	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Damrongkiat Art-harn
5	DNA methylation singnatures at interspersed repetitive sequences within the rat brain cell during aging	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Pornrutsami Jintaridth
6	Screening and identification of antimicrobial compound from bifidobacterium with inhibitory activity against *Clostridium difficle*	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Amornrat Aroonnual
7	Effect of torvoside in cholesterol synthesis in HepG2 cells	The Vejdusit Foundation	Ms. Anong Kitjaroentham
8	Diversities of related-genes and protiens in obese children with family history obese children with family history of obesity	Government Budget	Prof. Rungsunn Tungtringchitr
9	A novel solanum torvum GH3 beta-glucosidase: molecular characterization, physiological functions, structural elements responsible for its natural substrate specificity, its applications	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Damrongkiat Art-harn
10	Effects of the weight loss program on anthropometric parameters, metabolic syndrome parameters and quantity of energy and nutrients intake among obese women	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Karunee Kwanbunjan
11	Study of gambicin: anti-microbial peptides from *Culex quinquefasciatus*	Faculty of Tropical Medicine, Mahidol University	Ms. Apanchanid Thepouyporn
12	The study of methylation level in osteoporosis in menopause by pyrosequencing	Faculty of Tropical Medicine, Mahidol University	Dr. Pornrutsami Jintaridth
13	Case control study of diet, lifestyle, insulin resistance, inflammatory markers, and risk of developing type-2 diabetes mellitus in rural Thais	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Karunee Kwanbunjan
14	Effect of lactic acid bacteria on immunomodulation of human colon cell against C*lostridium difficile* infection	Faculty of Tropical Medicine, Mahidol University	Dr. Amornrat Aroonnual
15	Survey of dietary pattern and nutritional status particularly multivitamin deficiencies in relation to cardiovascular disease and diabetes in Thai elderly	Faculty of Tropical Medicine, Mahidol University	Dr. Sarunya Kaewprasert
DEPARTMENT OF TROPICAL PATHOLOGY			
1	Vascular model for atherosclerosis by *ex vivo* support system (EVVSS)	Government Budget	Assoc. Prof. Yaowapa Maneerat

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF TROPICAL PATHOLOGY (Continued)			
2	Gene expression profiles in volve in pathogenesis of atherosclerosis and acute coronary heart disease: a study in Thai patients	Government Budget	Assoc. Prof. Yaowapa Maneerat
3	Excretory secretion from infective stage *Gnathostoma spinigerum* larva decrease function of human cytotoxic immune cells	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Yaowapa Maneerat
4	Exploring transcriptional factor-nuclear factor kappa B (NF-KB) as a prognostic factor in developing acute renal failure in *Plasmodium falciparum* patients	The Vejdusit Foundation	Assoc. Prof. Parnpen Viriyavejakul
5	Study of apoptosis in the liver of severe malaria patients.	Faculty of Tropical Medicine, Mahidol University	Mr. Vasant Kajornsaksumeth
6	Investigating causes of acute renal failure in severe malaria by histopathology and immunohistochemistry	The National Research Concil of Thailand	Assoc. Prof. Parnpen Viriyavejakul
7	Induction of apoptosis in human peripheral blood mononuclear cells *in vitro* by excretory secretory products from the third stage *Gnathostoma spinigerum* larvae	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Yaowapa Maneerat
DEPARTMENT OF TROPICAL PEDIATRICS			
1	Efficacy and safety of dengue vaccine in healthy children aged 4 to 11 years in Thailand (CYD23)	Sanofi Pasteur Co., Ltd.	Prof. Arunee Sabchareon
2	A controlled study of the safety and immunogenicity of ChimericVaxTM Japanese encepphalitus vaccine in Thai toddlers and children	Sanofi Pasteur Co., Ltd.	Prof. Arunee Sabchareon
3	Evaluation of long-term immunity against Japanese encephalitis in children vaccinated with Japanese encephalitis vaccine	Department of Tropical Pediatrics	Assoc. Prof. Pornthep Chanthavanich
4	Accuracy assessment of using WHO criteria in diagnosis of dengue infection	Department of Tropical Pediatrics	Assoc. Prof. Pornthep Chanthavanich
5	FavirabTM post prescription event monitoring	Sanofi Pasteur Co., Ltd.	Assoc. Prof. Pornthep Chanthavanich
6	The comparison of immunogenicity and adverse reactions after immunization with Japanese Encephalitis vaccine produced by BIKEN and Government Pharmaceutical Organization (GPO) in healthy Thai children (JE0150)	Government Pharmaceutical Organization	Assoc. Prof. Pornthep Chanthavanich
7	Protective antibodies against erythrocyte invasion ligands in *Plasmodium falciparum* in Thailand	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Watcharee Chokejindachai
8	Immunogenicity and safety of activated vero cell devired Japanese Encephalitis vaccine in Thai children	Liaoning Cheng Da Biotechnology Co., Ltd. China	Assoc. Prof. Pornthep Chanthavanich

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF TROPICAL PEDIATRICS (Continued)			
9	Immunogenicity and safety of inactivated Vero Cell derived Japanese Encephalitis vaccine in Thai children (Phase II)	Bionet Asia co., Ltd., Thailand & Liaoning Cheng Da Biotechnology Co., Ltd. (CDBIO), China	Assoc. Prof. Pornthep Chanthavanich
10	A phase III, observer blind, randomized, non-influenza vaccine comparator-controlled, multi-country and multi-centre study of the efficacy of GSK biologicals quadrivalent, inactived, split virion, seasonal influenza vaccine candidate, GSK2282512A (FLU QQIV), administered intramuscularly in healthy children 3 to 8 years of age	GlaxosmithKline (Thailand) Ltd.	Assoc. Prof. Pornthep Chanthavanich
11	EPI coverage survey in Thai and foreign children, since birth to grade 6, in Bangkok	Mahidol University	Dr. Weerawan Hattasingh
12	Ant hypersensitivity in Thailand: species identification and development of appropriate allergens for skin testing	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Raweerat Sitcharungsri
13	A phase II, Randomized, observer-blind, multi-center, study to evaluate safety, tolerability and immunogenicity of an adjuvanted cell culture-derived H5N1 subunit influenza virus vaccine at two differenct formulations in healthy paediatric subjects	Novartis Thailand	Assoc. Prof. Pornthep Chanthavanich
14	A phase II, randomized, observer-blind, multi-center, study to evaluate safety, tolerability and immunogenicity of an adjuvanted cell culture-derived H5N1 subunit influenza virus vaccine at two differenct formulations in healthy adult subjects	Novartis Thailand	Assoc. Prof. Pornthep Chanthavanich
15	Burden of dengue infection in children and adults of Bang Phae distric, Ratchaburi province, Thailand	IVI, South Korea	Assoc. Prof. Pornthep Chanthavanich
16	A phase III, Stratified, randomized, double-blind, multi-center study to evaluate safety, tolerability and non-inferior immunogenicity of adjuvanted quandrivalent subunit influenza virus vaccine to adjuvanted trivalent subunit influenza virus vaccines in children ages 6 month to <9 years	Novartis Thailand	Assoc. Prof. Pornthep Chanthavanich
17	A phase II, open, randomized, control, multicenter study to assess the immunogenicity and reactogenicity of GSK Biologicals' meningococcal serogroups A, C, W-135, Y tetanus toxoid conjugate vaccine (MenACWY-TT) administered alone as compared to MenACWY-TT co-administered with GSK Biologicals' HPV vaccine Cervarix or co-administered with Cervarix and GSK Biologicals' tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine adsorbed (Tdap) (Boostrix) in female adolescents and young adults at 9-25 years of age	GlaxosmithKline (Thailand) Ltd.	Assoc. Prof. Pornthep Chanthavanich

No.	Research Title	Grant	Principal investigator
DEPARTMENT OF TROPICAL PEDIATRICS (Continued)			
18	Long-term follow-up of hospitalized dengue and safety in thai children who were included in an efficacy study of a tetravalent dengue vaccine	Sanofi Pasteur Co., Ltd.	Assist. Prof. Kriengsak
VACCINE TRIAL CENTRE			
1	A randomized, international, double-blinded (with in-house blinding), controlled with GARDASILTM, dose-ranging, tolerability, immunogenicity, and efficacy study of a multivalent human papillomavirus (HPV) L1 virus-like particle (VLP) vaccine administered to 16 to 26 year old women	Merck & Co., Inc	Prof. Punnee Pitisuttithum
2	A phase III trial of Aventis Pasteur live recombinant ALVAC-HIV (VCP1521) priming with Vaxgen gp 120 B/E (AIDSVAX B/E) boosting in HIV-uninfected Thai adults	Walter Reed Army Institute of Research	Dr. Supachai Rueknggam (Prof. Punnee Pitisuttithum)
3	Phase II/III safety and immunogenicity of pandemic live attenuated influenza vaccine (PLAIV) candidate strain A/17/CA/2009//38 (HIN1) in healthy Thais	Thai Health Promotion Foundation	Prof. Punnee Pitisuttithum
4	Phase III clinical trial to study the immunogenicity, tolerability, and manufacturing consistency of V503 (A multivalent human papillomavirus [HPV] L1 Virus-Like particle [VLP] in preadolescents and adolescents (9 to 15 years old) with a comparison to young women (16 to 26 years old)	Merck & Co., Inc	Prof. Punnee Pitisuttithum
MAHIDOL VIVAX RESEARCH UNIT (MVRU)			
1	Proteomic study of human malaria parasite *Plasmodium vivax* liver stages for development of vaccine and drugs	The Geneva Foundation, USA	Dr. Jetsumon Prachumsri
2	Development of an invasion inhibition assay for vaccine screening against *Plasmodium vivax*	Faculty of Tropical Medicine, Mahidol University	Dr. Wanlapa Roobsoong
3	Identification of *Plasmodium* species in oocysts of infected *Anopheles* mosquitoes	Faculty of Tropical Medicine, Mahidol University	Mr. Chalermpon Kumpitak
CENTER OF EXCELLENCE FOR ANTIBODY RESEARCH (CEAR)			
1	Development of scFv-antibodies against rabies virus using phage display technology	Faculty of Tropical Medicine, Mahidol University	Mr. Surachet Benjathummarak
2	Epitope mapping of neutralizing human monoclonal antibody against dengue virus using escape mutant strategy	Faculty of Tropical Medicine, Mahidol University	Ms. Sujitra Keadsanti

Bangkok School of Tropical Medicine

NEW ENROLLMENT 2013

NAME - SURNAME	COUNTRY
D.T.M. & H. 2013	
1. Dr. Laura Amanda Francis	Canada
2. Dr. Md Motahar Hossain	Bangladesh
3. Dr. Oei, Stefani Yuanita Widodo	Indonesia
4. Dr. Anastasia Putri	Indonesia
5. Dr. Kaku Tamura	Japan
6. Dr. Taiichiro Kobayashi	Japan
7. Dr. Ken Ito	Japan
8. Dr. Aye Thidar Kyaw	Myanmar
9. Dr. Nang Noam Mo	Myanmar
10. Dr. Min Thet Phyo San	Myanmar
11. Dr. Thuzar Myint Than	Myanmar
12. Dr. Mya Yee Nyo	Myanmar
13. Dr. Nilar Htun	Myanmar
14. Dr. Kaung Zaw	Myanmar
15. Dr. Nestor Salcedo Arce Jr.	Philippines
16. Dr. Hariharan Subramony	Singapore
17. Dr. Hisham Ahmed Imad	Maldives
18. Dr. Ga young Lee	South Korea
19. Dr. Mohammed Yasein Elamin Mohammed Ali	Sudan
20. Ms. Mayo Takahashi (Attend)	Japan

NAME - SURNAME	COUNTRY
M.C.T.M. 2013	
1. Dr. Anastasia Putri	Indonesia
2. Dr. Taiichiro Kobayashi	Japan
3. Dr. Aye Thidar Kyaw	Myanmar
4. Dr. Nang Noam Mo	Myanmar
5. Dr. Min Thet Phyo San	Myanmar
6. Dr. Thuzar Myint Than	Myanmar
7. Dr. Nestor Salcedo Arce Jr.	Philippines
8. Dr. Hisham Ahmed Imad	Maldives
9. Dr. Mohammed Yasein Elamin Mohammed Ali	Sudan
M.C.T.M. (Tropical Pediatrics) 2013	
1. Dr. Kaung Zaw	Myanmar
2. Dr. Mya Yee Nyo	Myanmar

NAME - SURNAME	COUNTRY
M.Sc. (Trop.Med.) 2013	
1. Miss Jutarmas Olanwiiitwong	Thailand
2. Miss Chanchira Phosat	Thailand
3. Miss Salisa Chaimon	Thailand
4. Miss Auranicha Khanprapa	Thailand
5. Mr. Peeradone Srichan	Thailand
6. Mr. Kritsana Lekpratoo	Thailand
7. Miss Kamonwan Chanchoy	Thailand
8. Miss Suparut Sanyanusin	Thailand
9. Miss Lalitra Udomrak	Thailand
10. Miss Jureeporn Duanguppama	Thailand
11. Miss Khadijah Chalermthai	Thailand
12. Miss Praphaiphat Siribat	Thailand
13. Lt. Karanyaporn Oggungwan	Thailand
14. Miss Churairat Srimanee	Thailand
15. Ms. Maria Mgella Zinga	Tanzania
Ph.D. (Trop.Med.) 2013	
1. Mr. Panupong Sahaisook	Thailand
2. Miss Kitiya Rujimongkon	Thailand
3. Miss Piyaporn Karuwanarint	Thailand
4. Miss Rattiya Cheewapat	Thailand
5. Mr. Chamnan Pinna	Thailand
6. Miss Potjaman Pumeesat	Thailand
7. Miss Thanyathon Khetsuphan	Thailand
8. Ms. Duangdao Waywa	Thailand
9. Mr. Thanwa Wongsuk	Thailand
10. Ms.Pornpimol Panprathip	Thailand
11. Mr. Nontawit Pirat	Thailand
12. Mr. Ramadhan Tosepu	Indonesia
13. Miss Atchareeya Anuegoonpipat	Thailand
Ph.D. (Clin.Trop.Med.) 2013	
1. Dr. Kyi Phyu Aye	Myanmar
2. Dr. (Mr) Muhamad Yazli Bin Yuhana	Malaysia
3. Dr. Kumpol Amnauypattanapon	Thailand
4. Dr. Chatchai Pruksapong	Thailand
5. Dr. Rattanaphone Phetsouvanh	LAO PDR

GRADUATES - ACADEMIC YEAR 2013 (AS OF 6 JULY 2014)

NAME - SURNAME	COUNTRY
Ph.D. (Trop.Med.)	
1. Dr. Hirotake Mori	Japan
2. Miss Chuenrutai Yeekian	Thailand
3. Miss Chonlatip Pipattanaboon	Thailand
4. Miss Duangjai Duangrithi	Thailand
5. Mr. Siriwat Akapirat	Thailand
6. Miss Pikun Thepsuriyanont	Thailand
7. Miss Amornrat Anuwatnonthakate	Thailand
8. Miss Supinya Thanapongpichat	Thailand
9. Miss Saithip Bhengsri	Thailand
10. Pol.Capt. Natsuda Jamornthanyawat	Thailand
11. Col. Pasra Arnutti	Thailand
12. Mrs. Areerat Sa-Ngasang	Thailand
M.Sc. (Trop.Med.)	
1. Miss. Nataya Muenngern	Thailand
2. Miss Khwanchit Boonha	Thailand
3. Mr. Kasemsak Jandee	Thailand
4. Miss Ai-Rada Pintong	Thailand
5. Dr. Tenzin Wangdi	Bhutan
6. Mr. Saranyoo Sotawong	Thailand
7. Miss Hathai Nochot	Thailand
8. Miss Orawan Sungkhachat	Thailand
9. Miss Nattaka Chumsang	Thailand
10. Mr. Atcha Montree	Thailand
M.C.T.M.	
1. Dr. Anastasia Putri	Indonesia
2. Dr. Taiichiro Kobayashi	Japan
3. Dr. Aye Thidar Kyaw	Myanmar
4. Dr. Nang Noam Mo	Myanmar

NAME - SURNAME	COUNTRY
M.C.T.M. (Continued)	
5. Dr. Min Thet Phyo San	Myanmar
6. Dr. Thuzar Myint Than	Myanmar
7. Dr. Nestor Salcedo Arce Jr.	Philippines
8. Dr. Hisham Ahmed Imad	Maldives
9. Dr. Mohammed Yasein Elamin Mohammed Ali	Sudan
10. Dr. Myat Thu Soe	Myanmar
11. Dr. Ei Khine Kyaw	Myanmar
12. Dr. Zizawur Aye Maung	Myanmar
13. Dr. Takashi Ueji	Japan
14. Dr. Muhammad Luthfi Al Manfaluthi	Indonesia
M.C.T.M. (Tropical Pediatrics)	
1. Dr. Kaung Zaw	Myanmar
2. Dr. Mya Yee Nyo	Myanmar
D.B.H.I.	
1. Dr. Maria Corazon	Philippines
2. Dr. Haykhame Keokanchanh	Laos PDR
3. Ms. Huyi Lv	China
M.Sc. (B.H.I.)	
1. Dr. Sengphachanh Phienphommalinh	Laos PDR
2. Mr. Nguyen Trung Kien	Vietnam
3. Mrs. Win Min Thit	Myanmar
4. Dr. Khansoudaphone Phakhounthong	Laos PDR
5. Ms. Siriporn Monyarit	Thailand
Ph.D. (Clin. Trop.Med.)	
1. Dr. INSTIATY	Indonesia
2. Dr. Ayodhia Pitaloka Pasaribu	Indonesia

Thesis Title

MASTER OF SCIENCE PROGRAM IN TROPICAL MEDICINE (M.SC.(TROP.MED.)

DEPARTMENT	NAME	TITLE OF THESIS	ADVISOR
Helminthology	Mr.Sitthithana Adam 5237226	Sero-differentiation of creeping eruption and other parasite infection by indirect elisa and immunoblot	Assoc. Prof. Paron Dekumyoy
Microbiology and Immunology	Miss Jittraporn Rattanamahapoom 5337887	*In vitro* studies on the mechanisms of vascular leakage in dengue hemorrhagic fever	Asst. Prof. Pornsawan Leaungwutiwong
Protozoology	Miss Kanthinich Thima 5337893	Studies on *Plasmodium falciparum* gametocyte specific proteins	Assoc. Prof. Porntip Petmitr
Social and Environmental Medicine	Mr.Nhu Thanh Hung 5338184	Knowledge and behaviors at risk of HIV/AIDS transmission among ethinic minorities in Quang Tri Province, Vietnam	Asst. Prof. Pongrama Ramasoota
Tropical Hygiene	Miss Pattarakul Pakchotanon 5436337	Identification and characterization of potential immunomodulatory molecules, serine protease inhibitors, from *Schistosoma mansoni*	Lect Dr. Poom Adisakwattana
Helminthology	Miss Siritavee Pornruseetriratn 5436340	Systematics of genus *Metagonimus katsurada*, 1912 (digenea, heterophyidae) using molecular and morphological characteristics	Lect Dr. Urasa Thaenkham
Medical Entomology	Acting 1Lt.Tatchai Subsuebwong 5436344	Insecticidal effect of *Piper retrofractum* vahl against *Aedes aegypti* (LINN.) and *Culex quinquefasciatus* (SAY.)	Assoc. Prof. Narumon Komalamisra
Tropical Nutrition and Food Science	Miss Phanthila Sirichaiyakul 5436348	Expression and characterization of antimicrobial peptide gambicin from *Culex quinquefasciatus* in *Pichia pastoris*	Asst. Prof. Dumrongkiet Arthan
Tropical Nutrition and Food Science	Miss Rungarun Suthangkornkul 5437620	Functional expression of d-glucosidase from mosquitoes and its biochemical characterization	Asst. Prof. Dumrongkiet Arthan
Medical Entomology	Mr.Kirakorn Kiattibutr 5437621	Association of gametocyte density in symptomatic and asymptomatic malaria populations and infectivity to *Anopheles dirus*	Lect. Dr. Patchara Sriwichai
Microbiology and Immunology	Miss Pimolpachr Sriburin 5437622	Predicting dengue severity by immunodiagnostic assay, molecular detection and clinical data	Asst. Prof. Pornsawan Leaungwutiwong
Tropical Hygiene	Mr.Wai Yan Aung 5438231	Adherence to three day course of artemether-lumefantrine treatment in Myanmar	Assoc. Prof. Pratap Singhasivanon

MASTER OF SCIENCE PROGRAM IN TROPICAL MEDICINE (M.SC.(TROP.MED.) (Continued)

DEPARTMENT	NAME	TITLE OF THESIS	ADVISOR
Social and Environmental Medicine	Mr.Patthamaphong Jaiklom 5537190	Establishment of stable mammalian cell expression for large scale production of monoclonal antibodies against dengue virus and foot and mouth disease	Assoc. Prof. Pongrama Ramasoota
Microbiology and Immunology	Miss Natnaree Saiporm 5537192	Trimethoprim-sulfamethoxazole resistance in *Burkholderia pseudomallei* isolates from Thailand	Asst. Prof. Narisara Chantratita
Molecular Tropical Medicine and Genetics	Lt.Maneerat Kityapan 5536100	Development of immuno-magnetic nanoparticles as the prototype for enrichment of *Leptospira* spp.	Lecture. Dr. Usa Boonyuen

Thematic Paper Title

MASTER OF CLINICAL TROPICAL MEDICINE (M.C.T.M.)

DEPARTMENT	NAME	TITLE OF THEMATIC PAPER	ADVISOR
Clinical Tropical Medicine	Dr. Muhammad Luthfi Al Manfaluthi 5538664 TMCT/M	A problem on tropical diseases among immigrant workers in Samut Sakhon Hospital	Lect. Prakaykaew Charunwatthana
Clinical Tropical Medicine	Dr. Ei Khine Kyaw 5538668 TMCT/M	Continuous hemodynamic parameters in adult patients with dengue at Hospital for Tropical Diseases, Bangkok, Thailand	Asst. Prof. Vipa Thanachartwet
Clinical Tropical Medicine	Dr. Myat Thu Soe 5538669 TMCT/M	Measurement of hemoglobin in adult patients with dengue viral infection using noninvasive and conventional methods	Asst. Prof. Supat Chamnanchanunt
Clinical Tropical Medicine	Dr. Anastasia Putri 5638812 TMCT/M	Usefulness of tourniquet test for diagnosing dengue infection at Bangkok Hospital for Tropical Diseases	Lect. Watcharapong Piyaphanee
Clinical Tropical Medicine	Dr. Taiichiro Kobayashi 5638813 TMCT/M	Clinical outcomes of cryptococcal meningitis Among HIV-infected patients in the era of antiretroviral therapy	Prof. Punnee Pitisuttithum
Clinical Tropical Medicine	Dr . Aye Thidar Kyaw 5638814 TMCT/M	A retrospective study on the importance of western blot for gnathostomiasis and clinical manifestation	Asst. Prof. Jittima Dhitavat
Clinical Tropical Medicine	Dr. Nang Noam Mo 5638815 TMCT/M	The treatment outcome of previously treated pulmonary tuberculosis	Dr. Viravarn Luvira
Clinical Tropical Medicine	Dr. Min Thet Phyo San 5638816 TMCT/M	Treatment outcomes among elderly patients with HIV infection	Asst. Prof. Vipa Thanachartwet

MASTER OF CLINICAL TROPICAL MEDICINE (M.C.T.M.) (Continued)

DEPARTMENT	NAME	TITLE OF THEMATIC PAPER	ADVISOR
Clinical Tropical Medicine	Dr. Thu Zar Myint Than 5638817 TMCT/M	Risk factors for multi–drug resistant *Tuberculosis* among patient with pulmonary tuberculosis in Thailand	Asst. Prof. Vipa Thanachartwet
Clinical Tropical Medicine	Dr. Nestor S. Arce Jr. 5638818 TMCT/M	Therapeutic outcome of antiretroviral treatment (ARV) in HIV patients: five year retrospective analysis of virological and immunological outcome from Khunhan and Benjalak Hospitals, Sisaket province	Lect. Prakaykaew Charunwatthana
Clinical Tropical Medicine	Dr. Hisham Ahmed Imad 5638819 TMCT/M	Clinical presentation of influenza in adult hospitalized patients at Bangkok Hospital for Tropical Diseases	Asst. Prof. Weerapong Phumratanaprapin
Clinical Tropical Medicine	5638820 TMCT/M	Risk factors and treatment outcomes of extrapulmonary tuberculosis in Sisaket, Norteastern Thailand	Lect. Wirongrong Chierakul

MASTER OF CLINICAL TROPICAL MEDICINE PROGRAM IN TROPICAL PEDIATRICS M.C.T.M. (TROPICAL PEDIATRICS)

DEPARTMENT	NAME	TITLE OF THEMATIC PAPER	ADVISOR
Tropical Pediatrics	Dr. Kaung Zaw 5638810 TMCP/M	Clinical features of dengue infection in Hospital for Tropical Diseases, Thailand	Dr. Weerawan Hattasingh
Tropical Pediatrics	Dr. Mya Yee Nyo 5638811 TMCP/M	Clinical features of human bocavirus infection in children with lower respiratory tract infection at Ramathibodi Hospital	Asst. Prof. Watcharee Chokejindachai

MASTER OF SCIENCE PROGRAM IN BIOMEDICAL AND HEALTH INFORMATICS[M.SC. (B.H.I.)]

DEPARTMENT	NAME	TITLE OF THESIS	ADVISOR
Tropical Hygiene	Miss Siriporn Monyarit 5538759	Paper-based versus electronic data capture tool for malaria vector control survey among karen hill tribe population	Lect. Dr. Wirichada Pan-ngum
Tropical Hygiene	Mrs. Win Min Thit 5538766	Need assessment and feasibility of electronic medical record system implementation in marie stopes international Myanmar	Lect. Dr. Wirichada Pan-ngum
Tropical Hygiene	Dr. Sengphachanh Phienphommalinh 5538771	Application of geographic information system for accessibility of health care facilities in Lao PDR	Lect. Dr. Ngamphol Soonthornworasiri
Tropical Hygiene	Mr. Panu Looareesuwan 5538760	Estimation of direct cost for breast cancer using Markov model	Prof. Srivicha Krudsood
Tropical Hygiene	Dr. Ngwa Sar Dway 5538770	Application of mobile tools for improving knowledge, attitude and practice of hill tribe mothers toward EPI vaccination in Northern Thailand	Lect. Dr. Ngamphol Soonthornworasiri

MASTER OF SCIENCE PROGRAM IN BIOMEDICAL AND HEALTH INFORMATICS[M.SC. (B.H.I.)]

DEPARTMENT	NAME	TITLE OF THESIS	ADVISOR
Tropical Hygiene	Dr. Md. Maruf Haque Khan 5538778	Adoption of health information technology (HIT) in Bangabandhu Sheikh Mujib Medical University: Lone Medical University In Bangladesh	Asst. Prof. Dr. Saranath Lawpoolsri Niyom
Tropical Hygiene	Mr. Sun Sokleng 5538768	Assessment of data quality in the OI-ART database system for HIV health care at Tbong Kmum Referral Hospital, Kampong Cham Province, Cambodia	Asst. Prof. Dr. Saranath Lawpoolsri Niyom
Tropical Hygiene	Dr. Khansoudaphone Phakhounthong 5538765	Predicting the severity of dengue fever among children admitted to Ankor hospital from clinical features and laboratory indicators : application of classification tree analysis	Lect. Dr. Wirichada Pan-ngum
Tropical Hygiene	Mr. Nguyen Trung Kien 5538769	E-health readiness assessment from EHR perspective in Thai Binh General Hospital, Vietnam	Assoc. Prof. Dr. Jaranit Kaewkungwal
Tropical Hygiene	Dr. Nouannipha Simmalavong 5538764	Distribution and forecasting of dengue infection in Lao PDR	Lect. Dr. Ngamphol Soonthornworasiri
Tropical Hygiene	Mr. Sok Samnang 5538767	Evaluation of the camewarn web-based application for surveillance system at the communicable disease control department, Ministry of Health, Cambodia	Assoc. Prof. Dr. Jaranit Kaewkungwal
Tropical Hygiene	Dr. Ittapon leowongjaroen 5538761	Pattern of delay reporting in dengue infection surveillance system, Thailand, 2012-2013	Lect. Dr. Wirichada Pan-ngum
Tropical Hygiene	Mrs. Tippa Wongstitwilairoong 5538777	Evaluation of early notification system for epidemic detection	Assoc. Prof. Dr. Jaranit Kaewkungwal
Tropical Hygiene	Mr. Shongpon Piapengton 5538775	Database model to prevent privacy violations of personal health information in Thailand	Asst. Prof. Dr. Saranath Lawpoolsri Niyom
Tropical Hygiene	Mr. Mongkol Akko 5538762	Development of infographics website for dengue prevention	Lect. Dr. Ngamphol Soonthornworasiri
Tropical Hygiene	Mrs. Suwaporn Marsook 5538763	Accessibility to health facility and survival of cervical cancer patients under universal coverage scheme in Thailand	Lect. Dr. Ngamphol Soonthornworasiri

DOCTOR OF PHILOSOPHY IN TROPICAL MEDICINE PROGRAM [PH.D. (TROP. MED.)]

DEPARTMENT	NAME	TITLE OF THESIS	ADVISOR
Tropical Medicine	Mr.Parkpoom Piyamarn 4501106 TMTM/D	Microarchitecture of prelymphatic system in rat liver with special reference to the missing link between portal tract interstitium and lymphatic vessels	Lect. Dr. Wichai Ekataksin
Protozoology	Miss Jitlada Vasuvat 5036135 TMTM/D	Biochemical and functional characterization of *Plasmodium falciparum* DNA polymerase δ catalytic subunit	Assoc. Prof. Porntip Petmitr
Medical Entomology	Mrs.Kruawan Chotelersak 5037444 TMTM/D	Molecular identification of medically important fleas in Thailand	Lect. Dr. Jiraporn Ruangsittichai
Helminthology	Miss Kanokkarn Pothong 5137442 TMTM/D	Analysis of *Paragonimus heterotremus* specific antigen prepared by cDNA cloning for serodiagnosis of human paragonimiasis in Thailand	Assoc. Prof. Paron Dekumyoy
Microbiology and Immunology	Mr. Ittisak Subrungruang 5137446 TMTM/D	Study of genetic profile in Cholangiocarinoma	Prof. Songsak Petmitr
Social and Environmental Medicine	Lt. Col.Jittima Hirunrussamee 5138448 TMTM/D	Translocation of chemical residues from agriculture to ecosystem and acute effect to human health in Phop Phra district, Tak province	Assoc. Prof. Waranya Wongwit
Microbiology and Immunology	Miss Khurawan Kumkrong 5237217 TMTM/D	Multiple locus variable number tandem repeat analysis (MLVA) for typing *Brucella* isolates	Asst. Prof. Thareerat Kalambaheti
Tropical Medicine	Miss Narumon Chanwimalueang 5237218 TMTM/D	A study to evaluate effectiveness of twisting tourniquet decongestive technique in Lymphedema patients	Lect. Dr. Wichai Ekataksin
Clinical Tropical Medicine	Miss Ingfar Soontarawirat 5237221 TMTM/D	Genotyping of individual *Plasmodium vivax* oocyst and linkage analysis of G-6-PD versus color blindness gene	Assoc. Prof. Mallika Imwong
Medical Entomology	Mr.Boonruam Chitsamart 5237224 TMTM/D	Population dynamics of phlebotomine sandflies inhabiting a swiftlet cave on isolated islands in Chumphon province	Lect. Dr. Suchada Sumruayphol
Tropical Nutrition and Food Science	Miss Sivaporn Wannaiampikul 5237298 TMTM/D	Leptin receptor (LEPR), melanocortin-4 receptor (MC4R) and melanocortin-3 receptor (MC3R) genes and related proteins in obese children and their obese relatives	Prof. Rungsunn Tungtrongchitr
Medical Entomology	Miss Thipruethai Phanitchat 5237728 TMTM/D	Influencing of temperature to life history and some antimicrobial peptides gene expression of *Ae. albopictus* in Thailand	Lect. Dr.Sungsit Sungvornyothin

DOCTOR OF PHILOSOPHY IN TROPICAL MEDICINE PROGRAM [PH.D. (TROP. MED.)] (Continued)

DEPARTMENT	NAME	TITLE OF THESIS	ADVISOR
Clinical Tropical Medicine	Miss Supatchara Nakeesathit 5237729 TMTM/D	Isolation and characterization of the merozoite surface protein family from *Plasmodium malaria*	Assoc. Prof. Mallika Imwong
Protozoology	Miss Paviga Limudomporn 5237730 TMTM/D	Molecular characterization of *Plasmodium falicparum* ATP-dependent DNA helicase	Assoc. Prof. Porntip Petmitr
Tropical Nutrition and Food Science	Mr. Nopphanath Chumpathat 5237731 TMTM/D	Nutritional Assessment by Anthropometry in Thai Elderly And Height Estimated Equations Development	Assoc. Prof. Karunee Kwanbunjun
Tropical Hygiene	Miss Pannamas Maneekan 5238746 TMTM/D	Cytokines expression : the biomarker for severity of dengue infection	Asst. Prof. Natthanej Luplertlop
Medical Entomology	Mr.Narenrit Wamaket 5336043 TMTM/D	Development of insect growth regulator microcapsule formulations for *Aedes aegypti* control	Lect. Dr. Siriluck Attrapadung
Social and Environmental Medicine	Miss Woranich Hinthong 5336046 TMTM/D	Influence of temperature on virulence of enteroaggregative *Escherichia coli*.	Asst. Prof. Suwalee Worakhunpiset
Medical Entomology	Miss Arunrat Thepparat 5336050 TMTM/D	Fauna of *Culicoides* and *Leptoconops* in Trang province with special emphasis on seasonal prevalence and molecular identification	Assoc. Prof. Chamnarn Apiwathnasorn
Tropical Nutrition and Food Science	Miss Sirikul Kulanuwat 5336051 TMTM/D	Proprotein convertase subtilisin/kexin type 1 (PCSK 1) gene variation and biochemical profiles in Thai obese children; family - based study	Prof. Rungsunn Tungtrongchitr
Tropical Hygiene	Miss Sarin Suwanpakdee 5336052 TMTM/D	Modeling the transmission dynamics of leptospirosis in rural setting: a case study of Buri Ram, Thailand	Lect. Dr. Wirichada Pan-ngum
Tropical Hygiene	Miss Wilawan Somsong 5336053 TMTM/D	Adverse outcomes in the elderly pulmonary tuberculosis patients	Asst. Prof. Jaranit Kaewkungwal
Tropical Hygiene	Miss Jareonsri Satung 5336054 TMTM/D	Effect of diabetes mellitus on response to tuberculosis treatment among new pulmonary tuberculosis patients in Upper North Thailand	Asst. Prof. Saranath Lawpoolsri Niyom
Tropical Pathology	Miss Patamaporn Molee 5336055 TMTM/D	Identification of plasma membrane associated proteins expressed in invading hepatocellular carcinoma	Asst.Prof.Urai Chaisri
Helminthology	Mr. Bandid Mangkit 5337896 TMTM/D	Identification of *Haemonchus* spp from domestic Ruminants in Thailand: based on morphological examinations and molecular techniques	Assoc. Prof. Chalit Komalamisra
Helminthology	Miss Sirilak Dusitsittpon 5337898 TMTM/D	Genetic diversity and phylogeography of angiostrongylus species in Thailand	Assoc. Prof. Chalit Komalamisra

DOCTOR OF PHILOSOPHY IN TROPICAL MEDICINE PROGRAM [PH.D. (TROP. MED.)] (Continued)

DEPARTMENT	NAME	TITLE OF THESIS	ADVISOR
Protozoology	Miss Chantira Suttikornchai 5337899 TMTM/D	The role of Thai marine bivavles as a sentinel for monitoring food-and water–borne protozoa	Assoc. Prof. Yaowalark Sukthana
Tropical Nutrition and Food Science	Miss Charunee Thaibpho 5337902 TMTM/D	Effects of the intensive lifestyle modification program on weight management and metabolic syndrome components among obese women at Khonkaen province	Assoc. Prof.Karunee Kwanbunjun
Tropical Nutrition and Food Science	Miss Wanida Chuenta 5337903 TMTM/D	Fat mass and obesity-associated (FTO) gene variation and obesity in Thai obese children and their relatives	Prof. Rungsunn Tungtrongchitr
Clinical Tropical Medicine	Miss Somporn Saiwaew 5337905 TMTM/D	Effects of low molecular weight heparin and antimalarial drugs on cytoadhesion of *Plasmodium falciparum*	Assoc. Prof. Kesinee Chotivanich
Clinical Tropical Medicine	Mrs.Tatiana Metcalf 5338179 TMTM/D	Evaluation of diagnostic techniques in presumptive tuberculous meningitis patients with and without HIV infection	Prof. Sasithon Pukrittayakamee
Clinical Tropical Medicine	Miss Sara Elena Canavati De La Torre 5338857 TMTM/D	Evaluation of behaviour change communication interventions in western cambodia : successful approaches and barriers to achieving results of behaviour change in a malaria elimination setting	Assoc. Prof. Pratap Singhasivanon
Helminthology	Mr. Teera Kusolsuk 5338864 TMTM/D	Taeniasis and solium cysticercosis : parasitological survey, immunological and molecular identification in Thasong Yang district, Tak province, Thailand	Assoc. Prof. Chalit Komalamisra
Tropical Hygiene	Mr.Komchaluch Taweeseneepitch 5436338 TMTM/D	Dengue infection pattern among school absentees in Bangkok : Cohort Study	Asst. Prof. Saranath Lawpoolsri Niyom
Microbiology and Immunology	Miss Sarunya Maneerattanasak 5436343 TMTM/D	Molecular and patterns and host immune response in relapse vivax malaria	Professor Dr. Srisin Khusmith
Microbiology and Immunology	Mr. Pongpun Sawatwong 5437625 TMTM/D	The antibiotic resistance profile and its mechanisms in *Escherichia coli* and *Klebsiella pneumoniae* from hospital isolations in 2007-2012	Lect. Dr. Muthita Vanaporn
Social and Environmental Medicine	MISS NEELIMA AFROZ MOLLA 5438235 TMTM/D	Climate refugees: disease burden among children under 5 years old in slum communities of Dhaka, Bangladesh	Assoc. Prof. Waranya Wongwit
Tropical Nutrition and Food Science	Miss Supannee Kaewsutthi 5438739 TMTM/D	Identification of the gene(s) associated with familial early – onset obesity in Thai children	Prof. Rungsunn Tungtrongchitr
Helminthology	Miss Nantana Suwandittakul 5438740 TMTM/D	Proteomics studies of cytoplasmic membrane and lysosomal proteins expressed on TNF alpha induced cholangiocarcinoma cell line	Asst. Prof. Poom Adisakwattana

DOCTOR OF PHILOSOPHY IN TROPICAL MEDICINE PROGRAM [PH.D. (TROP. MED.)] (Continued)

DEPARTMENT	NAME	TITLE OF THESIS	ADVISOR
Tropical Nutrition and Food Science	Mr.Surasak Chaikhaindee 5536088 TMTM/D	Adiponectin gene variants distribution and adipokines in type 2 diabetes in Thais	Prof. Rungsunn Tungtrongchitr
Tropical Nutrition and Food Science	Mr.Chirawat Paratthakonkun 5536093 TMTM/D	Nutritional status particularly folate and vitamin b12 deficiencies and genetic factors in relation to cardiovascular disease and diabetes in Thai elderly	Assoc. Prof. Dumrongkiet Arthan
Clinical Tropical Medicine	Miss Rawipun Worasathit 5101168 TMTM/D	Acceptability of an influenza vaccine among the elderly in Bangkok, Thailand	Prof. Punnee Pitisuttithum
Microbiology and Immunology	Miss Sineenart Sengyee 5537185 TMTM/D	Variation of *Burkholderia pseudomallei* lipopolysaccharide and impact on innate immune response	Assoc. Prof. Narisara Chantratita
Tropical Pathology	Mrs. Min Min Win 5538677 TMTM/D	Investigating pathological changes in the liver in fatal human dengue hemorrhagic fever	Asst. Prof. Urai Chaisri
Microbiology and Immunology	Miss Atchareeya A-Nuegoonpipat 5637841 TMTM/D	Antibody-dependent enhancement (ADE) phennomenon and related chemokines in clinical specimen and genotype distribution of dengue virus	Asst. Prof. Pornsawan Leaungwutiwong

Thesis Title

DOCTOR OF PHILOSOPHY IN CLINICAL TROPICAL MEDICINE PROGRAM [PH.D. (CLIN. TROP. MED.)

DEPARTMENT	NAME	TITLE OF THESIS	ADVISOR
Clinical Tropical Medicine	Dr.(Mr.)Kumpol Pattanapon 5638627 TMCT/D	Predictors for survival of patients with out-of hospital cardiac arrest at Thammasat University Hospital in Thailand	Assoc. Prof. Vipa Thanachartwet
Clinical Tropical Medicine	Dr. (Mrs.) Rattanaphone Phetsouvanh 5637148 TMCT/D	Clinical epidemiology and genetic diversity of scrub typhus in Lao PDR	Prof. Sasithon Pukrittayakamee
Clinical Tropical Medicine	Mr.Haruhiko Ishioka 5538157 TMCT/D	Optimal fluid management in adult severe malaria---development of renal impairent and pulmonary edema in complicated malaria under conventional fluid strategy---	Lect. Dr. Prakaykaew Charunwatthana
Clinical Tropical Medicine	Miss Aya Aye Win 5538156 TMCT/D	Distribution of grug resistance associated genes of *Plasmodium falciparum* in Myanmar	Prof. Sasithon Pukrittayakamee
Clinical Tropical Medicine	Mr. C.Thu Win 5438806 TMCT/D	Kinetics of dengue viral load and antigen and their predictive otentials of severe disease	Assist. Prof. Kriengsak Limkittikul

Faculty of Tropical Medicine, Mahidol University
420/6 Ratchawithi Road, Ratchathewi, Bangkok 10400, Thailand
Tel: 66 (0) 2354-9100-4, 66 (0) 2306-9100-9
Fax: 66 (0) 2354-9139
http://www.tm.mahidol.ac.th