

CURRICULUM VITAE

Mark M. Fukuda, MD

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Country of Origin: USA
Languages: English (fluent writing, speaking); Thai (intermediate speaking)

EDUCATION

Fellowship: Infectious Diseases, Walter Reed Army Medical Center; July 1999 to June 2002

Residency: Internal Medicine, Walter Reed Army Medical Center, Washington, District of Columbia; July 1996 to June 1998

Internship: Categorical Internal Medicine, Walter Reed Army Medical Center, Washington, District of Columbia; July 1995 to June 1996

Medical School: George Washington University School of Medicine and Health Sciences, Washington, District of Columbia; August 1991 to June 1995; Doctor of Medicine

Graduate School: College of William and Mary, Williamsburg, Virginia; May 1985 to February 1987; Master of Arts, Chemistry

College: College of William and Mary, Williamsburg, Virginia; August 1981 to May 1985; Bachelor of Arts, Chemistry

WORK EXPERIENCE

Jan 2013-present: **Resident Advisor and CDC Malaria Program Director, President's Malaria Initiative (PMI), Bangkok, Thailand**

- CDC program director and resident advisor for malaria prevention and control activities in Burma, Thailand, Cambodia, Laos, China and Vietnam, managing malaria operations research, monitoring and evaluation and surveillance activities as part of the President's Malaria Initiative
- Consults with host nation national malaria control programs within the Greater Mekong Subregion, WHO regional offices, and private sector programs, to implement malaria control programs

April 2010-Jan 2013: **Deputy Chief, Division of Global Emerging Infections System Operations, (GEIS) Armed Forces Health Surveillance Center, Silver Spring, MD**

- Principal Deputy to implement a \$40 million global health and emerging infectious disease surveillance program intended to conduct surveillance and operational research, and public health initiatives to impact global public health
- Supervised multidisciplinary team of laboratory, veterinary, public health and infectious disease scientists to develop five year strategic vision for GEIS emerging infectious disease (EID) surveillance activities
- Instituted program improvements to identify metrics and process improvements to optimize impact on public health outcomes
- Liaised with CDC, USAID, NIH, and other inter-US government public health stakeholders to facilitate implementation of USG goals for global disease surveillance and capacity building

CURRICULUM VITAE

Mark M. Fukuda, MD

- Oct 2009-Jan 2013: **Malaria Program Director**, Division of Global Emerging Infections System Operations, Armed Forces Health Surveillance Center, Silver Spring, MD
- Principal scientific advisor and implementation officer for \$4M global malaria surveillance program conducted throughout DoD laboratory network
 - Developed strategic goals and objectives to identify critical areas of malaria morbidity
 - Chaired malaria surveillance steering committee, identified outcome metrics and instituted implementation methodologies to foster malaria program goals
 - Integrated critical aspects of arthropod vector surveillance and control into malaria control efforts undertaken by DoD personnel in West Africa
 - Identified critical priority areas of regional malaria epidemiology and surveillance activities in South America, Africa and Southeast Asia
- May 2004-Sep 2009: **Chief, Department of Immunology and Medicine**, United States Army Medical Component, Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand
- Provided strategic oversight and managed \$4M regional malaria surveillance and epidemiology activities, emphasizing clinical and laboratory drug resistance surveillance
 - Developed close working relationships with local public health officials to facilitate coordination of DoD malaria activities with host nation priorities in Cambodia and Thailand
 - Conducted malaria outbreak response activities in tsunami affected areas of Thailand in support of Ministry of Health disaster response and containment activities
 - Reported first cases of resistance to artemisinin class in peer reviewed literature
 - Principal AFRIMS investigator for “Artemisinin Resistance Confirmation, Characterization and Containment”, a multi-partner initiative to characterize artemisinin resistance in Southeast Asia
 - Conceived and developed multiple partner collaborations to characterize epidemiology and genetic adaptation of Thai influenza isolates in zoonotic hosts
- Nov 2002-April 2004: **Deputy Chief, Department of Immunology and Medicine**, U.S. Army Medical Component, Armed Forces Research Institute of Medical Sciences, Bangkok, Thailand
- Supervised execution of clinical studies of investigational malaria therapeutic regimens and WHO clinical efficacy studies of first-line malaria regimens in Thailand
 - Conducted regional surveillance to characterize etiologies of febrile illness in remote border regions in Thailand
 - Partnered with Ministry of Health malaria control officials in Cambodia and Thailand to develop increased malaria specific diagnostic and epidemiological capacities

CURRICULUM VITAE

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- Aug 1989-Aug1991: **Research Biochemist**, Division of Experimental Therapeutics, Department of Pharmacology, Walter Reed Army Institute of Research
- Conducted basic and applied research in pharmacology of experimental therapeutic regimens in support of U.S. Army drug development programs
 - Participated scientific oversight committees for development and optimization of novel malaria therapeutics
- June 1987- Aug 1989: **Chief, Chemistry Section**, Clinical Pathology Service, Department of Pathology, Walter Reed Army Medical Center, Washington DC
- Primary responsibility for all operations of clinical chemistry laboratory for major tertiary care medical center
 - Overall responsibility for process improvement and quality management program to assure validity of clinical chemistry results in support of patient care

RESEARCH SUPPORT

Grant Title: "Surveillance and Laboratory Characterization of Artemisinin Resistant *Plasmodium falciparum* Strains to Inform Drug Development".

Specific aims: Conduct in vitro studies of Plasmodium falciparum parasites against new classes of antimalarial compounds to inform drug development.

Funding agency: Medicines for Malaria Venture

Role: PI and Grant coordinator

Dates: 2008-2009

Amount: \$670,000

Grant Title: "Artemisinin Resistance-Pilot Studies to Confirm, Characterize and Plan for Containment"

Specific aims: Confirm and Characterize resistance of Plasmodium falciparum malaria against the artemisinin antimalarial drug class

Funding agency: Bill and Melinda Gates Foundation and World Health Organization

Role: PI and Grant coordinator

Dates: 2008

Amount: \$792,000

Grant Title: "Characterization of Avian Influenza in Southeast Asia and Seroprevalence of Influenza in Vietnam"

Specific aims: Sequence and compare different H5N1 viruses isolated from Asian waterfowl, characterize genetic adaptation and investigate immunopathogenesis in human immune cells with emphasis on role of cytokines in protection, replication, and dissemination.

Funding agency: NIH agreement # Y1-AI-4906-03.

Role: Subcontracting PI

Dates: 2006-2007

Amount: \$1,400,000

Grant Title: "Detection of Artemisinin Resistance in Southeast Asia".

Specific aims: Characterize degree of clinical and laboratory resistance of Plasmodium falciparum malaria against the artemisinin antimalarial drug class.

Funding agency: Department of Defense Global Emerging Infectious Disease System

Role: PI and Grant coordinator

Dates: 2003-2007

Amount: \$900,000

Grant Title "Development of a Plasmodium vivax Human Sporozoite Challenge Model".

Specific aims: To develop a reproducible human sporozoite challenge model for Plasmodium vivax malaria; perform clinical evaluations of Plasmodium vivax vaccines and drugs, evaluation of immune responses in naïve populations over during the evolving course of vivax infection, and study the genetic evolution of parasite populations spanning the host-mosquito-host transmission process.

CURRICULUM VITAE

Mark M. Fukuda, MD

Funding Agency: Military Infectious Disease Research Program
Role: PI
Dates: 2005-2007
Amount: \$287,000

Grant Title: "A Randomized, Double Blind, Double Dummy Placebo Controlled Trial of Tafenoquine for the Treatment of *P. vivax* malaria in adults"
Specific aims: Clinical Trial to investigate novel investigational agent for radical curative treatment of *Plasmodium vivax* malaria.
Funding Agency: NIH Challenge Grant A1-00-10 "Joint Ventures in Biomedicine & Biotechnology"
Role: Subcontracting PI
Dates: 2003-2005
Amount: \$640,000

Grant Title: "Surveillance of Febrile Illnesses of Adults in Sangkhlaburi District"
Specific aims: Characterize causes of fever in an underserved population along the Thai-Myanmar border; evaluate performance of investigational diagnostic methodologies.
Role: PI
Funding Agency: DoD Global Emerging Infectious Diseases System
Dates: 2002-2004
Amount: \$210,000

Grant Title: Validation of quinone reductase (QR2) and aldehyde dehydrogenase (ALDH) as targets of 8AQ efficacy and toxicity
Specific aims: Development of an in vitro enzyme assay to validate this enzyme as a target of the 8-aminoquinoline class, conduct in-vitro assays to identify new chemical entities as candidate drugs
Role: PI
Funding Agency: U.S. Department of Defense In-house Laboratory Independent Research Award
Dates: 2003
Amount: \$95,000

Grant Title: "Deployment of a low bit rate data transfer system in support OCONUS USAMRMC research laboratories
Specific aims: evaluate the feasibility of the Iridium service as a secure, mobile, wireless two way voice and low bit rate data communications network and internet portal in austere research environments
Role: PI
Dates: 2002-2003
Amount: \$97,000

PUBLICATIONS

1. Elbadry MA, Existe A, Victor YS, Memnon G, **Fukuda M**, Dame JB, Yowell CA, Okech BA. Survey of *Plasmodium falciparum* multidrug resistance-1 and chloroquine resistance transporter alleles in Haiti. *Malar J.* 2013 Nov 19;12(1):426.
2. Gosi P, Lanteri CA, Tyner SD, Se Y, Lon C, Spring M, Char M, Sea D, Sriwichai S, Surasri S, Wongarunkochakorn S, Pidtana K, Walsh DS, **Fukuda MM**, Manning J, Saunders DL, Bethell D. Evaluation of parasite subpopulations and genetic diversity of the *msp1*, *msp2* and *glurp* genes during and following artesunate monotherapy treatment of *Plasmodium falciparum* malaria in Western Cambodia. *Malar J.* 2013 Nov 9;12(1):403.

CURRICULUM VITAE

Mark M. Fukuda, MD

3. Domingo GJ, Satyagraha AW, Anvikar A, Baird K, Bancone G, Bansil P, Carter N, Cheng Q, Culpepper J, Eziefula C, **Fukuda M**, Green J, Hwang J, Lacerda M, McGray S, Menard D, Nosten F, Nuchprayoon I, Oo NN, Bualombai P, Pumpradit W, Qian K, Recht J, Roca A, Satimai W, Sovannaroath S, Vestergaard L, Von Seidlein L. G6PD testing in support of treatment and elimination of malaria: recommendations for evaluation of G6PD tests. *Malar J.* 2013 Nov 4;12(1):391.
4. Bethell D, Saunders D, Jongkaewwattana A, Kramyu J, Thitithayanont A, Wiboon-ut S, Yongvanitchit K, Limsalakpetch A, Kum-Arb U, Uthaimongkol N, Garcia JM, Timmermans AE, Peiris M, Thomas S, Engering A, Jarman RG, Mongkolsirichaikul D, Mason C, Khemnu N, Tyner SD, **Fukuda MM**, Walsh DS, Pichyangkul S. Evaluation of in vitro cross-reactivity to avian H5N1 and pandemic H1N1 2009 influenza following prime boost regimens of seasonal influenza vaccination in healthy human subjects: a randomised trial. *PLoS One.* 2013;8(3):e59674
5. Miotto O, Almagro-Garcia J, Manske M, Macinnis B, Campino S, Rockett KA, Amaratunga C, Lim P, Suon S, Sreng S, Anderson JM, Duong S, Nguon C, Chuor CM, Saunders D, Se Y, Lon C, **Fukuda MM**, Amenga-Etego L, Hodgson AV, Asoala V, Imwong M, Takala-Harrison S, Nosten F, Su XZ, Ringwald P, Arie F, Dolecek C, Hien TT, Boni MF, Thai CQ, Amambua-Ngwa A, Conway DJ, Djimdé AA, Doumbo OK, Zongo I, Ouedraogo JB, Alcock D, Drury E, Auburn S, Koch O, Sanders M, Hubbard C, Maslen G, Ruano-Rubio V, Jyothi D, Miles A, O'Brien J, Gamble C, Oyola SO, Rayner JC, Newbold CI, Berriman M, Spencer CC, McVean G, Day NP, White NJ, Bethell D, Dondorp AM, Plowe CV, Fairhurst RM, Kwiatkowski DP. Multiple populations of artemisinin-resistant *Plasmodium falciparum* in Cambodia. *Nat Genet.* 2013 Jun;45(6):648-55.
6. Blazes DL, Bondarenko JL, Burke RL, Vest KG, **Fukuda MM**, Perdue CL, Tsai AY, Thomas AC, Chandrasekera RM, Cockrill JA, Von Thun AM, Baliga P, Meyers M, Quintana M, Wurapa EK, Mansour MM, Dueger E, Yasuda CY, Lanata CF, Gray GC, Saylor KE, Ndip LM, Lewis S, Blair PJ, Sloberg PA, Thomas SJ, Lesho EP, Grogl M, Myers T, Ellison D, Ellis KK, Brown ML, Schoepp RJ, Shanks GD, Macalino GE, Eick-Cost AA, Russell KL, Sanchez JL. Contributions of the Global Emerging Infections Surveillance and Response System Network to global health security in 2011. *US Army Med Dep J.* 2013 Apr-Jun:7-18.
7. Takala-Harrison S, Clark TG, Jacob CG, Cummings MP, Miotto O, Dondorp AM, **Fukuda MM**, Nosten F, Noedl H, Imwong M, Bethell D, Se Y, Lon C, Tyner SD, Saunders DL, Socheat D, Arie F, Phyo AP, Starzengruber P, Fuehrer HP, Swoboda P, Stepniewska K, Flegg J, Arze C, Cerqueira GC, Silva JC, Ricklefs SM, Porcella SF, Stephens RM, Adams M, Kenefic LJ, Campino S, Auburn S, MacInnis B, Kwiatkowski DP, Su XZ, White NJ, Ringwald P, Plowe CV. Genetic loci associated with delayed clearance of *Plasmodium falciparum* following artemisinin treatment in Southeast Asia. *Proc Natl Acad Sci U S A.* 2013 Jan 2;110(1):240-5.
8. Lon C, Timmermans A, Buathong N, Nou S, Se Y, Sitthy N, Chann S, Kraesub S, Wongstitwilairoong T, Walsh DS, Tyner S, **Fukuda M**, Callender D, Sherwood J, Koy L, Char M, Bethell D, Saunders D. Severe malaria in Battambang Referral Hospital, an area of multidrug resistance in Western-Cambodia: a retrospective analysis of cases from 2006-2009. *Malar J.* 2013 Jun 27;12:217.
9. Bethell D, Saunders D, Jongkaewwattana A, Kramyu J, Thitithayanont A, Wiboon-ut S, Yongvanitchit K, Limsalakpetch A, Kum-Arb U, Uthaimongkol N, Garcia JM, Timmermans AE, Peiris M, Thomas S, Engering A, Jarman RG, Mongkolsirichaikul D, Mason C, Khemnu N, Tyner SD, **Fukuda MM**, Walsh DS, Pichyangkul S. Evaluation of in vitro cross-reactivity to avian H5N1 and pandemic H1N1 2009 influenza following prime boost regimens of seasonal influenza vaccination in healthy human subjects: a randomised trial. *PLoS One.* 2013;8(3):e59674.

CURRICULUM VITAE

Mark M. Fukuda, MD

10. Saunders D, Duplessis C, Lescano A, Andagalu B, Thomas A, **Fukuda M**, Cummings J; US DoD Malaria Surveillance Investigators Group. US Department of Defense contributions to malaria surveillance. *Lancet Infect Dis*. 2013 Apr;13(4):293-4.
11. Takala-Harrison S, Clark TG, Jacob CG, Cummings MP, Miotto O, Dondorp AM, **Fukuda MM**, Nosten F, Noedl H, Imwong M, Bethell D, Se Y, Lon C, Tyner SD, Saunders DL, Socheat D, Ariey F, Phyo AP, Starzengruber P, Fuehrer HP, Swoboda P, Stepniewska K, Flegg J, Arze C, Cerqueira GC, Silva JC, Ricklefs SM, Porcella SF, Stephens RM, Adams M, Kenefic LJ, Campino S, Auburn S, MacInnis B, Kwiatkowski DP, Su XZ, White NJ, Ringwald P, Plowe CV. Genetic loci associated with delayed clearance of *Plasmodium falciparum* following artemisinin treatment in Southeast Asia. *Proc Natl Acad Sci U S A*. 2013 Jan 2;110(1):240-5
12. Bethell D, Saunders D, Jongkaewwattana A, Kramyu J, Thitithayanont A, Wiboon-ut S, Yongvanitchit K, Limsalakpetch A, Kum-Arb U, Uthaimongkol N, Garcia JM, Timmermans AE, Peiris M, Thomas S, Engering A, Jarman RG, Mongkolsirichaikul D, Mason C, Khemnu N, Tyner SD, **Fukuda MM**, Walsh DS, Pichyangkul S. Evaluation of in vitro cross-reactivity to avian H5N1 and pandemic H1N1 2009 influenza following prime boost regimens of seasonal influenza vaccination in healthy human subjects: a randomised trial. *PLoS One*. 2013;8(3):e59674
13. **Fukuda MM**, Magill A. Editorial: presumptive anti-relapse treatment for malaria in military forces. *MSMR*. 2013 Jan;20(1):10.
14. Saunders D, Khemawoot P, Vanachayangkul P, Siripokasupkul R, Bethell D, Tyner S, Se Y, Rutvisuttinunt W, Sriwichai S, Chanthap L, Lin J, Timmermans A, Socheat D, Ringwald P, Noedl H, Smith B, **Fukuda M**, Teja-Isavadharm P. Pharmacokinetics and pharmacodynamics of oral artesunate monotherapy in patients with uncomplicated *Plasmodium falciparum* malaria in western Cambodia. *Antimicrob Agents Chemother*. 2012 Nov;56(11):5484-93. doi: 10.1128/AAC.00044-12. Epub 2012 Aug 6.
15. Rutvisuttinunt W, Chaorattanakawee S, Tyner SD, Teja-Isavadharm P, Se Y, Yingyuen K, Chaichana P, Bethell D, Walsh DS, Lon C, **Fukuda M**, Socheat D, Noedl H, Schaecher K, Saunders DL. Optimizing the HRP-2 in vitro malaria drug susceptibility assay using a reference clone to improve comparisons of *Plasmodium falciparum* field isolates. *Malar J*. 2012 Sep 13;11:325.
16. Carter TE, Warner M, Mulligan CJ, Existe A, Victor YS, Memnon G, Boncy J, Oscar R, **Fukuda MM**, Okech BA. Evaluation of dihydrofolate reductase and dihydropteroate synthetase genotypes that confer resistance to sulphadoxine-pyrimethamine in *Plasmodium falciparum* in Haiti. *Malar J*. 2012 Aug 13;11:275
17. Tyner SD, Lon C, Se Y, Bethell D, Socheat D, Noedl H, Sea D, Satimai W, Schaecher K, Rutvisuttinunt W, **Fukuda MM**, Chaorattanakawee S, Yingyuen K, Sundrakes S, Chaichana P, Saingam P, Buathong N, Sriwichai S, Chann S, Timmermans A, Saunders DL, Walsh DS. Ex vivo drug sensitivity profiles of *Plasmodium falciparum* field isolates from Cambodia and Thailand, 2005 to 2010, determined by a histidine-rich protein-2 assay. *Malar J*. 2012 Jun 13;11:198.
18. **Fukuda MM**. Editorial: malaria in the U.S. armed forces: a persistent but preventable threat. *MSMR*. 2012 Jan;19(1):12-3.
19. Wertheimer ER, Brundage JF, **Fukuda MM**. High rates of malaria among US military members born in malaria-endemic countries, 2002-2010. *Emerg Infect Dis*. 2011 Sep;17(9):1701-3.
20. Bethell D, Se Y, Lon C, Tyner S, Saunders D, Sriwichai S, Darapiseth S, Teja-Isavadharm P, Khemawoot P, Schaecher K, Rutvisuttinunt W, Lin J, Kuntawungin W, Gosi P, Timmermans A, Smith B, Socheat D, **Fukuda MM**. Artesunate Dose Escalation for the Treatment of Uncomplicated Malaria in a Region of Reported Artemisinin Resistance: A Randomized Clinical Trial. *PLoS ONE* 6(5): e19283.

CURRICULUM VITAE

Mark M. Fukuda, MD

21. Lin JT, Bethell D, Tyner SD, Lon C, Shah NK, Saunders DL, Sriwichai S, Khemawoot P, Kuntawungin W, Smith BL, Noedl H, Schaecher K, Socheat D, Se Y, Meshnick SR, **Fukuda MM**. Plasmodium falciparum Gametocyte Carriage Is Associated with Subsequent Plasmodium vivax Relapse after Treatment. Plos One. 2011 Apr 20;6(4):e18716.
22. **Fukuda MM**, Klein TA, Kochel T, Quandelacy TM, Smith BL, Villinski J, Bethell D, Tyner T, Se T, Lon C, Saunders D, Johnson J, Wagar E, Walsh D, Kasper M, Sanchez JL, Witt CJ, Cheng Q, Waters N, Shrestha SK, Pavlin JA, Lescano AG, Graf PCF, Richardson JH, Durand S, Rogers WO, Blazes DL, Russell KL. Malaria and other vector-borne infection surveillance in the U.S. Department of Defense Armed Forces Health Surveillance Center-Global Emerging Infections Surveillance program: review of 2009 accomplishments BMC Public Health 2011, 11(Suppl 2):S9. <http://www.biomedcentral.com/1471-2458/11/S2/S9>
23. Russell KL, Rubenstein J, Burke RL, Vest KG, Johns MC, Sanchez JL, Meyer W, **Fukuda MM**, Blazes DL. The Global Emerging Infection Surveillance and Response System (GEIS), a U.S. government tool for improved global biosurveillance: a review of 2009. BMC Public Health 2011, 11(Suppl 2):S2. <http://www.biomedcentral.com/1471-2458/11/S2/S2>
24. Johns MC, Burke RL, Vest KG, **Fukuda M**, Pavlin JA, Shrestha SK, Schnabel DC, Tobias S, Tjaden JA, Montgomery JM, Faix DJ, Duffy MR, Cooper MJ, Sanchez JL, David L Blazes DL. A growing global network's role in outbreak response: AFHSC-GEIS 2008-2009 Johns et al. BMC Public Health 2011, 11(Suppl 2):S3 <http://www.biomedcentral.com/1471-2458/11/S2/S3>
25. Sanchez JL, Johns MC, Burke RL, Vest KG, **Fukuda MM**, Yoon I, Lon C, Quintana M, Schnabel DC, Pimentel G, Mansour M, Tobias S, Montgomery JM, Gray GC, Saylor K, Ndip LM, Lewis S, Blair, P, Sjoberg P, Kuschner RA, Kevin L Russell KL1, Blazes DL. Capacity Building Efforts by AFHSC-GEIS. Sanchez et al. BMC Public Health 2011, 11(Suppl 2):S4. <http://www.biomedcentral.com/1471-2458/11/S2/S4>
26. Alonso PL, Bassat Q, Binka F, Brewer T, Chandra R, Culpepper J, Dinglasan R, Duncan K, Duparc S, **Fukuda M**, Laxminarayan R, MacArthur JR, Magill A, Marzetta C, Milman J, Mutabingwa T, Nosten F, Nwaka S, Nyunt M, Ohrt C, Plowe CV, Pottage J, Price R, Ringwald P, Serazin A, Shanks D, Sinden R, Tanner M, Vial H, Ward SA, Wellems TE, Wells T, White N, Wirth D, Yeung S, Yuthavong Y, Alonso PL, Djimde A, Magill A, Milman J, Nájera J, Plowe CV, Wells T, Yeung S, Kremsner P, Mueller I, Newman RD, Rabinovich R. A research agenda for malaria eradication: drugs. PLoS Med. 2011 Jan 25;8(1):e1000402.
27. Teja-Isavadharm P, Siriyanonda D, Siripokasupkul R, Apinan R, Chanarat N, Lim A, Wannaying S, Saunders D, **Fukuda MM**, Miller RS, Weina PJ, Meléndez V. A simplified liquid chromatography-mass spectrometry assay for artesunate and dihydroartemisinin, its metabolite, in human plasma. Molecules. 2010 Dec 1;15(12):8747-68.
28. Bethell D, Se Y, Lon C, Socheat D, Saunders D, Teja-Isavadharm P, Khemawoot P, Darapiseth S, Lin J, Sriwichai S, Kuntawungin W, Surasri S, Lee SJ, Sarim S, Tyner S, Smith B, **Fukuda MM**. Dose-dependent risk of neutropenia after 7-day courses of artesunate monotherapy in Cambodian patients with acute Plasmodium falciparum malaria. Clin Infect Dis. 2010 Dec 15;51(12):e105-14. Epub 2010 Nov 11.
- Noedl H, Se Y, Sriwichai S, Schaecher K, Teja-Isavadharm P, Smith B, Rutvisuttinunt W, Bethell D, Surasri S, **Fukuda MM**, Socheat D, Chanthap L. Artemisinin resistance in Cambodia: a clinical trial designed to address an emerging problem in Southeast Asia. Clin Infect Dis. 2010 Dec 1;51(11):e82-9. Epub 2010 Oct 28.
29. Thitithanyanont A, Engering A, Uprasertkul M, Ekcharyawat P, Wiboon-Ut S, Kraivong R, Limsalakpetch A, Kum-Arb U, Yongvanitchit K, Sa-Ard-Iam N, Rukyen P, Mahanonda R, Kawkitinarong K, Auewarakul P, Utaincharoen P, Sirisinha S, Mason CJ, **Fukuda MM**, Pichyangkul S. Antiviral immune responses in H5N1-infected human lung tissue and possible mechanisms underlying the hyperproduction of interferon-inducible protein IP-10. Biochem Biophys Res Commun. 2010 Aug 6;398(4):752-8.

CURRICULUM VITAE

Mark M. Fukuda, MD

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32. Pichyangkul S, Jongkaewwattana A, Thitithanyanont A, Ekcharyawat P, Wiboon-ut S, Limsalakpetch A, Yongvanitchit K, Kum-Arb U, Mahanonda R, Utaisincharoen P, Sirisinha S, Mason CJ, **Fukuda MM**. Cross-reactive Antibodies against avian influenza virus A (H5N1). *Emerg Infect Dis.* 2009 Sep;15(9):1537-9.
33. Mahanonda R, Sa-Ard-Iam N, Eksomtramate M, Rerkyen P, Phairat B, Schaecher KE, **Fukuda MM**, Pichyangkul S. Cigarette smoke extract modulates human beta-defensin-2 and interleukin-8 expression in human gingival epithelial cells. *Periodontal Res.* 2009 Aug;44(4):557-64. Epub 2009 Mar 13.
34. Gosi P, Khusmith S, Khalambaheti T, Lanar DE, Schaecher KE, **Fukuda MM**, Miller SR. Polymorphism patterns in Duffy-binding protein among Thai *Plasmodium vivax* isolates. *Malar J.* 2008 Jun 26;7:112
35. Pichyangkul S, Kum-Arb U, K. Youngvanitchit K, Limsalakpetch A, Gettayacamin M, Lanar D, Ware L, Stewart V, Heppner D, Mettens P, Cohen J, Ballou W, **Fukuda, M**. Pre-clinical evaluation of safety and immunogenicity of *Plasmodium falciparum* LSA1/AS01B when administered alone or concurrently with RTS,S/AS01B in rhesus primates. *Infect Immun.* 2008 Jan;76(1):229-38.
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37. Thitithanyanont A, Engering A, EkcharyawatP, Wiboon-ut S, Limsalakpetch A, Yongvanitchit K, Kum-Arb U, Kanchongkittipho W, Utaisincharoen P, Sirisinha S, Puthavathana P, **Fukuda M**, Pichyangkul S. High susceptibility of human dendritic cells to avian influenza H5N1 virus infection and protection by IFN- α and Toll-like receptor ligands. *J Immunol.* 2007 Oct 15;179(8):5220-7.
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39. Bacon D, Jambou R, Fandeur T, Le Bras J, Wongsrichanalai C, **Fukuda M**, Kyle D. Creation of an In Vitro Drug Susceptibility Database for *Plasmodium falciparum* Malaria. *Malar J.* 2007 Sep 6;6:120.
40. Chretien J, **Fukuda M**, Noedl H. Improving Surveillance for Antimalarial Drug Resistance. *Journal of the American Medical Association.* 2007 Apr; 297(20): 2278.
41. Noedl H; Krudsood S; Leowattana W; Tangpukdee N; Thanachartwet W; Looreesuwan S; Miller RS; **Fukuda M**; Jongsakul K; Yingyuen K; Sriwichai S; Ohrt C; Knirsch C. In vitro antimalarial activity of azithromycin, artesunate, and quinine in combination and correlation with clinical outcome. *Antimicrob Agents Chemother* 2007 Feb; 51(2): 651-6
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CURRICULUM VITAE

Mark M. Fukuda, MD

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BOOK CHAPTERS

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CURRICULUM VITAE

Mark M. Fukuda, MD

PAPERS PRESENTED AT MEETINGS (selected)

1. Mahanonda R, Sa-Ard-lam N, Eksomtramate M, Rerkyen P, Schaecher K, **Fukuda M**, and Pichyangkul S. Effect of TLR Ligands on HBD-2 and IL-8 Expression in Human Gingival Epithelial Cells, and Modulation of Expression by Tobacco Smoke Extract. International Congress of Immunology, Brazil, August 2007.
2. Engering A, Hirunpetcharat C, Charoensap J, Kum-Arb U, Limsalakpetch A, K. Yongvanitchit K, Sirisinha S, Bloois L, Storm G, **Fukuda M**, Pichyangkul S. Comparison of TLR ligands for use as vaccine adjuvants. International Congress of Immunology, Brazil, August 2007.
3. **Fukuda M**. Development of a Plasmodium vivax Human Sporozoite Challenge Model. Invited speaker, Global Coordination of the Development of Vaccines Against Malaria in Pregnancy and *Plasmodium vivax* malaria, Barcelona, Spain, May 2007.
4. Pichyangkul S; Engering AJ; Ketloy C; Limsalakpetch A; Kum-Arb U; Yongvanitchit K; Ruxrungtham K; Heppner DG; **Fukuda MM**. Expression and function of toll-like receptors on dendritic cells from rhesus macaques. American Society of Tropical Medicine and Hygiene 55th Annual Meeting. Atlanta, Georgia, USA. 12-16 November 2006:65. Am J Trop Med Hyg 2006 Nov; 75(5 suppl):65
5. Noedl H; Jongsakul K; Satimai W; Tongkong D; Sirichaisinthop J; Sriwichai S; **Fukuda M**. Artemisinin resistance along the thai-cambodian border?. American Society of Tropical Medicine and Hygiene 55th Annual Meeting. Atlanta, Georgia, USA. 12-16 November 2006:110. Am J Trop Med Hyg 2006 Nov; 75(5 suppl):110
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11. **Fukuda, M**. Malaria Diagnostics in the Modern Era. Plenary Speaker, Diagnostics Asia annual meeting, Singapore, January, 2006.

CURRICULUM VITAE

Mark M. Fukuda, MD

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21. **Fukuda MM** and Ockenhouse CF. Use of a high-throughput real-time PCR assay for the characterization of common merozoite surface protein (MSP) 1₄₂ genotypes. Podium presentation, American Society of Tropical Medicine and Hygiene annual meeting, November 2002.
22. **Fukuda MM**, Miller RS, Wongsrichanalai C, Gasser RA Jr and Ockenhouse CF. Development and Characterization of a Real-Time PCR Assay for the Diagnosis of *Plasmodium Falciparum* and *Vivax* from Human Blood. Invited Speaker, Armed Forces Infectious Disease Society, April 2002.
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24. Flynn JM and **Fukuda MM**, Murphy, FT and Gilliland, W. Neuro-Bechet's: An Unusual Presentation of an Unusual Disease. Poster presentation, National ACP, September 1997.

25. **Fukuda MM** and Karle, JM. Quantitation of the Glucocorticoid Receptor in the Neuroblastoma X Glioma NG108 Cell Line. Poster presentation, FASEB annual meeting, June 1990.

BOARD CERTIFICATION

Certification in Internal Medicine, American Board of Internal Medicine (1998) and Infectious Diseases, American Board of Internal Medicine (2002)

MEDICAL LICENSURE

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HONORS, AWARDS AND SYNERGYSTIC ACTIVITIES

2009-present: Chair, Malaria Scientific Steering Committee, DoD Global Emerging Infections Surveillance and Response System

2005-present: Member, United States Army Medical Research and Materiel Command (USAMRMC) Scientific Steering Committee for the development of the 8-aminoquinoline tafenoquine

2003-present: Member, U.S. Military Infectious Disease Research Program (MIDRP) Steering Committee for Infectious Disease Diagnostics

2004-present: Ph.D. Thesis Advisor for Ms. Aninthita Laoboonchai and Ms. Panita Gosi, Mahidol University Faculty of Science

2005-2006: Consulting Epidemiology Officer for the malaria surveillance in Tsunami affected areas in Thailand

2004: Hosted public health symposium on Infectious Disease/Febrile Illness surveillance studies of Burmese/Thai migrant workers in Sangklaburi province, Thailand

2002-present: Lecturer and consultant in Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok Thailand

2002: Bailey K. Ashford Research competition semi-finalist

1996-present: Clinical Instructor of Medicine, Uniformed Services University School of the Health Sciences

1995: Outstanding Medical Resident, Walter Reed Army Medical Center, Washington DC

MILITARY SERVICE

Colonel, Medical Corps, United States Army, March 2010 to present

Lieutenant Colonel, Medical Corps, United States Army; March 2004 to March 2010

Major, Medical Corps, United States Army; March 1998 to March 2004

Captain, Medical Corps, United States Army; July 1995 to March 1998

Officer, Medical Service Corps, United States Army; May 1985 to May 1995

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American Society of Tropical Medicine and Hygiene

Infectious Disease Society of America

American College of Physicians,

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Member, 2002 to present

Member, 2000 to present

Associate, 1995 to present

Member, 1988-1990