



**ARMED FORCES RESEARCH INSTITUTE OF MEDICAL SCIENCES  
( AFRIMS )**

Biographical sketch



<b>Name:</b>	Jariyanart Gaywee
<b>Position title:</b>	Senior Research Scientist, Research Division, AFRIMS-Thai Component
<b>Degree and year:</b>	1980-1984 B.Sc. (Nursing & Midwifery) Faculty of Nursing, Chiangmai University, 1985-1988 M.Sc. (Public Health: Infectious Diseases) Faculty of Public Health, Mahidol University 1997-2001 Ph.D. (Molecular Microbiology) Department of Microbiology and Immunology, University of Maryland, Baltimore, Maryland, USA
<b>Area Interests:</b>	Malaria , Rickettsiosis , other arthropod borne pathogens and Respiratory Infection
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<b>Practice Location:</b>	
<b>Year Started Practice:</b>	
<b>Board Certification:</b>	
<b>Medical School:</b>	
<b>Internship:</b>	
<b>Residency:</b>	
<b>Committee/Memberships:</b>	1991 - 2001 Registered Nurse, Thailand 1998 - 2002 American Society for Microbiology, Member 2000 - 2010 American Society of Tropical Medicine and Hygiene, Member

	<p>2000 - 2007 American Society for Rickettsiology, Member</p> <p>2001 - Present The Virus Association (Thailand), Permanent Member</p> <p>2004 - 2010 Member (Institutional point of contact), Network for WHO Collaborating Centers and Centers of Expertise in Thailand (NEW-CCET)</p>
<p><b>Language Spoken:</b></p>	<p>Thai and English</p>
<p><b>Training post doctoral:</b></p>	
<p><b>Research experience:</b></p>	<p>1985-1987 Research Assistant, Department of Microbiology, Faculty of Public Health, Mahidol University, Bangkok, Thailand. Project: Development of diagnostic methods (IFA and ELISA) to detect gonococcal infection in female.</p> <p>1988-1996 Research Associate, Department of Biochemistry, AFRIMS, Bangkok, Thailand. Projects included risk factor study of heart diseases in Army Officer; Health promotion project; Surveillance of toxic chemical use along Thai Border; Risk assessment of toxic chemical impact in Army factories. Study of environmental health in military factories and Army Base. Technical experience includes blood chemistry, complete blood count, urine exam and metal contamination test.</p> <p>1992-1997 Research Associate, Molecular Biology Laboratory, Department of Microbiology, AFRIMS, Bangkok, Thailand. Projects included Molecular Biology Laboratory Establishment; Developing of diagnostic methods for early detection of HIV-1 infection in newborn; Genetic typing and strain variation study of HIV-1 in Thailand; Natural history study of HIV-1, Thai strain; Surveillance of HIV-1 infection in Army troop. Technical experience included basic molecular techniques and specimen preparation.</p> <p>9/1992 Visiting Research Associate, Henry M Jackson Foundation Research Laboratory, Rockville, Maryland, USA. Project: Detection of HIV-1 by PCR.</p> <p>4-10/1995 Visiting Research Associate, Henry M Jackson Foundation Research Laboratory, Rockville, Maryland, USA. Project: Genetic typing of HIV-1 by PCR and Heteroduplex Mobility Assay (HMA).</p>

9-12/1997 Graduate Student Researcher for Dr. G. Kelso, Department of Microbiology and Immunology, University of Maryland, Baltimore, Maryland, USA. Project: Study of B-cell development.

1-5/1998 Graduate Student Researcher for Dr. A.F. Azad, Department of Microbiology and Immunology, University of Maryland, Baltimore, Maryland, USA Project: Molecular identification of hemolysin gene (*hly*) in *Listeria*, *Rickettsia* and *Salmonella*.

9-12/1998 Graduate Student Researcher for Dr. D. Margolis, Department of Microbiology and Immunology, and Institute of Human Virology, University of Maryland, Baltimore, Maryland, USA Project: *In vitro* study of anti-HIV drugs. Technical experience included HIV culture in macrophages and PMN, anti-viral drug assessment, P24 assay.

1999-2001 Research Associate in Dr. M.J. Bessman's laboratory, Department of Biology and the McCollum-Pratt Institute, The Johns Hopkins University, Baltimore, Maryland, USA. Project involved protein expression and purification, enzyme assay and high performance liquid chromatography (HPLC).

1999-2001 Research Associate in Dr. K.S. Kim's laboratory, Department of Pediatric, School of Medicine, The Johns Hopkins University, Baltimore, Maryland, USA. Technical experience in human brain microvascular endothelial cell (HBMEC) culture and *in vitro* invasion assay.

2001-2002 Research Associate in Dr. J.A. Higgins's laboratory, USDA-ARS, Beltsville, Maryland, USA Project involved real time quantitative RT-PCR.

3/1999-5/2002 Ph.D. candidate at University of Maryland at Baltimore, School of Medicine, Department of Microbiology and Immunology, under supervision of Dr. A. F. Azad on dissertation topic; Functional characterization of *Rickettsia prowazekii* invasion gene homolog (*invA*). Technical experience included basic molecular biology methods, genetic manipulation of rickettsiae, sequencing and sequence analysis, real time quantitative RT-PCR, protein expression and purification, invasion assay, enzymatic characterization, antibody production and purification and evaluation, immunological assays, (IFA, ELISA, immunoadsorption), southern blotting, western blotting, *in vitro* rickettsial cultivation and electron

microscopic technique. 2002-2004 Principle Investigator, Microbiology Section, Research Division, AFRIMS, Bangkok, Thailand. Conduct research on Molecular epidemiology study of pathogenic rickettsiae in Thailand.

2004-2011 Principle Investigator, Epidemiology Section, Research Division, AFRIMS, Bangkok, Thailand. Conduct border surveillance

research projects including:

- Molecular epidemiology study of pathogenic rickettsiae and transmission cycle in Thailand.
- Surveillance of malaria and febrile illnesses in military areas of operation along Thai borders.
- Surveillance on infectious diseases of military importance.
- Early warning system for Medical Threats along Thai Borders.
- Development of early warning system for medical threat in the 3 south border provinces.
- Surveillance of respiratory pathogens in patients attending Royal Thai Army hospitals.

2011-Present Principle Investigator, Research Division, AFRIMS,

Bangkok, Thailand. Conduct these following research projects:

- Molecular epidemiology study of pathogenic rickettsiae and transmission cycle in Thailand.
- Survey for the arthropod-borne pathogens: *Rickettsia*, *Ehrlichia*, *Anaplasma*, *Coxiella*, and *Borrelia* in Thailand and Development of a GIS Model to Predict Endemic Areas
- Surveillance of respiratory pathogens in patients attending Royal Thai Army hospitals.
- Early warning system for Medical Threats along Thai Borders.

Research Consultant for these research

	<p>projects:</p> <ul style="list-style-type: none"> <li>- Surveillance of malaria and febrile illnesses in military areas of operation along Thai borders.</li> <li>- Surveillance on infectious diseases of military importance.</li> </ul>
<p><b>Fields of Study:</b></p>	<p>molecular technique, molecular epidemiology, molecular pathogenesis, surveillance system, field site study of malaria , rickettsioses ,other arthropod-borne pathogens and respiratory disease</p>
<p><b>Research Project:</b></p>	<p>2004-2005 Identification and Characterization of Rickettsial Isolates from Human, Arthropod Vectors and Reservoir Hosts in Thailand: Phase I</p> <p>2004-2011 Surveillance of Malaria in the Royal Thai Army Area of Operation along Thai Borders</p> <p>2004-2011 Surveillance program for Diseases of Military Importance.</p> <p>2004-2012 The Royal Thai Army and Global Emerging Infectious Disease Surveillance, USAMC : <i>Unit Based Surveillance System.</i></p> <p>2006-2007 <i>Development of Early Warning System for Medical Threat in the 3 South Border Provinces.</i></p> <p>2006-2013 <i>Surveillance of Respiratory Pathogens in Patients Attending Royal Thai Army Hospitals</i> 2010-2013 <i>Survey of Arthropod Vectors and Reservoir Hosts for Rickettsiosis in Military Areas of Operation along Thai Borders</i></p> <p>2012-2013 <b>Survey for the Arthropod-borne Pathogens: <i>Rickettsia, Ehrlichia, Anaplasma, Coxiella, and Borrelia</i> in Thailand and Development of a GIS Model to Predict Endemic Areas</b></p>
<p><b>Honors/Award:</b></p>	<p>1982-1983 Undergraduate Student Scholarship, Chiangmai University General Hospital, Chiangmai University, Chiangmai, Thailand</p> <p>1985-1988 Graduate Student Scholarship, Mahidol University,</p>

	<p>Bangkok, Thailand</p> <p>1992 Visiting Scientist Training Grant, Henry M. Jackson Foundation, Maryland, USA</p> <p>1994 Oversea Research Training Grant, The Royal Thai Army, Ministry of Defense, Thailand</p> <p>1995 The Royal Thai Army Research Awards, 3<sup>rd</sup> Place and honorable mention</p> <p>1996 The Royal Thai Army Research Awards, 1<sup>st</sup> Place</p> <p>1997-2001 Predoctoral Training Scholarship, The Royal Thai Army, Ministry of Defense, Thailand</p> <p>2000 Travel award, 49<sup>th</sup> General Meeting, American Society of Tropical Medicine and Hygiene (ASTMH), USA</p> <p>2001-2002 Research Assistant Scholarship, University of Maryland, Baltimore, Maryland, USA</p> <p>2001 Graduate Student Travel award, University of Maryland, Baltimore, Maryland, USA</p> <p>2006 Travel Award, 20<sup>th</sup> General Meeting, American Society for Rickettsiology (ASR), USA</p> <p>2009 Outstanding Research Award, the Royal Thai Army War College, Thailand</p> <p>2011 Best Poster Award, 1<sup>st</sup> and 2<sup>nd</sup> Place<sup>2<sup>nd</sup></sup>, PMK &amp; AFRIMS Joint Symposium: Research Highlights on Infectious Diseases and Military Medicine, Bangkok, Thailand</p> <p>2011 Military Innovation Award, honorable mention, The Royal Thai Army, Ministry of Defense, Thailand</p>
<p><b>Publication:</b></p>	<ol style="list-style-type: none"> <li>1. <b>Komolmis, J., Vathanophas, K., Sangphetsong, V., Trisupa, A. and Wongba, C.</b> Comparative rapid diagnostic tests for gonococcal infection between fluorescent antibody technique and enzyme linked immunosorbent assay. <i>National Seminar on Epidemiology</i>, Bangkok, Thailand, September, 1987 (Oral presentation)</li> <li>2. Samakoses, R., Nitayaphan, S., Chamnavanakij, S., <b>Gaywee J.,</b> Sithongdee, S., Chinaworapong, S. and McCutchan, F.E. HIV-1 genotyping in infants and their mothers. <i>10<sup>th</sup> International Conference on AIDS</i>, Yokohama, Japan,</li> </ol>

August, 1994 (Poster presentation)

3. Supapongse, T., Chuenchitra, C., **Gaywee, J.**, Sangkasuwan, S., Mason, C., Nitayaphan, S. and Brix, D.  
Lymphoproliferative responses to microbial and HIV-1 specific antigens in HIV positive Thai individuals. *10<sup>th</sup> International Conference on AIDS*, Yokohama, Japan, August, 1994 (Poster presentation)
4. **Gaywee, J.**, Artenstein, A.W., Vancott, T.C., Trichvaroj, R., Sukchamnon, A., Amlee, P., de Souza, M., McCutchan, F.E., Carr, J.K., Markowitz, L.E., Michael, R., and Nitayaphan S.  
Correlation of genetic and serologic approaches to HIV-1 subtyping in Thailand. *11<sup>th</sup> International Conference on AIDS*, Vancouver, Canada, July, 1996 (Poster presentation)
5. Vipputtigul, K., Rounpong, A., Markowitz, L.E., de Souza, M.S., **Gaywee, J.**, McCutchan, F.E., Brown, A.E., and Nitayaphan, S.  
Genetic diversity of HIV-1 subtype E from recent seroconversion in Thailand. *12<sup>th</sup> International Conference on AIDS*, Geneva, Switzerland, June 28-July 3, 1998 (Poster presentation)
6. Radulovic S., Beier-Sexton, M., **Gaywee, J.** and Azad, A.F.  
Use of recombinant nonconjugal *Escherichia coli* vector carrying *ereB* gene in rickettsial transformation. *Microbial Pathogenesis & Host Response Meeting*. Cold Spring Harbor, New York September 22-26, 1999 (Poster presentation)
7. **Gaywee, J.**, Radulovic, S., Beier-Sexton, M. and Azad, A.F.  
Use of recombinant nonconjugal *Escherichia coli* vector carrying *ereB* gene in rickettsial transformation. *48<sup>th</sup> American Society of tropical Medicine and Hygiene Meeting*. Washington DC, November 28-December 2, 1999 (Poster presentation)
8. **Gaywee, J.**, Radulovic, S., and Azad, A.F. Functional characterization of rickettsial invasion gene homolog (*invA*). *22<sup>th</sup> Annual Meeting, Graduate Student Research Day*, University of Maryland Baltimore County, Baltimore, April, 2000 (Oral presentation)
9. **Gaywee, J.**, Radulovic, S., and Azad, A.F. Functional characterization of rickettsial invasion gene homolog (*invA*). *15<sup>th</sup> American Society for Rickettsiology Meeting*, Captiva Island, Florida, April, 2000 (Poster presentation)
10. **Gaywee, J.**, Radulovic, S., and Azad, A.F. Functional characterization of *Rickettsia prowazekii* invasion gene

homolog (*invA*). 49<sup>th</sup> American Society of Tropical Medicine and Hygiene, General Meeting, Houston, Texas, October 29-November 2, 2000 (Poster presentation)

11. **Gaywee, J.**, Radulovic, S., Bessman M.J., Kim, K.S., and Azad, A.F. Functional characterization of *Rickettsia prowazekii* invasion gene homolog (*invA*). 101<sup>th</sup> American Society of Microbiology General Meeting, Orlando, Florida, May 20-24, 2001 (Poster presentation)
12. **Gaywee, J.**, Radulovic, S., Bessman M.J., and Azad, A.F. The *Rickettsia prowazekii* invasion gene homolog (*invA*) encodes a Nudix hydrolase specific for diadenosine pentaphosphate (Ap<sub>5</sub>A). *American Society for Rickettsiology-Bartonella as an emerging pathogen group, 2001 Joint conference*, Big Sky, Montana, August 18-22, 2001 (Oral presentation)
13. Radulovic, S., Price, P., Beier, S.M., Coker, C., **Gaywee, J.**, and Azad, A.F. Interaction of *Rickettsia akari* with host cells. *American Society for Rickettsiology-Bartonella as an emerging pathogen group, 2001 Joint conference*, Big Sky, Montana, August 18-22, 2001 (Oral presentation)
14. **Gaywee, J.**, Radulovic, S., Bessman M.J., and Azad, A.F. The *Rickettsia prowazekii* invasion gene homolog (*invA*) encodes a Nudix hydrolase specific for diadenosine pentaphosphate (Ap<sub>5</sub>A). 50<sup>th</sup> American Society of Tropical Medicine and Hygiene General Meeting, Atlanta, Georgia, November 10-14, 2001 (Oral presentation for young investigator competition and poster presentation)
15. **Gaywee, J.**, Radulovic, S., Higgins, J.A., and Azad, A.F. Transcriptional Analysis of *Rickettsia prowazekii* Invasion Gene Homolog (*invA*) during Host Cell Infection. *International Conference on Rickettsiae and Rickettsial Diseases Joint with American Society for Rickettsiology Conference*. September 4-7, Ljubljana, Slovenia, 2002 (Poster presentation)
16. **Gaywee, J.**, Viputtigul, K., Sangjun, N., Rodkvamtook, W., Khoprasert, Y., Sirisopana, N., Rangsin, R., Azad, A.F., Kurtti, T.J. and Nittayaphan, S. Study of the pathogenic rickettsiae in associated with arthropods vectors and reservoir hosts in Thailand. 13<sup>th</sup> Asia-Pacific Military Medicine Conference, Bangkok, Thailand, May 11-16, 2003 (Oral presentation)
17. **Gaywee, J.**, Viputtigul, K., Sangjun, N., Rodkvamtook, W., Khoprasert, Y., Sirisopana, N., Rangsin, R., Azad, A.F., Kurtti,



T.J. and Nittayaphan, S. Study of the pathogenic rickettsiae in associated with arthropods vectors and reservoir hosts in Thailand. 16<sup>th</sup> National Seminar on Epidemiology, Bangkok, Thailand, July 23-25, 2003 (Poster presentation)

18. **Gaywee, J.**, Sunyakumthorn, P., Sudatis, A., Shinprasartsak, S., Sangkhasuwan, V., Rodkvamtook, W., Sangjun, N., Uthannam, D., Sirisopana, N., and Nittayaphan, S. Identification of Pathogenic *Rickettsia* Species in Febrile Patients in Nakornrathisima Province, Thailand. 17<sup>th</sup> National Seminar on Epidemiology, Bangkok, Thailand, July 19-21, 2004 (Oral presentation)
19. Sudatis, A., Sunyakumthorn, P., and **Gaywee, J.** Sensitivity assessment of molecular tools for detection of rickettsiae. 17<sup>th</sup> National Seminar on Epidemiology, Bangkok, Thailand, May 19-21, 2004 (Poster presentation), 1<sup>st</sup> National meeting on Vector-borne Diseases, Chiangmai, Thailand, June 28-30, 2004 (Oral Presentation)
20. **Gaywee, J.**, Sudatis, A., Rodkvamtook, W., Viputtigul, K., Sunyakumthorn, P., Sangjun, N., Uthannam, D., Sirisopana, N., and Nittayaphan, S. Extensive investigation of *Orientia tsutsugamushi* in rodents captured from Army training ground, Borthong District, Chonburi Province utilizing molecular tools. 17<sup>th</sup> National Seminar on Epidemiology, Bangkok, Thailand, July 19-21, 2004 (Poster presentation)
21. **Gaywee, J.**, Viputtigul, K., Rodkvamtook, W., Sudatis, A., Sunyakumthorn, P., Nittayaphan, S. Identification of rickettsia agents in febrile patients and rodents in Thailand. 14<sup>th</sup> Asia-Pacific Military Medicine Conference, Brisbane, Australia, 9-14 May 2004 (Oral Presentation)
22. Sunyakumthorn, P., **Gaywee, J.**, Shinprasartsak, S., Thitivichianlert, S., Kanjanavanit, S., Rodkvamtook, W., Khowsatit, J., Jongsakul, P., Vimolsirawut, W., Sirisopana, N., and Nittayaphan, S. Molecular Epidemiology of Pathogenic Rickettsiae in Thailand. 18<sup>th</sup> National Seminar on Epidemiology, Bangkok, Thailand, May 23-25, 2005 (Podium presentation)
23. Jongsakul, P., Khowsatit, J., Sunyakumthorn, P., Rodkvamtook, W., and **Gaywee, J.** Epidemiological study of pathogenic rickettsiae utilizing multiplex PCR-RFLP technique. 18<sup>th</sup> National Seminar on Epidemiology, Bangkok, Thailand, May 23-25, 2005 (Poster presentation)

24. Kulawanitch, K., Sunyakumthorn, P., Sudatis, A., and **Gaywee, J.** Molecular evidence of *Coxiella* Spp. In dog ticks collected from house-hold pets in Bangkok and vicinity. *18<sup>th</sup> National Seminar on Epidemiology*, Bangkok, Thailand, May 23-25, 2005 (Poster presentation)
25. Kuttasingkee, N., Kaewsathien, P., Yuyen, P., **Gaywee, J.**, Duriyapan, P., Sirisopana, N., Indontri, B., Somsri, K., Uthussasiripanich, S., Rungruangroath, W. Surveillance of malaria infection in the Royal Thai Army area of operation (AO) along Thai-Myanmar border during 2001 to 2004. *15<sup>th</sup> Asia-Pacific Military Medicine Conference*, Hanoi, Vietnam, 9-13 May 2005 (Poster Presentation)
26. Kaewsathien, P., Russell, B.M., Noedl, H., Khuntirat., B., **Gaywee, J.**, and Lek-Uthai, U. Comparison of novel ELISA and real-time PCR-based *in vitro* drug sensitivity assays for *Plasmodium falciparum*. *15<sup>th</sup> Asia-Pacific Military Medicine Conference*, Hanoi, Vietnam, 9-13 May 2005 (Oral Presentation)
27. Sunyakumthorn, P, **Gaywee, J.**, Shinprasartsak, S., Thitivichianlert, S., Kanjanavanit, S., Sirisophana, N., Mason, C.J., and Nitthayaphan, S. Molecular epidemiology of pathogenic rickettsiae in Thailand. *105<sup>th</sup> General Meeting, American Society for Microbiology*, Atlanta, Georgia, USA, 5-9 June 2005 (Poster Presentation)
28. Pornwiroon W. and **Gaywee J.** Molecular cloning and characterization of the rickettsial response regulator protein homolog. *105<sup>th</sup> General Meeting, American Society for Microbiology*, Atlanta, Georgia, USA, 5-9 June 2005 (Poster Presentation)
29. Kurtti, T.J., **Gaywee, J.**, Lynch, M.J., Munderloh, U. G. Prevalance and in vitro isolation of *Anaplasma sp.* In black-legged ticks collected from white-tailed deer. *105<sup>th</sup> General Meeting, American Society for Microbiology*, Atlanta, Georgia, USA, 5-9 June 2005 (Poster Presentation)
30. Rodkvamtook, W., Sunyakumthorn, P., Sudatis, A., Khowsathit, J., Jongsakul, P., Sirisophana, N., Mason, C.J., **Gaywee, J.** Investigation of arthropod vectors and reservoir hosts for *Orientia tsutsugamushi* in Army training ground, Brthong District, Chonburi Province, Thailand. *Joint International Tropical Medicine Meeting 2005*, Bangkok, Thailand, 30 Nov-2 Dec, 2005 (Poster Presentation)

31. Somsri, K., Kuttasingkee, N., Kaewsathien, P., Yuyen, P., **Gaywee, J.**, Duriyapan, P., Sirisopana, N., Indontri, B., Uthussasiripanich, S., Rungruangroath, W. Surveillance of malaria infection in the Royal Thai Army area of operation (AO) along Thai-Myanmar border during 2001 to 2004. *Joint International Tropical Medicine Meeting 2005*, Bangkok, Thailand, 30 Nov-2 Dec, 2005 (Poster Presentation)
32. **Gaywee, J.**, Sunyakumthorn, P., Jongsakul, P., Khowsathi, J., Kanjanavanit, S., Shinprasartsak, S., Thitivichianlert, S., Sirisophana, N., Mason, C. J., Nitthayaphan, S. Molecular epidemiology of pathogenic rickettsiae in Thailand. *Joint International Tropical Medicine Meeting 2005*, Bangkok, Thailand, 30 Nov-2 Dec, 2005 (Podium Presentation)
33. **Gaywee J.**, Rodkvamtook, W., Sunyakumthorn, P., Sangjun, N., Khowsathit, J., Jongsakul, P., Youngrod, S., Sudsawat, Y., Khajeejit, N., Sirisopana, N., Mason, C. J. Arthropod Vectors and Reservoir Hosts for Scrub Typhus in Military Training Field, Borthong District, Chonburi Province, Thailand. *106<sup>th</sup> General Meeting, American Society for Microbiology*, Orlando, Florida, USA, 21-25 May 2006 (Poster Presentation)
34. **Gaywee, J.**, Sunyakumthorn, P., Jeamwattanalert, P., Jongsakul, P., Khowsathi, J., Kanjanavanit, S., Shinprasartsak, S., Thitivichianlert, S., Sirisophana, N., Mason, C. J., Nitthayaphan, S. Molecular epidemiology of pathogenic rickettsiae in Thailand. *20<sup>th</sup> Meeting of The American Society for Rickettsiology in conjunction with the 5<sup>th</sup> International Conference on Bartonella as Emerging Pathogens*, Pacific Grove, California, USA, 2-7 September 2006 (Poster Presentation)
35. Pornwiroon W. and **Gaywee J.** Molecular cloning and characterization of the rickettsial response regulator protein homolog. *20<sup>th</sup> Meeting of The American Society for Rickettsiology in conjunction with the 5<sup>th</sup> International Conference on Bartonella as Emerging Pathogens*, Pacific Grove, California, USA, 2-7 September 2006 (Poster Presentation)
36. Rodkvamtook, W., Sunyakumthorn, P., Sangjun, N., Sudatis, A., Khowsathit, J., Jongsakul, P., Youngrod, S., Sudsawat, Y., Khajeejit, N., Sirisopana, N., Mason, C. J., **Gaywee J.** Arthropod Vectors and Reservoir Hosts for Scrub Typhus in Military Training Field, Borthong District, Chonburi Province, Thailand. *20<sup>th</sup> Meeting of The American Society for*

*Rickettsiology in conjunction with the 5<sup>th</sup> International Conference on Bartonella as Emerging Pathogens*, Pacific Grove, California, USA, 2-7 September 2006 (Poster Presentation)

37. Rodkvamtook, W., Sunyakumthorn, P., Sangjun, N., Youngrod, S., Sudsawat, Y., Khajeejit, N., Sirisopana, N., **Gaywee J.** Survey of Reservoir Hosts and Vectors for Scrub Typhus in Tsunami Temporary Shelter, Khao Lak-Lamru National Park, Tai-muang District, Phang-nga Province, South of Thailand. *20<sup>th</sup> Meeting of The American Society for Rickettsiology in conjunction with the 5<sup>th</sup> International Conference on Bartonella as Emerging Pathogens*, Pacific Grove, California, USA, 2-7 September 2006 (Poster Presentation)
38. **Gaywee, J.**, Sirisopana, N., Eamsila, C., Watcharapichat, P., Chuenchitra, T., Bodhidatta, L., Vudtakanok, J., Jangyodsuk, V., Srichantrapunt, W., Paonin, S., Pattanarangsarn, R., Arthayapan, T., and Coldren, R.L. Initiation of a Respiratory Illness Surveillance System in the Royal Thai Army. *Multinational Influenza Seasonal Mortality Study (MISMS) Meeting*, Hanoi, Vietnam, August 13-17, 2007 (Oral Presentation)
39. **Gaywee J.** Case Study: The Experiences of the Royal Thai Army in Bilateral and International Collaboration. *56<sup>th</sup> Annual Meeting, American Society of Tropical Medicine and Hygiene (ASTMH)*, Philadelphia, Pennsylvania, USA, November 4-8, 2007. (Oral Presentation)
40. **Gaywee J.** Update in Molecular Epidemiology of Rickettsiae in Thailand. *Joint International Tropical Medicine Meeting 2007*. Bangkok, Thailand, November 29-30, 2007. (Oral Presentation)
41. **Gaywee J**, Bodhidatta L, Jarman R, Eamsila C, Myint KSA, Briesse T, Lipkin WI, Watcharapichat P, Chuenchitra T, Gibbons RV, Pavlin JA, Sirisopana N. Respiratory Disease Surveillance in Royal Thai Army Hospitals. *International Conference on Emerging Infectious Diseases (ICEID)*, Atlanta, Georgia, USA, March 16 - 19, 2008 (Poster presentation)
42. Somsri K, Ruang-areerate T, **Gaywee J.** Development of Surveillance System for Disease of Military Importance in the Royal Thai Army Deployed Units. *18<sup>th</sup> Asia-Pacific Military Medicine Conference*, Singapore, 14-18 2008 (Poster Presentation)

43. Kutasingkee N, Ruang-areerate T, **Gaywee J**. Analysis of Risk Area for Malaria in Military Area of Operations along Thai-Myanmar Border Utilizing Geographic Information System. *18<sup>th</sup> Asia-Pacific Military Medicine Conference*, Singapore, 14-18 April 2008 (Poster Presentation)
44. Ruang-areerate T, Rodkvamtook W, Jeamwattanalert P, **Gaywee J**. Genetic Diversity of *Orientia tsutsugamushi* isolates obtained from Military Area of Operations. *18<sup>th</sup> Asia-Pacific Military Medicine Conference*, Singapore, 14-18 April 2008 (Poster Presentation)
45. **Gaywee J**, Bodhidatta L, Jarman R, Tappasit S, Eamsila C, Myint KS, Briese T, Watcharapichat P, Chuenchitra T, Gibbons RV, Pavlin PA, Sirisopana N. Respiratory Disease Surveillance in Royal Thai Army Hospitals. *18<sup>th</sup> Asia-Pacific Military Medicine Conference*, Singapore, 14-18 April 2008 (Oral Presentation)
46. Pavlin JA, **Gaywee J**, Jarman RG, Shrestha SK. Old and New Respiratory Infections - Surveillance by the Armed Forces Research Institute of Medical Sciences (AFRIMS). *11<sup>th</sup> Annual Force Health Protection Conference*. Albuquerque, New Mexico, USA, August 9-15, 2008. (Oral Presentation)
47. **Gaywee J**, Sirisopana N, Eamsila C, Watcharapichat P, Chuenchitra T, Vudtakanok J, Jangyodsuk V, Boonlikit S, Srichantrapunt W, Paonin S, Pattanarangsarn R, Arthayapan T, Bodhidatta L, Jarman RG, Pavlin JA, Mason CJ. Respiratory Disease Surveillance in 6 Royal Thai Army Hospitals along Thai Borders. *57<sup>th</sup> Annual Meeting, American Society of Tropical Medicine and Hygiene (ASTMH)*, New Orleans, Louisiana, USA, December 7-11, 2008. (Oral Presentation)
48. Jeamwattanalert P, Ruang-areerate T, Rodkvamtook W, Mason CJ, **Gaywee J**. Genetic Diversity of Pathogenic *Orientia tsutsugamushi* during 2003-2006 in Thailand. *57<sup>th</sup> Annual Meeting, American Society of Tropical Medicine and Hygiene (ASTMH)*, New Orleans, Louisiana, USA, December 7-11, 2008. (Poster Presentation)
49. **Gaywee J**, Kuttasingkee N, Chaiyapong P, Rangsin R, Khansuwan C. Analysis of Risk Area for Malaria in Military Areas of Operation along Thai – Cambodia Border Utilizing Environmental Database and Geographic Information System. *19<sup>th</sup> Asia-Pacific Military Medicine Conference*, Seoul, Korea, April 6-10 2009 (Poster Presentation)

50. Jeamwattanalert P, Kuttasingkee N, Ruang-areerate T, Kaewsatien P, Somsri K, Thararub S, Chantarasirirap K, Yingpaiboonsuk P, Kiatisan T, Mason CJ, **Gaywee J**. Investigation of Rickettsial Vectors and Reservoir Hosts in Military Areas of Operation along Thai Borders. *19<sup>th</sup> Asia-Pacific Military Medicine Conference*, Seoul, Korea, April 6-10 2009 (Oral Presentation)
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