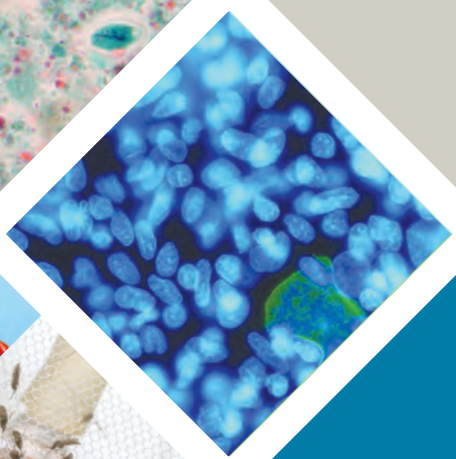
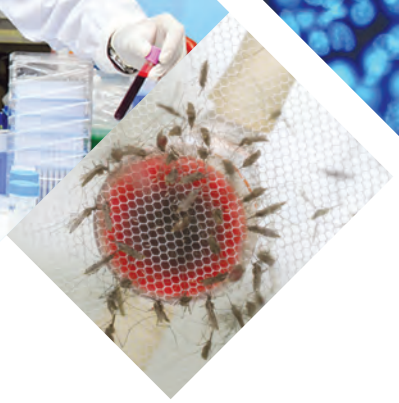
TROPMED

Faculty of Tropical Medicine
Mahidol University

Annual Review
2018





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DEAN'S FOREWORD

Assoc. Prof. Dr. Pratap Singhasivanon

I am proud of what the Faculty of Tropical Medicine has achieved in 2017, which has been full of individual, collaborative and institutional successes. We have worked hard to lay the foundations for the future, and address the numerous global, social and economic challenges we face.

The most significant challenge the Faculty faces is the declining prevalence of first-generation tropical diseases. This has a profound impact on the demands and responses of the Faculty.

Firstly, I wish to reflect on some of the successes and great achievements we have made in 2017.

In terms of grant funding, 2017 was our most successful year ever; the Faculty received over B100m from external research sponsors. This demonstrates our improving ability to forge new relationships with collaborators and sponsors, and our ability to leverage the outstanding reputation of the Faculty for high quality basic, clinical and translational research.

"In 2017, the Faculty of Tropical Medicine had the highest citation rate across all Mahidol University faculties"

Our growing reputation as a center for tropical disease research is further evidenced by our achievements. In 2017, the Faculty of Tropical Medicine had the highest citation rate across all Mahidol University faculties. This shows that we are effectively reaching our target audiences with our journal publications and that the research carried here is having an increasing and proliferative impact, helping to inform policy, disease prevention and treatment, and generating synergistic research around the globe.

This level of research can only continue if we are preparing the next generation of researchers to meet and exceed the high standards we are currently achieving. Therefore, it was a great accomplishment for the Bangkok School of Tropical Medicine to receive recognition for the courses it provides, meeting Outcome-Based Learning criteria. Outcome-based learning focuses on the soft skills needed to succeed in the professional workplace as well as the hard facts needed to understand a topic. The Faculty and the scientific community will undoubtedly need these skill sets to succeed in the future.

Translational research has always been an exciting prospect for the Faculty, as it encompasses the use of biomedical and other scientific research to benefit people's lives in practical ways. In 2017, the Faculty successfully applied for several awards and funding for translational research via the Thai Government Research Gap Fund.

Finally, I would like to thank all our partners and staff for their hard work and dedication throughout 2017. The Faculty's key asset is its tremendous staff—academic, research, medical, nursing, and support staff alike, if it was not for your dedication, experience, skills and expertise, and efforts, the successes we report here would not have been possible.

I sincerely look forward to working with you in an exciting and prosperous 2018!

STRATEGIC PLAN (2014-2017)

Teaching Excellence

The Faculty aims to make the Bangkok School of Tropical Medicine one of the top five Tropical Medicine schools in the world, by further improving its teaching quality and providing courses and curricula that reflect the groundbreaking 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 aim to be one of the top three Tropical Medicine research faculties. This will be achieved by continuing to increase the number of publications and their impact.

Outstanding Clinical Outcomes

The Hospital for Tropical Diseases aims to provide patients with the highest level of care in Southeast Asia, by offering them the country's leading specialists in Tropical Medicine, excellent service and the most modern facilities and medical equipment available.

People Excellence

As people are the most valuable resource for the Faculty it will continue to recruit the best employees at all levels. In order to attract the top talent we will invest heavily in co-workers' career development and in making their work at the Faculty challenging and rewarding. The Faculty aims to be the best university employer in Thailand.

The five year plan covers the eight key areas that are addressed as part of the Faculty's vision to be a world leader in Tropical Medicine. For each key area there is a clear aim and the Faculty works towards achieving that aim through its activities and prioritization.

Infrastructure Excellence

Through the "TM Green" campaign the Faculty aims to reduce its footprint by encouraging the habit of reducing, reusing, recycling, and repairing resources. The campaign raises employees' awareness about maintaining a greener environment, both locally and globally.

Customer and Community Service Excellence

The Faculty is committed to valuing the needs of its customers and stakeholders by providing quality academic and other services. The Faculty aims to be in the top 10% of service providers in Thailand. The Faculty works continuously to improve services, and to adapt to the ever-changing environment it operates in.

Alliance Excellence

One of the Faculty's main strategic advantages is our extensive network of collaborators and partners and the Faculty strives to constantly strengthen and expand these connections. Aiming to be in the top 10 preferred partners of all of its collaborators, the Faculty works to maintain successful and mutually beneficial relationships with national and international partners.

Leadership and Management Excellence

Effective leadership and management is a key component to ensure the Faculty's continued success, and it invests heavily in developing skills. The Faculty aims to have 85% of Committee members trained in Education Criteria for Performance Excellence, a 160 hour course that forms the basis of a valuable framework to help plan, perform, and measure results.

ADMINISTRATIVE BOARD

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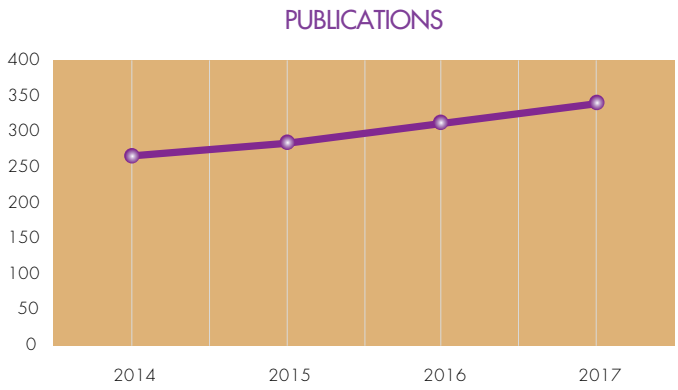
STATISTICAL SUMMARY

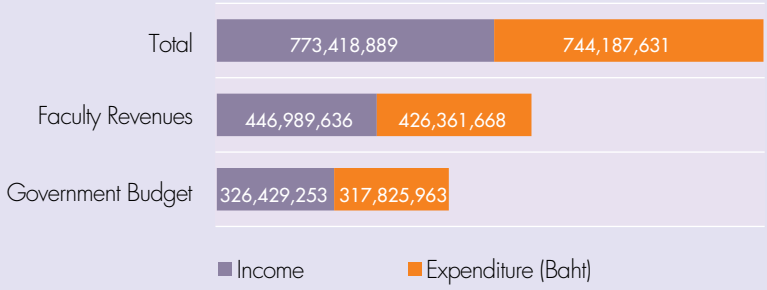
RESEARCH

In 2017, the Faculty and its collaborators published 339 papers in several high-impact journals, including *The New England Journal of Medicine* (IF=72.406) and *The Lancet Infectious Diseases* (IF=19.86). The Faculty achieved a steady increase in publication and is motivated to further improve its research level output towards the goal of becoming a world leader in tropical medicine research.



FINANCES

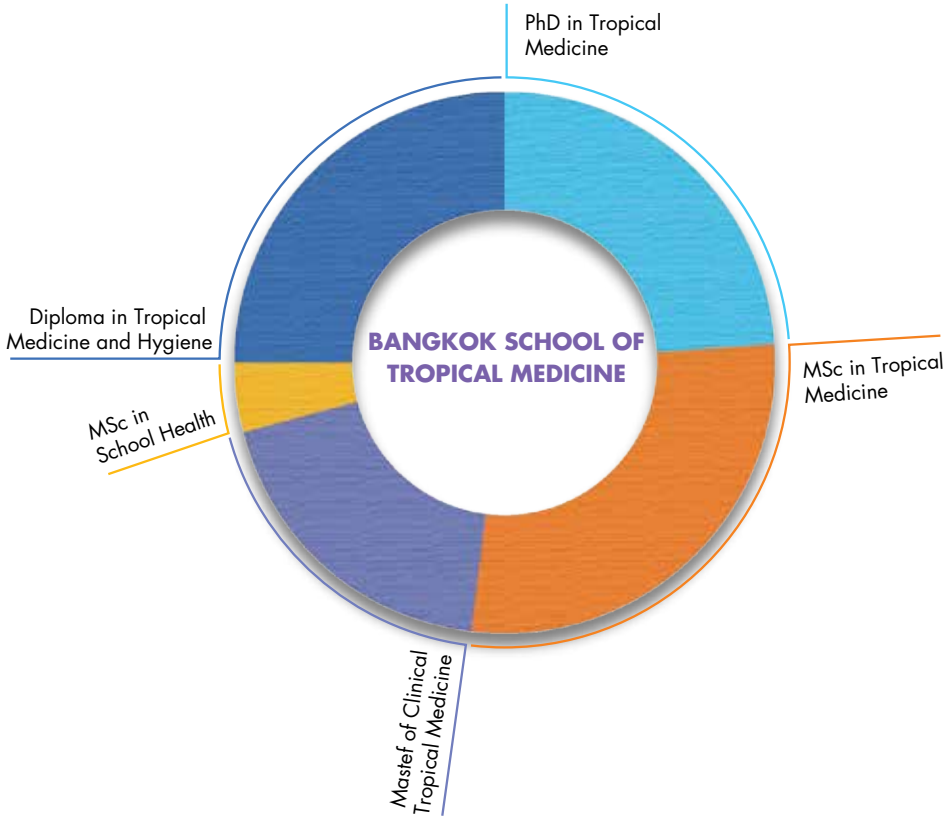
The total income of the Faculty in 2017 was 773 million THB. Of that total, 326 million THB was from the government budget, and 446 million THB from the Faculty's revenue. The Faculty revenue category contains a variety of different sources, including student and patient fees, national and international research grants, and rent and service agreements.



BANGKOK SCHOOL OF TROPICAL MEDICINE

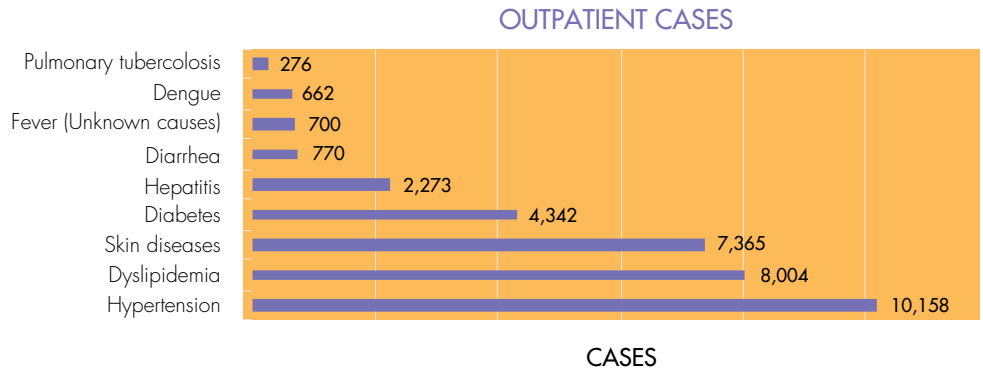
A total of 68 students were enrolled at the School in 2017. Half of the enrollees were non-Thai.

In 2017, the most popular course for Thai students was the MSc in Tropical Medicine, in which 14 of 19 students (74%) were Thai. Meanwhile, the Diploma in Tropical Medicine and Hygiene program had the most international students; all of its enrollees were non-Thai, coming from 17 countries including the ASEAN community, wider Asian region, Africa, and Europe.

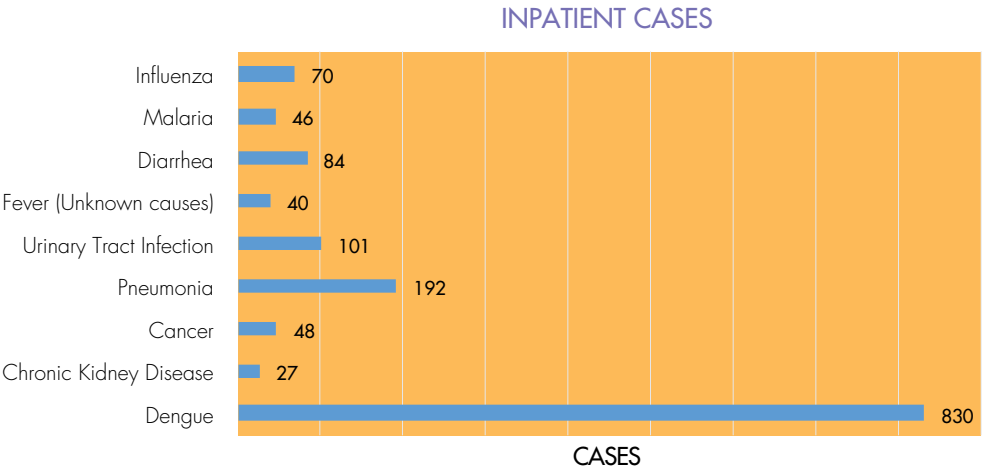


HOSPITAL FOR TROPICAL DISEASES

The Hospital had 34,550 outpatient cases and 1,438 inpatient cases in 2017, an increase from 2016, which had over 29,000 outpatient cases and around 1,200 inpatient cases. There were more than 10,000 hypertension-related outpatient visits.

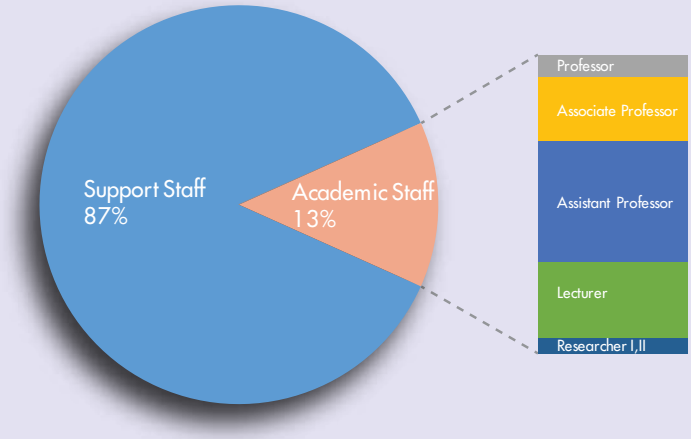


Dengue comprised 830 of 1,438 inpatient cases in 2017, an increase from 2016's 454 cases. Dengue has remained the most treated inpatient case in the Hospital.



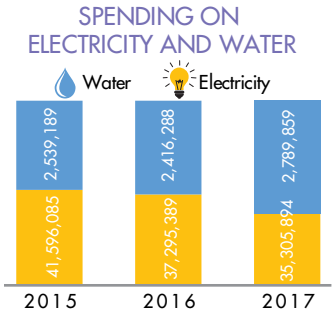
HUMAN RESOURCES

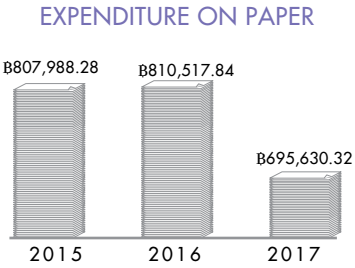
A total of 827 staff were employed by the Faculty in 2017, in both academic and support fields. 716 (87%) of these were support staff, ensuring that that Faculty operates as efficiently as possible. This work helps the academic staff conduct research, teach and provide services to the best of their abilities. The Faculty consistently provides both streams of employees with professional development courses to advance their careers.



INFRASTRUCTURE AND ENERGY USE REDUCTION

In 2017, the Faculty successfully reduced expenditure on electricity while spending on water increased slightly. Expenditure on paper decreased dramatically, with a 15% drop over 2016.





The Faculty received a Mahidol University Energy Award 2017 for its effective campaign on reducing its use of electricity, water and paper, and for raising environmental awareness among faculty members and staff.

DEPARTMENTS

Asst. Prof. Weerapong Phumratanaprapin
Clincial Tropical Medicine

Assoc. Prof. Paron Dekumyoy
Helminthology

Asst. Prof. Jiraporn Rungsittichai
Medicial Entomology

Asst. Prof. Pornsawan Leaungwutiwong
Microbiology and Immunology

Prof. Mallika Imwong
Molecular tropical Medicine and Genetics

Asst. Prof. Aongart Mahittikorn
Protozoology

Assoc. Prof. Pongrama Ramasoota
Social and Environmental Medicine

Assoc. Prof. Jaranit Kaewkungwal
Tropical Hygiene

Assoc. Prof. Karunee Kwanbunjan
TropicalNutrition and Food Science

Asst. Prof. Urai Chaisri
Tropical Pathology

Assoc. Prof. Chukiat Sirivichayakul
Tropical Pediatrics

When the Faculty was founded in 1960, there were five departments; however, with increased specialization this number has now grown to eleven. Covering a broad range of tropical medicine areas, the departments conduct research, educate students of the Bangkok School of Tropical Medicine, and provide services to both academic and healthcare communities.

The following pages highlight the main research activities of each department, and summarize their work and achievements during 2017.

CLINICAL TROPICAL MEDICINE

Asst. Prof. Weerapong Phumratanaprapin
Head of Department

2017 HIGHLIGHTS

- The Department published over 50 titles that were mostly featured in highly respected medical journals with high impact factors, such as *Lancet Infectious Diseases* (Impact Factor=19.864) and *PLoS Medicine* (Impact Factor=11.862). Collectively, the papers covered a wide range of important study areas in terms of research within the Tropical Medicine spectrum.
- Prof. Punnee Pitisuttithum and colleagues investigated the safety and immunogenicity of an avian H5N2 live attenuated influenza vaccine (LAIV H5N2) in healthy Thai adults and its priming immune responses with an H5N1 inactivated vaccine boost. In another study, Prof. Punnee and her collaborators assessed the safety and immunogenicity of a recombinant acellular pertussis vaccine containing genetically inactivated pertussis toxin and filamentous hemagglutinin, as either a monovalent vaccine (aP[PTgen/FHA]) or in combination with tetanus and reduced-dose diphtheria vaccines (TdaP[PTgen/FHA]), versus a licensed tetanus and reduced-dose diphtheria and acellular pertussis combination vaccine (Tdap). Both studies were published in *Lancet Infectious Diseases.*
- In 2017, the Department of Clinical Tropical Medicine delivered several popular short courses to a growing field of international and domestic doctors. The courses covered

↑ *Prof. Kesinee Chotivanich was one of the instructors during the Short Courses*

↑ *Prof. Punnee Pitisuttithum*

↑ *Asst. Prof. Weerapong Phumratanaprapin at the 3rd Short Course in Tropical Medicine 2017: Clinical Points in Important Tropical Diseases on 23-25 August 2017*

↑ *Dr. Prakaykaew Chuarunwatthana*

practical points in important tropical diseases, clinical and laboratory highlights in tropical medicine, and travel medicine. Participants included trainees from the Philippines, Japan and Thailand.

- Prof. Sasithon Pukrittayakamee and colleagues evaluated the pharmacokinetic properties of dihydroartemisinin (DHA) and piperaquine, potential drug-drug interactions with concomitant primaquine treatment, and piperaquine's effects on the electrocardiogram of healthy volunteers, in the study *Population Pharmacokinetics and Electrocardiographic Effects of Dihydroartemisinin-Piperaquine in Healthy Volunteers*. This study was published in the *British Journal of Clinical Pharmacology*.
- Dr. Prakaykaew Charunwatthana and team compared different treatment regimens for *P. vivax* malaria in a cohort study nested within randomized clinical trial patients. Patterns of hemolysis were compared between G6PD wild-type and G6PD heterozygous female participants. The primary objective of the trial was to measure efficacy, not hemolysis, in relation to the G6PD genotype, and that the heterozygote groups were small. This study was published in *PLoS Medicine*.
- The Travel Medicine residency training program in the Department of Clinical Tropical Medicine continues to attract international applicants as its very talented staff teach various topics in the field of travel medicine. Starting in 2014, Mahidol University was the first institute in Thailand that could offer residency training in travel medicine for Thai doctors. Apart from the formal courses, the staff have been invited to speak at academic meetings at national, regional and international levels and have made research excellence in travel medicine field in Thailand their cornerstone mission. With the travel medicine residency training program now formally recognized at the international level, the Department of Clinical Tropical Medicine aims to be the leader in Travel Medicine in South-East Asia.

For collaboration with the Department, Asst. Prof. Weerapong Phumratanaprapin can be contacted by email at weerapong.phu@mahidol.ac.th. More details of the Department's research activities and interests can be found at http://www.tm.mahidol.ac.th/clinic/

HELMINTHOLOGY

Assoc. Prof. Paron Dekumyoy
Head of Department

2017 HIGHLIGHTS

- Assoc. Prof. Poom Adisakwattana and the team from the Department of Helminthology have been leading a project on the Thai-Myanmar border to increase community awareness of tropical diseases and helminthic infections. The team has been working with local government, hospitals, schools, and local community groups, to provide free health checkups for children and create an activity-based learning program which teaches communities about prevention and treatment methods. It is hoped that this program will become the blueprint for further programs for the prevention and control of tropical diseases in remote areas, with the lessons learnt here being shared with other community groups and roll-out nationwide. While the program is still in its early stages, there has already been a dramatic drop in helminthic infections in the local community. This is an excellent example of the research and work conducted at the Faculty being used in practical ways to improve the quality of life of the Thai people.

- Dr. Kittipong Chaisiri published two studies entitled "Gastrointestinal helminthes and *Taenia* spp. in parenteral tissues of free-roaming pigs (*Sus scrofa indicus*) from hill-tribe village at the western border of Thailand" and "Gastrointestinal helminth fauna of rodents from Cambodia: emphasizing the community ecology of host-parasite associations" in *Tropical*

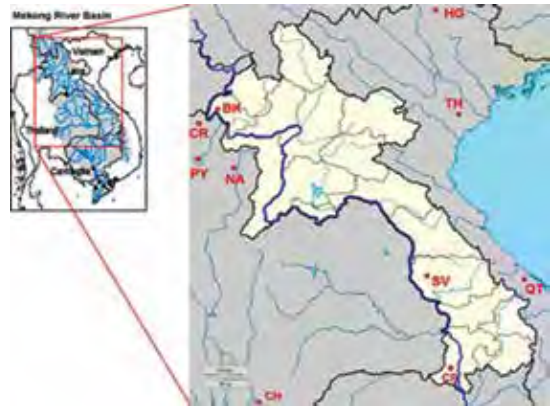
↑ *Community involvement project at Tha Song Yang District, Tak Province*

Biomedicine and the *Journal of Helminthology,* respectively. These studies seek to understand ecological parasitism in a changing environment and understand host-parasite interactions and parasite-host transmission better.

- Siritavee Pornruseetriratn, Wanna Maipanich, Surapol Sa-nguankiat, Somchit Pubampen, Akkarin Poodeepiyasawat and Urusa Thaenkham of the Department of Helminthology developed a simple and effective multiplex PCR technique for detecting human pathogenic *Taenia* eggs in houseflies using 18S ribosomal DNA (rDNA) as a genetic marker. This technique can distinguish the eggs of the three *Taenia* species (*T. solium, T. saginata,* and *T. asiatica*), and was highly sensitive; it can identify the *Taenia* species from only one egg. This study was published in the *Southeast Asian Journal of Tropical Medicine and Public Health.*

- Asst. Prof. Urusa Thaenkham received the Best Oral Prize for her presentation on molecular characterization of *Paragonimus* species occurring in Manipur, India at the 11th National Congress of The Indian Academy of Tropical Parasitology, on 6-8 September 2017, at the Sikkim Manipal Institute of Medical Sciences (SMIMS), Gangtok, India.

- Asst. Prof. Urusa Thaenkham and colleagues of the Department of Helminthology, in collaboration with researchers from Lao PDR, the Philippines and Vietnam, published their study in the *Journal of Helminthology*. The study includes the use of mitochondrial cytochrome c oxidase subunit 1 (COX1) gene to compare genetic structures of seven populations of *H. taichui* from various localities in the lower Mekong Basin, in Thailand and Lao PDR, with those in Vietnam. The study, however, found gene flow between these populations was very limited, rejecting the hypothesis that river interconnectedness should result in a greater likelihood of genetic exchange between *H. taichui* populations. The data collected in this study can be used to understand better the population distribution of *H. taichui*.



H. taichui populations from ten different geographic locations in Indochina

- The Department of Helminthology is the Faculty's leader in the investigation of helminthic infections. In 2017, most research activities focused on improving and continuing ongoing research, including diagnosis, therapeutics, epidemiology, and the systematic taxonomy of parasites and hosts.

- According to Assoc. Prof. Paron Dekumyoy, Head of the Department, there were still various discovered parasitic worms that the researchers are eager to further investigate in the future as most of their characteristics are not yet fully known.

- Aside from the goals of getting grants and increasing publication, Dr. Paron encourages researchers to participate in international conferences to introduce their research in a global setting. Dr. Paron also mentions the importance of having classical parasitologists as addition to the Department's workforce.

For collaboration with the Department, Assoc. Prof. Paron Dekumyoy can be contacted by email at paron.dek@mahidol.edu. More of their research activities and interests can be found at http://www.tm.mahidol.ac.th/helminth/

MEDICAL ENTOMOLOGY

Asst. Prof. Jiraporn Ruangsittichai
Head of Department

↑ *Phlebotomus (Anaphlebotomus) stantoni*

2017 HIGHLIGHTS

→ Patchara Sriwichai, Yudthana Samung, and Kirakorn Kiattibutr of the Department of Medical Entomology investigated the cross-border malaria transmission of *Plasmodium falciparum* and *Plasmodium vivax* in Tha Song Yang District. The study suggests that *P. falciparum* infections were imported, since it mostly infected recent migrants and cases were significantly associated with seasonal migration. Meanwhile, *P. vivax* cases were significantly associated with mosquito capture rates and less with migrant status, indicating local transmission. This study was published in *Malaria Journal* entitled "Imported *Plasmodium falciparum* and locally transmitted *Plasmodium vivax:* cross-border malaria transmission scenario in north-western Thailand".

→ Suchada Sumruayphol, Patchara Sriwichai, Yudthana Samung, and Chamnarn Apiwathnasorn of the Department of Medical Entomology published a study in *Comptes Rendus Biologies* on the differentiation of wing geometry of the sandflies *Phlebotomus stantoni* and *Sergentomyia hodgsoni* in different geographical locations in Thailand. The size and shape of the two species from different island and mainland locations were examined

↓ *Department's staff and students*

Asst. Prof. Jiraporn Ruangsittichai and students during a field trip

Mr.Yudthana Samung performs a larva survey

by landmark-based geometric morphometrics. It was found that the wing centroid size of *P. stantoni* was generally larger than *S. hodgsoni* and within both species, the wings from the continent were significantly larger than those of island populations. This information can be used in taxonomic and epidemiological studies of sandflies in the future.

- Siriluck Attrapadung examined the insecticide activity of *Stemona collinsiae* root ethanolic extract against *Parasarcophaga ruficornis*. Using toxicity tests, it was found that the ethanolic extract of *S. collinsiae* was capable of eliminating *P. ruficornis* in larval and adult stages via topical and ingestion administration, respectively. This study was published in *Acta Tropica.*
- Ronald Enrique Morales Vargas and Siriluck Attrapadung worked with researchers from Thailand, Malaysia, and Japan in a study of dengue vectors. A study published in *Environmental Science and Pollution Research* suggests that roasted coffee and its residues cause birth failure and shortens the lifespan of *Aedes albopictus* and *Ae. aegypti*. They also published, in *Acta Tropica*, their investigation of the effects of sweet waste extracts on *Aedes aegypti* diet and survival.
- Asst. Prof Jiraporn Ruangsittichai was appointed Head of the Department of Medical Entomology, succeeding Assoc. Prof. Narumon Komalamisra.
- During the reporting period, Asst. Prof. Ronald Enrique Morales Vargas was a Visiting Professor at Miyazaki University, Miyazaki, Japan.
- Mrs. Kaewmala Palakul received a Research Gap Fund from the National Science and Technology Development Agency (NSTDA) for the development of Trop Med lotion, a natural product, into a commercial product.
- The Department of Medical Entomology with its new-found collaborators from Cornell University, USA, the Ministry of Public Health, Thailand, and the Armed Forces Research Institute of Medical Sciences (AFRIMS), Thailand, aims to offer training and workshops on medical entomology, building a research culture in the region.
- Asst. Prof. Jiraporn Ruangsittichai has defined the Department's goals to expand collaboration and broaden the entomological network within well-known institutes and universities in the region. The Department is also motivated to submit more grant applications to both national and international funding institutions.

For collaboration with the Department, please contact Asst. Prof. Jiraporn Ruangsittichai by email at jiraporn.rua@mahidol.ac.th. More details of research activities and interests can be found at http://www.tm.mahidol.ac.th/entomology/

MICROBIOLOGY AND IMMUNOLOGY

Asst. Prof. Pornsawan Leaungwutiwong
Head of Department

2017 HIGHLIGHTS

- Current influenza vaccination strategies involve predicting the prominent influenza strand(s) and mass immunization of the vulnerable population, which requires annual vaccination programs. Asst. Prof. Kobporn Boonnak received an award from the National Vaccine Institute to investigate potential methods for studying influenza universal antibodies in vaccinated populations.
- Ms. Akanitt Jittmittraphap, Ms. Siriporn Chattanadee, and Asst. Prof. Pornsawan Leaungwutiwong collaborated with the Department of Zoology at Fatima College, Madurai, Tamil Nadu, India, to investigate a potential inhibitor for the molecular interactions between the dengue virus and its host cells. The study tested the ability of an anti-peptide antibody to block the dengue virus entering a host cell, giving the team a new insight into how dengue infection progresses. Initial results have shown high neutralizing activity against all four dengue virus serotypes, and potential for therapeutic drug development in the future.
- Asst. Prof. Kobporn Boonnak collaborated with Department of Internal Medicine, Faculty of Medicine, Chiang Mai University and Tokyo University, Japan to evaluate the immunological effect of synthetic peptides which were discovered by computer modeling. The data from this study will be used for development of new therapeutic agents for autoimmune diseases such as systemic sclerosis.
- Ms. Akanitt Jittmittraphap conducted Middle East Respiratory Syndrome (MERS) sequencing for a paper published in 2017 about lessons learned from a case of MERS imported from Oman to Thailand. The paper highlighted the need for better understanding of how MERS cases can be imported and exported around the globe. It noted the excellent co-ordination between hospitals, testing laboratories and different agencies in controlling and stopping a potential outbreak in 2015.

(L-R) Ms. Akanitt Jittmittraphap, Asst. Porf. Pornsawan Leaungwutiwong, and Asst. Prof. Kobporn Boonnak

Assoc. Prof. Narisara Chantratita

Burkholderia pseudomallei

Galleria mellonella as an alternatire host model

- Assoc. Prof. Narisara Chantratita, with researchers at the Department of Microbiology and Immunology, carried out ground-breaking research to identify reservoirs and understand the routes of spread for drug-resistant *Escherichia coli*. The results of the study showed that environments can be a reservoir for drug-resistant *E.coli*, and efforts are now required to prevent these bacteria from becoming distributed ubiquitously.

- 2017 saw the successful patenting of a new Rapid Immunochromatography Test (ICT) for melioidosis by Assoc. Prof. Narisara Chantratita. The test, which detects the presence of *B. pseudomallei* antigens in a patient's blood, can provide a diagnosis within 15 minutes. This dramatically reduces the time needed for diagnosis compared with cultured laboratory analysis, speeding up patients' access to treatment and increasing their chance of survival. This test is especially practical in remote areas where access to laboratory facilities are limited. The test has been patented and there has been positive feedback from pharmaceutical companies hopeful of licensing and marketing the test for distribution. This is an excellent example of translating the research we do here into practical benefits for the wider community.

- Assoc. Prof. Natthanej Luplertlop and team identified three species of *Scedosporium apiospermum* species complex--*S. apiospermum, S. aurantiacum,* and *S. Dehoogi*--found in water and soil samples collected from 10 parks in Bangkok, Thailand. This is the first reported environmental survey of the *S. apiospermum* species complex in Thailand.

Assoc. Prof. Natthanej Luplertlop

- *S. apiospermum* is an emerging opportunistic fungus that causes various infections, including mycetoma (a chronic infection of skin and subcutaneous tissue), pulmonary diseases, and brain abscess. Although drugs are available for the treatment of these infections, this fungus is known for its high level of resistance to the existing drugs. Dr Natthanej's research goals include the development of alternative treatments using Thai medicinal plant extracts and other therapeutic agents, such as fungal quorum-sensing molecules to control and treat the potential diseases that the fungus carries.

For collaboration with the Department, please contact Asst. Prof. Pornsawan Leaungwutiwong by email at pornsawan.lea@mahidol.ac.th. More details of the Department's research activities and interests can be found at website http://www.tm.mahidol.ac.th/micro-immuno/

MOLECULAR TROPICAL MEDICINE AND GENETICS

Prof. Mallika Imwong
Head of Department

2017 HIGHLIGHTS

- Asst. Prof. Usa Boonyuen has been awarded funding from the Faculty and Mahidol University to develop a new rapid diagnostic kit for G6PD deficiency. Due to the difficulty and expense of diagnosing patients with G6PD deficiency, a new and reliable rapid test would be a welcome addition for medical professionals working in remote areas where malaria is prevalent and laboratory facilities are limited.

Asst. Prof. Usa Bonyuen

- Part of the rapid diagnostic test development will include a Newton Fund visit to the Liverpool School of Tropical Medicine (LSTM). LSTM are specialists in developing, licensing and marketing rapid diagnostic kits, and this visit will give Dr. Usa and the Faculty an excellent opportunity to gain a valuable insight into turning research at the Faculty into tangible benefits for society.

- Collaborators from the Armed Forces Research Institute of Medical Science (AFRIMS) and researchers from across the Faculty, led by PI Dr. Jetsumon Prachumsri and Dr. Wang Nguitragool of the Mahidol Vivax Research Unit (MVRU), have begun work on a new clinical trial sponsored by the US Department of Defense. It is hoped that the results of this trial will lead to a new method for reducing malaria transmission and ultimately lead to eradicating malaria in target areas. The project will evaluate the ability of ivermectin, a drug usually used to treat helminth infections, to interrupt the mosquito reproductive lifecycle through mass administration. Progress had been hindered by a recent reduction in malaria cases in Thailand, leading to a search for new field sites. However, a new study site has now been identified in Surat Thani Province. Regulatory and ethical approval is expected in 2018, with field surveys expected to start shortly after.

- Relapse is a common feature of malaria infection if hypnozoites, dormant parasites in the liver, are not cleared. The primary treatment for these parasites is primaquine. However, the side effects and the inability to use the drug in patients with G6PD deficiency means that there is a growing need for a new form of treatment. Primaquine is also not recommended for use by pregnant women, so that alternative remedies are vitally important for these groups. This opens an encouraging

Asst. Prof. Wang Nguitragool

↑ *Asst. Prof. Santi Maneewatchararangsri (left) with Asst. Prof. Onrapak Reamtong (right)*

new area for future research at the Faculty.

- A new exploratory area for malaria vaccine development is transmission-blocking vaccines (TBV), which halt transfer of the parasite between human and mosquito. As a large number of carriers are asymptomatic, a TBV could help eliminate the reservoir of carriers who show no symptoms but maintain the transmission cycle when mosquitos feed on them. There are several challenges to overcome in this research field; however, with a limited number of other research facilities looking at this, it could be an exciting opportunity to develop a new specialist area.
- Asst. Prof. Santi Maneewatchararangsri was awarded a Professional Development Programme for Mid-Career Researchers, Newton Fund, and a Researcher Links Programme Award 2015/16, Newton-UK-Thailand Research and Innovation Partnership Fund. In 2017, he was awarded a Leaders in Innovation Fellowships programme, UK Newton Fund, the Thailand Research Fund and the Royal Academy of Engineering. The program aims to build the capacity of researchers for entrepreneurship and commercialization of research, and to create international networks of innovators and technology entrepreneurs.
- A prototype multiple recombinant antigen-based ELISA assay is undergoing on-going development in close collaboration with multidisciplinary partners, including medical doctors, micro-immunologists, a pathologist, and a statistician at the Mahidol to improve the diagnostic accuracy of the serodiagnostic test, to develop a test that is more applicable to research and epidemiological surveillance applications, at reduced product cost. This assay could be used for the differential serodiagnosis of patients with leptospirosis from cases with clinically related acute febrile illnesses. Dr. Santi aims to apply for a patent and begin a startup in 2018.

For collaboration with the Department, please contact Prof. Mallika Imwong at mallika.imw@mahidol.ac.th. More details of the Department's research activities and interests can be found at http://www.tm.mahidol.ac.th/molecular/

PROTOZOOLOGY

Asst. Prof. Aongart Mahittikorn
Head of Department

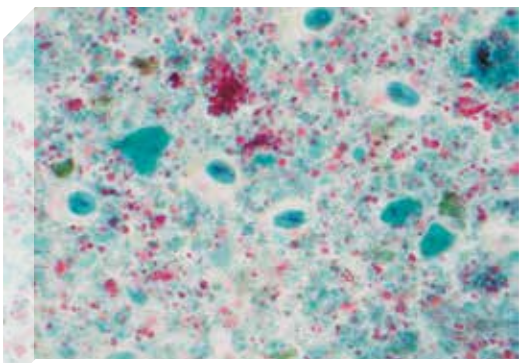
2017 HIGHLIGHTS

- Aongart Mahittikorn, Ruenruethai Udonsom, Supaluk Popruk and Yaowalark Sukthana of the Department of Protozoology developed a simplified and cost-effective technique for the rapid visual detection of *Neospora caninum*, a parasite that causes neosporosis in dogs and cattle worldwide. The loop-mediated isothermal amplification (LAMP) technique was developed to respond to the equipment costs and difficulties using quantitative real-time PCR (qPCR), an existing molecular technique for field diagnostics. LAMP is the first known assay developed for the amplification of *N. caninum*; it yielded rapid and inexpensive diagnostic results. This study was published in *Parasites and Vectors*.

- The Department of Protozoology, in collaboration with the Department of Helminthology and the Faculty of Veterinary Science, Mahidol University, investigated the prevalence and genotypes of *Enterocytozoon bieneusi* in pigs and humans in Thailand. This study was published in *Veterinary Parasitology.* The results found *E. bieneusi* in 5.4% (15/277) and 28.1% (59/210) of human and pig samples, respectively. Three known genotypes (D, H, PigEb10) and eight novel genotypes (TMH1–8) were detected from human samples, while five known genotypes (D, EbpA, EbpC, H, O) and 11 novel genotypes (TMP1–11) were detected from pig samples, confirming that all known genotypes identified in humans and pigs had zoonotic potential and pigs might play an important role in the transmission of *E. bieneusi*.

- Asst. Prof. Supaluk Popruk of the Department of Protozoology and researchers from other Departments in the Faculty studied the effectiveness of various essential oils of plants found in Thailand against *Giarda duodenalis,* a zoonotic protozoan causing the diarrheal disease giardiasis. Among the essential oils tested, it was found that *Citrus aurantifolia* or key lime was the most effective against *G. duodenalis*. The essential oil of *L. cubeba* was

A lab scientist prepares LAMP assay



Giardia duodenalis under a microscope

also found to have antigiardial properties. The team will further determine which components of these plants, and in what proportions, are the major active ingredients and have the potential to be used in future safety and efficacy studies against *Giardia duodenalis*. This study was published in the Southeast *Asian Journal of Tropical Medicine and Public Health*.

- Asst. Prof. Aongart Mahittikorn, published an article entitled "Knowledge, Behavior, and Free-Living Amoebae Contamination of Cosmetic Contact Lens Among University Wearers in Thailand: A Cross-Sectional Study" in *Eye & Contact Lens: Science & Clinical Practice* journal. The knowledge of the users, and the risk of amoebic contamination of cosmetic contact lens (CCL) wearers in Thailand, were analyzed. The results showed that the majority of wearers had good knowledge of using CCL. However, among the 100 CLL samples examined, one tested positive for *Acanthamoeba*, from using saline for treating lenses, and another one was positive for *Vahlkampfia*, from wearing CCL while swimming. This study raises our awareness of potential amoebic contamination of CCL.
- In collaboration with researchers from France, the Department of Protozoology published a study in *Infection, Genetics and Evolution* on the geographical distribution of *Toxoplasma gondii* genotypes in Asia. The study highlights that human activities and animal migrations spread *T. gondii* strains between Old World continents, and that the genetic diversity of *T. gondii* in Southeast Asia is different from the rest of Asia.
- Kanthinich Thima, Onrapak Reamtong, Saengduen Moonsom, and Porntip Petmitr, published their proteomic analysis of asexual stage, young and mature gametocytes of *Plasmodium falciparum* strain NF54 by mass spectrometry. This study could be used to further studies of proteins of different parasite stages. The study was published in the *Southeast Asian Journal of Tropical Medicine and Public Health.*
- The Department of Protozoology along with the other Departments of the Faculty, and international collaborators from Japan, the UK, and France, have achieved significant research discoveries in the diagnosis, epidemiology, and future treatment of protozoa. The Department looks forward to strengthening its network and furthering collaboration with its existing research cohorts.
- Asst. Prof. Aongart Mahittikorn, Head of the Department, says that in 2018, they will strive to increase their publications, discover more cases, encourage researchers to apply for grants, and attract more students to join them in the Department.
- The Department is driven by its research goal; to further understand the molecular epidemiology of protozoa and discover and prevent zoonotic potential of parasitic genotypes in Thailand.

For collaboration with the Department, Asst. Prof. Aongart Mahittikorn can be contacted by email at aongart.mah@mahidol.ac.th. More of their research activities and interests can be found on their website at http://www.tm.mahidol.ac.th/protozoology/

SOCIAL AND ENVIRONMENTAL MEDICINE

Assoc. Prof. Pongrama Ramasoota
Head of Department

2017 HIGHLIGHTS

- The Department was awarded 46 million Baht in research grants--59.3 % from international agencies; Newton Fund Research Councils United Kingdom (Newton RCUK), Japan Aerospace Exploration Agency (JAXA), Japan Society for the Promotion of Science (JSPS), Japan International Cooperation Agency (JICA), and the Kurita Water and Environment Foundation (KWEF).
- The Department has collaborated with international partners; Scotland (Heriot-Watt University), South Korea (Seoul National University), Japan (Tokyo University, Osaka University), China (SunYatSen University), Australia (University of the Sunshine Coast) and with private companies--Cpac Inter Co Ltd, Amira Success Co. Ltd., InterWisdom Science and Technology Co., Ltd., Greenovative Biopharmaceutical Co., Ltd., and Biomedical Research Institute (BMRI), Japan.
- 13 International publications were published, and two inventions were patented in Japan by the Department.
- Pongrama Ramasoota developed an organic antimicrobial spray from nano sea shells and lime extracts, an improved model of *OxySafe GMP Air Spray* formulated from mangosteen extracts. This new antimicrobial air spray is already available in selected stores and hospitals in Thailand and awaiting approval from the Food and Drug Administration to begin mass production and distribution to a wider market.

OxySafe GMP Air Spray

- The Department organized the first workshop on "Assessing the health impacts of air pollution in Thailand -The TAPHIA project". Thai Air Pollution Health Impact Assessment or TAPHIA Project is a consortium between Thailand and United Kingdom to assess the burden of disease & premature mortality; long-term exposure to indoor & outdoor air pollution in Thailand. The workshop was held on 13 September 2017 at the Faculty of Tropical Medicine and was attended by lecturers, researchers, scientists and staff from various organizations including Pollution Control Department, Bangkok Metropolitan Administration, Department of Health and other universities. The workshop was supported by the Newton Fund and Thailand Research Fund (TRF).

Assoc. Prof. Kraichat Tantrakarnapa

Department staff, participants, and UK collaborators at the "Assessing the health impacts of air pollution in Thailand -The TAPHIA Project Workshop"

- Assoc. Prof. Kraichat Tantrakarnapa evaluated the relationship between particulate matter $(PM)_{10}$ and $PM_{2.5}$ levels along the roads of Bangkok, Thailand. Using linear regression analysis and path analysis on both levels, the study revealed that meteorological conditions had a direct effect on particulate levels, and that the effects of traffic flow were more variable in open areas. The data gathered in this study can be used to further understand the particle-pollution level situation in Bangkok, Thailand. This study can be fully read in *Journal of Environmental Sciences*, entitled "Relationship between PM10 and PM2.5 levels in high-traffic area determined using path analysis and linear regression".

- Dr. Athit Phetrak received the Best Young Scientist Oral Presentation Award for his presentation *Investigation of the adsorptive removal of chromium from aqueous solutions by magnetic iron oxide* during the 10th Challenges in Environmental Science and Engineering (CESE) Conference in Kunming, PR China, 11-15 November 2017.

- Assoc. Prof. Pongrama Ramasoota was awarded Outstanding Alumni by the Faculty of Veterinary Medicine, Kasetsart University, in December 2017.

- Assoc. Prof. Pongrama Ramasoota was appointed Head of the Department of Social and Environmental Medicine, succeeding Assoc. Prof. Kamolnetr Okanurak. As the new Head, Dr. Pongrama has a vision that the Department will cover three aspects of research: "From laboratory to community to commercialized product". He also aims to acquire more funding for the Department, collaborate further with other universities and the private sector, translate research products into commercial products, and work with people who specialize in marketing. Dr. Pongrama believes that marketing would be a great help in reaching the Department's goals; however, basic research is still needed as a strong academic foundation. In addition, he assures that support for researchers' activities will be emphasized.

For collaboration with the Department, Assoc. Prof. Pongrama Ramasoota can be contacted by email at pongrama.ram@mahidol.ac.th. More detail of the Department's research activities and interests can be found at http://www.tm.mahidol.ac.th/social-environment/

TROPICAL HYGIENE

Assoc. Prof. Jaranit Kaewkungwal
Head of Department

2017 HIGHLIGHTS

- Assoc. Prof. Jaranit Kaewkungwal received the Mahidol University Outstanding Teacher Award.
- Asst. Prof. Saranath Lawpoolsri Niyom was named Epitome of FTM Lecturer by the Faculty Council.
- Dr. Chawarat Rotejanaprasert was awarded a Researcher Links Travel Grant from the British Council for his research titled "Bayesian anomaly detection of environmental hazard surveillance for small area health data".
- Several researchers in the Department were awarded international research grants, to enable them to carry out their work. Funds came from a range of agencies, including the University of Oxford and the Wellcome Trust. Regularly receiving grants through competitive selection processes is a good indicator of the high quality of the Department's work.
- Assoc .Prof. Pratap Singhasivanon led a Training Course on Global Infectious Disease Control: Thailand Prospective, for medical doctors and nurses from Japan, on 13-24 November 2017. This two-week course provided lectures on important tropical diseases, clinical and laboratory diagnosis for tropical diseases, ward rounds and case presentation.
- Training of regional-level health staff on malaria elimination in Thailand was conducted on 2-7 October 2017 at the Faculty of Tropical Medicine, Mahidol University, and was chaired

Dr. Chawarat Rotejanaprasert

Jaranit Kaewkungwal (left) and Saranath Lawpoolsri-Niyom (right)

Assoc. Prof. Pratap Singhasivanon meets with trainees from Japan

by Assoc. Prof. Pratap Singhasivanon. This collaborative program of the Faculty, World Health Organization and Department of Diseases Control, Ministry of Public Health, Thailand was attended by hospital personnel and public health staff from all over Thailand.

- Assoc. Prof. Jaranit Kaewkungwal and Dr. Ngamphol Soonthornworasiri along with researchers from Myanmar, investigated the migration patterns, malaria treatment-seeking preferences, and challenges encountered by mobile/migrant workers at remote sites in Myanmar. The study concluded that mitigating key drivers that favor poor utilization of public-sector services among highly mobile migrant workers in less-stable work settings should be given priority in a malaria-elimination setting.
- Asst. Prof. Wirichada Pang-Ngum's study on respiratory syncytial virus (RSV), entitled "Predicting the relative impacts of maternal and neonatal respiratory syncytial virus (RSV) vaccine target product profiles: A consensus modelling approach" was published in the journal *Vaccine*. The results of the study, using hospitalization data from Kilifi County Hospital, Kenya, revealed that vaccine properties leading to reduced virus circulation by lessening the duration and infectiousness of infection upon challenge are of major importance in population RSV disease control.
- Assoc. Prof. Direk Limmathurotsakul investigated the diagnosis, management and outcomes of dengue patients presenting with sepsis in a prospective study of community-acquired sepsis in Thailand. The results showed that of 874 adult patients with suspected community-acquired infection, 126 were dengue PCR assay-positive (2 DENV-1, 12 DENV-2, 24 DENV-3 and 88 DENV-4), and 5 (4%) died, who were misdiagnosed as severe sepsis and septic shock. The results suggest that rapid diagnostic tests for dengue may need to be routinely used in adult patients presenting with sepsis and septic shock in tropical countries. This study was published in *PLoS ONE*.

The Department conducted several community services in 2017

For collaboration with the Department, Assoc. Prof. Jaranit Kaewkungwal can be contacted by email at jaranit.kae@mahidol.ac.th. More details of the Department's research activities and interests can be found on the website at http://www.tm.mahidol.ac.th/hygiene/

TROPICAL NUTRITION AND FOOD SCIENCE

Assoc. Prof. Karunee Kwanbunjan
Head of Department

2017 HIGHLIGHTS

- Funded by a DAAD (Deutscher Akademischer Austauschdienst, or German Academic Exchange Service) award, 12 students and the Head of the Department of Tropical Nutrition and Food Science visited Justus-Liebig University Giessen and Münster University of Applied Sciences in Germany on 6-17 May 2017. The 12-day study tour promoted cultural and scientific exchange between Thai and German researchers, including activities such as Thai cuisine and visits to historical places like the Liebig chemistry museum, Giessen.
- As part of the exchange of ideas, the Department gave a presentation on how the philosophy of HM King Bhumibol Adulyadej's Sufficiency Economy influences their approach to research and health.
- The Department plans to further the relationship with Justus-Liebig University Giessen and Münster University of Applied Sciences to foster academic exchange and development cooperation between the Faculty of Tropical Medicine and the two German universities in the near future.
- Asst. Prof. Pattaneeya Prangthip evaluated the effectiveness of Maoberry juice against non-alcoholic fatty liver disease (NAFLD) in high fat diet–induced rats. The results showed that the effects of Maoberry juice in high-dosage supplementation reduced levels of triglyceride,

The group poses for a photo before leaving Justus-Liebig University Giessen

A group activity during a seminar in Suan Phueng District, Ratchaburi Province

reduced expression of liver enzymes, oxidative stress and inflammation markers.

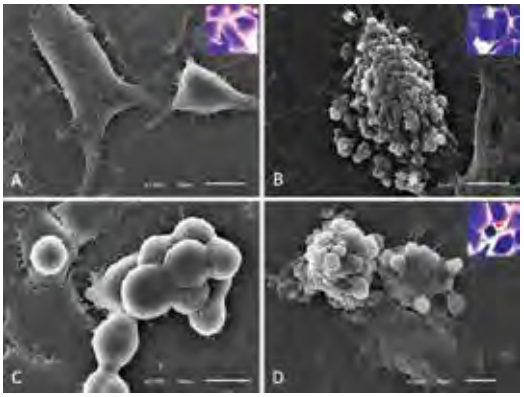
- The Department is motivated to further test Maoberry efficacy in humans, publish their studies, and continue to clinical trials in future. The Department plans to apply for a grant for the development of a Maoberry product if proven safe and effective for humans.
- Assoc. Prof. Karunee Kwanbunjan collaborated with Nong Waeng Promoting Hospital in a cross sectional study on elevated C-reactive protein (CRP), interleukin 6 (IL6), tumor necrosis factor alpha (TNF-α) and glycemic load (GL) associated with type 2 diabetes mellitus (T2DM) among Thais living in Sung Noen District, Nakhon Ratchasima Province, Thailand. The findings of this study suggested that these inflammatory markers, especially CRP, may initiate T2DM. This study was published in *BMC Endocrine Disorders.*
- The Department held the 18th and 19th Nutrition Research and Assessment Workshop on 17-19 July and 24-26 July 2017 at the Faculty of Tropical Medicine, Mahidol University. The workshops were attended by health practitioners from universities, hospitals, and schools from all over Thailand.
- Asst. Prof. Dumrongkiet Arthan conducted several seminars focused on nutritional status and health promotion in Thai-Myanmar communities in Suan Phueng District, Ratchaburi Province.
- The Department has been actively working on health promotion, extending their research knowledge to the community. Furthermore, research in diabetes, malnutrition, obesity, coronary disease, and dyslipidemia has been sustained, resulting in 7 publications in 2017.
- As Head of the Department, Dr Karunee plans to further the collaboration between the Faculty and German universities with a vision to allow academic exchange in the future. The Department also intends to extend their work in food research and subsequently translate their studies into entrepreneurial products.

For collaboration with the Department, Assoc. Prof. Karunee Kwanbunjan can be contacted by email at karunee.kwa@mahidol.ac.th. More details of the Department's research activities and interests can be found on the website at http://www.tm.mahidol.ac.th/nutrition/

TROPICAL PATHOLOGY

Asst. Prof. Urai Chaisri
Head of Department

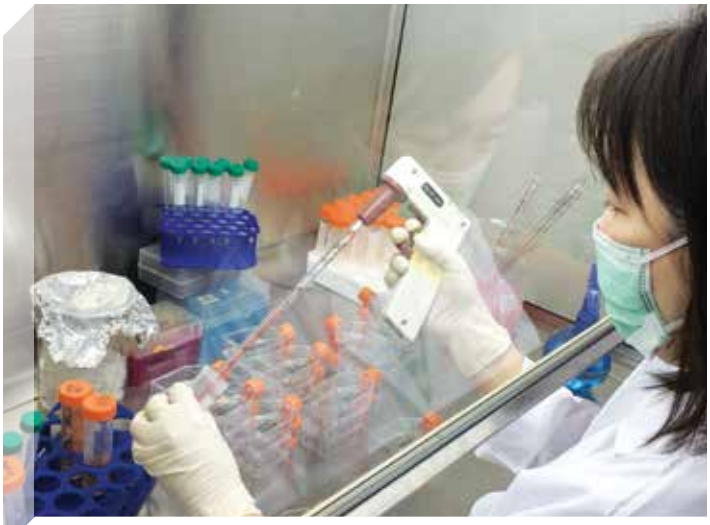
2017 HIGHLIGHTS



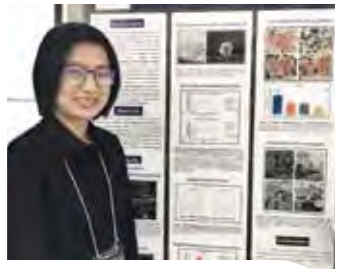
↑ *Scanning electron micrographs taken during ARDs research*

- Researchers in the Department published their illuminating findings on hemozoin deposits in the lung as a potential factor related to malaria-associated acute respiratory distress syndrome (ARDS). Their findings suggest the build-up of hemozoin in the lungs relates directly to the dysregulation of endothelial protein C and thrombomodulin, therefore playing an important role in the development of malaria-associated ARDS. This study leads to a better understanding of the pathogenesis of severe malaria and the potential for further opportunities to explore a novel candidate for adjunctive therapy of severe malaria-associated ARDS.
- Studies conducted by researchers in the Department gained an interesting insight into kidney injury in malaria cases. The studies established the potential role of kidney injury molecule-1 (KIM-1) as a specific biomarker for renal proximal tubular damage among malaria patients. It is hoped that this research will lead to giving medical practitioners an early warning sign for kidney injury and lead to patients' receiving faster treatment.
- Assoc. Prof. Parnpen Viriyavejakul collaborated with researchers from Walailak University to publish a study on the role of sphingosine 1-phosphate (S1P) in severe malaria. The results document a strong correlation between low levels of S1P and more severe malaria. These findings support the need for further research into whether S1P and its analog could be used in the novel adjuvant therapy of malaria complications.
- The study of sphingosine 1-phosphate (S1P), a lipid mediator formed by the metabolism of sphingomyelin, which is involved in endothelial

↑ *Ms. Wilanee Dechkhajorn - Scientist*



↑ *Assoc. Prof. Parnpen Viriyavejakul performs cell culture*



↑ *Ms. Sitang Maknitikul*

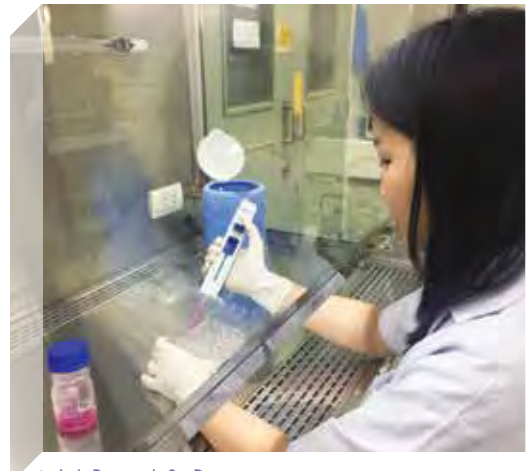
permeability and inflammation, is planned for clinical trials in the future.

- Research conducted by Assoc. Prof. Yaowapa Maneerat and collaborators enabled a better understanding of the immune evasion strategy used by *G. spinigerum* larvae during human gnathostomiasis. This research focused on the roles and properties of excretory-secretory products released from the infective stage *G. spinigerum* larvae. The knowledge gained will clarify the pathogenesis and mechanisms of immune evasion strategies in human gnathostomiasis.
- Asst. Prof. Sumate Ampawong published several papers on the opportunities and therapeutic benefits of sericin extracts, a natural product from silk protein. Sericin has many potential roles in the treatment of non-communicable diseases, especially hypercholesterol and hyperglycemia. This research forms the foundations for exploring possible alternative therapeutic approaches and uses of sericin, such as the lowering effect of blood cholesterol and glucose levels, improving the mitochondrial function of the heart and liver, and accelerating wound regeneration.
- The Department's *in vitro* study of candidiasis demonstrated that temperature is an important factor involved in the development of biofilm, a virulent mechanism in *Candida albicans*.
- Ms. Sitang Maknitikul, an MSc student, received a travel award to attend and present her poster entitled "Hemozoin correlates to malaria-associated acute respiratory distress syndrome interleukin (IL)-1β, triggered by *Plasmodium* hemozoin and monocyte, induces pneumocyte type II apoptosis through CARD9 pathway: a possible mechanism to retard pulmonary resolution" at the 16th Awaji International Forum on Infection and Immunity, held in Japan, 5-8 September 2017.

For collaboration with the Department, Asst. Prof. Urai Chaisri can be contacted by email at urai.cha@mahidol.ac.th. More details of the Department's research activities and interests can be found at http://www.tm.mahidol.ac.th/pathology/

TROPICAL PEDIATRICS

Assoc. Prof. Chukiat Sirivichayakul
Head of Department



Lab Research for Dengue

2017 HIGHLIGHTS

Dr. Supawat Chatchen

- Dr. Supawat Chatchen and his team at the Department of Tropical Pediatrics published a thought-provoking article on the importance of asymptomatic dengue in transmission as well as highlighting the need for new methods to detect asymptomatic cases. A large proportion of dengue infections are asymptomatic, this makes disease control and surveillance difficult. There is currently no "gold standard" to diagnose asymptomatic dengue infection, and existing tests are not always sensitive enough to detect low-level infection. A new economically viable diagnostic kit is needed to understand asymptomatic infection better.

- Assoc. Prof. Chukiat Sirivichayakul, from the Department of Tropical Pediatrics, collaborated with researchers from the UK and Korea to estimate the economic impact of dengue in Thailand, Cambodia, and Vietnam. The study found that the economic cost of dengue is substantial in endemic areas. This research will be added to a growing body of evidence to support the widespread roll-out of existing and future dengue vaccines through private and public vaccination programs.

- Researchers from the Department of Tropical Pediatrics published a paper on the cost-effectiveness of long-term protection from rabies among Thai children. Rabies is an often deadly viral zoonosis, which is endemic to Thailand. It is recommended that high-risk groups receive a pre-exposure vaccine; however, widespread programs are often limited due to the cost-effectiveness of the vaccine. The study compared the effectiveness of the Intradermal (ID) vaccine, a reduced-cost vaccination due to its lower

Providing information during recruitment

dosage, with the standard intramuscular (IM) vaccine. The results showed a reduced-dose rabies regimen may lower the cost of long-term protection against rabies for vulnerable populations, thus improving the cost-effectiveness of pre-exposure rabies vaccination among children.

For collaboration with the Department, Prof. Chukiat Sirivichayakul can be contacted by email at chukiat.sir@mahidol.ac.th. More details of the Department's research activities and interests can be found on the website at http://www.tm.mahidol.ac.th/pediatrics/

Blood sampling in an epidemiology study

CENTERS OF EXCELLENCE

The Faculty has 7 Centers of Excellence – the Center of Excellence for Biomedical and Public Health Informatics (BIOPHICS), the Vaccine Trial Center (VTC), the Center of Excellence for Antibody Research (CEAR) and the Center of Excellence for Malaria Research. The Center of Excellence for Malaria Research is divided into 3 sub-units--the Mahidol Vivax Research Unit (MVRU), the Genomics and Evolutionary Medicine Unit (GEM), and the Clinical Malaria Research Unit (CMRU). In 2017, the Drug Research Unit for Malaria (DRUM) was established as the 7th unit of the Faculty's Centers of Excellence. On the following pages, there are more details about each center and unit, including their areas of focus and recent achievements.

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

Mr. Amnat Khamsiriwatchara

- Mr. Amnat Khamsiriwatchara was appointed CEO of BIOPHICS, succeeding Assoc. Prof. Jaranit Kaewkungwal.

- The Bureau of Vector-Borne Diseases (BVBD), Ministry of Public Health, Thailand received a National Public Service Award from the Royal Thai Government for the development of the National Electronic Malaria Information System (eMIS). The surveillance system is being developed by BIOPHICS, and has been in use since 2012. The system supports malaria clinical staff working at the point-of-care with close-to-real-time case management reporting, covering case detection, case investigation, drug compliance, and follow-up visits. The visualization of the system can provide data drill down intelligently and effectively, capturing the number and level of malaria cases from provinces to the smallest villages and communities throughout Thailand. The e-MIS plays a key role in moving Thailand toward the national goal of malaria elimination by 2030.

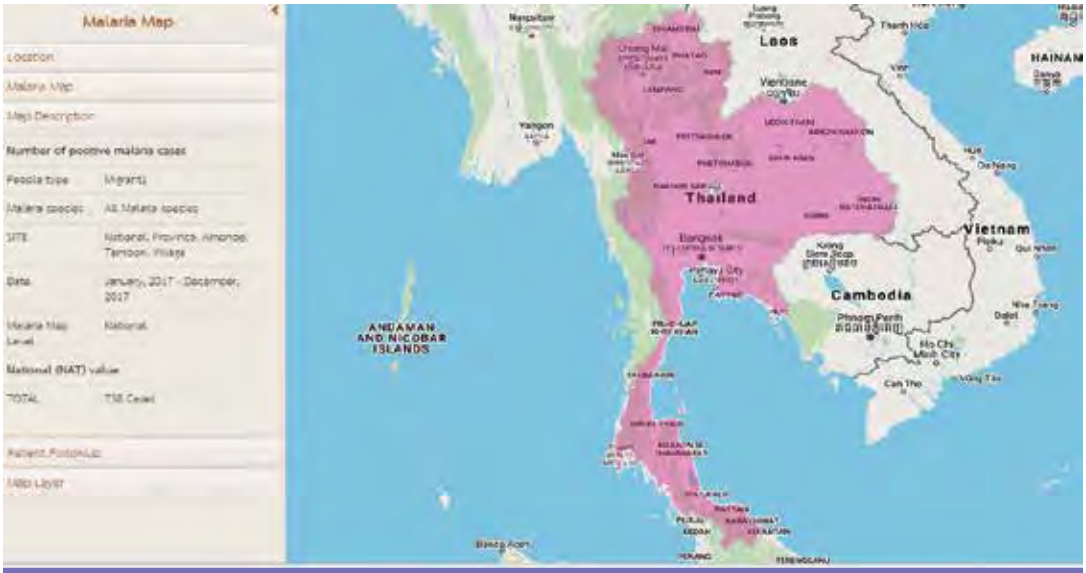
- In year 2016, the Center successfully implemented another national surveillance system for tuberculosis case management in Thailand. The new online surveillance system

has undergone further development based on experience with e-MIS, while similar features are maintained but can manage a much larger information base, collected from over 1,000 TB clinics throughout the country. Clinical case management for tuberculosis raises awareness of the level of risk tuberculosis poses in the country, and alerts and promotes appropriate action to respond to this disease. BIOPHICS works closely with the Bureau of Tuberculosis, in the Ministry of Public Health, Thailand.

- Aside from clinical data management, surveillance systems, and data analysis, BIOPHICS has also been collaborating with researchers from the Faculty on research publications and clinical trials.

- As the CEO of BIOPHICS, Mr Amnat aims to keep up with the fast-paced evolution of information technology, as it plays a vital role in their research work and goals; to translate data into public health benefits by creating a system that will extend important information to the people intelligently and effectively.

For collaboration with BIOPHICS, Mr. Amnat Khamsiriwatchara can be contacted by email at amnat.kha@mahidol.ac.th. More details of their activities and services can be found on their website at http://www.biophics.org/



A screenshot of the eMIS, showing all the malaria cases in Thailand from January-December 2017

CENTER OF EXCELLENCE FOR ANTIBODY RESEARCH (CEAR)

↑ *Researchers and staff of CEAR*

- CEAR staff obtained a total of 18 million Baht in research grants from several funding agencies, including the Japan Science Promotion Society (JSPS), National Research Council of Thailand (NRCT), National Science and Technology Development Agency (NSTDA), Thailand Research Fund (TRF), Centre of Excellence in Medical Biotechnology (CEMBPERDO), Health Systems Research Institute (HSRI), and the Faculty of Tropical Medicine.
- Pannamthip Pitaksajjakul, Pongrama Ramasoota, Atsushi Yamanaka, Eji Konishi and Tatsuo Shioda obtained two Japanese patents for their inventions--dengue vaccine antigen-inducing neutralizing antibody but inhibiting induction of infection-enhancing antibody; and chikungunya immuno-chromatography diagnostic test.
- Pongrama Ramasoota and Pannamthip Pitaksajjakul published their study in *PeerJ* entitled "Generation and characterization of cross neutralizing human monoclonal antibody against 4 serotypes of dengue virus without enhancing activity". In addition, six more papers were published by CEAR staff.
- Pongrama Ramasoota was appointed Collaborative Professor of Osaka University at Center of Excellence for Antibody Research, Faculty of Tropical Medicine, Mahidol University on 21 September 2017.
- Pongrama Ramasoota was awarded Outstanding Alumni by the Faculty of Veterinary Medicine, Kasetsart University, in December 2017.

For collaboration with the Center of Excellence for Antibody Research (CEAR), Dr. Pongrama Ramasoota can be contacted by email at pongrama.ram@mahidol.ac.th. More details of their research activities and interests can be found at http://www.tm.mahidol.ac.th/cear/

GENOMICS AND EVOLUTIONARY MEDICINE

↑ *A student at the GEM Unit and Dr.Thanat Chookajorn*

- Dr. Thanat Chookajorn and his team in the Genomics and Evolutionary Medicine Unit (GEM) have been collaborating with GlaxoSmithKline (GSK) to investigate new drug candidates which can boost the effectiveness of artemisinin in treating malaria. This successful collaboration has screened over 40,000 drug candidates and highlighted ten candidates suitable for further investigation. These ten will now be tested for their safety profiles. Successful candidates will enter Phase 1 clinical trials, another opportunity for further collaboration.

- Increasing public engagement is an important step in realizing the social benefits of the Faculty's research. Dr. Thanat Chookajorn has been working with researchers at Khon Kaen University and the Wellcome Sanger Institute to kick-start a program aiming to improve genome literacy and understanding among the general public. The program has produced a series of materials aimed at showing young-adults the possibilities and limitations of current genome knowledge.

- The Genome and Evolutionary Medicine Unit, in collaboration with the Wellcome Sanger Institute, hosted an engaging pre-meeting course on genome editing CRISPR-Cas9 technology at JITMM 2017. The course, enjoyed by over 20 attendees, covered the principle of CRISPR-Cas9 and its application to understanding the parasitic protozoan, *Plasmodium falciparum*. CRISPR-Cas9 is revolutionizing research in every biological field and has become a powerful tool in tropical medicine with several applications in seminal papers. This is an excellent example of TropMed being at the forefront of new technology and scientific knowledge.

- GEM has worked with international partners to create a series of easily interpreted and ready-to-use materials to help policy-makers understand genome data. It is hoped these will enable national and international bodies to make informed decisions about future policies. The first of these materials explained the growth of drug-resistant malaria in Southeast Asia. It is hoped that new government-level polices can help reduce the spread of this resistance.

- The Genome and Evolutionary Medicine Unit has entered into a groundbreaking global partnership to be part of the Global Virome Project. The aim of the project is to detect and characterize the planet's unknown viral threats, therefore creating an accessible unbiased global database that can be used for the detection and prevention of future viral threats. http://www.globalviromeproject.org/

For collaboration with the Genomics and Evolutionary Medicine Unit (GEM), Asst. Prof. Thanat Chookajorn can be contacted by email at thanat.cho@mahidol.edu. More details of the Unit's research activities and interests can be found at http://www.tm.mahidol.ac.th/gem/

MAHIDOL VIVAX RESEARCH UNIT (MVRU)

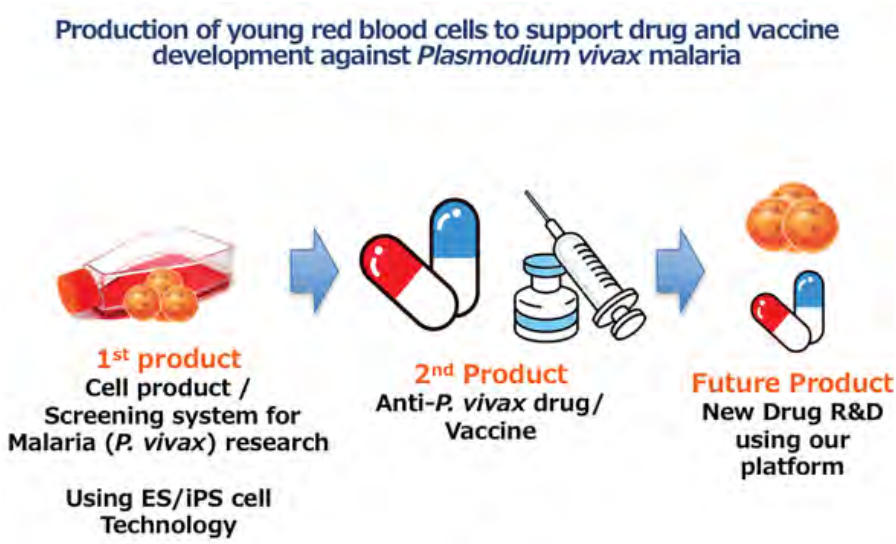
Dr. Jetsumon Prachumsri

- Dr. Jetsumon Prachumsri, along with collaborators from the Armed Forces Research Institute of Medical Science (AFRIMS) and researchers from across the faculty, began work on a new clinical trial sponsored by the US Department of Defense. The project will evaluate the ability of ivermectin, a drug usually used to treat helminth infections, to interrupt the mosquito reproductive lifecycle through mass administration. It is hoped that the results of this trial will lead to a new method for reducing malaria transmission and ultimately lead to eliminating malaria in target areas. Progress had been hindered by a recent reduction in malaria cases in Thailand, leading to a search for field sites. However, study sites have now been identified in Surat Thani province. Regulatory and ethical approval is expected in 2018, with baseline malaria surveys expected to start shortly after.

↑ *Dr. Jetsumon collecting her award*

- 2017 saw the completion of Phase 1 of the International Centre of Excellence for Malaria Research (ICEMR) project for Southeast Asia, co-investigated by Dr. Jetsumon Prachumsri and her team in the MVRU. Phase 1 focused on understanding the migration and movements of humans & mosquito vectors and its effect on the transmission of malaria. The second phase of the ICEMR project, which has just been announced, will focus on further developing our understanding of vector biology and impact on malaria transmission, and the genomics of the parasite. Funding has been approved until 2024, with potential supplementary studies in the pipeline.

Dr. Jetsumon Prachumsri won the Medicines for Malaria Venture (MMV) Project of the Year Award 2016 for her establishment of an *in-vitro* culture of *P. vivax* liver stage in hepatoma cell line, HC-04, a new platform to test compounds for activity against the liver stages of malaria. The new *in-vitro* culture system enables



↑ *Future Potential of the Young Red Blood Cell Platform*

researchers to see the impact of compounds on the small (hypnozoite) and large (schizont) liver forms of *P. vivax*. The system uses a cell line that can be cultured in the lab, which means researchers are not limited by the supply of cells from donors. This cell line has minimal metabolic activity and so does not degrade compounds, which makes it easier to identify those that are active.

- Dr. Jetsumon Prachumsri travelled to the Tech Innovation conference in Singapore to present and pitch her new method for producing young red blood cells. Six Mahidol products were sent to the conference. Dr. Prachumsri's product was shortlisted and invited to pitch in front of the large crowd of industrial and commercial delegates.
- Congratulations to Dr. Jetsumon Prachumsri, who was elected a member of the American Society of Tropical Medicine and Hygiene (ASTMH) Council. ASTMH is the largest international scientific organization of experts dedicated to reducing the worldwide burden of tropical infectious diseases. Dr. Jetsumon is only the second international member to be elected.
- Kirakorn Kiattibutr, from MVRU, published a paper on the infectivity of symptomatic and asymptomatic *Plasmodium vivax* carriers. His research found that the mosquito infection rate of *P. vivax* correlated with parasitemia and asymptomatic carriers likely contributing significantly to transmission. This result will help inform future programs aimed at *vivax* malaria elimination; not only will they need to identify people who can currently transmit the infection, but also address the silent hypnozoite reservoirs in asymptomatic carriers.

For collaboration with the Mahidol Vivax Research Unit, Dr Jetsumon Prachumsri can be contacted by email at jetsumon.pra@mahidol.ac.th. More details of the Unit's research activities and interests can be found at http://www.tm.mahidol.ac.th/vivax/

CLINICAL MALARIA RESEARCH UNIT (CMRU)

Prof. Srivicha Krudsood

- The staff of the CMRU have been recognized as expert consultants in clinical malaria management by the Department of Disease Control, Ministry of Public Health, Thailand.

- A study by Assoc. Prof. Noppadon Tangpukdee, Prof. Srivicha Krudsood and collaborators highlighted the measurement of Galectin-9 (Gal-9) in plasma samples obtained from 50 acute malaria cases in Thailand determined by ELISA. The study concluded that Gal-9 is released during acute malaria, and reflects its severity. This elevation of Gal-9 in acute malaria infection raises the possibility of its role in terminating the immune response by binding to T cell immunoglobulin and mucin domain-3 (Tim3), a receptor of Gal-9. The study, *Plasma levels of Galectin-9 reflect*

↑ *CMRU staff*

↑ *Participants utilizing microscopes during the training*

disease severity in malaria infection, was published in *Malaria Journal*.

- The 15th International Training Course on Management of Malaria was held at the Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand on 21 - 25 August 2017. The course was organized jointly by CMRU, World Health Organization for South-East Asia Regional Office (WHO-SEARO), in New Delhi, India, and the Mekong Malaria Programme. The annual training aims to inform and update participants about the current malaria situation, diagnosis, treatment, management, prevention and control, as well as offering opportunities for participants to share their experiences.
- Prof. Srivicha Krudsood visited Chiang Rai Prachanukroh Hospital (Chiang Rai Province) and Phayao Provincial Hospital (Phayao Province) on 7 July 2017, to show appreciation for their collaborative contributions to the Faculty of Tropical Medicine. These hospitals are part of the Faculty's Collaborative Network and support the Faculty in academic cooperation, including educational-project venues for the Faculty's students from various overseas institutes and universities.

For collaboration with the Clinical Malaria Research Unit (CMRU), Prof. Srivicha Krudsood can be contacted by email at srivicha.kru@mahidol.ac.th. More details of the Unit's research activities and interests can be found at http://www.tm.mahidol.ac.th/cmru/

VACCINE TRIAL CENTRE (VTC)

Prof. Punnee Pitisuttithum

- 2017 mainly focused on establishing the cohort for a study of men having sex with men (MSM), in preparation and planning to test a new type of HIV vaccine. The modified prime boost regimen using ALVAC and adjuvanted gp120 HIV vaccines and Ad26 “Mosaic” HIV vaccine are currently being tested in Africa as proof-of-concept studies, supported by the US National Institutes of Health (NIH) and the Bill and Melinda Gates Foundation (BMGF). Ad26 mosaic vaccine uses genes from different HIV subtypes in the hope of giving universal immunity against all HIV clades. Knowledge gained at the Vaccine Trial Centre has contributed greatly towards the safety and immune response profile (AD26 vaccine) and timing of the immunization schedule plan used in the African study (RV306- ALVAC-AIDSVAX boosting). Studies carried out by the VTC have shown that a longer period between booster immunizations leads to a better immune response to the vaccine regimen. If the trial is successful in Africa, it is hoped that the Vaccine Trial Centre will begin testing the vaccine for efficacy against SubtypeB/ E, the most common subtype in Thailand, in 2019/20.

- The Vaccine Trial Centre has contributed

Vaccine Trial Centre staff

towards giving the clinical trial results of the live attenuated avian influenza vaccine (LAIV H5N2) produced by the Government Pharmaceutical Organisation (GPO). The immunity results, together with the immune responses after priming, were used to file for licensing the product and it was approved for emergency use. The facility is part of the World Health Organization' s (WHO) Global Action Plan to combat influenza pandemics and increase global production capacity for vaccines. In times of flu pandemic, the demand for vaccine greatly outstrips the available supply, effecting Thailand's ability to source vaccines from abroad and amplifying the effects of an outbreak. Therefore, it is necessary for Thailand that the infrastructure is in place to address this issue. In 2017, the VTC completed testing I/II and is now conducting phase II/III (945 participants). This contributes towards national security and stability in times of a pandemic, and brings the economic benefits of limiting outbreaks and the social benefits of bringing new skills and jobs to the area.

- The Vaccine Trial Centre is one of the multi centers from around the globe conducting Phase 2 and 3 trials to assess the immunogenicity and efficacy of the new 9-valent HPV vaccine (9vHPV) among subjects with differing baseline characteristics. The results have shown that the vaccine was highly immunogenic in subjects aged 9-26 years and efficacious in young adults, similar to the existing q HPV vaccine. It has just been licensed in Thailand.

- Results of a trial by the Vaccine Trial Centre led to the successful licensing of a new acellular pertussis vaccine containing genetically inactivated pertussis toxin in Thailand. Working with Bio Net Asia, the VTC tested the safety and immune responses of a recombinant acellular pertussis vaccine as a booster vaccine in adolescents. The vaccine was tested as a new monovalent vaccine, as well as in combination with diphtheria and tetanus, similar to the existing licensed vaccines. The positive results of the trial showed that the new vaccine gives a higher and longer antibody response than existing Tdap (tetanus, diphtheria, and pertussis) vaccines. The availability of a monovalent vaccine gives medical professionals the new ability to vaccinate for pertussis when vaccination against diphtheria and tetanus vaccination may not be needed, for example with maternal immunization to protect newborn babies against pertussis only.

For collaboration with the Vaccine Trial Centre, Prof Punnee Pitisuttithum can be contacted by email at punnee.pit@mahidol.ac.th. More details of the Unit's research activities and interests can be found at http://www.tm.mahidol.ac.th/vtc/

DRUG RESEARCH UNIT FOR MALARIA (DRUM)

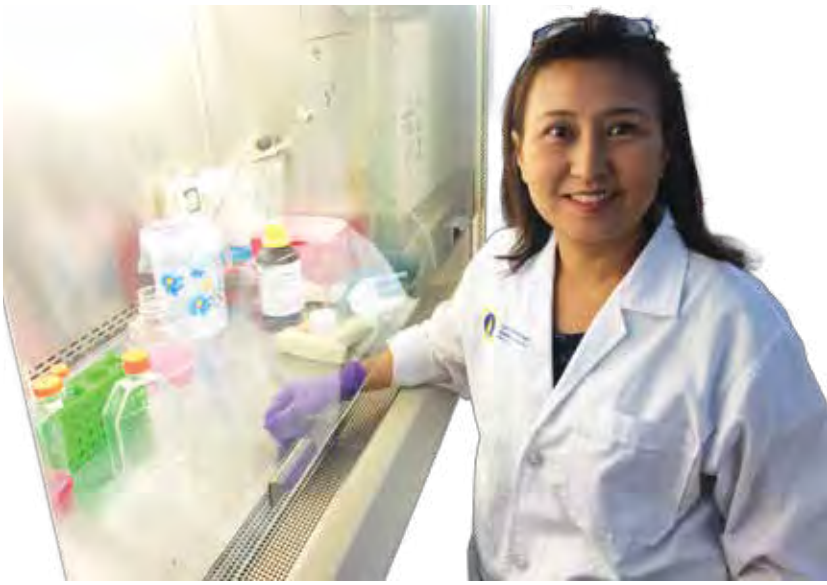
The Drug Research Unit for Malaria is a new addition to the Faculty's Centers of Excellence, with Dr. Rapatbhorn Patrapuvich as the Head and Principal Scientist. The Unit specializes in applying functional genomic tools to understanding drug responses and resistance mechanisms in malaria parasites, anti-malarial drug development, and compound activity and sensitivity testing. One of the unique research strategies of the Unit is to detect and predict drug resistance, then modify developing compounds against factors that cause resistance.

Dr. Rapatbhorn has a background in malaria genetics and malaria pharmacology including training in two laboratories, BIOTEC, in Bangkok, Thailand, and the University of Washington, in Seattle. These laboratories discovered new antimalarial drugs, P218 and DSM265, respectively. P218 is now at the pre-clinical stage, and DSM265 is in a Phase II clinical trial.

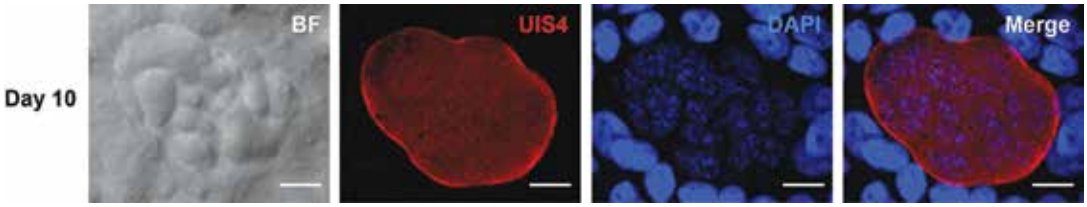
February 2017 saw the formation of the unit with support from the Faculty of Tropical Medicine and a grant from the NIH US-Japan Medical Science Program. According to Dr. Rapatbhorn, national and international collaborators have provided greatly assistance to the unit in its early development.

Excellent Center for Drug Discovery: The Excellent Center for Drug Discovery (ECDD), Faculty of Science, Mahidol University is the national collaborator with the Unit. ECDD provides high-throughput facilities and pharmaceutical machines to the unit. ECDD develops the tools specifically for understanding the bio-pharmaceutical process, molecular basis, and gene therapies. The collaboration's research areas include cell culture; one product of their collective work was the discovery of immortalized hepatocyte-like cell line (imHC). According to their study, imHCs maintain a hepatocyte phenotype and drug-metabolizing enzyme expression, constitute an alternative host for *in-vitro Plasmodium* liver-stage studies, particularly those addressing the biology of *P. vivax* hypnozoites and potentially offer a novel, robust model for screening drugs against liver-stage parasites. This "Thailand made, but global impact" paper was published in *Malaria Journal*.

Rathod's Lab: Prof. Pradipsinh Rathod of the Department of Chemistry, University of Washington, Seattle, is one of Dr. Rapatbhorn's collaborators. Prof. Rathod has been a mentor of Dr. Rapatbhorn in establishing a unit for malaria drug research. Prof. Rathod is an expert in malaria drug discovery and is the lead researcher of the compound DSM265, a potential anti-malarial drug currently in clinical



↑ *Dr. Rapatbhorn Patrapuvich, Unit Head, worked at Goa Medical College Hospital, one of the South Asia ICEMR's research sites in Goa, India*



↑ *Representative immunofluorescence images of P. vivax exoerythocytic forms (EEs) in imHCs on day 10 post infection*

↑ *Team at ECDD*

trial phase II. Prof. Rathod is also the Director of the South Asia International Center of Excellence for Malaria Research (ICEMR) which is a collaborator of the Unit. Rathod's lab offers facilities, knowledge and technological exchange with the Unit. A drug resistance model of the Unit is currently situated in Prof. Rathod's lab.

South Asia ICEMR: NIH-supported ICEMR South Asia has malaria study sites across India, where Dr. Rapatbhorn collaborates in malaria evolution research. This collaboration aims to understand the malaria parasites' adaptability to drug resistance in South and Southeast Asia.

More than numbers

The Unit is composed of two lab scientists with expertise in cell and molecular biology, drug assay, drug toxicity, and high-throughput technology, among others. Although the Unit does not boast a large number of staff, the huge support from Faculty researchers and staff ensure its research activities are conducted efficiently.

Looking toward the future

Dr. Rapatbhorn is preparing for a funding application to enable the partnership with the University of Washington official, and continue their joint projects. The Unit aims to further the collaboration with ECDD and plans to publish more of their discoveries soon. ECDD has a library of Thai natural compounds and the Unit looks forward to evaluating their drug potentiality.

An addition to Dr. Rapatbhorn's goals is to develop an anti-hypnozoite drug. As she mentioned, malaria can only be eliminated if an effective and efficient treatment to kill hypnozoites is found. Currently, the Unit has a new model *vivax* assay that can evaluate hypnozoites in culture and the Unit hopes to further its development subsequently.

Along with a number of plans ahead, Dr. Rapatbhorn shares an important objective; to inspire and encourage the younger generation in Thailand to become involved in science. As she said, "I want to produce more drug researchers in the field and encourage young generations to do science in the future".

Collaboration

For collaboration with the Drug Research Unit for Malaria, Dr. Rapatbhorn Patrapuvich can be contacted by email at rapatbhorn.pat@mahidol.ac.th.

COLLABORATIONS

International academic collaboration is central to the work of the Faculty. Currently, six international organizations or units are hosted, covering a range of research and activity areas. The following pages describe the work of each collaboration and their highlights and impacts in 2017.

MAHIDOL-OSAKA CENTER FOR INFECTIOUS DISEASES (MOCID)

↑ *The MOU will foster a new Master of Science Program in 2020*

- The Faculty further strengthened its ties with Osaka University by signing a Memorandum of Understanding (MOU) to deliver a new joint Master of Science program. The program, details of which are still being finalized, will give students the opportunity to learn from a broader range of lecturers and access to an increased number of resources at both Mahidol and Osaka Universities. The program will include an exchange, whereby students can spend a portion of their studies in a new and exciting environment. Further information will be released in the coming months; course enrollment is expected to start in 2020.

- Dr. Tatsuo Shioda and Dr. Tamaki Okabayashi analyzed the diagnostic accuracy of a rapid E1-antigen test for chikungunya virus infection in a reference setting. They found that the E1-antigen test had fair diagnostic sensitivity for East/Central/South African (ECSA) genotype chikungunya, but low sensitivity for the Asian genotype, and poor overall specificity. This study was published in *Clinical Microbiology and Infection.*

- Mr. Aekkachai Tuekphrakhon, a PhD student, published his study in *Scientific Reports* on the key element affecting the performance of a CHIKV E1-antigen rapid immunochromatographic assay against the Asian-genotype. The article is entitled "Variation at position 350 in the Chikungunya virus 6K-E1 protein determines the sensitivity of detection in a rapid E1-antigen test".

- Ms. Sasicha Somboon joined MOCID in the position of secretary.

MAHIDOL-OXFORD TROPICAL DISEASES RESEARCH UNIT (MORU)

Prof. Nicholas Day
is Head of MORU

- A paper published by the Mahidol Oxford Tropical Medicine Research Unit (MORU) on the spread of the multidrug-resistant malaria parasite, *P. falciparum,* in particular the lineage *PfPailin*, drew much attention in the malaria research community.

- The article surveyed the spread of drug-resistant malaria from western Cambodia into eastern Thailand and southern Laos, and more recently into southern Vietnam. The spread of drug resistance has resulted in countries in the region reassessing their first-line treatment combinations. Strong calls have been made to increase international co-operation and consider the longer term impacts, to help stop development of further resistance and to limit international spread, particularly before it reaches Africa, where most malaria deaths occur.

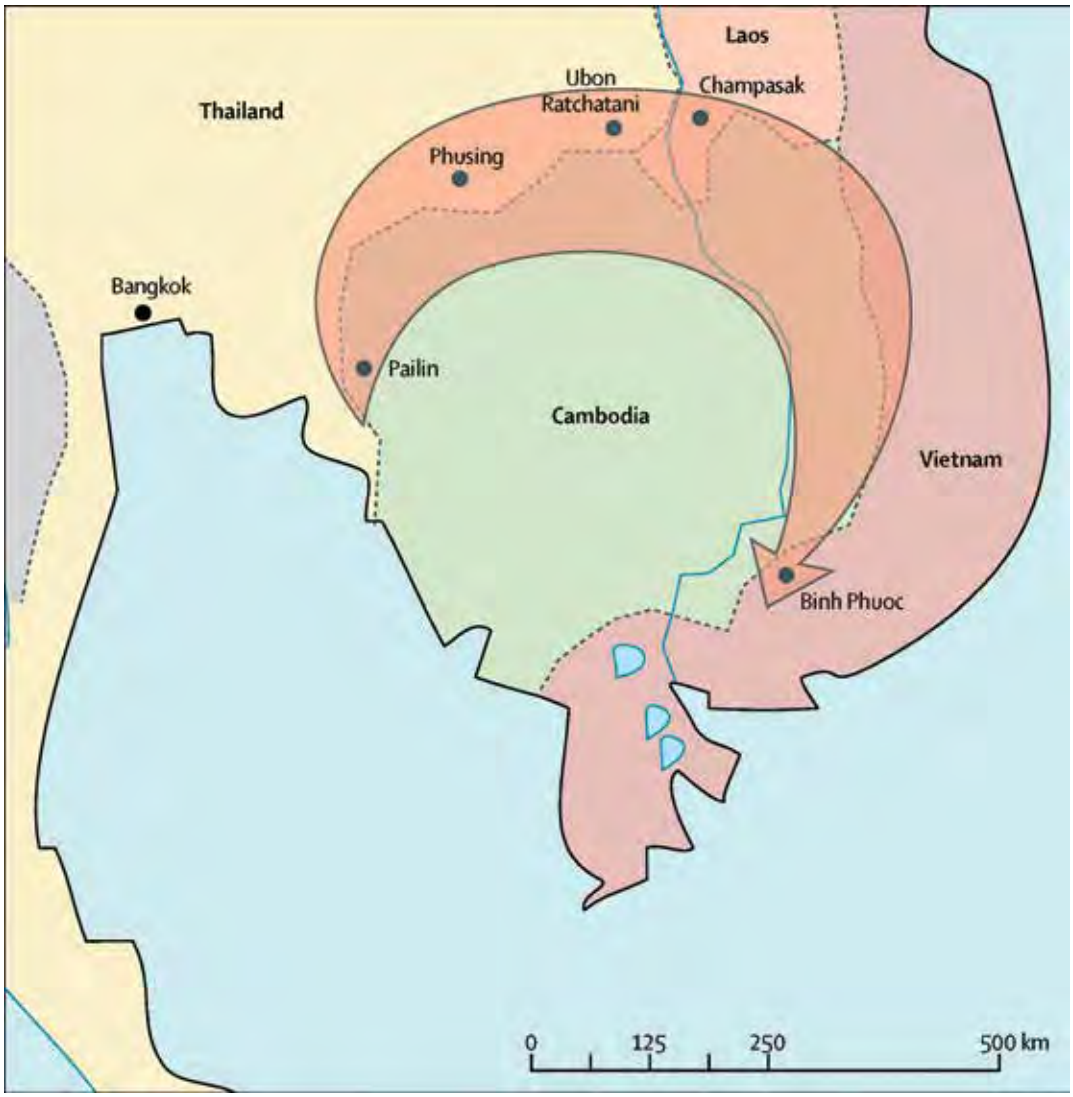
- Researchers from the Mahidol Oxford Tropical Medicine Research Unit (MORU) received additional funding for the second phase of the Tracking Resistance to Artemisinin Collaboration (TRAC 2) study. The project aims to monitor the spread of drug-resistant falciparum malaria, understand its nature, and develop new treatment methods for drug-resistant infections. Early results from the TRAC 2 study show that triple artemisinin combination therapies (TACTs) could be highly effective against drug-resistant malaria. Funding for the third phase (DeTACT) has recently been approved and will look at the safety, efficiency and economics of co-blistered and co-formulated TACTs across Asia and among African children.

- A paper published by researchers Lim, Takahashi *et al*. from the Mahidol Oxford Tropical Medicine Research Unit (MORU) estimated the excess mortality attributable to the growing threat and burden of antimicrobial resistance (AMR) in Thailand. Their research estimated that around 19,000 deaths in Thailand in 2010 were excess deaths attributable to multidrug-resistant infections, compared to 23,000 in the U.S. and 25,000 in the EU. Per capita, the number of deaths in Thailand is 3-5 times greater than the U.S. and EU. AMR is a global threat, particularly in low- and middle income countries (LMICs). More research is needed to understand and combat this growing danger.

- Assoc. Prof. Direk Limmathurotsakul *et al*. from the Mahidol Oxford Tropical Medicine Research Unit (MORU) published their research which produced the first ever evidence-based map of the global distribution of the highly pathogenic bacterium *Burkholderia pseudomallei,* which causes melioidosis. They estimated the burden of melioidosis to be 165,000 human cases per year worldwide – of whom 89,000 die (i.e., more than from dengue). Their estimates suggest that melioidosis is severely underreported in its 45 known endemic countries, and is probably endemic in 34 countries that have

never reported the disease, due to inadequate diagnostic and disease-reporting facilities. These findings have raised the profile of this devastating disease internationally. A large-cluster randomised behaviour-change trial to characterise the effectiveness of a melioidosis prevention programme in diabetics (the major risk group) is underway.

→ Researchers from the Mahidol Oxford Tropical Medicine Research Unit (MORU) published their findings on the suitability and effectiveness of mass drug administration (MDA) in eliminating falciparum malaria in remote endemic areas. Positive results showed that MDA was feasible and could help to eliminate malaria in combination with other supplementary approaches; however, efficiency was dependent on a large proportion of the community participating.



↑ *Transnational spread of multidrug-resistant PfPailin*

MALARIA CONSORTIUM

Charles Nelson (left) and Carrie Brown (right) award Sylvia Meek Scholarship to Somsanith Chonephetsarath (center)

- The Malaria Consortium seeks to engage in at-scale delivery of effective vector-control interventions and develop, investigate, promote and implement novel, vector-focused approaches that reduce disease transmission. The Consortium focused on implementing an integrated vector-management program for dengue control in Cambodia, which will provide significant insight into a number of diseases. They are also assuring the most appropriate interventions in the Greater Mekong Subregion through technical support to regional vector-control working groups.

- The Malaria Consortium and the Faculty of Tropical Medicine, Mahidol University set up an entomology scholarship in memory of Dr. Sylvia Meek, former Malaria Consortium Technical Director, to honor her outstanding work to help reduce the impact of vector-borne diseases. The Dr. Sylvia Meek FTM Scholarship for Entomology 2017 was awarded to Somsanith Chonephetsarath (Lao PDR) and Muhammad Adnan (Pakistan).

- Malaria Consortium Global Technical Director, Dr. James Tibenderana, was a keynote speaker at the Joint International Tropical Medicine Meeting 2017 (JITMM2017) on 6-8 December 2017 at the Amari Watergate Hotel in Bangkok. He spoke about "Collaboration and innovation at scale: MC's experiences with upSCALE and SMC". Dr. Jeffrey Hii, Senior Vector-Control Specialist, presented a session on "Trans-national research and promoting cross-sector collaboration and socio-ecological systems and resilience approach to vector-borne and parasitic diseases".

SILOM COMMUNITY CLINIC @ TROPMED

The Silom Community Clinic @TropMed staff

- The Silom Community Clinic's research has been widely disseminated in peer-reviewed publications and presentations. The Clinic works closely with members of the Bureau of AIDS, TB, and STIs in the Thailand Ministry of Public Health (MOPH) as well as members of Thailand MOPH – U.S. CDC Collaboration's (TUC) Division of Global HIV and TB, who receive funding through the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), to translate the Clinic's research findings into programmatic activities.

- In October 2017, the Clinic hosted a consultation on ways to improve demand for HIV-prevention strategies, such as Pre-Exposure Prophylaxis (PrEP) among people at risk of HIV. This consultation brought members from the Thai and U.S. governments, the Thai Red Cross, local advocacy groups, and community-based organizations together to determine strategies to increase the uptake of PrEP among men who have sex with men (MSM) and transgender women (TGW) in Thailand. If effective, the Clinic's ongoing research studies evaluating alternative approaches for PrEP will have an important impact on the global epidemic of HIV infection.

- The Clinic's poster presentation, entitled "Attitudes, Knowledge, HIV Risk Behaviors, and Sexually Transmitted Infections among Men who have Sex with Men starting Pre-exposure Prophylaxis at a Clinic in Bangkok, Thailand, 2016" received the Best Poster Award at the Asia Pacific Conference on AIDS and Co-infections (APACC), Hong Kong, 1-3 June 2017.

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

Dr Sandra Tempongko and Assoc. Prof. Pratap Singhasivanon during the in-house meeting

- SEAMEO TropMed Network held an In-house Meeting on 1 December 2017 at the Network Office in Bangkok. The meeting agenda covered updates on the High Officials Meeting (HOM 2017), among others. The meeting also discussed the scholarship policies and queries on the Network's journal, the *Southeast Asian Journal of Tropical Medicine and Public Health*.

- The Network organized a training program for the staff of newly established SEAMEO centers on 15 May 2017 at the Network Office in Bangkok. 10 staff representing SEAMEO TropMed centers from Indonesia, Cambodia, Lao PDR, and Myanmar, attended the training program.

- The 56th Governing Board Meeting of SEAMEO TropMed Network was held in Makati Diamond Residence, Makati, Philippines on 8 September 2017. More than 30 Governing Board members and TROPMED Network center representatives from ASEAN participated in the meeting.

- In collaboration with the Department of Health, Philippines, and TropMed Philippines (College of Public Health), the SEAMEO TropMed Network organized the 2nd Public Health Conference, From Clinics to Communities: Mental Health in the Era of Sustainable Development, on 7 September 2017 at Makati Diamond Residence, Makati, Philippines.

WORLDWIDE ANTIMALARIAL RESISTANCE NETWORK (WWARN)

- A Data Access Committee was established to support WWARN data contributors in making decisions on access to malaria datasets. The committee consists of members from Switzerland, Mali, South Africa, Nigeria, Colombia, India, and Vietnam. The committee members were nominated by the malaria research community and selected to ensure representation from malaria-endemic regions, a range of expertise, gender balance, and a range of institutions.
- WWARN, in partnership with the Malaria in Pregnancy (MiP) Consortium, established a malaria-in-pregnancy research program within the WWARN data platform. This collaboration develops a better understanding of the impact of resistance on the effectiveness of current prevention strategies, and helps ensure that all pregnant women with malaria receive safe and effective malaria treatment.
- The Infectious Diseases Data Observatory (IDDO) Asia Regional Centre is one of the partners in a project funded by the French Government 5% Initiative and is led by Prof. Mallika Imwong of the Department of Molecular Tropical Medicine and Genetics, Faculty of Tropical Medicine, Mahidol University. The project aims to gather up to 10,000 samples to provide critical information on the prevalence and distribution of molecular markers of artemisinin based combination therapy (ACT) drug resistance, including pfmdr1 and *Pf*-plasmepsin II. These results are being made freely available to researchers, policy-makers and public-health officials in near real-time through regularly updated maps. *In-vitro* phenotyping of up to 200, or more, isolates collected from across the region will also be performed to assess parasite susceptibility to antimalarials and to monitor for emerging resistance due to known, or as yet uncharacterized or candidate, genetic markers.

Dr. Mehul Dhorda
Head of WWARN Asia Regional Centre

Dr. Mehul and colleague at work

FACILITIES AND SERVICES

// Alongside the departments, centers, and collaborations, the Faculty has an important set of facilities and services for researchers, students and the general public. The following pages give more information on the work and achievements of – //

The Bangkok School of Tropical Medicine

The Hospital for Tropical Diseases

Support Offices

Central Equipment Unit (CEU)

Tropical Medicine Diagnostic Reference Laboratory (TMDR)

Laboratory Animal Science Unit

Joint International Tropical Medicine Meeting

BANGKOK SCHOOL OF TROPICAL MEDICINE (BSTM)

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Deputy Dean for Student Affairs and Faculty Welfare
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HIGHLIGHTS IN 2017

- The Bangkok School of Tropical Medicine has been actively working on the development of the Outcome-Based Education (OBE) curriculum. The Diploma in Tropical Medicine and Hygiene and the Ph.D. in Clinical Tropical Medicine programs have now been revised as OBE programs, and have been approved by Mahidol University Council for implementation in 2018.
- The M.Sc. and Ph.D. in Tropical Medicine programs are expected to be approved by Mahidol University Council in February 2018, while the Master of Clinical Tropical Medicine and Master of Clinical Tropical Medicine (Tropical Pediatrics) will be assessed by the Faculty of Graduates Studies in January 2018.
- The School has offered a monthly allowance for qualified Thai students in the M.Sc. and Ph.D. in Tropical Medicine programs. This provision

CPIPRD Examination

Students during a lesson on Turnitin, a Soft Skills program to improve student writing

Visit at Rachawadee Home for Persons with Disabilities Protection and Development, in Nonthaburi

has helped 3 M.Sc. and 2 Ph.D. candidates to continue their studies. This assistance has gained interest from undergraduate students to apply to the School. This offer has been extended for another year, and will cover qualified Thai students in the M.Sc. (School Health).

- 2017 was the first year in which the Malaria Consortium offered two full scholarships to M.Sc. (Tropical Medicine) students, one from South Asia and one from Southeast Asia and the Greater Mekong Basin. This scholarship was granted as an honor to the late Dr. Sylvia Meek, who devoted her life to the field of medical entomology.
- Public Service was added to the professional and personal skill development program. Students visited Rachawadee Home for Persons with Disabilities Protection and Development (for girls), in Nonthaburi Province. The students held activities giving joy and treats to people in the foundation. The activity defined the program's goal--sharing and giving to the community.
- The Student Academic Forum allows students to present their research studies and open insightful discussions with their professors. The forum was held in Kanchanaburi Province, 29-30 September 2017.

LOOKING TOWARD THE FUTURE

The School is committed to transforming all the programs into Outcome-Based Education curricula, while simultaneously meeting the criteria set by ASEAN University Network Quality Assurance (AUN-QA), a network that promotes and improves quality assurance in higher-education institutions.

The School looks forward to BSTM Automation, where all information, including thesis and request forms, will be available online- moving to a paperless system by converting documents and papers into digital form. Automation will also be a support to the Faculty's TM Green campaign, which aims to provide an environmentally friendly campus.

In coming years, the School aims to attract and enroll increasing numbers of students. Currently, the School staff use social media and visit Thai universities to introduce the BSTM to students, to raise awareness and spark students' interest in the field of tropical medicine.

For more information about the Bangkok School of Tropical Medicine, please visit http://www.tm.mahidol.ac.th/bstm/

HOSPITAL FOR TROPICAL DISEASES

Prof. Polrat Wilairatana
Director of Hospital for Tropical Diseases
polrat.wil@mahidol.ac.th

2017 HIGHLIGHTS

- The Hospital for Tropical Diseases is a tertiary-care hospital for tropical diseases, providing diagnostic, treatment, training, and consultation services. Hepatitis, dengue, pulmonary tuberculosis, and fever of unknown causes were the most frequent reasons for visits to the Outpatient Department (OPD). Dengue, pneumonia, and diarrhea were the most frequent admissions for the Inpatient Department (IPD). The hospital has collaborated with many research investigators both in and outside the hospital. Travel Medicine, physical therapy and Thai Traditional Massage units showed increasing trends of patient use and visitation.

- Prof. Polrat Wilairatana, Director of the Hospital for Tropical Diseases, received the Honorary Medical Scientist Award Winner 2017 from the Department of Medical Science Foundation, Thailand Ministry of Public Health, during the 25th Annual Medical Sciences Conference at IMPACT Muang Thong Thani, Nonthaburi Province, Thailand, on 22 March 2017.

- The Hospital has welcomed several international visitors, including delegates from Bangladesh, for whom hospital staff provided a special lecture on severe-malaria case management. This activity was part of "Malaria Elimination Sharing: Malaria Elimination Program, Bangladesh and Ministry of Public Health, Thailand".

- The Hospital has produced leaflets in English and Thai, to disseminate information and raise awareness of tropical diseases, including malaria, dengue and diseases travelers in Thailand may contract, such as diarrhea. These leaflets are available free from the Hospital.

Prof Polrat Wilairatana with visitors from Bangladesh

Leaflets produced by the Hospital

- The Hospital's Travel Clinic is popular among travelers. The Clinic provides pre- and post-travel counseling, vaccination, health certification, diagnostics, and treatment. In 2017, the Travel Clinic had 6,115 visits from travelers around the world.

- The Hospital is preparing for research on the treatment of tuberculosis, with collaborators from the Faculty of Tropical Medicine, Mahidol University. Thailand is one of the 22 countries designated as having a high burden of TB by the World Health Organization (WHO). The Hospital will focus on treatment and drug resistance against tuberculosis.

Outpatient cases - 34,550

Dyslipidemia-	8,004	visits
Hypertension-	10,158	visits
Skin diseases-	7,365	visits
Diabetes mellitus-	4,342	visits
Chronic hepatitis-	2,273	visits
Dengue-	662	
Fever (Unknown causes) -	700	visits
Diarrhea-	770	visits
Pulmonary tuberculosis-	276	visits

Inpatient cases - 1,138

Dengue-	530	cases
Chronic kidney disease-	27	cases
Cancer-	48	cases
Pneumonia-	192	cases
Urinary tract infection-	101	cases
Fever (Unknown causes) –	40	cases
Diarrhea-	84	cases
Malaria-	46	cases
Influenza-	70	cases

SUPPORT OFFICES

The Faculty's eight support offices provide crucial administrative support to the Faculty's core research and teaching activities, allowing for efficient and effective day-to-day operations.

2017 IN NUMBERS

- 10 successful international sponsored-research grant applications
- 19 successful domestic sponsored-research grant applications
- 9 sponsored research grants under management
- 28 Faculty grants awarded
- 3 new MOUs with international organizations and institutions
- 39 visiting lecturerships organized
- 6 international affiliations managed and maintained
- 3 issues of TROPMED Inter News published
- Over 160 documents edited
- 6 international courses organized
- 22 projects supported by the Laboratory Animal Science Unit
- 37 collaborative MOUs maintained
- 3 student exchanges organized
- 706 participants attended the Joint International Tropical Medicine Meeting 2017

Office of Research Services (ORS)

➔ A 'one stop shop' to promote, support, and coordinate research in the Faculty. The Office consists of nine key areas, each supporting different key components of research at the Faculty. Spanning Training and Ethics to IT and Event Planning, the Office has a key role to play in the Faculty.

➔ The ORS, with partial support from the Thailand Research Fund, arranged a meeting on "Research Quality" from 22 to 24 March 2017, in Pattaya, Chonburi Province, Thailand. There were 56 participants from 17 Thai academic and research institutes--3 from pharmaceutical companies, 6 from provincial hospitals, 41 from universities, and 6 from research institutes.

Office of Research Integrity and Compliance (ORIC)

→ This new office works to ensure research at the Faculty meets the highest standards of good research practice and that there is public trust in the Faculty's research. The Office does this through providing clear policies on how research should be performed, regular training, compliance checks and promoting a culture of integrity in research.

Office of Research Infrastructure and Facilities (ORIF)

→ This office coordinates the running and management of the Faculty's shared facilities--the Central Equipment Unit, the Laboratory Animal Science Unit, the Tropical Medicine Diagnostic Research Laboratory, and the new BSL3 laboratory.

Office of International Cooperation and Networking (OICN)

→ This office is responsible for supporting the Faculty in international cooperation, networking and alliance management. The Office has diverse activities, ranging from facilitating staff exchanges and visiting professors to organizing events and performances, and publishing *TROPMED Inter News*.

Office of the Dean (OD)

→ Called the 'administrative nerve center' of the Faculty, the Office ensures legal compliance, effective financial management and a supportive infrastructure. The Office has a broad range of activities including Procurement, Asset Management, and Human Resources.

Office of Educational Administration (OEA)

→ Coordinating all necessary efforts to ensure the smooth running of both the Bangkok School of Tropical Medicine and the Practical Nursing School, the Office has many responsibilities, including finance, communications, registration, laboratory management, and extra-curricular activities.

Office of Policy and Strategic Planning (OPSP)

→ The Office is in charge of planning the strategic development of the Faculty as well as other duties, including institutional policies, data collection, and budgeting.

CENTRAL EQUIPMENT UNIT (CEU)

Assoc. Prof. Poom Adisakwattana
Head of CED

An equipment at CEU

Dr. Poom and his team in the Central Equipment Unit (CEU) have been critical to initiating creation of the Faculty's new Biosafety Level 3 (BSL-3) laboratory, making sure that the correct equipment and procedures will be in place to meet the required standards. The Faculty will have the capability to work with microbes that can cause serious and potentially lethal diseases. This is an important step for the Faculty in becoming a world leader in tropical diseases, and fully establishes us as a center of excellence. This facility will be especially important as the Faculty re-aligns itself with the changing landscape of tropical diseases, and will give us the ability to diversify our research into new and emerging diseases.

TROPICAL MEDICINE DIAGNOSTIC REFERENCE LABORATORY (TMDR)

A vortex mixer is used in the lab to mix small vials of liquid

The TMDR successfully achieved ISO 15189 and ISO 15190 accreditation for dengue diagnoses from the Bureau of Laboratory Quality Standards, in 2017. In 2018, TMDR plans to extend ISO accreditation to another three diseases; leptospirosis, toxoplasmosis, and gnathostomiasis.

The TMDR has signed a memorandum of understanding (MOU) with *MP Group* (Thailand) Co., Ltd. to verify the effectiveness of their SD BIOLINE Dengue rapid test kit independently. TMDR will distribute blinded sample tests to hospitals across Thailand and confirm the accuracy of the returned results. This exciting agreement builds new relationships

with 220 hospitals and broadens the Faculty's opportunities for future collaboration.

The lab plans to register in the Enhancement of Safety Practice of Research Laboratory in Thailand (ESPReL) system in 2018. If successful, the laboratory will be eligible to conduct studies funded by the National Research Council of Thailand (NRCT). Not only does the accreditation increase funding opportunities, it helps create a safer environment for staff and helps improve the reliability of test results.

LABORATORY ANIMAL SCIENCE UNIT

2017 HIGHLIGHTS

- The Unit served a total of 22 research projects for the Faculty Departments and Units and also other faculties and universities, including the Faculty of Dentistry, the Faculty of Public Health, and Silpakorn University.
- The Laboratory Animal Science Unit and the other FTM animal facilities, including the Department of Social and Environmental Medicine, Department of Medical Entomology, and Mahidol Vivax Research Unit, were registered as "Establishment" under the Animals for Scientific purposes ACT, B.E.2558 (A.D. 2015).
- Laboratory animal experts from the Institute for Animals for Scientific Purpose Development (IAD), National Research Council of Thailand (NRCT) visited and observed the Laboratory Animal Science Unit and FTM animal facilities on 25 September 2017

Visit by IAD and NCRT laboratory animal experts at the Laboratory Animal Science Unit

THE JOINT INTERNATIONAL TROPICAL MEDICINE MEETING (JITMM)

Prof. Nicholas Day (left), one of the speakers at JITMM, chats with participants from Myanmar

Over 700 scientists, researchers, and health practitioners around the world gathered at the Joint International Tropical Medicine Meeting (JITMM) on December 6-8, 2017 at the Amari Watergate Hotel, Bangkok, Thailand.

The aspiration for this year's JITMM was to highlight the need for researchers and practitioners to think and act innovatively to solve Global Health problems, brought together under the theme "Tropical Medicine 4.0 Effective *Collaboration* for an Impact on Global Health".

The '4.0' refers to the term used by the Thai Government to talk about its new economic model, which promotes a knowledge-based economy established on creative and innovative thinking, inclusion across all society, and sustainable growth and development.

Many of the sessions focused on the benefits of collaboration and inclusion and the importance of turning research into sustainable solutions.

JITMM2017 provided a diverse range of topics for the sessions, building social and discussion time into the conference program and providing Travel, Student, and Poster Presentation Awards.

The conference was jointly organized by the Faculty of Tropical Medicine, the Parasitology and Tropical Medicine Association of Thailand, the TROPMED Alumni Association, and SEAMEO TROPMED Network, and highlights the Faculty's commitment to fruitful collaboration and cooperation.

This international conference, which is held every year, is a great example of different departments and offices in the Faculty working together to achieve something impactful.

2017 FACTS AND FIGURES

- 706 Participants
- 36 Nationalities
- 35 Sessions
- 185 Chairpersons and invited speakers
- 121 Posters
- 34 Travel Awards

JITMM2018 will be held on 12-14 December 2018 at the Amari Watergate Hotel, Bangkok, Thailand. For inquiries, please contact the Secretariat at jitmm@mahidol.ac.th

HONORS AND AWARDS

Prof. Dr. Polrat Wilairatana received the Honorary Medical Scientist Award 2017 from the Thailand Ministry of Public Health during the 25th Annual Medical Sciences Conference on 22-24 March 2017 at IMPACT Muang Thong Thani, Nonthaburi province, Thailand

Assoc .Prof. Jaranit Kaewkungwal received the Mahidol University's Outstanding Teacher Award for 2016 Academic Year.

Prof. Mallika Imwong, received a Mahidol Awards for Research for the research project "The spread of artemisinin-resistant *Plasmodium falciparum* in the Greater Mekong subregion: a molecular epidemiology observational study" on 31 August 2017 at the Faculty of Tropical Medicine, Mahidol University.

Asst. Prof. Saranath Lawpoolsri Niyom was named Epitome of FTM Lecturer by the Faculty Council 2017-2018.

Assoc. Prof. Pongrama Ramasoota was named Outstanding Alumni by the Faculty of Veterinary Medicine, Kasetsart University in December 2017.

Dr Athit Phetrak received Best Young Scientist Oral Presentation Award for his presentation; *Investigation of the adsorptive removal of chromium from aqueous solutions by magnetic iron oxide* during the 10th Challenges in Environmental Science and Engineering (CESE) Conference in Kunming, China on 11-15 November 2017.

Assoc. Prof. Urusa Thankham received the Best Oral Prize for her presentation on molecular characterisation of *Paragonimus* species occurring in Manipur, India at the 11th National Congress of The Indian Academy of Tropical Parasitology on 6-8 September 2017 at Sikkim Manipal Institute of Medical Sciences, Gantok, India.

Assoc. Prof. Direk Limmathurotsakul received Emerging Leaders Award by the Royal Society of Tropical Medicine and Hygiene on 13 September 2017 in London, United Kingdom. The award recognises significant contributions in leadership and service, including mentoring and other forms of capacity-building, of tropical medicine and global health by early-career investigators based in low and middle-income countries.

Dr. Jetsumon Prachumsri was one of the three vivax research team leaders who received the award MMV Project of Year 2016 at the MMV's 14th Stakeholders' Meeting on 10 October 2017 at Bali, Indonesia. The award recognizes their impressive progress in developing new assay platforms to test compounds for activity against the dormant liver stages of malaria.

NEW APPOINTMENTS 2017

Asst. Prof. Jiraporn Ruangsittichai was appointed Head of the Department of Medical Entomology, succeeding Assoc. Prof. Narumon Komalamisra.

Assoc. Prof. Pongrama Ramasoota was appointed Head of the Department of Social and Environmental Medicine, succeeding Assoc. Prof. Kamolnetr Okanurak.

Mr. Amnat Khamsiriwatchara succeeded Assoc. Prof. Jaranit Kaewkungwal as the Chief Executive Officer (CEO) of the Center of Excellence for Biomedical and Public Health Informatics (BIOPHICS).

ACADEMIC RANK PROMOTIONS

Professor
Kesinee Chotivanich

Associate Professor
Dorn Watthanakulpanich

Associate Professor
Raweerat Sitcharungsi

Assistant Professor
Pannamthip Pitaksajjakul

Professor
Mallika Imwong

Associate Professor
Direk Limmathurotsakul

Assistant Professor
Ngamphol Soonthornwarasiri

Assistant Professor
Patchara Sriwichai

Associate Professor
Poom Adisakwattana

Associate Professor
Kriengsak Limkittikul

Assistant Professor
Sumate Ampawong

Assistant Professor
Kobporn Boonnak

Assistant Professor
Saengduen Moonsom

Assistant Professor
Rutcharin Potiwat

Assistant Professor
Muthita Vanaporn

Assistant Professor
Watcharapong Piyaphanee

Assistant Professor
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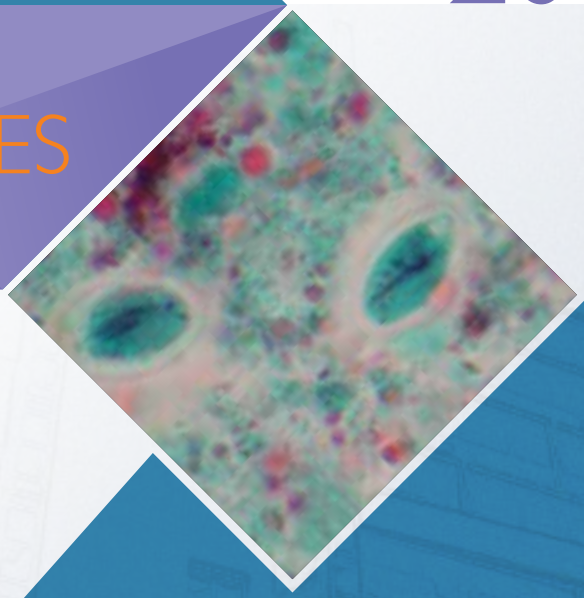
Mahidol University
Faculty of Tropical Medicine

Annual Review 2018

APPENDICES



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PRESENTATIONS 2017

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I Clinical Tropical Medicine

	➔ Oral Presentations (International)
1.	Boonnak K, Dhitavat J, Thantamnu N, Kosoltanapiwat N, Auayporn M, Jiang L, Puthavathana P, Pitisuttithum P. Immune responses to intradermal and intramuscular inactivated influenza vaccine among older age group at "The 2017 International Society for Vaccines(ISV)Congress. 5-7 October 2017, Paris, France.
2.	Pitisuttithum P, Boonnak K, Chamnanchanunt S, Puthavathana P, Luvira V, Lerdsamran H, Kaewkungwal J, Lawpoolsri S, Thanachartwet V, Silachamroon U, Masamae W, Schuetz A, Wirachwong P, Thirapakpoomanunt S, Rudenko L, Sparrow E, Friede M, Kieny MP. Safety and immune responses of additional boosting of the RV144 ALVAC®-HIV/AIDSVAX® B/E vaccine prime and boost regimen at the "III International Conference on Vaccines Research and Development (Vaccines R&D-2017)" on 13-15 November 2017 ,Washington, DC, USA.
3.	Pukrittayakamee S. Mahidol University Collaborative Projects on the Containment and Elimination of Artemisinin Resistant Malaria at the "1st Workshop on Antimalarial Therapeutic Monitoring and Resistance Surveillance" on 18-23 March 2017,Rio de Janeiro, Brazil.
4.	Sharma C, Poovorawan K, Piyaphanee W, Soonthornworasiri N, Angsuwatcharakon P. Phumratanaprapin W, Leowattana W, Wilairatana P. Incidence of Traveler's diarrhea among adult foreign travelersin Thailand: A prospective study at the "Joint International Tropical Medicine Meeting 2017 (JITMM2017) on 6-8 December 2017" in Amari Watergate, Bangkok, Thailand.
5.	Harnnavachok A, Poovorawan K, Pan-ngum W, Mansanguan C, Muangnoicharoen S, Piyaphanee P. Incidence and risk factor for acute mountain sickness among Thai travelers to high-altitude areas at the "Joint International Tropical Medicine Meeting 2017 (JITMM2017) on 6-8 December 2017" in Amari Watergate, Bangkok, Thailand.
6.	Loorungroj J, Piyaphanee W, Silachamroon U, Muangnoicharoen S, Sriboonvorakul N, Leowattana W, Punrin S, Wilairatana P, Chanthavanich P. Compliance and reported adverse effects of malaria chemoprophylaxis among travelers: A prospective study at the "Joint International Tropical Medicine Meeting 2017 (JITMM2017)" on 6-8 December 2017 in Amari Watergate, Bangkok, Thailand.
7.	Kuhakasemsin N, Piyaphanee W, Salee P, Mansanguan C, Kittitrakul C, Kusolsuk T, Silachamroon U, Leowattana W, Chanthavanich P. Health problems among Thai trekkers in Thailand: A prospective study at the "Joint International Tropical Medicine Meeting 2017 (JITMM2017)" on 6-8 December 2017 in Amari Watergate, Bangkok, Thailand.
8.	Chotivanich K. Transmission blocking activity of ivermectin at the "Joint International Tropical Medicine Meeting 2017 (JITMM2017)" on 6-8 December 2017 in Amari Watergate, Bangkok, Thailand.

LIST OF PRESENTATIONS

1 Clinical Tropical Medicine *(Continued)*

→ Poster Presentations *(International)*

1. Soe KP, Pan-ngum W, Nontprasert A, Kittitrakul C, Oam N, Thong VD, Tangkijvanich P, Leowattana W, Poovorawan K. Awareness, knowledge and treatment acceptance of hepatitis B infection in Southeast Asia: a cross-sectional study at "The AASLD Liver Meeting 2017" on 20-24 October 2017, Washington, DC, USA.
2. Tangpukdee N. Performance of Prognostic Scoring Systems in Patients with *Plasmodium falciparum* malaria: A study in Teriary-Care Hospital in Thailand at "The 66th Annual meeting American Society of Tropical Medicine and Hygiene" on 5-9 November 2017, Baltimore, Maryland, USA.
3. Singhaboot Y. Effects of hypo and hyper body temperature (37˚C) on the erythrocytic stage development of *Plasmodium Falciparum* at the "Joint International Tropical Medicine Meeting 2017 (JITMM2017)" on 6-8 December 2017 in Amari Watergate, Bangkok, Thailand.
4. Kuhakasemsin N, Piyaphanee W, Salee P, Mansanguan C, Kittitrakul C, Kusolsuk T, Silachamroon U, Leowattana W, Chanthavanich P. Health problems among Thai trekkers in Thailand: A prospective study at the "Joint International Tropical Medicine Meeting 2017 (JITMM2017)" on 6-8 December 2017 in Amari Watergate, Bangkok, Thailand.
5. Poksiri R, Phumratanaprapin W, Poovorawan K, Chotivanich K, Punrin S, Piyaphanee W. Knowledge, attitudes, practices, and self-treatment of sick international travelers regarding communicable and non-communicable diseases. A prospective study at the "Joint International Tropical Medicine Meeting 2017 (JITMM2017)" on 6-8 December 2017 in Amari Watergate, Bangkok, Thailand.
6. Matsee W, Piyaphenee W. Cluster of *Plasmodium falciparum* malaria among Thai workers in Gembu, Nigeria at the "15th Conference of International Society of Travel Medicine", 14-18 May 2017, Barcelona, Spain
7. Singhaboot Y, Keayarsa S, Piaraksa N, Sukthana Y, Kunawut P, Chotivanich K. Effects of temperature on the erythrocytic stage development of *Plasmodium falciparum* at the "Joint International Tropical Medicine Meeting 2017 (JITMM2017)" on 6-8 December 2017 in Amari Watergate, Bangkok, Thailand.

2 Helminthology

→ Oral Presentations *(International)*

1. Chaisiri K. Wild Rodents as Research Model for Studying Ecology of Infectious Pathogens in Southeast Asia at the "Joint International Tropical Medicine Meeting 2017" 6-8 December 2017 Amari Watergate, Bangkok, Thailand.
2. Adisakwattana P. Sex-specific genes of *Schistosoma mekongi*, target for drug and vaccine development at the "Joint International Tropical Medicine Meeting 2017" 6-8 December 2017 Amari Watergate, Bangkok, Thailand.

LIST OF PRESENTATIONS

3 Medical Entomology

→ Oral Presentations *(International)*

1. Morales Vargas RE. Livestock Farms-Biting Flies-Humans: the Grounds for One Health Paradigm at the "18thKhonKaen Veterinary Annual International Conference" March 30-31, 2017; KhonKaen, Thailand
2. Morales Vargas RE. Human Attracted Mosquitoes: Potential Risk Establishment for Mosquito Borne Viruses at the "2nd Joint collaborative forum on Infectious and Zoonotic Diseases" August 15th -27th, 2017. Ebetsu, Hokkaido, Japan
3. Hii J, Edwards H, Prachumsri J, Siriwichai P, KibattirK, Phuankoonnon S, Chinh VD, Bui LD, Thang ND, Xa NX. Social-ecological systems approach to residual malaria transmission (RMT) in the Greater Mekong sub-region at the "Joint International Tropical Medicine Meeting 2017" on 6-8 December 2017 in Amari Watergate Bangkok, Thailand.

→ Poster presentations *(International)*

1. Sriwichai P, Kheungkham W, Inta A, Samung Y, Dathong P, Payakkapol A, Sattabongkot J. Natural malaria vector status in the hot spot villages of Western Thailand and implication for control of malaria transmission at the "Joint International Tropical Medicine Meeting 2017" on 6-8 December 2017 in Amari Watergate Bangkok, Thailand.
2. Poolphol P, Sriwichai P, Sattabongkot J, Kumpitak C, Aupalee K, Srisuka W, Thongsahuan S, Phuackchantuck R, Saeung A, Chaithong U. Species diversity and natural Plasmodium infections in Anopheles mosquitoes in a malaria endemic area of Na Chaluai district UbonRatchathani province at the "Joint International Tropical Medicine Meeting 2017" on 6-8 December 2017 in Amari Watergate Bangkok, Thailand.
3. Sudsawang M, Komalamisra N, Morales Vargas RE, Ruangsittichai J, Srisawat R, Attrapadung S. Evaluation of eight essential oils on their potential as mosquito repellent at "The 6thBurapha University International Conference 2017" on 3-4 August 2017 in Holiday Inn Pattaya, Chonburi, Thailand.

→ Poster presentations *(National)*

1. Raweewan S. Effect of season and temperature shock on insecticide susceptibility of *Aedes aegypti* in Thailand at "The 7th National and International Graduate Study Conference 2017 (Thailand 4.0 Creative Innovation for Sustainable Development)" on 20 - 21 July 2560) in **Princess Maha Chakri Sirindhorn Anthropology Centre**, Bangkok, Thailand
2. Ruangsittichai J, Sumruayphol S, Thipaksorn A. Molecular identification of rice Odonata in the central plain of Thailand by DNA barcoding at the "National Genetics Conference 2017" Novotel Bangkok Sukhumvit 20, Thailand. 15-17 June 2017.
3. Nitiyamatawat E, Changbunjong T, Sumruayphol S, Sriwichai P, Thaenkham U, Ruangsittichai J. DNA barcoding for identification of cleg flies, *Haematopota* spp. (Diptera: Tabanidae) in Thailand at "The 16thChulalongkorn University Veterinary Conference 2017" Queen Sirikit National Convention Center, Bangkok, Thailand. 22-24 March 2017.

LIST OF PRESENTATIONS

4 Microbiology and Immunology

→ Oral Presentations *(International)*

1. Chantratita N. Laboratory diagnosis of melioidosis at the "Learning from each other: Updating the clinical management and prevention of melioidosis and tuberculosis in the UK and Thailand" on 20-21 February 2017 in Sukosol Hotel, Bangkok, Thailand.
2. Ruencharoen C, Chantratita N. Whole genome sequencing of ESBL-producing *E. coli* isolated from patients, farm waste and canals in Thailand at the "Joint International Tropical Medicine Meeting 2017 (JITMM 2017)" on 6-8 December 2017 in Amari water gate, Bangkok, Thailand.
3. Intaruck K, Mahakunkijcharoen Y, Saiwichai T, Junjhon J, Hirunpetcharat C. Optimization of spleen cell culture to detect CD69-expressing parasite-specific CD4+ memory T cells at "The 1st APACPH Bangkok Region Conference and The 8th International Public Health Conference :Towards Achieving Sustainable Development Goals, 2030" on 25-26 May 2017 in Faculty of Public Health, Mahidol University, Bangkok, Thailand.
4. Tuekprakhon A, Nakayama E. E, Puiprom O, Shioda T, Leaungwutiwong P. Effects of Chikungunya virus envelope protein mutation on point-of-care diagnostic kit performance at the "International Conference on Viral Diseases: One Health-One World" on 25-27 July 2017 in Kuching, Sarawak, Malaysia.
5. Boonnak K, Dhitavat J, Thantamnu N, Kosoltanapiwat N, Auayporn M, Jiang L, Puthavathana P, Pitisuttithum P. Immune responses to intradermal and intramuscular inactivated influenza vaccine among older age group at the "2017 International Society of Vaccine Annual Congress" on 5-7 October 2017 in Collaboration with Institut, Pasteur
6. Chantratita N. Laboratory diagnosis of melioidosis at the "2nd South Asian Melioidosis Congress 2017" on 30 August 2017 in Cinnamon Lakeside Hotel, Colombo, Sri Lanka.

→ Poster presentations *(International)*

1. Sengyee S, Chantratita N. Comparison of innate immune responses to lipopolysaccharide and heat-killed bacteria of different clinical *Burkholderia pseudomallei* isolates at the "Learning from each other: Updating the clinical management and prevention of melioidosis and tuberculosis in the UK and Thailand" on 20-21 February 2017 in Sukosol Hotel, Bangkok, Thailand.
2. Koosakulnirand S, Ekchariyawat P, Robertsb RA, Burtnick MN, Brett PJ, Chantratita N. Human innate immune response to recombinant flagellin of *Burkholderia pseudomallei* at the"Learning from each other: Updating the clinical management and prevention of melioidosis and tuberculosis in the UK and Thailand" on 20-21 February 2017 in Sukosol Hotel, Bangkok, Thailand.
3. Hantrakun V, Rongkard P, Amornchai P, Langla S, Chantratita N, Wuthiekanun V, Day NPJ, Peacock SJ, Limmathurotsakul D. Presence and implication of environmental *B. thailandensis* expressing *B. pseudomallei*-like capsular polysaccharide variant in Thailand at the "Learning from each other: Updating the clinical management and prevention of melioidosis and tuberculosis in the UK and Thailand" on 20-21 February 2017 in Sukosol Hotel, Bangkok, Thailand.

LIST OF PRESENTATIONS

4 Microbiology and Immunology *(Continued)*

→ Poster presentations *(International)*

4.	Kaewpan A, Luplertlop N, Chantratita N, Pumirat P. Study of *Burkholderia pseudomallei* Pathogenesis in Human Skin Fibroblast at the "Learning from each other: Updating the clinical management and prevention of melioidosis and tuberculosis in the UK and Thailand" on 20-21 February 2017 in Sukosol Hotel, Bangkok, Thailand.
5.	Chantratita N. Comparison of O-polysaccharide and hemolysin co-regulated protein as target antigens for serodiagnosis of melioidosis at the "7th Congress of European Microbiologists (FEMS 2017)" on 9-13 July 2017 in Valencia Covention Center, Valencia, in Spain.
6.	Sengyee S, Yoon SH, Paksanont S, Yimthin T, Wuthiekanun V, Limmathurotsakul D, West TE, Ernst RK, Chantratita N. Comprehensive analysis of clinical Burkholderia pseudomallei isolates demonstrates conservation of unique lipid A structure and TLR4-dependent innate immune activation at the "New Zealand Microbiological Society" on 20-23 November 2017 in Auckland University of Technology (AUT), New Zealand
7.	Ruencharoen C, Chantratita N. Whole genome sequencing of ESBL-producing *E. coli* isolated from patients, farm waste and canals in Thailand at the "New Zealand Microbiological Society" on 20-23 November 2017 in Auckland University of Technology (AUT), New Zealand.
8.	Phokrai P, Paksanont S, Koosakulnirand S, Saiprom N, Bancroft GJ , Brett PJ, Burtnick MN, Lertmemongkolcha G, Chantratita N. Innovation for diagnosis of melioidosis at the "Joint International Tropical Medicine Meeting 2017: Tropical Medicine 4.0 Effective Collaboration for an Impact on Global Health" on 6-8 December 2017 in Amari Water gate, Bangkok, Thailand.
9.	S. Suwanmanee, Pumeesat P, Muangkaew W, Luplertlop N. The infectivity of Zika virus in swine sperm at the "Joint International Tropical Medicine Meeting 2017: Tropical Medicine 4.0 Effective Collaboration for an Impact on Global Health" on 6-8 December 2017 in Amari Water gate, Bangkok, Thailand.
10.	Pumeesat P, Muangkaew W, S. Suwanmanee, Luplertlop N. Role of Mycovirus in *Bipolaris maydis* at the "Joint International Tropical Medicine Meeting 2017: Tropical Medicine 4.0 Effective Collaboration for an Impact on Global Health" on 6-8 December 2017 in Amari Water gate, Bangkok, Thailand.
11.	Muangkaew W, S. Suwanmanee, Pumeesat P, Luplertlop N. Effect of ultraviolet light type C on *Scedosporium* spp. At the "Joint International Tropical Medicine Meeting 2017: Tropical Medicine 4.0 Effective Collaboration for an Impact on Global Health" on 6-8 December 2017 in Amari Water gate, Bangkok, Thailand.
12.	Rivero-Menéndez O, Luplertlop N, Wongsuk T, Pumeesat P, Stchigel AM, Lira J, Alastruey-Izquierdo A. Three potential new species of *Scedosporium* isolated from environmental samples in Thailand at "8th Trend in Medical Mycology, Congress center Sava" on 6-9 October 2017 in Hotel Crowne Plaza, Belgrade, Serbia.

LIST OF PRESENTATIONS

4 Microbiology and Immunology *(Continued)*

→ Poster presentations *(International)*

13.	Wiriyasirivaj S, Mahakunkijcharoen Y, Uthaipibull C, Taweechai S, Pengon J, Hirunpetcharat C. Production of recombinant blood-stage *Plasmodium yoelii* YIR1 and YIR4 proteins at "The 1st APACPH Bangkok Region Conference and The 8th International Public Health Conference :Towards Achieving Sustainable Development Goals, 2030" on 25-26 May 2017 in Faculty of Public Health, Mahidol University, Bangkok, Thailand.
14.	Junlabut S, Mahakunkijcharoen Y, Uthaipibull C, Hirunpetcharat C. Purification of 39.6 kDa *P. yoelii* antigen for the target proof of protective immunization with formalin-killed parasite formulated with CpG oligodeoxynucletide (ODN) and Montanide ISA720 at "The 1st APACPH Bangkok Region Conference and The 8th International Public Health Conference :Towards Achieving Sustainable Development Goals, 2030" on 25-26 May 2017 in Faculty of Public Health, Mahidol University, Bangkok, Thailand.
15.	Leaungwutiwong P, Luvira V, Niyom L. S, Piyaphanee W, Udomsak S, Wirongrong C, Wattanagoon Y. Clinical parameters of dengue virus infection from acute undifferentiated febrile illness (AUFI) patients in Bangkok, Thailand. 2013-2015 at "The 2nd international Meeting on Arboviruses and their Vectors" on 7-8 September 2017 in Sir Charles Wilson Building Gilmorehill Campus University of Glasgow, Glasgow, UK.
16.	Tuekprakhon A, Nakayama E, Bartholomeeusen K, Puiprom O, Sasaki T, Huits R, Luplertlop N, Kosoltanapiwat N, Maneekan P, Ariën K, Shioda T and Leaungwutiwong P. Effect of 350th amino acid substitution of Chikungunya virus 6K-E1 protein on its sensitivity in a rapid E1-antigen test at the "Joint International Tropical Medicine Meeting 2017: Tropical Medicine 4.0 Effective Collaboration for an Impact on Global Health" on 6-8 December 2017 in Amari Water gate, Bangkok, Thailand.
17.	Thippornchai N, Jittmittraphap A, Kosoltanapiwat N, Masrinoul P, Kalambaheti T, Schmidt-Chanasit J, Leaungwutiwong P. Construction of the recombinant antigen for the immunodiagnosis of zika virus infection at the "Joint International Tropical Medicine Meeting 2017: Tropical Medicine 4.0 Effective Collaboration for an Impact on Global Health" on 6-8 December 2017 in Amari Water gate, Bangkok, Thailand.
18.	Saelim N, Kulpeanprasit S, Kong-ngoen T, Seesuay W, Tunyong W, Sookrung N, Chaicumpa W, Indrawattana N. Development of monoclonal antibody-based dot-blot ELISA for the detection of *Listeria monocytogenes* in food at the "Joint International Tropical Medicine Meeting 2017: Tropical Medicine 4.0 Effective Collaboration for an Impact on Global Health" on 6-8 December 2017 in Amari Water gate, Bangkok, Thailand.
19.	Income N, Kosoltanapiwat N, Taksinoros S, Homat T. Prevalence and genetic variation of bovine enteroviruses detected in cattle and goat feces and in water sources surrounding the animal farms at "The 5th International Scientific Conference 'One Health: Zoonoses-emerging threats' Med-Vet-Net 2017" on 27-29 June 2017 in School of Veterinary Medicine, University of Surrey, Guildford, United Kingdom.

LIST OF PRESENTATIONS

4 Microbiology and Immunology *(Continued)*

→ Poster presentations *(International)*

20.	Precha N, Vanaporn M, Korbsrisate S. The effect of sigma E factor negative regulator (anti-σE) on *Burkholderia pseudomallei* survival under stress conditions at the "Learning from each other: Updating the clinical management and prevention of melioidosis and tuberculosis in the UK and Thailand" on 20-21 February 2017 in Sukosol Hotel, Bangkok, Thailand.
21.	Precha N, Vanaporn M, Korbsrisate S. The role of bprE gene in survival *of Burkholderia pseudomallei* in various stress conditions at "The 1st APACPH Bangkok Region Conference and The 8th International Public Health Conference :Towards Achieving Sustainable Development Goals, 2030" on 25-26 May 2017 in Faculty of Public Health, Mahidol University, Bangkok, Thailand.
22.	Kaewpan A, Luplertlop N, Chantratita N, and Pumirat P. Pathogenesis in Human Skin Fibroblast; A Truly Skin Infection Model of *Burkholderia pseudomallei* at the "Learning from each other: Updating the clinical management and prevention of melioidosis and tuberculosis in the UK and Thailand" on 20-21 February 2017 in Sukosol Hotel, Bangkok, Thailand.
23.	Duangurai T, Reamtong O, and Pumirat P. Proteomic study of *Burkholderia pseudomallei* after serial passage in Luria-Bertani medium at the "Learning from each other: Updating the clinical management and prevention of melioidosis and tuberculosis in the UK and Thailand" on 20-21 February 2017 in Sukosol Hotel, Bangkok, Thailand.
24.	Kaewpan A, Luplertlop N, Chantratita N and Pumirat P. Pathogenesis in Human Skin Fibroblast; A Truly Skin Infection Model of *Burkholderia pseudomallei* at "Joint International Tropical Medicine Meeting 2017: Tropical Medicine 4.0 Effective Collaboration for an Impact on Global Health" on 6-8 December 2017 in Amari Water gate, Bangkok, Thailand.

→ Poster presentations *(National)*

1.	Saelim N, Sookrung N, Reamtong O, Poolphol R, Indrawattana N, Seesuay W, Tantilipikorn P, Bunnag C, Chaicumpa W, Tungtrongchitr A. Glutathione S-transferase of American cockroach Periplaneta americana: classed, isoforms, and allergenicity at the "International Conference 2017 Department of Parasitology Faculty of Medicine Siriraj Hospital in conjunction with NSTDA Chair Professor Research Project: Towards the New Realm of Parasitology and Engineered Antibodies Research" on 23-25 November 2017 in Department of Parasitology Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand.
2.	Leeanan R, Reamtong O, Indrawattana N, Pacharn P, Chaicumpa W, Sookrung N. Proteome and allergenome of wheat proteins among atopic Thais at the "International Conference 2017, Department of Parasitology Faculty of Medicine Siriraj Hospital in conjunction with NSTDA Chair Professor Research Project: Towards the New Realm of Parasitology and Engineered Antibodies Research" on 23-25 November 2017 in Department of Parasitology Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand.

LIST OF PRESENTATIONS

4 Microbiology and Immunology *(Continued)*

→ Poster presentations *(National)*

3.	Pumipuntu N, Santajit S, Tunyong W, Chantratita N, Diraphat P, Sookrung, Chaicumpa W, Indrawattana N. Molecular characteristics of *Staphylococcus* spp. isolated from milk samples of cows with subclinical mastitis in Central and Northeast Thailand at the "International Conference 2017, Department of Parasitology Faculty of Medicine Siriraj Hospital in conjunction with NSTDA Chair Professor Research Project: Towards the New Realm of Parasitology and Engineered Antibodies Research" on 23-25 November 2017 in Department of Parasitology Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand.
4.	Hinthong W, Pumipuntu N, Santajit S, Kulpeanprasit S, Buranasinsup S, Sookrung N, Chaicumpa W, Aiumurai P, Indrawattana N. Drug resistant profile of *Escherichia coli* from milk of cows with subclinical mastitis and water supply in dairy farms in Saraburi province, Thailand at the "International Conference 2017, Department of Parasitology Faculty of Medicine Siriraj Hospital in conjunction with NSTDA Chair Professor Research Project: Towards the New Realm of Parasitology and Engineered Antibodies Research" on 23-25 November 2017 in Department of Parasitology Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand.
5.	Santajit S, Sookrung N, Seesuay W, Diraohat P, Reamtong O, Chaicumpa W, Indrawattana N. Human single-chain antibodies to ETA: potential therapeutic agent against *Pseudomonas* infection at the "International Conference 2017, Department of Parasitology Faculty of Medicine Siriraj Hospital in conjunction with NSTDA Chair Professor Research Project: Towards the New Realm of Parasitology and Engineered Antibodies Research" on 23-25 November 2017 in Department of Parasitology Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand.
6.	Kong-ngoen T, Seesuay W, Diraphat P, Boonyuen U, Sookrung N, Chaicumpa W, Indrawattana N. Production of human single-chain antibodies that neutralize biological activity of elastase of *Pseudomonas aeruginosa* at the "International Conference 2017, Department of Parasitology Faculty of Medicine Siriraj Hospital in conjunction with NSTDA Chair Professor Research Project: Towards the New Realm of Parasitology and Engineered Antibodies Research" on 23-25 November 2017 in Department of Parasitology Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand.
7.	Phengbubpha N, Seesuay W, Kulpeanprasit S, Saelim N, Sookrung N, Chaicumpa W, Indrawattana N. Production of affinome scaffolds that bound specifically to internalin A protein of *Listeria monocytogenes* by using phage display technology at the "International Conference 2017, Department of Parasitology Faculty of Medicine Siriraj Hospital in conjunction with NSTDA Chair Professor Research Project: Towards the New Realm of Parasitology and Engineered Antibodies Research" on 23-25 November 2017 in Department of Parasitology Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand.

LIST OF PRESENTATIONS

5 Molecular Tropical Medicine and Genetics

→ Oral Presentations *(International)*

1. Nguitragool W. Make fit to fight force health protection and beyond at the "24th Annual Myanmar Military Medical Conference", Myanmar, 7-10 March 2017.
2. Nguitragool W, Chim-Ong A, Surit T., A PfRH5-like protein in *P. vivax?* at the "Joint International Tropical Medicine Meeting (JITMM) 2017", 6 – 8 December 2017, Amari Watergate, Bangkok, Thailand.

6 Protozoology

→ Oral Presentations *(International)*

1. Khomkhum N, Leetachewa S, Nozaki T, Moonsom S*. Induction of *Entamoeba histolytica* and *Entamoeba moshkovskii* specific antibodies in mice by heterologous immunization at the "EMBO Anaerobic protists: Integrating parasitology with mucosal microbiota and immunology" 31 August – 3 September 2017, the Life Conference Center, Newcastle upon Tyne, United Kingdom.
2. Pawestri A.R, Thima K, Leetachewa S, Maneekan P, Moonsom S*. One Health application for prevention of zoonotic intestinal parasites infection in Tha Song Yang district, Thailand at "26th International Conference of World Association for the Advancement of Parasitology" on 4 – 8 September 2018. in Kuala Lumpur Convention Centre, Kuala Lumpur, Malaysia.

→ Poster presentations *(International)*

1. Pawestri A.R, Thima K, Leetachewa S, Maneekan P, Moonsom S*. Prevention and control of intestinal parasites infection in endemic area: one health application in the field observational research at the "33rd World Veterinary Congress" 27 – 31 August 2017, Songdo Convensia, Incheon, Korea.
2. Supaluk P, Aongart M, Rachatawan C, Ruenruetai U, Chantira S, Amorn L, Yaowalark S. Subtype Distribution of *Blastocystis spp.* in Domestic Animals of communities living along Chao Phraya River, Ayutthaya Province at the "Joint International Tropical Medicine Meeting 2017" on 6 - 8 December 2017, Amari Watergate, Bangkok, Thailand.

7 Social and Environmental Medicine

→ Oral Presentations *(International)*

1. Tantimekin N, Pipattanaboon C, Pitaksajjakul P, Ramasoota P, Wanichweacharungrueng S, Sukmanee T, Pienpinijtham P. Delivery of antibody into cells by oxidized carbon nanoparticles at the "Pure and Applied Chemistry International Conference 2017 (PACCON). Natural Products, Chemical Biology and Medicinal Applications: NP-O-005; 2017;940-3.

LIST OF PRESENTATIONS

7 Social and Environmental Medicine *(Continued)*

→ Oral Presentations *(International)*

2. Pitaksajjakul P., Injampa S, Pipattanaboon C, Benjathummarak S, Boonha K, Ramasoota P. Antibody Engineering at Fc Region to Diminish Antibody Dependent Enhancement of Cross-Neutralizing Human Monoclonal Antibody Against Dengue Virus at the "Joint International Tropical Medicine Meeting (JITMM) 2017, 6-8 December 2017, Amari Watergate, Bangkok, Thailand".
3. Ramasoota P. Pitaksajjakul P., Benjathummarak S, Boonha *K*, Miyazaki I. Antimicrobial products from Sea shells and Mangosteen peels extract at the "Joint International Tropical Medicine Meeting (JITMM) 2017, 6-8 December 2017, Amari Watergate, Bangkok, Thailand".
4. Ramasoota P. *Innovation for Animal and Human Health* at the "International Congress in Veterinary Sciences (ICVS) 2017" Impact Forum, Muangthong Thani, Bangkok, Thailand.

→ Poster presentations *(International)*

1. Puangmanee W, Pipattanaboon C, Ramasoota P, Pitaksajjakul P. Characterization of human monoclonal antibodies (HUMABS) JITMM Proceedings. 2017; (6); 26-34.
2. Chalermthai K, Boonha K, Pipattanaboon C, Wongwit W, Ramasoota P, Pitaksajjakul P. Development of immunochromatographic strip test for dengue virus detection. JITMM Proceedings. 2017; (6);35-47.

8 Tropical Nutrition and Food Science

→ Oral Presentations *(International)*

1. Arthan D. A unique Solanum torvum GH3 ß-glucosidase: From its substrate specificity to molecular characterization. 21 December 2017. Hokkaido University, Sapporo Japan.

→ Oral Presentations *(National)*

1. Pornsutsami Jintaridth. TRF-NSTDA-MRC Joint Health Research Workshop.17-19 May 201, Bliston Suwan Park Hotel, Bangkok.

→ Poster presentations *(International)*

1. Karuwanarint P., Phonrat B., Tungtrongchitr A., Suriyaprom K., Chuengsamarn., Tungtronchitr R. Genetic variations of the vitamin D receptor gene in metabolic syndrome and related diseases in the Thai population,
2. Aroonnual A, Isolation and characterization of bacteriophages specific to *Clostridium bifermentans* at "The Oxford Bacteriophage Conference, LobPubMedia, COM health care & Oxford Symposia" 13-14 September 2017, Oxford.
3. Phetthai T, Chupeerach C, On-nom N, Suttisansanee U, Kettawan A, Prangthip P, Tungtrongchitr R. Parboiled Germinated Brown Rice Ameliorates Kidney Inflammatory Genes Expression in L-NAME Hypertensive Rats. NIGRC KKU. March 2017;903-912.

LIST OF PRESENTATIONS

8 Tropical Nutrition and Food Science *(Continued)*

→ Poster presentations *(International)*

4. Khaengamkham K, Chupeerach C, On-nom N, Suttisansanee U, Kettawan A, Prangthip P, Tungtrongchitr R. Effect of Parboiled Germinated Brown Rice on Heart of L-NAME-induced Hypertensive Rats. NIGRC KKU. March 2017; 913-921.

9 Tropical Pathology

→ Poster presentations *(International)*

1. Maneerat Y, Viseshakul N, Dechkhajorn W, Benjathummarak S, Nuamtanong S. The potent effects of excretory secretory products of third stage larva *Gnathostoma spinigerum* via extrinsic pathway revealed by the apoptotic gene expression at the "Molecular Helminthology: An Integrated Approach Conference", Cape Cod, MA, USA, March 19-22, 2017.
2. Viseshakul N, Dechkhajorn W, Benjathummarak S, Nuamtanong S, Maneerat Y. The *in vitro* analysis of apoptosis in human peripheral blood mononuclear cells induced by the third stage larvae excretory-secretory product of *Gnathostoma* spinigerum at the "Molecular Helminthology: An Integrated Approach Conference", Cape Cod, MA, USA, March 19-22, 2017.
3. Maknitikul S, Luplertlop N, Grau GER, Ampawong S. Hemozoin correlates to malaria-associated acute respiratory distress syndrome interleukin (IL)-1β, triggered by *Plasmodium* hemozoin and monocyte, induces pneumocyte type II apoptosis through CARD9 pathway: a possibility mechanism to retard pulmonary resolution at "The 16th Awaji International Forum on Infection and Immunity 2017" Awaji Yumebutai International Conference Center, Japan, September 4-7, 2017.
4. Glaharn S, Punsawad C, Viriyavejakul P. Exploring pancreatic pathology in severe *Plasmodium falciparum malaria* at "Joint International Tropical Medicine Meeting 2017", Amari Watergate, Bangkok, Thailand, December 6-8, 2017.

10 Vaccine Trial Centre (VTC)

→ Oral Presentations *(International)*

1. Pitisuttithum P, Nitayaphan S, Chariyalertsak S, Akapirat S, Schuetz A, Wieczorek L, Polonis VR, Eller M, Phogat S, Sinangil F, Dhitavat J, Phonrat B, Kaewkungwal J, Smith KS, Robb ML, Michael NL, Excler J, Kim J, O'Connell RJ, Vasan S on behalf of the RV306 Study Team. Safety and Immune Responses of Additional Boosting of the RV144 ALVAC®-HIV/AIDSVAX® B/E Vaccine Prime and Boost Regimen at the "III International Conference on Vaccines Research and Development", Sheraton Hotel 11810 Sunrise Valler Dr., Reston VA 20191, USA, 13-15 November 2017

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11 Mahidol Osaka Center for Infectious Diseases (MOCID)

→ Oral Presentations *(International)*

1.	Tuekprakhon A, Nakayama E, Puiprom O, Shioda T, Leaungwutiwong P. Effects of Chikungunya virus envelope protein mutation on point-of-care diagnostic kit performance "International Conference on Viral Diseases: One Health-One World", July 2017, Kuching, Sarawak, Malaysia
2.	Yamanaka A. A single amino acid substitution in dengue virus envelope protein suppressed induction of infection-enhancing antibody in a mouse-DNA vaccine model at the "Joint International Tropical Medicine Meeting 2017", Amari Watergate, Bangkok, Thailand, December 6-8, 2017.
3.	Okabayashi T. Evaluation of immunochromatography rapid diagnosis kit strip for detection of chikungunya virus antigen in clinical samples of India at the "Joint International Tropical Medicine Meeting 2017", Amari Watergate, Bangkok, Thailand, December 6-8, 2017.
4.	Tuekprakhon A, Nakayama E, Bartholomeeusen K, Puiprom O, Sasaki T, Huits R, Luplertlop N, Kosoltanapiwat N, Maneekan P, Ariën K, Shioda T, Leaungwutiwong P. Effect of 350th amino acid substitution of Chikungunya virus 6K-E1 protein on its sensitivity in a rapid E1-antigen test at the "Joint International Tropical Medicine Meeting 2017", Amari Watergate, Bangkok, Thailand, December 6-8, 2017. Turbo Talk and Poster presentation

→ Poster presentations *(National)*

1.	Phadungsombat J, Srimark N, Yamanaka A, Yung-Cheng Lin M, Nakayama E, Shioda T, Moolasart V, Suttha P, Uttayamakul S. Current genotype distribution of dengue viruses in Thailand.

RESEARCH IN PROGRESS

FACULTY OF TROPICAL MEDICINE RESEARCH PROJECTS FISCAL YEAR 2017 (OCTOBER2016 - SEPTEMBER2017)

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF CLINICAL TROPICAL MEDICINE			
1	Effect of primaquine and its metabolite on the infectivity of P. falciparum gametocyte : validation technique	Wellcome Trust of Great Britain	Prof. Kesinee Chotivanich
2	Bioequivalence study of 4 mg Perindopril tablets preparations in healthy Thai male volunteers	International Bio Service Co., Ltd	Assist. Prof. Weerapong Phumratanaprapin
3	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
4	VNTR-based PCR (VNTR Typing for Plasmodium falciparum and Plasmodium vivax	Biotech	Assoc. Prof. Mallika Imwong
5	Molecular characterization of drug resistance in the Human malarias	Intermediate level fellowship, Welcome Trust of Great Britain	Assoc. Prof. Mallika Imwong
6	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
7	Detection of artemisinin resistance P. falciparum : in vitro	Mahidol-Oxford Tropical Medicine Research Unit	Prof. Kesinee Chotivanich
8	Safety and efficacy study of Impomea pes-caprae ointment produced by Faculty of Tropical Medicine	Faculty of Tropical Medicine, Mahidol University	Assost. Prof. Watcharapong Piyaphanee

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF CLINICAL TROPICAL MEDICINE (*Continued*)			
9	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
10	Novel invention of induced pluripotent stem cells for prediction of drug toxicity in human	Government Budget	Assist. Prof. Apichart Nontprasert
11	Incidence and spectrum of health problems among travels to Lao PDR	Department of Clinical Tropical Medicine and Travel Medicine Unit	Assist. Prof. Watcharapong Piyaphanee
12	Rabies exposure risk among foreign backpackers from non-ASEAN countries traveling in Southeast Asia	N/A	Assist. Prof. . Watcharapong Piyaphanee
13	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
14	Etiology and outcome of acute fever cases attending Hospital for Tropical Diseases	Faculty of Tropical Medicine, Mahidol University	Dr. Viravarn Luvira
15	Plasma antioxidant power and vitamin C level in patients with dengue infection	Faculty of Tropical Medicine, Mahidol University	Dr. Borimas Hanboonkunupakarn
16	The study of chronic kidney disease in elderly	Mahidol University (Government Budget)	Asst. Prof. Weerapong Phumratanaprapin
17	The efficacy antimalarial Plasmodium vivax patient	Mahidol University (Government Budget)	Dr. Prakaykaew Charunwatthana
18	Measurement of hemoglobin in adult patients with dengue viral infection using non-invasive method	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Supat Chamnanchanunt

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF CLINICAL TROPICAL MEDICINE (*Continued*)			
19	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
20	Hemodynamic parameters in adult patients with dengue	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Vipa Thanachartwet
21	Construction and characterization of recombinant full-length enterovirus-71 and coxsackievirus A16 encoding green fluorescences protein (GFP) viruses and its application for pathogenesis studies	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Dr. Kobporn Boonnak
22	Treatment seeking behavoirs of Dengue patients	Faculty of Tropical Medicine, Mahidol University	Dr. Viravarn Luvira
23	The prevalence and correlates of self - reported anxiety and depression: a cross – sectional study in pruritic skin diseases patients	Faculty of Tropical Medicine, Mahidol University	Dr. Vorada Choovichian
24	Novel diagnostic test for communicable tropical enteric pathogen in human to diagnose and exploit epodemiology to helminth, protozoa, viral depatitis E and Salmonella typhi in Bangkok Hospital for Tripical Diseases	Faculty of Tropical Medicine, Mahidol University	Mr. Sant Muangnoicharoen
25	Cardiac evaluational in adult with dengue infention by serial echocardiography	Faculty of Tropical Medicine, Mahidol University	Ms. Chayasin Mansanguan
26	Scrub Typhus Comparision of specificity of various diagnostic tests and kinetics of antibodies response in patients	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Yupaporn Wattanagoon

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF CLINICAL TROPICAL MEDICINE (*Continued*)			
27	Effects of hypo-and hyper body temperature (37'C) on the erythocytic stage-development of Plasmodium falciparum	Faculty of Tropical Medicine, Mahidol University	Ms. Yutatirat Singhaboot
28	Kinetic study of unmeasured organic acids for the assessment of cause and correlation to acidosis in severe malaria using innovative technique	Faculty of Tropical Medicine, Mahidol University	Dr. Natthida Sriboonvorakul
29	Warning signs of severe dengue and clinical manifestations of different dengue serotype infection in adolescent and adult Thai patients	Mahidol University (Government Budget)	Dr. Borimas Hanboonkunupakarn
30	Incidence, predisposing factors and outcomes of acute kidney injury in dengue infection in adult	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Weerapong Phumratanaprapin
31	Estimating the direct cost and survival benefit of chronic hepatitis C treatment in novel antiviral agent rea, Thailand	Mahidol University (Talent Management)	Assist. Prof. Kittiyod Poovorawan
32	Assessment of acidosis profile in patients with severe malaria using innovative technique	The Thailand Research Fund	Dr. Natthida Sriboonvorakul
33	Change in the miRNA levels among patients with malaria infection	Medical Association of Thailand	Assist. Prof. Supat Chamnanchanunt
34	แอพลิเคชั่นบนสมาร์ทโฟนเพื่อใช้ในการช่วยคำนวณขนาดยาที่ใช้ในการรักษาโรคเขตร้อน รูปภาพวงจรชีวิตของเชื้อก่อโรค การวินิจฉัยและการรักษา	Faculty of Tropical Medicine, Mahidol University	Dr. Sant Muangnoicharoen
35	Preventing the transmission of artemisinin resistant falciparum malaria	National Science and Technology Development Agency (NSTDA)	Prof. Kesinee Chotivanich
36	Semi-quantitative, rapid and simplified methods for HBV DNA level quantitation for clinical use in different setting area	The Thailand Research Fund	Assist. Prof. Kittiyod Poovorawan

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF CLINICAL TROPICAL MEDICINE (*Continued*)			
37	Compatative evaluation of therapeutic effects and cost effectiveness of the daily dosed sertaconazole 2% cream versus the twice daily dosed sertaconazole 2% cream versus the twice daily dosed clotrimazole 1% cream in the treatment of tinea corporis : A randomized, double blind trial	Mahidol University	Ms. Supitcha Kamolratanakul
38	Effects of piperaquine and amodiaquine on cytoadhesion of Plasmodium falciparum	Faculty of Tropical Medicine, Mahidol University	Ms. Srisuda Keayarsa
DEPARTMENT OF HELMINTHOLOGY			
1	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
2	Identification and characterization of Trichinella spiralis-derived immunomodulatory molecules for novel therapies of inflammatory diseases	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Poom Adisakwattana
3	Experimental Co-infection study of high virulence pathogenic Leptospira in Helminth infected Hamster	Faculty of Tropical Medicine, Mahidol University	Dr. Kittipong Chaisiri
4	Proteomics studies of cytoplasmic membrane proteins expressed on TNF-a induced cholangiocarcinoma cell line	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Assoc. Prof. Poom Adisakwattana

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF HELMINTHOLOGY (*Continued*)			
5	Development of technique of 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	Assist. Prof. Urusa Thaenkham
6	Production of recombinant Cathepsin L from Paragonimus pseudoheterotremus for diagnostic development of paragonimiasis	The Thailand Research Fund and Mahidol University	Dr. Tippayarat Yoonuan
7	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
8	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
9	Transcriptomics and proteomics analysis of potential secretory proteins of Schistosoma Mekongi for development of immunodiagmosis and vaccine	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Poom Adisakwattana
10	Study on the effect of phytochemical compounds in Stemona root from Thailand to Gnathostoma spinigerum	Agricultural Research Development Agency (Public Organization) : ARDA	Assist. Prof. Urusa Thaenkham

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF HELMINTHOLOGY (*Continued*)			
11	Development of multiplex isothermal Polymerase Chain Reaction to Detect Ascaris lumbricoides, Trichuris trichiura and Hookworms	Faculty of Tropical Medicine, Mahidol University	Mr. Akkarin Poodeepiyasawat
12	Molecular characterization and identification of potential immunomodulatory proteins in excretory-secretory product of Trichinella spiralis	Mahidol University (Government Budget)	Assoc. Prof. Poom Adisakwattana
13	การศึกษาเบื้องต้นของโรคเขตร้อนในพื้นที่หมู่บ้านทุ่งถ้ำ และหมู่บ้านอูฮู ตำบลแม่อุสุ อำเภอท่าสองยาง จังหวัดตาก	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Paron Dekumyoy
14	Development of recombinant protein-based immunochromatographic (ICT) diagnosis of Gnathostomiasis	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Poom Adisakwattana
15	Diversity of helminths from mullet fish in the coastal of the Thai gulf and the Andaman Sea, Thailand	Faculty of Tropical Medicine, Mahidol University	Mr. Wanlop Pakdee
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	Tropic bebavior and ecological characteristics of Anopheles dirus complex in man-made habitat	The Thailand Research Fund	Dr. Sungsit Sungwornyothin
3	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	Assist. Prof. Patchara Srivichai

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MEDICAL ENTOMOLOGY (*Continued*)			
4	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
5	Climate changes effects on mosquito-borne viruses maintenance : Dynamic population of the Vectors of Dengue and Chikungunya viruses	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Ronald Enrique Morales Vargas
6	Effect of temperature on development and insecticide susceptibility of dengue vectors.	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Narumon Komalamisra
7	Application of morphometrics and molecular biology to identify Ae. scutellaris in Thailand	Faculty of Tropical Medicine, Mahidol University	Assist Prof. Suchada Samruaypol
8	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
9	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	Assist. Prof. Patchara Srivichai
10	Exploring transmission-blocking vaccine target in Anopheles dirus for inhibition of malaria transmission	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Patchara Srivichai
11	Production and characterization of rhamnolipid, biosurfactant, trom Pseudomonas aeruginosa B189 for mosquitoes control	Faculty of Tropical Mecicine, Mahidol University	Dr. Siriluck Attrapadung
12	The study of mosquito vectors emphasis on Lorrainea, Sukusea and Stegomyia inhabiting mangrove forest of Thailand by morphometrics and molecular biology	Mahidol University	Assist Prof. Suchada Sumruaypol

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MEDICAL ENTOMOLOGY (*Continued*)			
13	Detection of viral disease and molecular distinguish of the natural Bat Bug species from the cave	Mahidol University	Assist. Prof. Rutcharin Potiwat
14	Stability enhancement of mosquito repellency from Zngthoxy limonella oil by using encapsulation technique	Mahidol University	Dr. Siriluck Attrapadung
15	Identification of transmission-blocking compounds from the Malaria Box	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Suchaya Sumruaypol
16	Herbal Mosquito Repellents Masts	Faculty of Tropical Mecicine, Mahidol University	Mrs. Keawmala Palakul
17	A surveillance of Bat Bugs species and Discovery of genetic relationships among human Bed Bug	Faculty of Tropical Mecicine, Mahidol University	Assist. Prof. Rutcharin Potiwat
18	Study of the physiological sensitivity to chemical stimuli in different species of mosquitoes	Kao Corporation, Japan	Assoc. Prof. Narumon Komalamisra
19	Mekong Outdoor Transmission Initiative (MOTIve) : Evaluation of the protective efficacy of premethrin-treated clothing in the laboratory	Malaria Consortium, UK	Assoc. Prof. Narumon Komalamisra
20	The investigation of the factors contributing to high dengue incidence in Mae Tan sub-district, Thasongyang district, Tak province	Faculty of Tropical Mecicine, Mahidol University	Assist. Prof. Patchara Srivichai
21	Blood source determination from wild caught malaria vector, Anopheles minimus, by Multiplex PCR	Faculty of Tropical Mecicine, Mahidol University	Ms. Preeyanate Dathong
22	Invention of Aspirator machine with domestic materials	Faculty of Tropical Medicine, Mahidol University	Mr. Theerawit Phanphoowong

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MEDICAL ENTOMOLOGY (*Continued*)			
23	Develop the TOP Med hernal lotion to co commercial products	Office of the Permanent Secretry, Ministry of Science and Technology and Herb General Company Limited	Mrs. Keawmala Palakul
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY			
1	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	Assoc. Prof. Narisara Chantratita
2	The role of treahalase in stress response and virulence of Burkholderia pseudomallei	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Assoc. Prof. Muthita Vanaporn
3	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	Assist. Prof. Pornpan Pumirat
4	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 Mecicine, Mahidol University	Assist. Prof. Nathamon Kosoltanapiwat
5	Immunoproteomics for identification of MHC class I-restricted epitopes of enterovirus 71	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Nathamon Kosoltanapiwat
6	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	Assoc. Prof. Natthanej Luplertlop

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY (*Continued*)			
7	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	Assist. Prof. Muthita Vanaporn
8	Detection of hepatitis E virus in raw pork, pig liver and pork products	Faculty of Tropical Medicine, Mahidol University	Mr. Narin Thippornchai
9	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
10	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
11	The potential implications of Nisin in common dermatological problems on the in vitro characterizations	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Natthanej Luplertlop
12	Variation of Burkholderia pseudomallei lipopolysaccharide and impact on innate immune response	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Narissara Chantratita
13	Role of biofilm in antifungal drug resistance in Aspergillus fumigatus and other species	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Natthanej Luplertlop
14	Analysis of protein profiling, virulence and immune activation of Burkholderia pseudomallei isolated from blood culture during the passages	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Pornpan Pumirat
15	Determinants of Outcome and Recurrent Infections in Melioidosis	NIH	Assoc. Prof. Narisara Chantratita

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY (*Continued*)			
16	Common Dermatophytic infection and their in vitro anti-fungal susceptibility in patients attending at the Dermatological clinic, Tropical Medicine hospital, Faculty Tropical medicine, Mahidol university	Faculty of Tropical Medicine, Mahidol University	Mrs. Watcharamat Muangkaew
17	Naturally acquired antibodies to P. vivax Duffy binding protein among malaria endemic populations in Thailand	Faculty of Tropical Medicine, Mahidol University	Mrs. Jarinee Tongshoob
18	Pseudallescheria/Scedosporium complex spp.in Bangkok, Thailand : From saprophytic fungi to invasive human mycoses	Center of Emerging and Neglected Infectious Disease : CENID, Mahidol University	Assoc. Prof. Natthanej Luplertlop
19	Determination of genetic variations of bovine enterovirus and its potential to cause diseases	Mahidol University	Assist. Prof. Nathamon Kosoltanapiwat
20	In vitro study : The potential rold of N-myristoyltransferase in Dengue virus infectivity and replication enhancement	Mahidol University	Assoc. Prof. Natthanej Lublertlop
21	Novel approach for combating a clique of multi-drug resistant “ESKAPE” : a Pseudomonas aeruginosa model	The Thailand Research Fund	Assist. Prof. Nitaya Indrawattana
22	In vitro demonstration of spitzenkörper phenomics in candida albicans	The National Research Concil of Thailand	น.ส.พจมาน ผู้มีสัตย์ (นศ.ป.เอก) อ.ที่ปรึกษา : ผศ.ดร.นพ.นัฏฐเนศวร์ ลับเลิศลบ
23	The role of synthetic fungal quorum-sensing molecules on Aspergillus fumigatus biofilms	The National Research Concil of Thailand	นายธันวา วงษ์สุก (นศ.ป.เอก) อ.ที่ปรึกษา : ผศ.ดร.นพ.นัฏฐเนศวร์ ลับเลิศลบ
24	The pathogenesis of Dengue and Chikungunya coinfection in Thailand : clinical, immunological and entomological studies (DENCHICTHAI)	National Institute of Hygiene and Epidemiology-the Institut de Recherche pour le developpement (IRD)	Assoc. Prof. Natthanej Lublertlop

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY (*Continued*)			
25	Development of immunochromatographic test for the detection of Listeria monocytogenes in food	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Nitaya Indrawattana
26	Development and validation of immunodiagnostic assay for Zika Virus infection	National Science and Technology Development Agency	Assist. Prof. Pornsawan Leaungwutiwong
27	Epidemiological demonstration of Pseudallescheria/ Scedosporium complex fungi in the highest human population density and tourist attraction from six geographical regions in Thailand	Mahidol University (Government Budget)	Assoc. Prof. Natthanej Lublertlop
28	Role of Fungal quorum sensing molecule, Farnesol, on immunopathogenesis and virulence facture against Pseudallescheria/ Schedosporium complex	Health System Research Institute (HSRI)	Assoc. Prof. Natthanej Lublertlop
29	Study of pathogenesis in skin fibroblast and in vitro subcultured adaptation of Burkholderia pseudomallei	Mahidol University	Assist. Prof. Pornpan Pumirat
30	Evaluation of new methods of detection of Burkholderia pseudomallei infection	University of South Alabama, USA	Assoc. Prof. Narisara Chantratita
31	Development of stalk antibody assay for detemination of broadly reactive anti-hemagglutinin antibodies following influenza vaccine administration	National Vaccine Institute	Assist. Prof. Kobporn Boonnak
32	The Study of trehalose synthesis enzymes in Burkholderia pseudomallei as an antimicrobial target	The Thailand Research Fund	Assist. Prof. Muthita Vanaporn

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY (*Continued*)			
33	Prevalence of the anibiotic resistance genes of Carbapenem-resistant Enterobacteriaceae (CRE) isolated from clinical specimens in Prapokklao Hospital, Chanthaburi province during 2016-2017	Faculty of Tropical Medicine, Mahidol University	Mr. Witawat Tunyong
34	Plaque forming efficiency of Burkholderia pseudomallei in vitro	Faculty of Tropical Medicine, Mahidol University	Ms. Natnaree Saiprom
35	Optimization of the hybridoma culture medium for the production of monoconal antibody to Burkholderia pseudomallei and comparison of the purification methods	Faculty of Tropical Medicine, Mahidol University	Mrs. Suporn Paksanont
36	Development and evaluation of new methods for detection of Burkholderia psrudomallei infection	Chembio Diagnostic System Inc	Assoc. Prof. Narisara Chantratita
DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS			
1	The study of biotransformation of oseltamivir analogue by Carboxylesterase 1 (CES1)	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Usa Dokprom Boonyuen
2	The qualification and quantification of proteins of mefloquine-sensitive and mefloquine-resistant Plasmodium falciparum using mass spectrometry.	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Onrapak Riumthong
3	Optimization of protein sample preparation techniques for proteomic study of Plasmodium vivax in liver stage	Faculty of Tropical Medicine, Mahidol University	Dr. Supachai Topanurak
4	Development of Antigens-base immunodiagnosis test for acute febrile illness caused by Leptospira spp.	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Santi Maneewatchararangsri

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS (*Continued*)			
5	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
6	Prevalence of pathogenic Leptospira spp. from rodents in Thailand	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Piengchan Sonthayanon
7	Effect of additional mutation (Mahidol) in G6PD Viangchan	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Usa Dokprom Boonyuen
8	Molecular epidemiology of drug resistance in human malarias in Thailand	Mahidol University (Government Budget)	Prof. Mallika Imwong
9	Discoery of Lipid Acquisition Machinery of Plasmodium in Liver Stage with Host-Parasite Interactome Technology for New Antimalarial Targeting	National Science and Technology Development Agency (NSTDA)	Dr. Supachai Topanurak
10	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
11	Molecular characterization of antigenic surface protein genes of Plasmodium malariae	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol Universityy	Assist. Prof. Naowarat Saralamba
12	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
13	Expression profiling of reticulocyte binding proteins of Plasmodium vivax	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol Universityy	Assist. Prof. Wang Nguitragool

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS (*Continued*)			
14	Elucidating the function of plasmodium perforin-like proteins in infection of Anopheles mosquitoes	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol Universityy	Assist. Prof. Wang Nguitragool
15	Transfection of liver-stage Plasmodium vivax for studies of parasite biology, drug screening, and vaccine development	The Thailand Research Fund	Assist. Prof. Wang Nguitragool
16	Identification of novel biomarker genes for cholangiocarcinoma detection	Faculty of Tropical Medicine, Mahidol University	Dr. Panee Chaksangchaichot
17	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
18	The identification and characterization of the target proteins of a candidate antimalarial drug	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Onrapak Riumthong
19	Elucidating the mechanism of reticulocyte-specific invasion by Plasmodium vivax	Wellcome Trust of Great Britain	Assist. Prof. Wang Nguitragool
20	Biochemical characterization of the most common G6PD variants in Thailand	Mahidol University	Assist. Prof. Usa Dokprom Boonyuen
21	Roles of the cytoplasmic domain of reticulocyte binding protein homologs of malaria parasites	Mahidol University : Talent Management	Assist. Prof. Wang Nguitragool
22	Use of mapl and csp DNA sequences as genetic markers for P. ovale curtisi and P. ovale wallikeri	Mahidol University : Talent Management	Assist. Prof. Naowarat Saralamba
23	Characterization of IgM/IgG-specific LipL32 immunodominant epitopes of Leptospira spp.	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Santi Maneewatchararangsri

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS (*Continued*)			
24	Identification of host proteome caused by human papillomavirus (HPV) E7 protein interaction for host-virus interaction study	Faculty of Tropical Medicine, Mahidol University	Dr. Supachai Topanurak
25	Functional Characterization of BPSS2232, a putative tubulin acetyltransferase (TAT), from Burkholderia pseudomallei	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Usa Dokprom Boonyuen
26	Identification of Specific Biomarker Genes for Separation Intrahepatic Cholangiocarcinoma Subtype	Faculty of Tropical Medicine, Mahidol University	Ms. Thitiluck Swangsri
27	Determinaton of whole antigen profiles in Schistosoma mekongi eggs by proteomics approach	Faculty of Tropical Medicine, Mahidol University	Ms. Tipparat Thiangtrongjit
28	Production of ELISA test kit for quantifying human collagen alpha-1 (XI) chain of Thai breast cancer patient	Faculty of Tropical Medicine, Mahidol University	Ms. Nonglucksanawan Ritthisunthorn
29	Monthly dynamics of five-species malaria infection on the Thai-Myanmar border	Center of Emerging and Neglected Infectious Disease : CENID, Mahidol University	Assist. Prof. Wang Nguitragool
30	A novel approach for treatment of human filariasis : a search for immunomodulatory molecules of Brugia malayi and restoration of host immunity	Thailand Research Fund	Assist. Prof. Onrapak Riumthong
31	Functional assessment of G6PD variants found in Thailand	Thailand Research Fund	Assist. Prof. Usa Dokprom Boonyuen
32	การทำงานและโครงสร้างสามมิติของเอนไซม์ดีไธโดรจีเนส ออกซิโดรีดักเทสสายสั้นจากเชื้อเบอโคลเดอเรีย สูโดมัลลิไอ	National Science and Technology Development Agency (NSTDA)-TGIST	น.ส.กมลวรรณ แซ่มช้อย (นศ.ป.เอก) อ.ที่ปรึกษา : อ.อุษา บุญยืน
33	Roles of the N-terminal domain of Plasmodium vivax reticulocyte binding proteins, an investigation using transfenic Plasmodium knowlesi	National Science and Technology Development Agency (NSTDA)	Ms. Sutarinee Ngenna (Advisor : Assist. Prof.Wang Nguitragool)

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS (*Continued*)			
34	Phosphoproteomic analysis of male and female Schistosoma mekongi worms	Mahidol University	Assist. Prof. Onrapak Riumthong
35	Membrane translocating human ScFv antibodies specific to pathogenic Leptospira adhesins with adhesion inhibitory activity	The Thailand Research Fund	Assist. Prof. Santi Maneewatchararangsri
36	Structural and functional studies of Leptospira lipopolysaccharide (LPS) translocon compleses and the interaction of the bacteria and host cells	British Council (NEWTON FUND : Researcher Links Travel Grant 2015-2016)	Assist. Prof. Santi Maneewatchararangsri
37	Molecular and in vitro surveillance of artemisinin combination therapy (ACT) partner drug efficacy in the Greater Mekong Subregion-MIVS-ACT	EXPERTISE FRANCE	Prof. Mallika Imwong
38	The Development of loop-mediated isothermal amplification (LAMP) for diagnosis of scrub typhus at Tha Song Yang Hospital, Tak, Thailand	Faculty of Tropical Medicine, Mahidol University	Dr. Sasipa Tanyaratsrisakul
39	การพัฒนาต่อยอดชุดตรวจวินิจฉัยแอนติบอดีชนิด IgG ต่อโปรตีนรีคอมไบแนนจำเพาะของเชื้อ เลปโตสไปราด้วยเทคนิคอีไลซา สำหรับโรคเลปโตสไปโรซิส	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Santi Maneewatchararangsri
40	Molecular Characterization on specific protein of pathogenic Leptospira spp.	Mahidol University (Government Budget)	Assist. Prof. Piengchan Sonthayanon
41	Study of extracellular proteome (Secretome) of pathogenic Leptospira in leptospiremia mimic condition and characterization of virulent-associated Leptospira secretome	Mahidol University (Government Budget)	Assist. Prof. Santi Maneewatchararangsri

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF MOLECULAR TROPICAL MEDICINE AND GENETICS (*Continued*)			
42	Characterization of genetic polymorphisms of C4P2D6 and their association with the recurrences of Plasmodium vivax in the Karen population, Thailand	The British Council	Ms. Kanokpich Puaprasrt / Prof. Mallika Imwong (Advisor)
43	(Development of protocol to enhance recombinant protein expression of human Glucose-6-Phosphate Dehydrogenase (G6PD) using Escherichia coli system	Faculty of Tropical Medicine, Mahidol University	Ms. Thitiluck Swangsri
44	Discovery of Schistosoma lipid binding protein inhibitors	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Onrapak Riumthong
45	Development of antimicrobial compounds to outer membrane protein transporter for multi-drug resistant (MDR) Escherichia coli infection	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Santi Maneewatchararangsri
46	The relationship between genotype and the ability to produce reduced glutathione of G6PD enzymes	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Usa Dokprom Boonyuen
47	Prevalence of antimalarial drug target genes polymorphisms in Plasmodium Malariae infection	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Naowarat Saralamba
DEPARTMENT OF PROTOZOOLOGY			
1	Toxoplasma gondii genotyping in domestic and wild felids in Thailand	Commission on Higher Education	Prof. Yaowalark Sukthana
2	PCR assays for detection of Toxoplasma gondii in Thai commercial meat products	Mahidol University	Ms. Rachatawan Chiabchalard
3	Identifying the Sources of Environmental Contamination by Cryptosporidium	The Thailand Research Fund	Prof. Yaowalark Sukthana

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF PROTOZOOLOGY (*Continued*)			
4	Conmparative proteomic study of Entamoeba histolytica and Entamoeba moshkovskii; causative agent of muman amoebiasis	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Dr. Saengduen Moonsom
5	Development Technique of Differentiation of Free-living Amoebae	The Thailand Research Fund	Prof. Yaowalark Sukthana
6	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	Prof. Yaowalark Sukthana
7	The Detection and Quantification of Toxoplasma gondii Captive Wildlife in Thailand	Department of Protozoology	Assist. Prof. Ongart Mahitikorn
8	Development of a loop-mediated isothermal amplification (LAMP) for rapid identification of Naegleria fowleri	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Ongart Mahitikorn
9	Development of nested PCR and real-time PCR assays for diagnosis of Plasmodium knowlesi	Faculty of Tropical Medicine, Mahidol University	Mr. Pongrut Ratprasert
10	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
11	Antiprotozal acitivity of essential oil from Thai Medical plants against Giardia duodenalis	Mahidol University	Assist. Prof. Supaluk Popruk
12	Molecular characterization of Plasmodium falciparum DNA-3 methyladenine glycosylase as a new antimalarial drug target	Mahidol University (Government Budget)	Assoc. Prof. Porntip Petmitr
13	Development of Gold nano particle lateral flow test strip for detecting Giardia duodenalis and Cryptosporidium spp.	Faculty of Tropical Medicine, Mahidol University	Mr. Pongrut Ratprasert

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF PROTOZOOLOGY (*Continued*)			
14	Effects of natural compounds on Plasmodium falciparum gametocyte in vitro	Faculty of Tropical Medicine, Mahidol University	Ms. Kanthinich Thima

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	Effect of climate change on Gastro-intestinal Infectious Diseases	The Commission on Higher Education (National Research University)	Assist. Prof. Suwalee Worakunpiset
4	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
5	Therapeutic and diagnostic human monoclonal antibodies against Chikungunya virus.	Dean's Research Fund, Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Pannamtip Pitaksajakul
6	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	Assist. Prof. Pannamthip Pitaksajjakul
7	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	Assist. Prof. Yanin Limpanon
8	Epitope mapping of Neutralizing human monoclonal antibody against Dengue viruses	The Thailand Research Fund and Mahidol University	Assoc. Prof. Pongrama Ramasoota

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF SOCIAL AND ENVIRONMENTAL MEDICINE (*Continued*)			
9	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
10	Social and Environmental Factors affecting The Preventive Behaviors of Dengue Hemorrhagic Fever	Faculty of Tropical Medicine, Mahidol University	Mr. Wiwat Wanarangsikul
11	Health Risk Assessment of Heavy Metals Contamination in the Environment near Industrial Estate Area, Ayutthaya	Faculty of Tropical Medicine, Mahidol University	Ms. Rachaneekorn Mingkhwan
12	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	Assist. Prof. Yanin Limpanon
13	Reduction of ADE activity for neutralizing human monoclonal antibody against dengue virus by Fc modification	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Pannamthip Pitaksajjakul
14	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
15	Critical Proteins of Non-Alcoholic Fatty Liver Disease After Bisphenol A Exposure	Faculty of Tropical Medicine, Mahidol University	Dr. Prapin Tharnpoophasiam
16	Development of Rapid Immunochromatography strip test for Dengue virus	The Thailand Research Fund	Assist. Prof. Pannamthip Pitaksajjakul
17	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
18	Strengthen Research Collaboration on Dengue between Thailand and Lao PDR	Mahidol University (AEC)	Assoc. Prof. Pongrama Ramasoota

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF SOCIAL AND ENVIRONMENTAL MEDICINE (*Continued*)			
19	Contstruction of scFv antibody phage library and selection of dengue virus-specific monoclonal antibodies using phage display technology	Faculty of Tropical Medicine, Mahidol University	Ms. Hathairad Hananantachai
20	การศึกษาศักยภาพการรองรับมลพิษ (Carrying Capacity) ในเขตพื้นที่แหลมฉบัง-ศรีราชา-อ่าวอุดม	Thaioil Public Company Limited (TOP)	Assoc. Prof. Kraichat Tantrakarnapa
21	พัฒนาตัวชี้วัดด้านอนามัยสิ่งแวดล้อมจากการเปลี่ยนแปลงสภาพภูมิอากาศ	Department of Health	Assoc. Prof. Kraichat Tantrakarnapa
22	Dynamic Modeling of Loading Capacity for Fecal Coliform Bacteria of the Mekong River in Chaing Khong City, Chiang Rai Province	Asia Research Center, Chulalongkorn University	Assist. Prof. Voranuch Wangsuphachart
23	การศึกษาและจัดทำฐานข้อมูลระดับเสียงในระยะก่อสร้างโครงการท่อส่งก๊าซธรรมชาติเส้นที่ 4 (ระยอง-แก่งคอย) พร้อมแบบจำลองแสดงความสัมพันธ์ระหว่างผลกระทบด้านเสียงและพื้นที่อ่อนไหวในพื้นที่โครงการ	Entic Company Limited, Thailand	Assoc. Prof. Kraichat Tantrakarnapa
24	Development and Implementation of the Climate Protection Policy in Thailand	German International Cooperation (GIZ)	Assoc. Prof. Kraichat Tantrakarnapa
25	Support to the Development and Implementation of the Thai Climate Change Policy	German International Cooperation (GIZ)	Assoc. Prof. Kraichat Tantrakarnapa
26	โครงการจัดทำบัญชีก๊าซเรือนกระจกและมาตรการลดก๊าซเรือนกระจก ภาคส่วนกระบวนการอุตสาหกรรม	Global Environment Facility : GEF (กองทุนสิ่งแวดล้อมโลก) รับเงินผ่านทางม.ธรรมศาสตร์	Assoc. Prof. Kraichat Tantrakarnapa
27	Development of procedures for laboratory maintaining of blood fluke (Schistosoma mansoni) life cycle in snail intermediate host (Biomphalaria glabrata)	Faculty of Tropical Medicine, Mahidol University	Mrs. Yupa Chusongsang
28	Development of technique for Schistosoma mekongi infection in Laboratory mice	Faculty of Tropical Medicine, Mahidol University	Mr. Phiraphol Chusongsang

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF SOCIAL AND ENVIRONMENTAL MEDICINE (*Continued*)			
29	Environmental Variation of Particulate Matters in Respiratory Disease in the Northern part of Thailand	Mahidol University (Postdoctoral Fellowship Program)	Assoc. Prof. Kraichat Tantrakarnapa/ Dr.Apaporn Ruchiraset (Post doc)
30	Enhancement of Therapeutic Human Monoclonal antibodies against Dengue diseases using phage display technique	Mahidol University (Government Budget)	Assoc. Prof. Pongrama Ramasoota
31	Dengue vaccine development based on epitope from human monoclonal antibodies that nutrallized all 4 serotype of Dengue virus	NRCT (Joint Research Program)	Assoc. Prof. Pongrama Ramasoota
32	Longitudinal studies and maturation pathway of human B cell antibody sequences among different phases of dengue patients	Thailand Research Fund	Assist. Prof. Pannamthip Pitaksajjakul
33	Production of Therapeutic human monoclonal antibodies against Dengue virus at Industrial scale	Thailand Research Fund	นายพงษ์พันธุ์ สุวรรณชาติ (นศ.ป.โท) อ.ที่ปรึกษา : รศ.ดร. พงศ์ราม รามสูต
34	GeoHealth Thai Platform (GeoHTP): Towards a Network to Gather Expertise, Knowledge and Resources in Health Geography	The Commission on Higher Education	Assoc. Prof. Kraichat Tantrakarnapa
35	Biodiversity and genetic variation of gastropods in Mekong River, Thailand: implementation for environmental monitoring	Mahidol University (Government Budget)	Assist. Prof. Yanin Limpanon
36	Production of Therapeutic human monoclonal antibodies against Dengue virus at Industrial scale	The Thailand Research Fund	นายพงษ์พันธุ์ สุวรรณชาติ (นศ.ป.โท) อ.ที่ปรึกษา : รศ.ดร. พงศ์ราม รามสูต
37	Study of community water, sanitation and hygiene associated with diarrhea infection: A case study of Tha Song Yang District, Tak Province, Thailand	Faculty of Tropical Medicine, Mahidol University	Dr. Athit Phetrak

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF SOCIAL AND ENVIRONMENTAL MEDICINE (*Continued*)			
38	Viral replication inhibition activity, cross-reactivity, and epitope mapping of human monoclonal antibodies specific to dengue virus NS1 protein	Health System Research Institute (HSRI)	Assist. Prof. Pannamthip Pitaksajjakul
39	Assessing the Health Impacts of Air Pollution in Thailand	The Thailand Research Fund	Assoc. Prof. Kraichat
40	Potential of Murdannia loriformis, Artemisia vulgaris L.,Aegle marmelos to inhibit cell transformation to cancer cell: in vitro study)	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Suwalee Worakunpiset
41	Antimicrobial products from Garcinia Mangostina Peel (GMP) extract (Antimicrobial spray, mouthwash and air filter)	Office of the Permanent Secretry, Ministry of Science and Intervisdom company	Assoc. Prof. Pongrama Ramasoota
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	Proteomics characterization of Aedes aegypti	Bourse Scholarship, IRD, France	Assoc. Prof. Natthanej Luplerdlop
3	Evaluation of fosmidomycin, when administered concurrently to adult subjects with acute uncomplicated Plasmodium malaria	Jomaa Pharma GmbH, Hamburg, Germany	Prof. Srivicha Krudsood
4	Th1 and Th2 cytokine expression in common mosquito borne infected samples in Thailand	The Thailand Research Fund	Assoc. Prof. Natthanej Luplerdlop

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF TROPICAL HYGIENE (*Continued*)			
5	Role of phosphoinositide 3-kinase and matrix metalloproteinases induce chronic arthritis in Chikungunya pathogenesis	Faculty of Tropical Medicine, Mahidol University	Ms. Suntaree Sangmukdanun
6	Dynamics of microscopic and submicroscopic P. falciparum gametocytemia after early treatment of artesunate-mefloquine	The Thailand Research Fund	Assist. Prof. Saranath Lawpoolsri
7	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
8	Investigating Urine Protein Markers in Acute Renal failure Complicating Severe Malaria	The National Research Concil of Thailand	Assoc. Prof. Natthanej Lublertlop
9	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
10	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
11	Effect of land use change on malaria transmission in Suanphung district Ratchaburi.	Faculty of Tropical Medicine, Mahidol University	Mr. Patiwat Sa-angchai
12	Forecasting model of malaria incidence with climate variables: a case study in Ratchaburi, Thailand.	Mahidol University	Dr. Ngamphol Soonthornworasiri
13	Study of lipopolysaccharide and biofilm formation in relapsing meliodosis	The Thailand Research Fund, Commission on Higher Education and Mahidol University	Assist. Prof. Direk Limmathurotsakul

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF TROPICAL HYGIENE (*Continued*)			
14	Long-term Continuous Culture of Plasmodium Vivax Stages	University of South Florida, USA	Assoc. Prof. Pratap Singhasivanon/ Dr. Jetsumon Prachumsri
15	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	Assist. Prof. Wirichada Panngam
16	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	Assist. Prof. Saranath Lawpoolsri
17	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
18	DENFREE-Dengue Research Framework for Resisting Epidemics in Europe	Institute Pasteur, France	Assoc. Prof. Pratap Singhasivanon
19	Effectivenessof oral ivermectin for the treatment of human head lice in rural community	Faculty of Tropical Medicine, Mahidol University	Dr. Surapon Yimsamran
20	The ecological determinants of leptospirosis transmission dynamics	The Commission of Higher Education Commission -NEWTON FUND : The Royal Society(Newton Mobility Grant)	Assist. Prof. Wirichada Panngam
DEPARTMENT OF TROPICAL NUTRITION AND FOOD SCIENCES			
1	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*)			
2	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
3	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
4	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
5	The study of methylation level in osteoporosis in menopause by pyrosequencing	Faculty of Tropical Medicine, Mahidol University	Dr. Pornrutsami Jintaridth
6	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
7	Effect of lactic acid bacteria on immunomodulation of human colon cell against Clostridium difficile infection	Faculty of Tropical Medicine, Mahidol University	Dr. Amornrat Aroonnual
8	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
9	Prospective study of diet, Life style, Insulin resistance, Inflammatory markers and Risk of Developing Type 2 Diabetes Mellitus in rural Thais	Mahidol University (Government Budget)	Assoc. Prof. Karunee Keanboonjan

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF TROPICAL NUTRITION AND FOOD SCIENCES (*Continued*)			
10	The mathylation study in replicative periodontal cellular aging and gene expression modification in the development of novel treatment modalities	The Thailand Research Fund	Dr. Pornrutsami Jintaridth
11	Comparison of anti-HIV activity of plastocyanin protein from plants and cyanobacterium	The Thailand Research Fund	Dr. Apanchanid Thepouyporn
12	Health benefit effects of Mao-Luang (Antidesma Bunius) crude extract against cardiovascular disease in hyperlipidemic rats	Faculty of Tropical Medicine, Mahidol University	Dr. Pattaneeya Prangthip
13	DNA Methylation Signatures within the Human Brain Cell during Aging	Faculty of Tropical Medicine, Mahidol University	Dr. Pornrutsami Jintaridth
14	Effectiveness of ß - glucan supplementation to interleukin-6, interleukin-10 and tumour necrosis factor-alpha levels in overweight and obese subjects	Core Chematis Co., Ltd., Thailand	Dr. Pattaneeya Prangthip
15	Production of Coconut Alpha-Galactosidase in Yeast for Hydrolyzing Raffinose in Soymilk to Increase Nutritional Value and Decrease Soymilk-Allergy	Faculty of Tropical Medicine, Mahidol University	Ms. Kriyaporn Songmuaeng
16	Relationship of osteoprotegerin gene polymorphisms and bone mineral density in Thai peri- and menopausal women	Faculty of Tropical Medicine, Mahidol University	Dr. Anong Kitjaroentham
17	Development Perilla frutescens (L.) Britton to food products	Faculty of Tropical Medicine, Mahidol University	Ms. Kriyaporn Songmuaeng
18	Effects of Mao-Luang (Antidesma bunius) crude extract in ray model of non-alcoholic fatty liver disease using high fat diet	Faculty of Tropical Medicine, Mahidol University	Dr. Sarunya Kaewprasert
19	โครงการการสร้างเสริมสุขภาวะองค์รวมในชุมชนคนไทยและเมียนมา	Thai Health Promotion Foundation	Assist. Prof. Dumrongkiet Arthan

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF TROPICAL PATHOLOGY			
1	Investigating Causes of Acute Renal Failure in Severe Malaria by Histopathology and Immunohistochemistry	The National Research Concil of Thailand	Assoc. Prof. Parnpen Viriyavejakul
2	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
3	Investigating endothelial cell permeability in severe P. falciparum malaria and exploring the role of sphingosine 1 phosphate as a therapeutic agent in protecting severe malaria complications	Faculty of Tropical Medicine, Mahidol University	Assoc. Prof. Parnpen Viriyavejakul
4	Comparison of Protein C System Expression in the Lung between Pulmonary Edema and Non Pulmonary Edema Cases in Severe (Falciparum) Malaria	Faculty of Tropical Medicine, Mahidol University	Dr. Sumate Ampawong
5	Exploring Pancreatic Pathology in Severe Malaria Patients	Faculty of Tropical Medicine, Mahidol University	Ms. Supattra Glaharn
6	Immunomodulatic Role of Sericin on Epidermal Melanocytes and Langerhans Cells : an Approach for Hyperpigmentation Disorders	The Thailand Research Fund	Dr. Sumate Ampawong
7	An indicative gene profile of acute coronary heart disease in Thai familial hypercholesterolemia patients	Mahidol University (Government Budget)	Assoc. Prof. Yaowapa Maneerat
8	The alterations of actin protein on endothelial cells activated by serum of malaria patients	Faculty of Tropical Medicine, Mahidol University	Ms. Supattra Glaharn

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF TROPICAL PATHOLOGY (*Continued*)			
9	Detection of BAFF-R, TACI, and BCMA expression on surface of activated lymphocytes in lymph nodes and spleen via BAFF&APRIL pathway in fatal falciparum malaria patients	Faculty of Tropical Medicine, Mahidol University	Ms. Wilanee Dechkhajorn
DEPARTMENT OF TROPICAL PEDIATRICS			
1	Evaluation of long-term immunity against Japanese encephalitis in Children vaccinated with Japanese encephalitis Vaccine	Department of Tropical Pediatrics	Assoc. Prof. Pornthep Chanthavanich
2	FavirabTM post prescription event monitoring	Sanofi Pasteur Co., Ltd.	Assoc. Prof. Pornthep Chanthavanich
3	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
4	Efficacy and safety of Dengue vaccine in healthy children aged 4 to 11 years in Thailand (CYD23)	Sanofi Pasteur Co., Ltd.	Prof. Arunee Sabchareon
5	Protective Antibodies Against Erythrocyte Invasion Ligands in Plasmodium falciparum in Thailand	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Watcharee Chokejindachai
6	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
7	Accuracy assessment of using WHO criteria in diagnosis of dengue infection	Department of Tropical Pediatrics	Assoc. Prof. Pornthep Chanthavanich

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF TROPICAL PEDIATRICS (*Continued*)			
8	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
9	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
10	EPI coverage survey in Thai and foreign children, since birth to grade 6, in Bangkok	Mahidol University	Assist. Prof. Weerawan Hattasingh
11	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	Assist. Prof. Raweerat Sitcharungsri
12	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 Pediatric Subjects (V89_11)	Novartis Thailand	Assoc. Prof. Pornthep Chanthavanich
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 Adult Subjects (V89_04)	Novartis Thailand	Assoc. Prof. Pornthep Chanthavanich

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF TROPICAL PEDIATRICS (*Continued*)			
14	Burden of dengue infection in children and adults of Bang Phae distric, Ratchaburi province, Thailand	IVI, South Korea	Assoc. Prof. Pornthep Chanthavanich
15	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
16	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 Limkittikul
17	A Phase I/II, Randomized, Observer-Blind, Multi-Center, Study to Evaluate Immunogenicity and Safety of Four Influenza Vaccine in Healthy Pediatric Subjects 6 to < 48 Months of Age Protocol No. V58P16	Novartis Thailand	Assoc. Prof. Pornthep Chanthavanich
18	A Double-Blind, Randomized, Placebo-Controlled, Age Descending and Expansion Phase 2 Study to Investigate the Safety and Immunogenicity of a Tetravalent Chimeric Dengue Vaccine in Healthy Volunteers Between the Ages of 1.5-45 years	Inviragen Inc., USA	Assoc. Prof. Chukiat Sirivichayakul

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DEPARTMENT OF TROPICAL PEDIATRICS (*Continued*)			
19	Detection of asymptomatic dengue infection in school children in Muang district, Ratchaburi province, and dengue serotype2-specific and cross reactive antibody	National Science and Technology Development Agency (NSTDA)	Assoc. Prof. Chukiat Sirivichayakul
20	A phase I/II randomized, observer-blind, controlled study to assess safety and immunogenicity of acellular Pertussis vaccine given alone or in combination with Tetanus-diphtheria vaccine in healthy adults aged 18-35 years	Bionet Asia co., Ltd., Thailand	Assoc. Prof. Chukiat Sirivichayakul
21	A Phase III, Stratified, Randomized, Observer Blind, Controlled, Multicenter Clinical Study to Evaluate the Safety, Immunogenicity and Efficacy of an Adjuvanted Quadrivalent Subunit Influenza Virus Vaccine Compared to Non-Adjuvanted Comparator Influenza Vaccine in Children ≥6 to < 72 Months of Age" V118_05	ICON Clinical Research (Thailand) Limited	Assoc. Prof. Pornthep Chanthavanich
22	Sensitivity and specificity of indirect ELISA to detect dengue antibody in annual blood sample for diagnosing asymptomatic dengue infection and incidence of asymptomatic dengue infection in Muang district, Ratchaburi province	Mahidol University (Government Budget)	Dr. Supawat Chatchen
23	Efficacy and Safety of a Novel Tetravalent Dengue Vaccine in Healthy Children Aged 2 to 14 years in Asia) : CYD14	Sanofi Pasteur Co., Ltd.	Prof. Usa Tisayakorn

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
VACCINE TRIAL CENTRE (VTC)			
1	Longitudinal Study among Men who have Sex with Men (MSM) and Transgendered Women (TG) at Risk for HIV-1 Infection to Determine Feasibility as a Cohort for HIV Efficacy Vaccine Trials) (RV348)	The Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc. , Prime Award from U.S. Army Medical Research Acquisition Activity (USAMRAA)	Prof. Punnee Pitisuttithum
2	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
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
5	Phase I safety and immunogenicity of live attenuated influenza H5 candidate vaccine strain A/17/ turkey/05/133 (H5N2) in healthy Thai volunteers	World Health Organization	Dr. Supachai Rueknggam/ Prof. Punnee Pitisuttithum

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
VACCINE TRIAL CENTRE (VTC) (*Continued*)			
6	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 Ruekngam/ Prof. Punnee Pitisuttithum
7	Randomized, Double Blind Evaluation of Late Boost Strategies for HIVuninfected Participants in the HIV Vaccine Efficacy Trial RV 144: "Aventis Pasteur Live Recombinant ALVAC-HIV (vCP1521) Priming with VaxGen gp120 B/E (AIDSVAX® B/E) Boosting in HIV-uninfected Thai Adults		Dr. Supachai Ruekngam/ Prof. Punnee Pitisuttithum
MAHIDOL VIVAX RESEARCH UNIT (MVRU)			
1	Development of an Invasion inhibition Assay for Vaccine Screening against Plasmodium vivax	Faculty of Tropical Medicine, Mahidol University	Dr. Wanlapa Roobsoong
2	Identification of Plasmodium species in oocysts of infected Anopheles mosquitoes	Faculty of Tropical Medicine, Mahidol University	Mr. Chalermpon Kumpitak
3	Discovery & validation of novel P. vivax antigens for identification and monitoring of transmission 'hot spots'	NIH	Dr. Jetsumon Prachumsri
4	Production of P. vivax infected mosquitoes to support in vitro liver-stage research	Bill & Melinda Gates Foundation	Dr. Jetsumon Prachumsri
5	A mouse model for human malaria infection	Seattle Biomedical Research Institute, USA	Dr. Jetsumon Prachumsri
6	Plasmodium detection in saliva by Real-time PCR	Faculty of Tropical Medicine, Mahidol University	Mr.Teerawat Saeseu
7	In vitro assay of anti PV liver stage compounds	MMV Medicines for Malaria Venture, Switzerland	Dr. Jetsumon Prachumsri

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
MAHIDOL VIVAX RESEARCH UNIT (MVRU) (*Continued*)			
8	Southeast Asia Malaria Research Center : ICEMR	NIH/ The Pennsylvania State University	Dr. Jetsumon Prachumsri
9	Enhancing Vivax Malaria Research in Thailand : D43	NIH/ The Pennsylvania State University	Dr. Jetsumon Prachumsri
10	In vitro assay of anti PV liver stage compounds	MEDICINES FOR MALARIA VENTURE : MMV	Dr. Jetsumon Prachumsri
11	FRG KO HuHep Mouse Model to study Malaria pre-erytrocytic intervention Strategies	SEATTLE BIOMEDICAL RESEARCH INSTITUTE	Dr. Jetsumon Prachumsri
12	Development of Plasmodium vivax gametocyte and its association with mosquito infectivity	Thailand Research Fund	Dr. Wanlapa Roobsoong
13	Residual Malaria Transmission in the Greater Mekong Subregion-Studies to examine its magnitude and identify its causes	Malaria Consortium	Dr. Jetsumon Prachumsri
14	Microscale Liver Platform for Liver-stage Malaria	The Broad Institute	Dr. Jetsumon Prachumsri
15	Humanized Mouse Models for Efficacy of Novel P.vivax Pre-erythrocytic Antigens	Seattle Biomedical Research Institute dba Center for Infectious Disease Research (SBRI dba CID research)	Dr. Jetsumon Prachumsri
16	FRG KO huHep Mouse Medel for P.vivax Pre-Erythrocytic Intervention Studies	Seattle Biomedical Research Institute dba Center for Infectious Disease Research (SBRI dba CID research)	Dr. Jetsumon Prachumsri
17	A novel vector control measure to combat the spread of artemisinin resistance in the Greater Mekong Subregion	USA MEC RESEARCH ACQ ACTIVITY (USAMRAA)	Dr. Jetsumon Prachumsri
18	Transcriptomes and Proteomes of Plasmodium Vivax	NIH, Subaward from PSU	Dr. Wanlapa Roobsoong
19	Vector Control Working Group Annual Workshop	The University of California (UCSF)	Dr. Jetsumon Prachumsri

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
DRUG RESEARCH UNIT FOR MALARIA (DRUM)			
1	APac: Establishment of a novel in vitro system to assess Plasmodium vivax hypnozoites and its application for the metabolomic and pharmacological analysis	U.S. Civilian Research & Development Foundation (dba CRDF Global) ประเทศสหรัฐอเมริกา	Dr. Rapatbhorn Patrapuvich
2	Secretome of hepatocyte cell line (HC04) injected with Plasmodium vivax	Mahidol University : Talent Management	Dr. Rapatbhorn Patrapuvich
3	Plasmodium-specific nanoparticles for live-imaging and gene expression analysis of P. vivax liver-stage parasites	Center of Emerging and Neglected Infectious Disease : CENID, Mahidol University	Dr. Rapatbhorn Patrapuvich
4	Investigation of infectivity of P. vivax sporozoite during development in mosquito's salivary glands	Faculty of Tropical Medicine, Mahidol University	Dr. Rapatbhorn Patrapuvich
5	In vitro adaption of Plasmodium falciparum from cryopreserved Thai isolates	Faculty of Tropical Medicine, Mahidol University	Dr. Rapatbhorn Patrapuvich
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
3	Engineering the Fc region of cross-neutralizing human IgG antibodies against dengue virus	The Thailand Research Fund	Dr. Chonlatip Pipattanaboon
4	Cross-reactivity of anti-Dengue human monoclonal antibodies with Zika Virus	Faculty of Tropical Medicine, Mahidol University	Ms. Khwanchit Boonha

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
GENOMICS AND EVOLUTIONARY MEDICINE UNIT (GEM)			
1	Development of scFv-antibodies against Rabies virus using phage display technology	Grand Challenges Canada, Canada	Assist. Prof. Thanat Chookajorn
2	Development of strategies to prevent and contain artemisinin resistance	Center of Emerging and Neglected Infectious Disease : CENID, Mahidol University	Assist. Prof. Thanat Chookajorn
3	Hit to Lead development for the inhibitor against malarial GTP Cyclohydrolase I	National Science and Technology Development Agency (NSTDA)	Assist. Prof. Thanat Chookajorn
4	Overcoming the Problem of Artmisinin Resistance by Tracing Drug Resistance Evolution and Developing Resistance-Reversion Compound	Thailand Research Fund	Assist. Prof. Thanat Chookajorn
5	Overcoming Antigenic Variation by Genome Editing Technology	Thailand Research Fund	Assist. Prof. Thanat Chookajorn
6	Reversal of Artemisinin Resistance by means of Chemical Genetics	OPEN LAB FOUNDATION,UK	Assist. Prof. Thanat Chookajorn
7	การพัฒนาชุดคิทตรวจเชื้อดื้อยากลุ่ม artemisinin	Faculty of Tropical Medicine, Mahidol University	Assist. Prof. Thanat Chookajorn
8	Overcoming Antigenic Variation by Genome Editing Technology	Newton Advance Fellowship, The Royal Society	Assist. Prof. Thanat Chookajorn
HOSPITAL FOR TROPICAL DISEASES			
1	Incidence of bacteria infection and their antibiogram in the hospital for tropical diseases	Faculty of Tropical Medicine, Mahidol University	Ms. Chatnapa Duangdee
2	A Study of blood Hemoglobin in Hypertriglyceridemia	Faculty of Tropical Medicine, Mahidol University	Ms. Benjamaporn Wongphan

NO.	RESEARCH TITLE	GRANT	PRINCIPAL INVESTIGATOR
LABORATORY ANIMAL UNIT, OFFICE OF RESEARCH SERVICES			
1	The Study of Microbiological Air Quality of Laboratory Animal Unit, Faculty of Tropical Medicine, Mahidol University	Faculty of Tropical Medicine, Mahidol University	Ms. Thanyaluk Krasae
PROCUREMENT UNIT, OFFICE OF THE DEAN			
1	Cost analysis with enough stock; Faculty of tropical Medicine, Mahidol University	Faculty of Tropical Medicine, Mahidol University	Mrs. Jeranan Saengphak
2	Study of electronic model for procurement data system; Facukty of Tropical Medicine, Mahidol University	Faculty of Tropical Medicine, Mahidol University	Mrs. Prapaiporn Ticharoen
FACULTY OF TROPICAL MEDICINE			
1	โครงการทุนพัฒนาศักยภาพการวิจัยเชิงสถาบันของคณะเวชศาสตร์เขตร้อน มหาวิทยาลัยมหิดล	The Thailand Research Fund	Dr. Jetsumon Prachumsri

BANGKOK SCHOOL OF TROPICAL MEDICINE

GRADUATES 2017

Doctor of Philosophy in Tropical Medicine PhD-TM 2017

	NAME-SURNAME	COUNTRY
1	Chan Nyein Maung	Myanmar
2	Vichaya Suttisunhakul	Thailand
3	Peerut Chienwichai	Thailand
4	Krongkan Srimuang	Thailand
5	Chirawat Paratthakonkun	Thailand
6	Surasak Chaikhiandee	Thailand
7	Nantana Suwandittakul	Thailand
8	Supannee Kaewsutthi	Thailand
9	Sarunya Maneerattanasak	Thailand
10	Neelima Afroz Molla	Bangladesh
11	Somporn Saiwaew	Thailand
12	Sirilak Dusitsittipon	Thailand
13	Jareonsri Satung	Thailand
14	Paviga Limudomporn	Thailand
15	Boonruam Chittsamart	Thailand
16	Khurawan Kumkrong	Thailand
17	Rawipun Worasathit	Thailand

Doctor of Philosophy in Clinical Tropical Medicine PhD-CTM 2017

	NAME-SURNAME	COUNTRY
1	Kyi Phyu Aye	Myanmar
2	Haruhiko Ishioka	Japan

Master of Clinical Tropical Medicine (Tropical Pediatrics) MCTM- (Trop. Ped.) 2017

	NAME-SURNAME	COUNTRY
1	Yukiya Kurahashi	Japan

Master of Clinical Tropical Medicine MCTM 2017

	NAME-SURNAME	COUNTRY
1	Yin Myat Thwe	Myanmar
2	Navuddh Oam	Cambodia
3	Lenin Daniel Martinez Aguilar	Mexico
4	Kyi Pyar Soe	Myanmar
5	Hla Kay Thi	Myanmar
6	Aye Mya Sandar	Myanmar
7	Khaing Zaw Latt	Myanmar
8	Bianca Eder	Austria
9	Yadanar Su Aung Kyaw	Myanmar
10	Lapakorn Chatapat	Thailand
11	Wasin Matsee	Thailand

Master of Science in Tropical Medicine MSc-TM 2017

	NAME-SURNAME	COUNTRY
1	Nopadol Precha	Thailand
2	Suntorn Sudsandee	Thailand
3	Lalitra Udomrak	Thailand
4	Oranicha Khamprapa	Thailand
5	Patthamaphong Jaiklom	Thailand
6	Nuntana Meesiripan	Thailand
7	Wai Yan Aung	Myanmar
8	Kirakorn Kiattibutr	Thailand
9	Wireeya Chawjiraphan	Thailand
10	Pattarakul Pakchotanon	Thailand
11	Kanthinich Thima	Thailand
12	Jittraporn Rattanamahaphoom	Thailand

GRADUATES 2017

Master of Science in School Health MSc-SH 2017

	NAME-SURNAME	COUNTRY
1	Thanaphon Sripan	Thailand
2	May Thu Hlaing	Myanmar
3	Wang Norbu	Bhutan
4	Ae Mon Htun	Myanmar
5	Channa Touch	Cambodia

Diploma in Tropical Medicine and Hygiene D.T.M.& H. 2017

	NAME-SURNAME	COUNTRY
1	Md Nazmul Haque	Bangladesh
2	Vo Thi Thu	Vietnam
3	Dario Zuercher	Switzerland
4	Aye Mya Sandar	Myanmar
5	Yin Myat Thwe	Myanmar
6	Hla Kay Thi	Myanmar
7	Kyi Pyar Soe	Myanmar
8	Lenin Daniel Martinez Aguilar	Mexico
9	Michinori Shirano	Japan
10	Kensuke Takahashi	Japan
11	Yukiya Kurahashi	Japan
12	Shuhei Ota	Japan
13	Ken Takada	Japan
14	Navuddh Oam	Cambodia
15	Daniel Tiefengraber	Austria
16	Sebastian Baumgartner	Austria

THESIS TITLES

DOCTOR OF PHILOSOPHY PROGRAM IN TROPICAL MEDICINE (PHD TROP.MED)

NAME	TITLE OF THESIS	ADVISOR
Rawipun Worasathit 5101168 TMTM/D	Acceptability of an influenza vaccine among the elderly in Bangkok, Thailand	Prof. Punnee Pitisuttithum
Khurawan Kumkrong 5237217 TMTM/D	Multiple locus variable number tandem repeat analysis (MLVA) for typing *Brucella* isolates	Asst.Prof.Thareerat Kalumbaheti
Boonruam Chittsamart 5237224 TMTM/D	Population dynamics of phlebotomine sandflies inhabiting a swiftlet cave on isolated islands in chumphon province	Lect.Dr.Suchada Sumruayphol
Paviga Limudomporn 5237730 TMTM/D	Molecular characterization of *Plasmodium falciparum* ATP-dependent DNA helicase RuvB3	Assoc.Prof.Dr.Porntip Petmitr
Jareonsri Satung 5336054 TMTM/D	The effect of diabetes mellitus on response to tuberculosis treatment among new pulmonary tuberculosis patients in upper north Thailand	Asst.Prof.Saranath Lawpoolsri Niyom
Sirilak Dusitsittipon 5337898 TMTM/D	Genetic diversity and phylogeography of *Angiostrongylus* species in Thailand	Assist.Prof.Urusa Thaenkham
Somporn Saiwaew 5337905 TMTM/D	Effects of low molecular weight heparin on cytoadhesion of *Plasmodium falciparum*	Assoc.Prof.Kesinee Chotivanich
Sarunya Maneerattanasak 5436343 TMTM/D	Parasite molecular patterns and host immune response in relapse *vivax* malaria	Prof.Dr. Srisin Khusmith
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
Supannee Kaewsutthi 5438739 TMTM/D	Identification of the gene(s) associated with familial early-onset obesity in Thai children	Prof.Rungsunn Tungtrongchitr
Nantana Suwandittakul 5438740 TMTM/D	Proteomics studies of cytoplasmic membrane and lysosomal proteins expressed on TNF-& induced cholangiocarcinoma cell-line	Assoc.Prof.Poom Adisakwattana
Surasak Chaikhiandee 5536088 TMTM/D	Adiponectin gene variants among Thais with pre-diabetes and type 2 diabetes	Prof.Rungsunn Tungtrongchitr
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	Assist.Prof.Dr. Dumrongkiet Arthan
Krongkan Srimuang 5536094 TMTM/D	Exploring the molecular mechanism of mefloquine resistance in plasmodium falciparum.	Assoc.Prof.Dr.Mallika Imwong

DOCTOR OF PHILOSOPHY PROGRAM IN TROPICAL MEDICINE (PHD TROP.MED) *(Continued)*

NAME	TITLE OF THESIS	ADVISOR
Peerut Chienwichai 5536096 TMTM/D	Exploration of carbonylated protein profiles in in vitro model of non-alcoholic fatty liver disease and its susceptibility to low concentration bisphenol	Assist.Prof.Prapin Thanpoopasiam
Vichaya Suttisunhakul 5537183 TMTM/D	Evaluation of improved methods for detection and identification of *Burkholderia pseudomallei* infection	Assoc.Prof.Narisara Chantratita
Chan Nyein Maung 5538155 TMTM/D	Empowering the community for malaria prevention and control in Mandalay Region, Myanmar	Assoc.Prof. Jaranit Kaewkungwal

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

NAME	TITLE OF THESIS	ADVISOR
Jittraporn Rattanamahaphoom 5337887 TMTM/M	*In vitro* studies on the mechanisms of vascular leakage in dengue hemorrhagic fever	Asst.Prof.Dr. Pornsawan Leaungwutiwong
Kanthinich Thima 5337893 TMTM/M	Studies on *Plasmodium falciparum* gametocyte specific proteins	Assoc.Prof.Dr.Porntip Petmitr
Pattarakul Pakchotanon 5436337 TMTM/M	Identification and characterization of potential immunomodulatory molecules, serine protease inhibitors, from *Schistosoma mansoni*	Asst.Prof.Dr. Poom Adisakwattana
Wireeya Chawjiraphan 5436342 TMTM/M	Multilocus sequence typing of Brucella isolates in Thailand	Asst.Prof.Dr.Thareerat Kalambaheti
Kirakorn Kiattibutr 5437621 TMTM/M	Association of gametocyte density, in symptomatic and asymptomatic malaria populations, and infectivity to *Anopheles dirus*	Lect.Dr.Patchara Sriwichai
Wai Yan Aung 5438231 TMTM/M	Adherence to three days course of artemether-lumefantrine treatment in Myanmar	Assoc.Prof.Dr.Pratap Singhasivanon
Nuntana Meesiripan 5536099 TMTM/M	Determination of MMP-13 protein in plasma of invasive ductal carcinoma breast cancer patients	Prof.Dr. Songsak Petmitr

MASTER OF SCIENCE PROGRAM IN TROPICAL MEDICINE (MSC TROP. MED.) *(Continued)*

NAME	TITLE OF THESIS	ADVISOR
Patthamaphong Jaiklom 5537190 TMTM/M	Establishment of stable mammalian cell expression for large scale production of monoclonal antibodies against dengue virus and foot and mouth disease	Asst.Prof.Dr. Pongrama Ramasoota
Oranicha Khamprapa 5636942 TMTM/M	Distribution patterns of *Aedes* mosquito species in dengue transmission foci of Bangkok, Thailand.	Lect.Dr. Ronald Enrique Morales Vargas
Lalitra Udomrak 5636953 TMTM/M	Optimization for expression of *Culex quinquefasciatus* gambicin antimicrobial peptide and its application.	Asst.Prof.Dr.Dumrongkiet Arthan
Suntorn Sudsandee 5736716 TMTM/M	Accumulation of heavy metals in sediment and blood cockle in the upper gulf of Thailand.	Asst.Prof.Dr. Suwalee Worakhunpiset
Nopadol Precha 5736722 TMTM/M	The role of Bpre gene to growth in various conditions and infection of *Burkholderia pseudomallei*	Lect.Dr.Muthita Vanaporn

DOCTOR OF PHILOSOPHY PROGRAM IN CLINICAL TROPICAL MEDICINE (PHD CLIN. TROP. MED.)

NAME	TITLE OF THESIS	ADVISOR
Haruhiko Ishioka 5538157 TMCT/D	Optimal fluid management in adult severe malaria- development of renal impairment and pulmonary edema in complicated malaria under conventional fluid strategy	Lect.Dr. Prakaykaew Churunwatthana
Kyi Phyu Aye 5638075 TMCT/D	Acute kidney injury in venomous snake bite in Myanmar: associated factors and outcomes.	Assoc. Prof. Vipa Thanachartwet

MASTER OF CLINICAL TROPICAL MEDICINE (MCTM)

NAME	TITLE OF THESIS	ADVISOR
Wasin Matsee 5736992 TMCT/M	Health problems among Thai travelers returning from international travel: a prospective study.	Asst. Prof Watcharapong Piyaphanee
Lapakorn Chatapat 5736993 TMCT/M	Spectrum of health problems among expatriates from developed countries in Thailand.	Asst. Prof Watcharapong Piyaphanee

THEMATIC TITLES

MASTER OF CLINICAL TROPICAL MEDICINE (MCTM)

NAME	TITLE OF THESIS	ADVISOR
Yadanar Su Aung Kyaw 5838576 TMCT/M	Salmonella gastroenteritis : epidemiology, clinical manifestations and treatment outcome	Lect Chatporn Kittitrakul
Bianca Eder 5938643 TMCT/M	Tuberculosis prevalence and outcome among the non-Thai population in Samut Sakhon	Lect Dr Wirongrong Chierakul
Khaing Zaw Latt 5938720 TMCT/M	Diabetes mellitus as a prognostic factor for dengue severity: retrospective study from Hospital for Tropical Diseases, Bangkok	Lect Dr Sant Muangnoicharoen
Aye Mya Sandar 5938725 TMCT/M	Prevalence, associated factors, and outcome of bacterial coinfection in dengue injection in adults	Asst Prof Weerapong Phumratanaprapin
Hla Kay Thi 5938726 TMCT/M	Relative bradycardia in dengue infection	Lect Dr Borimas Hanboonkunupakarn
Kyi Pyar Soe 5938727 TMCT/M	Awareness and knowledge of hepatitis B infection, and long-term treatment acceptance to chronic hepatitis B infection in six countries of the Asean Community	Asst Prof Kittiyod Poovorawan
Lenin Daniel Martinez Aguilar 5938728TMCT/M	Antibiotics used among patients with acute febrile illness at Umphang Hospital	Lect Dr Prakaykaew Charunwatthana
Navuddh Oam 5938729 TMCT/M	Prognostic scoring systems in *falciparum* malaria patients at the hospital for tropical diseases	Prof Dr Polrat Wilairatana
Yin Myat Thwe 5938730 TMCT/M	The clinical outcomes of dengue infections in > 9 year-old hospitalized patients	Prof Punnee Pitisuttithum

MASTER OF CLINICAL TROPICAL MEDICINE PROGRAM IN TROPICAL PEDIATRICS (MCTP)

NAME	TITLE OF THESIS	ADVISOR
Yukiya Kurahashi 5938732 TMCP/M	Malnutrition in diarrhea, malaria and dengue among children in Tha Song Yang, Tak, Thailand	Assoc. Prof. Chukiat Sirivichayakul

MASTER OF SCIENCE IN BIOMEDICAL AND HEALTH INFORMATICS (MSC BHI)

NAME	TITLE OF THESIS	ADVISOR
Sai Wai Yan Myint Thu 5838281TMBI/M	Assessment of the use of paper based dental record and perception on electronic dental record among the dental professionals in Myanmar	Asst. Prof. Dr. Wirichada Pan-Ngam
Win Min Han 5838284TMBI/M	Mathematical modelling of multidrug-resistant tuberculosis and the impact of shorter duration of MDR-TB treatment	Asst. Prof. Dr. Wirichada Pan-Ngam
Nguyen Khac Hai 5838285TMBI/M	Knowledge, attitude and practice regarding security and confidentiality of HIV-related information among staff at OPC in Vietnam	Assoc. Prof. Dr. Jaranit Kaewkungwal
Aliyah Lou Arriola Evangelista 5838286TMBI/M	Developing a model of community of practice among health informatics professionals in South and Southeast Asia	Assoc. Prof. Dr. Jaranit Kaewkungwal
Jakir Hossain Bhuiyan Masud 5838287TMBI/M	Factors associated with recurrent malaria in Thailand using data mining.	Asst. Prof. Dr. Saranath Lawpoolsri Niyom
Nugroho Joko Mulyanto 5838289TMBI/M	Assessment of delays in delivery of health data within health information system in Indonesia	Assoc. Prof. Dr. Jaranit Kaewkungwal
Thazin Myint 5838290TMBI/M	Hotspot areas and factors associated with road traffic accident on Yangon-Nay Pyi Taw-Mandalay Expressway, Myanmar	Asst. Prof. Dr. Saranath Lawpoolsri Niyom
Hnin Yu Lwin 5838291 TMBI/M	Medical data sharing using social messaging applications; usage and perception among health professionals in Thailand	Asst. Prof. Dr. Wirichada Pan-Ngam
Panu Looareesuwan 5538760TMBI/M	The estimation of direct cost of breast cancer treatment	Prof. Dr. Srivicha Krudsood

MASTER OF SCIENCE PROGRAM IN SCHOOL HEALTH (MSC SH)

NAME	TITLE OF THESIS	ADVISOR
Channa Touch 5838357 TMSH/M	Prevalence of intestinal parasitic infection of primary schoolchildren in Aranyaprathet District, Sa Kaeo province, Thailand.	Lect. Dr Pannamas Maneekan
Ae Mon Htun 5838358 TMSH/M	Prevalence of common intestinal parasitic infections among food handlers in government schools, Tatkon , Naypyitaw Union Territory, Myanmar	Lect. Dr Pannamas Maneekan
Wang Norbu 5838361 TMSH/M	Obesity prevalence and contributing factors among adolescents in secondary schools in Pemagatshel District, Bhutan	Asst. Prof. Pattaneeya Prangthip
May Thu Hlaing 5838362 TMSH/M	Occupational risks among teachers in Southern District, Yangon Region, Myanmar	Lect. Dr. Podjanee Jittamala
Thanaphon Sripan 5838504 TMSH/M	Prevalence of anxiety disorders, depression and associated risk factors among boarding high school students in three provinces of Thailand: a cross sectional study.	Prof. Yaowalark Sukthana