

**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors.  
Follow this format for each person. **DO NOT EXCEED 10 PAGES.**

NAME: Latinne, Alice

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Research Scientist

EDUCATION: *include postdoctoral training and residency training if applicable*

INSTITUTION	DEGREE	Completion	Field of Study
	<i>applicable)</i>	MM/YYYY	
University of Namur, Belgium	B.S.	2004	
University of Liege, Belgium	M.S.	2006	Animal Biology
University of Liege, Belgium	Ph.D.	2012	Biology

**A. Personal Statement**

My research focuses on understanding the dynamics of pathogens within and among wildlife populations, livestock, and humans. I have conducted fieldwork in Asia for the past 10 years, focused on the evolution, dynamics and co-evolution of host-pathogen (rodent-virus, bat-virus) interactions using phylogenetic and phylogeographic tools. My main interest is to analyze the risk of zoonotic pathogen transmission at human-wildlife interfaces. My published work analyzes patterns and incidence of pathogen sharing among species, and to determine how the host phylogenetic and phylogeographic structure affects pathogen distribution and cross-species transmission. Prior to my current position at EcoHealth Alliance, I was a Marie Curie COFUND postdoctoral fellow at the Institut de Biologie de Montpellier (ISEM, France) and at the Kasetsart University in Thailand.

1. **Latinne A**, Bezé F, Delhaes L, Pottier M, Gantois N, Ngunjiri R, De Gans M, Morand S, Chabé M (2018). Genetic diversity and evolution of *Dracovirus* group 1 infections in Southeast Asian murid rodents. **Parasitology** 145(7): 885-899.
2. Olival KJ, **Latinne A**, Islam A, Engstrand R, Hersch R, Amato G, Epstein JH, Daszak P (2016). Using bat population genetics to understand Nipah virus dynamics and cross-species transmission in South and southeast Asia. **International Bat Research Conference, Durban**.
3. Morand S, **Latinne A**, Olival KJ, Daszak P, Epstein JH, Chabé M, Michaux J (2015). The role of wildlife in the spread of zoonotic and zoonotic-borne diseases. **Integrative Zoology** 10(5), 409-423.
4. **Latinne A**, Olival KJ, Wejnár C, Herbreteau V, Waengsothorn S, Morand S, Michaux J (2015). Influence of past and future climate changes on the distribution of *Dracovirus* group 1 in Southeast Asian murid rodents. **Journal of Biogeography** 42(9), 1714-1726.

**B. Positions and Honors****Employment and Positions**

2012 - 18 Research Scientist, EcoHealth Alliance, New York, NY, USA  
2013 - 14 Postdoctoral Researcher, Kasetsart University, Thailand

- 2013 -14 Postdoctoral Researcher, University Montpellier, France
- 2013 - Research Associate, University of Liege, Belgium
- 2015 - Research Scientist, EuronHealth Alliance

**Honors**

- 2007 Belgian Government graduate scholarship, Belgian Fund for Research in Belgium
- 2008 Belgian Government graduate scholarship, Belgium
- 2012 Award VCB 2012 from VCB
- 2013 Marie Curie COFUND fellowship from European Union

**C. Contributions to Science**

**1. Understanding the origin and cross-species transmission of bat coronavirus. Beta coronavirus diversity of coronaviruses (CoVs) and have been identified as the natural reservoirs and evolutionary sources of several emerging human coronaviruses, including Severe Acute Respiratory Syndrome (SARS-CoV) that emerged in China in 2002. However, CoV evolution and transmission are poorly understood. In this study, we use a Bayesian statistical framework to study the evolution of bat CoVs and their cross-species transmission dynamics and dispersal in China. Alpha-CoVs were able to switch hosts more frequently and between more distantly related taxa than beta-CoVs during their evolution. We identify the most likely host and geographic locations to define hotspots of CoV phylo-diversity in China, allowing for more targeted surveillance of bat-borne CoVs and early detection to mitigate disease emergence and outbreaks in the future.**

- a. **Latigne A, Hu B, Zhu G, Zhang L, Zambrana-Torales C, Oliva KJ, Li B, Zhang W, Shi Z, Daszak P (November 2018). Diversity and origin of bat coronaviruses in China. Presentation at The 3rd Symposium of Biodiversity and Conservation, Kunming, China.**
- b. **Latigne A, Hu B, Zhu G, Zhang L, Zambrana-Torales C, Oliva KJ, Li B, Zhang W, Shi Z, Daszak P (October 2018). The 8th International Symposium on Emerging Viral Diseases, Wuzhou, China.**

**2. Phylogeography of Nipah virus in wildlife host populations may strongly influence zoonotic disease spillover risk to people. In Bangladesh, a study, I use mitochondrial DNA demographic history, and phylogeography of *P. melioides* in Bangladesh to better understand the dynamics, distribution, and evolutionary history of Nipah virus. We combine this with a phylogeographic analysis of all known Nipah virus sequences and strains currently available.**

- a. **Oliva KJ, Latigne A, Zambrana-Torales C, Daszak P (2018). bat population genetics to understand Nipah virus dynamics and evolution in Bangladesh and southeast Asia. International Conference on Emerging Infectious Diseases, Durban.**

**3. Research on rodent reservoirs of zoonotic diseases. Rodents are considered to be the host of at least 60 zoonotic diseases that represent a major threat to human health. Rodents have also been involved in the emergence and spread of infectious diseases of human health importance such as plague, murine typhus, scrub typhus, leptospirosis, and hantaviral hemorrhagic fever. Understanding the co-evolution of rodent pathogens and their hosts in Southeast Asia**

a. **Latinne A**, Chabé M (2017). Genetic diversity and evolution of *Pneumocystis funai* infecting wild Southeast Asian murid rodents. **Parasitology** 145(7): 885-900.

b. Morand S, Ribas A, Chien H, Chao G, Galan M, Czapka U, Srinuarod K, Michaux J, Ribas A (2015) Global parasite and host diversity: the consequences for zoonotic borne diseases. **Integrative Zoology** 10(5), 409-423.

4. Research

University of Illinois Urbana-Champaign, Center for Global Health and Disease Prevention, work aimed at understanding the impact of climate change on the distribution of zoonotic pathogens.

a. **Latinne A**, Meynard CN, Hurrebrecht V, Waengsothorn S, Manard S, Michaux J (2015). Influence of past and future climate changes on the distribution of three Southeast Asian marine rodents. **Journal of Biogeography** 42(9), 1714-1726.

b. **Latinne A**, Galan M, Waengsothorn S, Rojanadilok P, Liamampai K, Sribuarod K, Michaux J (2014). Diet analysis of *Leopoldia* rodents in Thailand. **Journal of Cave and Karst Studies** 76(2): 1-10.

c. **Latinne A**, Waengsothorn S, Rojanadilok P, Liamampai K, Sribuarod K, Michaux J (2013). Diversity and endemism of Murinae rodents in Thai limestone karsts. **Systematics and Biodiversity** 11(3): 323-344.

d. **Latinne A**, Waengsothorn S, Rojanadilok P, Liamampai K, Sribuarod K, Michaux J (2012). Combined Mitochondrial and Nuclear DNA Markers Revealed a Deep Vicariant History for the Endemic Dwelling Rodent of Thailand. **PLOS ONE** 7(10): e47111.

D. Additional Information: Research Support

Ongoing Research Support

USAID Emerging Pandemic Threats PREDICT-2	Mazet (PI)	10/01/14 - 09/30/19
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The goal is to conduct surveillance for novel pathogens in wildlife, livestock and people; characterize human risk behavior; analyze EID risk; and design interventions in >20 countries

Role: Research Scientist

**BIOGRAPHICAL INFORMATION**

Provide the following information for the Service (or other organization, if applicable).  
 Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Phelps, Kenneth

eRA COMMONS USER NAME (credential, e.g., agency idm):

POSITION TITLE: Field Scientist

**EDUCATION**

include postdoctoral training and fellowships (if applicable, include dates and sponsor.)

INSTITUTION AND LOCATION	DEGREE	Completion Date (MM/YYYY)	FIELD OF STUDY
Auburn University, USA	B.S. (if applicable)	05/20/2000	Zoology
Oklahoma State University	M.Sc.	12/2006	Zoology
Texas Tech University	Ph.D.	08/2016	Zoology
Texas Tech University	Post Doc	12/2017	Zoology - Bat Ecology

**A. Personal Statement**

Human-environment-wildlife interactions are the driving interest behind my research portfolio. Specifically, my research aims to identify the consequences of land-use change and human-environment interactions on the persistence of wildlife populations, as well as the implications for zoonotic disease spillover to exposed human populations. My research takes a multidisciplinary approach, integrating ecology, epidemiology, and community science to understand the complex interactions between wildlife and human communities, ranging from local to global scales. I have 17 years of experience in the study of wildlife, with a focus on bats and rodents, and 3 years of international experience in bat disease surveillance in often resource-limited and remote sites. Moreover, I have applied my knowledge in wildlife ecology to identify specific environmental and ecological drivers that enhance pathogen persistence and transmission between hosts and to proactively prevent spillover events and safeguard human and animal health. My research focuses on understanding the drivers of bat health and disease dynamics at the human-wildlife interface, and development of a cave-based bat conservation.

1. Phelps KL, Jesse B, Lebonite M, Kingston T (2017). Correlates of cave-roosting bat diversity as an effective tool to identify priority caves. *Biological Conservation* 201: 20-28.
2. Phelps KL, Kingston T (2018). Environmental and biological context modulates the physiological stress response of bats to human disturbance. *Oecologia* 188: 41-52.
3. Willoughby AR, Phelps K, FREDICT Consortium, Olson KL (2017). A comparative analysis of viral richness and viral sharing in cave-roosting bats. *Diversity* 9: 30.
4. Phelps KL, Phelps K, Amador N, Saldamando N, Gruchacz L, PAO Ali S, Riquin R, Hamell, K (2018). Bat communities in western ANA: a model for One Health. *Poster presented at the 12th International Conference on Bat Health and Disease Dynamics*.

## B. Positions and Honors

### Positions and Employment

- 2001 -03 Laboratory technician, College of Veterinary Medicine – Auburn University (USA)
- 2003 -06 Graduate teaching assistant, Department of Zoology – Oklahoma State University (USA)
- 2003 -06 Field technician, Oklahoma State University (USA)
- 2006 -08 Graduate teaching assistant, Department of Biological Sciences – Texas Tech University (USA)
- 2008 -14 Graduate teaching assistant, Department of Biological Sciences – Texas Tech University (USA)
- 2014 -15 Research technician, Department of Biological Sciences – Texas Tech University (USA)
- 2016 -17 Postdoctoral research associate, Department of Biological Sciences – Texas Tech University (USA)
- 2017 - Biostatistics consultant, Texas Integrated Diving and Ecological Studies Laboratory (USA)
- 2018 - Field scientist, Ecological Finance (USA)

### Other Experience and Professional Memberships

- 2009 - Member, North American Society for Bat Research
- 2011 - Member, Society of Conservation Biology
- 2011 - Steering committee member, Southeast Asian Bat Conservation Research Unit (SEABCRU)
- 2014 - Member, Cave Bat Working Group – SEABCRU
- 2015 - Member, Bat-Human Interactions Working Group
- 2015 - Member, International Union for Conservation of Nature (IUCN)
- 2018 - Implementing member, Western Asia Bat Research Network
- Reviewer: *Frontiers in Ecology & Evolution, Integrative and Comparative Biology, PeerJ, Journal of Applied Ecology, Acta Chiropterologica, Diversity, Ecology and Environmental Assessment, Ecological Research, American Midland Naturalist, Pollution Research, Wetland Conservation, Naturalist*

### Honors

- 2008 -13 AT&T Foundation Chancellor's Fellow, Texas Tech University
- 2009 Luis F. Bacardi Fruit Bat Conservation and Research Scholar
- 2010 Bat Conservation International Student Scholar
- 2011 Fulbright Fellow - Malaysia, U.S. Department of State
- 2011 Student Explorer, The Explorers Club Expedition
- 2011 Lewis and Clark Expedition for Explorers
- 2012 Fulbright Fellow - Philippines, U.S. Department of State
- 2012 Ralph Moore Fellow, National Speleological Society
- 2012 Bat Conservation International Student Scholar
- 2012 James D. and Mary Hazlewood Graduate Fellow, Texas Tech University
- 2012 Graduate Research Scholar, Cave Research Foundation
- 2013 Student of Integrated Scholarship, Texas Tech University
- 2014 -16 Helen DeVitt Jones Graduate Scholar, Texas Tech University
- 2015 -16 Doctoral Dissertation Fellow, Texas Tech University

### Contributions to Science

1. **Wildlife ecology & conservation**  
 guano harvesting or bushmeat markets, must be considered when monitoring public health while promoting wildlife conservation, and demands a multidisciplinary approach. Bats and rodents are the two largest

mammalian orders, yet many populations are declining globally. Working with collaborators in the Philippines, I identified anthropogenic and environmental drivers of bat abundance, and individual health in cave-roosting bats of the Philippines. This research led to the identification of environmental and human disturbance factors that are most influential to bat assemblages, thus allowing for prioritization of caves to conserve cave bats. My findings highlight that human disturbance of roosting and foraging sites contributes to reduced diversity and simplified composition in cave bat assemblages. Minimizing disease risks to public health requires integrating tools from applied ecology and analytical modelling to identify ecological drivers that promote virus persistence and spread in bat assemblages. We found that transmission rates of viruses between bat species (especially those receiving energy), and species that roost in caves having the highest rate of virus sharing with co-roosting species. My findings suggest that bat assemblages form large aggregations, so assemblage composition and population structure likely influence virus dynamics in cave-roosting bats.

- a. **Phelps KL, Jose R, Labonite M, Kingston T (2018).** Assemblage and species threshold responses to environmental and disturbance gradients shape bat diversity in disturbed cave landscapes. **Diversity** 10: 55.
- b. **Phelps KL, Jose R, Labonite M, Kingston T (2016).** Correlates of cave-roosting bat diversity as an effect of disturbance. **Biological Conservation** 201: 201-209.
- c. **Willschko R, Phelps KL (2017).** Species richness and viral sharing in cave-roosting bats. **Diversity** 9: 35.
- d. **Phelps KL, McBee K. (2009).** Ecological characteristics of social animals. **American Midland Naturalist** 161: 57-68.

2. **Bat health & disease surveillance**  
fatal diseases such as rabies, Hendra, and Marburg. Despite the potential for zoonotic disease spillover on public health, few studies have examined the ecological mechanisms that promote zoonotic disease persistence in diverse bat assemblages. To understand the underlying individual-level mechanisms that drive compositional turnover and species loss in bat communities, I assessed the impact of individual-level factors (i.e., body condition, and ectoparasitism) on bat health when exposed to gradients of cave disturbance. I also included measures of cave quality (i.e., size and complexity), social contact (i.e., social complexity, social heterospecific abundance), and intrinsic factors (i.e., reproductive state) to understand how context-specific factors may modulate individual health when exposed to disturbance. My findings reveal the impact of cave quality on the health of cave-roosting bats, which may influence an individual's susceptibility to infection. Working with regional collaborators from Turkey, Armenia, Georgia, Pakistan, and Jordan, I am characterizing the diversity and composition of bat assemblages in the region. I am also conducting a detailed profiling of bat-human interfaces at sampled sites to assess the risk of zoonotic disease emergence in the region.

- a. **Phelps KL, McBee K (2009).** Stress response of bats to human disturbance. **American Midland Naturalist** 161: 57-68.
- b. **Olival KJ, Phelps KL, Williams AR, Prentice I, PREDICI Consortium, Olival KJ (2018).** Bats and viruses in Western Asia: a model for One Health surveillance using research networks. Poster presented at the 10th North American Symposium on Bat Research.
- c. **Williams AR, Phelps KL, PREDICI Consortium, Olival KJ (2017).** A comparative analysis of viral richness and viral sharing in cave-roosting bats. **Diversity** 9: 25.



The goal of this project is to identify the actors and drivers in the hunting, selling, buying, and consumption of flying foxes in the Philippines, Malaysia, and Indonesia, and multinational programs to reduce flying fox trafficking.

### Combating Wildlife Trafficking Program, U.S. Fish & Wildlife Service, van Woyed (PI)

“Identifying and addressing factors contributing to flying fox trafficking in Southeast Asia”

The goal of this project is to identify the actors and drivers in the hunting, selling, buying, and consumption of flying foxes in the Philippines, Malaysia, and Indonesia, and multinational programs to reduce flying fox trafficking.

Role: Co-PI



### BIOGRAPHICAL STATEMENT

Provide the following information. Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: [REDACTED]

eRA COMMONS USER NAME (credential, e.g., agency login): [REDACTED]

POSITION/TITLE: Research Scientist

EDUCATION/TRAINING: include postdoctoral training

INSTITUTION AND LOCATION	DEGREE	Completion	FIELD OF STUDY
[REDACTED]	applicablè)	MM/YYYY	[REDACTED]
[REDACTED]	B.A.	06/2010	environmental sciences
Duke University, Durham, NC	M.F.S.	05/2015	Ecotoxicology and environmental health

#### A. Personal Statement

I am an environmental researcher and data scientist specializing in dynamic systems modeling, machine learning and biostatistics, web application development, and data engineering. With a background in environmental health and risk assessment, I provide data science and subject matter expertise to projects related to global emerging infectious diseases, non-communicable diseases, environmental exposures, antimicrobial resistance, and behavioral health. My leadership experience includes serving as a longitudinal study to characterize human exposure to potential toxicants in consumer products. I have been project lead for a large scale human and ecological risk assessment. Currently, I co-lead data management, analysis, and workflow design and automation for the USAID-funded PREDICT project. I have worked with the public community and private sectors, using data to understand risk, support decision making, and inform actionable policy and practice.

1. Merfeldt L, Nagopian A, Hennigan R, Butte GM, Lorenzo A, Congleton C, Webster H, Stapleton HM (2016). Nail polish as a source of exposure to triphenyl phosphate. *Environ. Int.* 86:45–51.
2. Hoffman K, Butte GM, Webster H, F. Presley, E.W. Hammett, S. Gray, Jakev C, Lorenzo A, Cooper EM, Carignan C, Meeker TD, F. R., Spubry A, Murphy SK, Pridemore TM, Hovot C, Congleton C, Daniels JL, Stapleton HM (2017). Temporal trends in exposure to organophosphate retardants in the United States. *Environ. Sci. Technol.* 51:440–448.
3. Kopelovich L, Ramezani A, Leach N, Mendelsohn R, Keenah (2015). Cross-sectional human health risk assessment of toluene and dibutyl phthalate in nail lacquers. *Food Chem. Toxicol.* 81:46–52.

#### B. Positions and Honors

Year	Position/Honor
2014	Environmental Health Researcher
2014	Applied Data Analysis Teaching Assistant, Duke University, North Carolina
2015 -18	Project Scientist, Internal Consulting, New York, NY
2018 -	Research Scientist, EcoHealth Alliance



#### D. Additional Info

##### Ongoing R

USAID Emergency

PPRBDIGT-2

The goal is to conduct

risk behavior; analyze FID risk; and

Role: Research/Research Scientist

### BIOGRAPHICAL SKETCH

Provide the following information for the Senior Key Personnel and other significant contributors. Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Dawson, Patrick

eRA COMMONS USER NAME (credentialing agency identifier)

POSITION TITLE AND ORGANIZATION

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training in applicable. Add alternate rows as necessary.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion (MM/YYYY)	
Northwestern University, Evanston, IL	B.A.	06/2010	Biological Sciences
Columbia University, New York, NY	M.P.H.	05/2012	Epidemiology
Columbia University, New York, NY	Ph.D.	05/2019	Epidemiology

#### A. Personal Statement

I am well prepared to use my research, leadership, project management, and communication skills to assist the PIs as a co-investigator in successfully carrying out the proposed research project. My academic and practical training in epidemiology have equipped me with advanced skills in epidemiologic analysis, causal modeling, public health surveillance, and causal inference. My research on Middle East Respiratory Syndrome Coronavirus (MERS-CoV) in Egypt and Jordan for the USAID PREDICT-2 project and for the CDC Global Disease Detection Program have provided me with more than six years of experience in Egypt and Jordan working with communities along the camel value chain to identify MERS-CoV seroprevalence. Additionally, I have worked with the Egyptian and Jordanian governments to identify and monitor MERS-CoV transmission patterns and to monitor activity against alert thresholds in real time. I have also investigated tuberculosis transmission in high-risk populations in Egypt and Jordan. My research in Egypt and Jordan has provided me with a unique perspective on the sociodemographic and cultural context of the region. As the PI for Egypt and Jordan, I have cultivated critical management abilities that will prove beneficial in the proposed research project including time management, budgeting, resource allocation, liaising with community leaders, and stakeholder engagement, and results communication.

1. Abdallat M, Dawson P, Haddadin AJ, El-Shoubary W, Duerger F, Sanyuri T, Seid MM, Talaat M (2016). Influenza Hospitalization in Egypt: A Cross-Sectional Study. *Journal of Infection and Public Health* 9(2): 101-107.
2. Dawson P, Perri BR, Ahuja SD (2016). High Tuberculosis Strain in a High-Risk Population of Housing Residents. *American Journal of Public Health* 106(3): 563-8.

#### B. Positions and Employment

- 2010 -12 Research Assistant, Columbia University, Mailman School of Public Health, New York, NY
- 2011 -12 Epi Scholar, New York City Department of Health and Mental Hygiene, New York, NY
- 2012 -14 Regional Epidemiologist, National Center for Disease Control and Prevention, Cairo, Egypt

2014 -18 Teaching Assistant, Columbia University Mailman School of Public Health, New York, NY  
2016 - Research Scientist, EcoHealth Alliance, New York, NY

**Other Experience and Professional Memberships**

2007 Intern, Bayshore Hospital, Bayshore, NJ  
2009 Intern, EdgeAlliance, Bayshore, NJ  
2015 Consultant, EcoHealth Alliance, New York, NY

**Honors**

New Jersey Plebiscite Distinguished Scholar  
2006 CollegeBoard AP Scholar Award  
2010 DERU Honor Society (top 1% of class for scholarship and leadership), Northwestern University  
Best Epidemiology Practice in Health  
2010 Winner, Best Award in Epidemiology, Columbia Mailman School of Public Health  
2014 -16 PhD Merit Award  
2016 Wellcome Trust / DBT India Alliance Poster Award Finalist, 17<sup>th</sup> International Congress on Infectious Diseases  
2019 Sydney Kirk Global Health Award in Epidemiology, Columbia University Mailman School of Public Health

**C. Contributions to Science**

**1. Using molecular and geospatial data to conduct epidemiological investigations.** My early research as

an epidemiologist focused on tuberculosis (TB) among public housing residents in New York City (NYC). Advances in case detection among NYC were among foreign-born individuals who became U.S. residents. However, in early 2011, a number of TB cases among NYC public housing residents raised concern that TB may be spreading within public housing residents. If true, this TB transmission occurring within NYC posed an opportunity for public health intervention aimed at interrupting TB transmission. Working with the NYC Department of Health, I identified geocoded residential addresses (BINS) and ran them against the New York City Housing Authority (NYCHA) registered BINS to classify cases as NYCHA residents. Overall, I found U.S.-born NYCHA residents had twice the TB incidence of all other U.S.-born NYC residents. However, comparing the molecular TB strain data among NYCHA residents, I found that they had high strain diversity. Further, there was no molecular evidence of TB strain clustering within NYCHA buildings, NYC CTR complexes, or between NYCHA residents. Therefore, I concluded the increased burden of TB among NYCHA residents is due to public housing's role as a social safety net, which concentrates a population having many independent TB risk factors: history of HIV, low education, poverty, etc., rather than due to TB spread within NYCHA. NYCHA can raise awareness about TB and encourage treatment.

- a. Dawson P, P. (with TBK Anuja (SU 2016), High Impact in Global Public Health, New York City Mailman School of Public Health

2. **Turning epidemiology**

the CDC Global Division Region Regional Centers, Egypt, Eilat, Israel, the Mediterranean Acute Respiratory Infection Surveillance (EMARIS) network which operates in Iraq-Kurdistan, Jordan, Oman, Pakistan, Qatar, and Yemen. The prevailing thought on influenza seasonality was that many countries or regions with arid/desert-like or tropical climates do not experience pronounced seasonal activity as do other countries with temperate climates (which experience Northern Hemisphere or Southern Hemisphere seasonal patterns). Understanding seasonal influenza is an important public health priority because it may impact seasonal influenza vaccination and the allocation of hospital and clinic resources. I analyzed influenza patterns across seven years of patient data from the EMARIS Network in Egypt and Jordan, and found that both countries exhibit Northern Hemisphere influenza seasonality, reaching peak activity between January and March. We collaborated with our partners in the EMARIS Network and with the Ministries of Health to support redistribution of resources to hospitals and clinics during the winter months. This work is supported by the evidence base supporting the adoption of seasonal influenza vaccination in both countries.

- a. Abdalrhman M, Dawson P, Haddad F, Al-Elshoubary M, Dagay O, Samour J, Said MM, Talaat M (2016). Influenza in a hot arid region: Evidence from a Severe Acute Respiratory Infection Surveillance System in Jordan, January 2008–February 2014. *Influenza and Other Respiratory Viruses* 10(2): 91-7.
- b. Kandeel A, Dawson P, Labib M, Said M, Refaey S, Nasr A (2016). Prevalence and Seasonality of Influenza Hospitalizations in Egypt, 2007–2014. *PLoS ONE* 11(9): e0161301

3. **Examining**

in addition to the contributions described above, I have been working with the PRRI on viral spillover, including MERS, in Egypt and Jordan and to characterize MERS. We conduct triangulated viral surveillance among people, wildlife, and livestock in both countries to detect known and novel viruses such as the flaviviruses or coronaviruses, Filoviruses, and Paramyxoviruses as well as to detect antibodies to MERS-CoV. All enrolled participants are asked to have nasopharyngeal and oropharyngeal swabs and sera collected and to complete a standardized questionnaire assessing their health and safety practices and health care practices. In Jordan, I developed additional questionnaires to assess behavioral practices pertaining to dromedary camels which are being used to characterize behaviors for MERS spillover from camels. This work is supported by the PRRI and was completed in the first half of 2019.

- a. Kandeel A, Gomaa MR, Shenata MM, El-Taweel AN, Mahmoud SH, Dagay O, Mutasim T, El-Nad O, Kayed AS, Dawson P, Qui X, Bah J, Webby RJ, Karesh WB, Rayan O (2018). Isolation and characterization of a distinct influenza A virus from Egyptian bats. *Journal of Virology* JVI.01059-18.
- b. Dawson P, Abu-El-Mehdi M, Al-Hamawi A, Al-Samir A, Al-Hilazeen Z, Tal H, Omari B, Al-Zghoul B, Ababneh M, Ismail ZB, Karim WB (2019). Knowledge, Attitudes, Beliefs and Practices Pertaining to Camels to Human Disease Risk in Jordan. *International Meeting on Emerging Diseases and Surveillance (IMED)*, November 2019, Vienna, Austria (poster).
- c. Dawson P, Karesh WB, Kandeel A (2019). Behavioral Risk Intervention Points to Prevent Zoonotic Spillover at Animal Markets, Farms, and Abattoirs in Egypt. *International Congress on Zoonoses & Food Safety*, November 2019, Cairo, Egypt (oral presentation, Zoonoses & Food Safety).



### BIOGRAPHICAL SKETCH

Provide the following information for the [redacted]  
 Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: [redacted] **Stephanie**

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION/TITLE: Behavioral Risk Surveill...

EDUCATION/TRAINING: [redacted]  
 include postdoctoral training and residency training if applicable. Add/delete rows

INSTITUTION	DEGREE	Completion	FIELD OF STUDY
University of California Los Angeles, USA	B.A.	05/2017	Development
University of California, San Diego, USA	M.A.	05/2017	Development
Columbia University Mailman School of Public Health, USA	M.P.H.	05/2017	Development
Columbia University School of International and Public Affairs USA	M.I.A.	05/2017	Development

#### A. Personal Statement

I have five years of research training and experience in transforming extensive sets of in-depth interviews and focus group discussions into insightful analyses for critical global health issues. My research and ethnographic datasets has included working with transcripts from Indonesia, Bangladesh, Republic of the Congo, Côte d'Ivoire, and Zambia in investigating risk factors for seeking and risky behaviors that are often associated with local norms and regulations. I am currently a Coordinator for Behavioral Risk Surveillance at EcoHealth Alliance, a US-based organization that conducts research on emerging zoonoses. Under USAID's PREDICT-2, I am leading several quantitative analyses of behaviors at critical environmental and occupational interfaces known to put vulnerable human populations in close contact with taxa that are often linked to significant emerging infectious diseases risk. Under a framework of analyzing knowledge, attitudes, and beliefs, I am leading research that is generating country-specific insights that will play a critical role in creating evidence-based intervention recommendations needed to protect vulnerable populations. I completed my postdoctoral research training at the University of California, San Diego, where I studied local norms. I have published research in peer-reviewed journals and presented at international datasets.

- Casey SE, Steven VJ, Deitch J, Dumas EE, Gallagher MC, **Martinez S**, Morris G, I, Rafanobaryna RV and Wheeler F (2019) "You must first save her life": community perceptions towards induced abortion and post-abortion care in North and West Africa. *Journal of Sexual and Reproductive Health Matters* 27(1): 157-169.
- Schlegelmilch J, Petkova EP, **Martinez S**, and Redler J. *Journal of Terrorism and Mass Violence* 2019, 1(1): 1-15.



3. Petkova, EP, **Martinez S**, Schlegelmilch, J. Trends, Impacts, and Lessons for Resilience. **Studies in Conflict & Terrorism** 40(8),

## B. Positions and Honors

### Position and Employment

- 2011-13 United States Peace Corps, Community Health Educator, Cameroon
- 2014-16 Office Assistant and Grant
- 2017 RAISE Initiative
- 2017 Research Consultant, Population Council, New York
- 2017 Behavioral
- 2018 Behavioral Risk Surveillance Program Assistant and Researcher, EcoHealth Alliance, New York
- 2018 Behavioral Risk Surveillance Program Coordinator, EcoHealth Alliance, New York

### Other Experience and Professional Memberships

- 2016 American Public Health Association (International Health Section, Environment Section)
- 2016- Association for Women's Rights in Development
- 2016- WE ACT for Environmental Justice

## Honors

- 2015 Mailman School of Public Health Heilbrunn Scholarship
- 2014 International House New York City's Paul A. Volker Scholarship
- 2014 Columbia School of International and Public Affairs
- 2014 International House New York City's Paul A. Volker Scholarship
- 2011 UCLA Chancellor's Service Award
- 2011 UCLA Carroll B. Johnson Distinguished Senior Award
- 2011 UCLA M.A. Scholarship

## C. Contributions

1. **Qualitative analyses** of beliefs are difficult for researchers investigating populations living in conditions. Through my qualitative work with focus group datasets to understand the complex ways in which focus groups initially expressed locally conforming beliefs about highly sensitive reproductive health issues, before offering more nuanced beliefs, and attitudes related to gender, age, and circumstance. My other work, including those currently in progress at EcoHealth Alliance, has benefited from this approach in framing the observations not only against the environment, but against the progression of ideas with
  - a. Casey SE, Steyer JA, Smith L, Denny EE, Calkins MC, Matting G, Muth CN, DeFronzo DV, and Wheeler E (2019). "You must first save her life": community perceptions of abortion care and post-abortion care in North and South Kivu, Democratic Republic of the Congo. **Sexual and Reproductive Health Matters** 27(1): 137-150.

## D. Additional Information: Research Support and/or Scholastic

### Ongoing Research Support

- USAID - Predict-2 (2014-2016)
- PREDICT-2

The risk

Role:

**Completed Research**

Not App



- a. Wu ZQ, Lu L, Du J, Yang L, Ren XW, Liu B, Jiang JY, Yang J, Dong J, Wang J, Zhu J, Zhang DD, Zhang S, Chen YX, Zheng YH, Zhou JH, Zhou G, Li H, Chmura AA, Yang L, Daszak P, Wang QY, Liu QY (2018). Comparative analysis of rodent and small mammal viruses to better understand the wildlife origin of emerging zoonotic coronaviruses. *PLoS ONE*, 13(12): e0206461.
- b. Zeng LP, Ge XY, Feng C, Fang XL, Tang Y, Qiu J, Jiang JY, Jiang J, Chen YX, Zheng YH, Zhou JH, Zhou G, Li H, Chmura AA, Yang L, Daszak P, Wang QY, Liu QY (2018). Severe Acute Respiratory Syndrome-Like Coronavirus WIV1 Encodes an Extra Accessory Protein, ORFX, Involved in Modulation of the Host Immune Response. *Journal of Virology*, 92(17): e00831-18.
- c. Hu B, Chmura AA, Li JL, Zhu GJ, Desmond JS, Zhang YF, Wang L, Wu F, Jiang JY, Jiang J, Chen YX, Zheng YH, Zhou JH, Zhou G, Li H, Chmura AA, Yang L, Daszak P, Wang QY, Liu QY (2014). Detection of diverse novel astroviruses from rodents and small mammals. *Journal of Virology*, 88(17): 9553-9561.
- d. Ge X, Wang QY, Luo C-M, Tan B, Wang N, Zhu Y, Cramer G, Zhang S-Y, Wang L-P, Daszak P, Shi Z-L (2016). Isolation and characterization of a novel coronavirus from a Chinese patient with acute respiratory distress syndrome. *Journal of Virology*, 90(2): 535-538.

**2. Analyzing the Process of Disease Emergence.** Emerging infectious diseases are a significant threat to global health, and their emergence is especially complex and seemingly unpredictable. In this section, we discuss efforts to employ analytical approaches to identify predictable patterns in the process of disease emergence.

- a. Bogich TL, Funk S, Muth SQ, Thompson WW, Viboud C, Miller F, Simonsen L (2009). Identifying and modeling disease outbreak networks to identify the causes of disease outbreaks. *PLoS ONE*, 4(12): e7075.
- b. Kilpatrick AM, Chmura AA, Gibbons DW, Fleischer BC, Marra BP, Donrack B (2006). Predicting the global spread of H5N1 avian influenza. *PNAS*, 103: 19588-19593.

**3. Studying the Role of Globalization in Disease Emergence.** The increasing globalization of human travel and trade has led to a significant increase in the number of zoonotic, wildlife-borne, and emerging infectious diseases. In this section, we discuss how international and national research efforts are helping to understand the role of globalization in disease emergence and help explain patterns of risk to people.

- a. Wu ZQ, Lu L, Du J, Yang L, Ren XW, Liu B, Jiang JY, Yang J, Dong J, Wang J, Zhu J, Zhang DD, Zhang S, Chen YX, Zheng YH, Zhou JH, Zhou G, Li H, Chmura AA, Yang L, Daszak P, Wang QY, Liu QY, Liu C (2018). Comparative analysis of rodent and small mammal viruses to better understand the wildlife origin of emerging zoonotic coronaviruses. *PLoS ONE*, 13(12): e0206461.
- b. Monagin J, Rabinowitz P (2018). Serologic and Behavioral Risk Survey of workers with wildlife contact in China. *PLOS ONE*, 13(4): 1-11. doi:10.1371/journal.pone.0194644
- c. Nava A, Shimabukuro C, Chmura AA, Luz JBS (2017). The Impact of Globalization on Infectious Disease Emergence. *Environmental Health Perspectives*, 125(3): 393-400.
- d. Newman S, Ruckelshausen K, Cramer G, Wang L, Daszak P, Wang QY, Shi Z-L (2017). Associated Aquatic Bird Mortality as an Indicator of Changing Aquatic Ecosystem Health: A 30-year U.S. Fishery Fishery Phase Marine Ecosystem Process Series. *PLoS ONE*, 12(7): 1-14.

**D. Additional Information: Research Support and Ongoing Research Support**

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2012 **China Postdoctoral Research Fellowship Graduate Award, Sun Yat-sen University, China**

2016 Invited speaker, China Conservation Network workshop

2017 Invited Speaker, International Association for Ecology & Health. "Understanding the wildlife trade in China"

**C. Contributions to Science**

**1. Understanding the risk factors of zoonotic disease emergence among the high-risk communities.** With its rapid urbanization and development as well as the high diversity of animal species, southern China is facing many social and ecological changes that result in human and animal interactions, leading to the emergence of zoonotic diseases. In order to identify the zoonotic risks and develop a risk-mitigation strategy, we implemented a biological-behavioral surveillance method to demonstrate the serological evidence of viral spill-over into human population, and identify demographic and behavioral risk factors associated with viral exposure and self-reported severe acute respiratory and influenza-like illness symptoms. Combining existing protective factors and intervention opportunities, individual, social, community, and policy level mitigation strategies are recommended to prevent zoonotic risk in southern China.

Wu, M., Wu, Y., Wang, L., et al. (2018) Mammal viromes to better understand the wildlife origin of emerging infectious diseases. *PLoS ONE* 13(1), 178.

**D. Additional Information: Research Support and/or Scholarly Performance**

**Ongoing Research Support**

USAID Emerging Pandemic Threats PREDICT 2 Mazet (PI) 10/01/14 - 09/30/19  
The goal of this project is to create and implement surveillance systems for emerging and re-emerging zoonotic pathogens.  
Role: Country Coordinator for China

**Completed Research Support**

R01 AI110334 Daszak (PI) 06/01/14 - 05/31/16  
**Understanding Risk of Bat Coronavirus Infections**  
The goal of this study is to understand the risk of bat coronavirus infections in humans.  
Role: Project Coordinator & Human Research Lead

China Environmental Protection Foundation Conservation of Chinese pangolin in National Nature Reserve Zhong (PI) 01/01/16 - 12/31/17  
The goal of this study is to understand the conservation status of Chinese pangolin in mainland China.  
**Chinese pangolin (*Manis pentadactyle*) in mainland China**  
Role: Community Research Lead





- 1990 -93 Director, Mahidol University Centre for Research on Rabies Pathogenesis and Prevention  
 1997 -98 President, Thai Neurological Association  
 2000 - Director of Neuroscience Centre for Research and Development, Chulalongkorn University Hospital, Thailand  
 2008 - Director, WHO Collaborating Centre of Research and Training on zoonoses  
 2017 - Director, Thai Red Cross Emerging Infectious Diseases Centre

### Other Experience and Professional Membership

- 1999 - Member of the Board Committee of the Thai Neurological Association  
 1990 - Member of the WHO Expert Advisory Panel on Rabies  
 1998 -01 Member of the Scientific Committee of the International Conference on Rabies in Asia  
 1999 -03 Member of the Scientific Committee of the International Conference on Rabies in Asia  
 1999 - Member of the New York Academy of Sciences  
 2006 - Member of the Scientific Committee for the International Conference: Towards the Elimination of Rabies in Eurasia (2007)  
 2006 - Member of the Technical Advisory Group of Alliance for Rabies Control (UK)  
 2006 - Member of Rabies Control in Asia  
 2007 -03 Board member of Office of Knowledge Management and Development  
 2007 -08 Board member of Thai Government Pharmaceutical Organization  
 2013 - WHO member of the International Health Regulations Roster of Experts as an expert in Human-animal interface (Zoonoses)  
 2017 - Member of National Health Reform committee

### Honors

- 1992 National Research Council award for distinguished research projects  
 1993 Mahidol University – B. Brown Prize for distinguished researcher  
 1994 National Research Council award for distinguished researcher  
 2000 (Elected) Corporate Member of American Neurological Association  
 2001 Invited expert in Rabies, 1st International meeting in human rabies organized by WHO, Geneva  
 2001 Invited expert in Rabies, 2nd International meeting in the Americas organized by WHO, Ottawa  
 2004 Outstanding Scientist Award from Foundation for the Promotion of Science and Technology under the Patronage of His Majesty the King  
 2009 Rabies Oration lecture in honor of Eddie and Pilo Bnarucha and received honorary plaque at the World Congress of Neurology, Bangkok  
 2010 (Elected) Fellow of American College of Physicians  
 2014 Member of the National Board on Emerging Infectious Diseases, Thailand  
 2014 Member of Sub-committee on the planning of Emerging Infectious Diseases, Thailand  
 2015 Co-chair Scientific Committee of the 1st International Congress on Pathogens at Humana and Animal Interface (ICOPAHAI)  
 2017 Honorary lecturer: NTD (Neglected Tropical Diseases)

### C. Contributions to Science

- Research on the neuroimmunology of neurological diseases.** I have spent years researching neuroimmunology in neurological diseases such as autoimmune encephalitis, myasthenia gravis, Guillain-Barré syndrome, and stroke. I have developed clinical and lab-based diagnostics, and have conducted research to differentiate between immune- and infectious encephalitis, in order to facilitate treatments.

- a. Mungaomklang A, ... S, Saraya A and **Hemachudha T** (2016). Influenza virus associated encephalopathy: role of non-permissive viral ...
- b. Thanpraserts ... (2017). H1N1-Associated Myelopathy/Trauma ... Southeast Asia. **AIDS Res Hum Retroviruses**.
- c. **Hemachudha T**, Phanrattanaichinda K (1994). Encephalitis in Southeast Asia. **Trav Med Int** 12:207-13.
- d. **Hemachudha T**, Phanrattanaichinda K, Inrakoses N, Wilde H (1994). Intractable myocaps (singultus) as a presenting manifestation of Japanese encephalitis. **J Med. Assoc. Thailand** 77:1920

2. Extensive research on rabies. I have

finding alternative treatment ... level, hoping to be able to paint the ... political level of rabies management and ... selected from nearly 200 other studies

- a. **Hemachudha T**, Ujanini, ... Human Rabies: neuropathogenesis ... **Lancet Neurol** 12(5):498
- b. Virojanapirom P, Yamada K, Khawplod P, Nishizono A, **Hemachudha T** (2015) Increased pathogenicity ...
- c. Ghai S, **Hemachudha T** (2018) ... to assess control programmes for rabies. **Rev Sci Tech** 21:617-627.
- d. Denis M, Kr ... immunogenicity and effectiveness ... **Vaccine** pii: S0264-410X(18)31635

3. Wildlife virus surveillance at the human interface

zoonotic disease surveillance in Thailand for over 20 years, including active surveillance for Nipah virus, Ebola viruses, and coronaviruses in wildlife. This work also includes ... understand the geographic distribution of key groups of viruses, e.g. novel hepaciviruses

- a. Drexler JF, Corman VM, Müller MA, Lukashev AN, Gmyl A, Coutard B, Adamek ... Riel D, Kallies R, Klose SM, Gloza-R ... Bourga ... **Hemachudha T**, ... hepaciviruses in rodents. **PLoS Pathog**
- b. Wacharapluesadee S, Ngamprasertwong T, Kaewpon T, ... **Hemachudha T** (2013). "Genetic Characterization of Nipah Virus from Thai Fruit Bats (Pteropusylei)." **Asian Biomed** 7(6):813-19.
- c. Wacharapluesadee S, Oliveira ... **Hemachudha T**. Surveillance ... 21(12):2271
- d. Wacharapluesadee S, Duengkae P, Chaiyes A, Kaewpon T, ... **Hemachudha T** (2018) ... study of age-specific pattern of coronavirus infection in Lyle's flying fox

4. Identifying viral etiological agents in symptomatic patients. Our research has shown

proportion of clinical cases including ... across South East

Asia. I have led several projects to identify etiological agents from clinical cases, and also to help facilitate the rapid diagnosis of cases of MERS-CoV, H5N1, and Ebola.

- a. Pliat T, Boonlathong R, Wacharapiesadee S, Sinarayaon P, Pitayawongatani C, Saingsa-ja C, Kaewpoom T, Pongtana-udomwong P, Jitpattana J, Joyjinda Y, Rodpan A, Khongwittakul S, Smith D, Callahan M, Sattidethborin N, Deesudchit T (2017) Imported case of Middle East respiratory syndrome coronavirus (MERS-CoV) infection from Oman to Thailand. *Euro Surveill* 22(33).pii:30336
- b. Saraya A, Mahavithakanont A, Shuangshoti S, Sittidethborin N, Deesudchit T, Callahan M, Wacharapiesadee S, Wilde G, Sattidethborin N (2015) First Imported Case of Middle East Respiratory Syndrome in Thailand: A Prospective Study. *Emerging Infectious Diseases* 21(12):2285-2288
- c. Hemachudha T, Roeksomtawin P, Hemachudha T (2014) Lack of U.S. Transmission of Zika Virus Infection to Breastfed Infant. *Clinical Infectious Diseases* 59(10):1470-1471
- d. Joyjinda Y, Rodpan A, Chantavard P, Sattidethborin N, Hemachudha T, Wacharapiesadee S (2015) First Complete Genome Sequence of Human Coronavirus HKU1 from a Nonill Bat Guano Miner in Thailand. *Microbiol Resour Announc* 8(6).pii:e01457-18.

**D. Additional Information: Research Support and/or Scholarly Creative Performance**

**Ongoing Research Support**

WHO Zika Project Hemachudha (PI) 04/01/18 - 03/30/19  
 The goal is to study Zika epidemiology, reservoir host, vector dynamics and genetics in a presumptive endemic setting in the Srisakul sub-region in Thailand.

**Completed Research Support**

NSTDA Chair Research Grant Hemachudha (PI) 01/01/16 - 03/31/16  
 The goal was to study Zoonotic diseases, and the role of ferrets as potential therapeutics.

**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors.  
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: **William T. Barber**

COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE:

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing)

INSTITUTION AND LOCATION	DEGREE (or applicable)	Completion Date (MM/YYYY)	FIELD OF STUDY
University of Malaysia			
The Royal College of Physicians, UK	MRCP	2002	Medicine
The Royal College of Physicians, UK	FRCP	2013	Infectious Diseases

**A. Personal Statement**

I am a Senior Clinical Researcher at the Ministry of Health Clinical Research Centre, Kota Kinabalu Sabah (2008 – present) and also Head of Infectious Diseases at Gleneagle Hospital, Kota Kinabalu (2017 – present). In 2015 I was the State Infectious Diseases Physician for Sabah. I am President of the Infectious Diseases Society, Kota Kinabalu track Physician Training at the Queen Elizabeth Hospital, Kota Kinabalu. Training from 2004 to 2008, including at the Kuala Lumpur General Hospital, Royal Darwin Hospital, Australia. I am a Fellow of the Royal College of Physicians of Edinburgh and an Honorary Research Consultant with the Menzies School of Health Research, Malaysia National Clinical Practice Guideline Committee for Malaria, Infection Control, HIV/AIDS and Adult Vaccinations. My research on *Plasmodium knowlesi* in the Menzies CRC collaboration has been incorporated into not only National but also WHO Guidelines for the Treatment for Severe Malaria (2014, 2016 and now 2017).

1. Yeo TW, Rahman HA, Jelip J, Ibrahim MY, Menon J, Grigg M, Barber WT, Anstey NM, Barber BE, Rajanram G, Cnah L, Ma G, Galdson S, Khoo S, Fredrickson I, et al. (2014). *Plasmodium knowlesi* malaria in a tertiary hospital, Sabah, Malaysia. *Emerg Infect Dis* 20: 1248-55.
2. William T, Rahman HA, Jelip J, Ibrahim MY, Menon J, Grigg M, Yeo TW, Anstey NM, Barber BE (2013). Increasing incidence of *Plasmodium knowlesi* malaria following control of *P. falciparum* and *P. vivax* malaria in Sabah, Malaysia. *PLoS One* 8: e74111.
3. Barber BE, William T, Grigg M, Yeo TW, Rahman HA, Jelip J, Ibrahim MY, Menon J, Anstey NM, Barber BE (2013). Prospective comparative study of *knowlesi*, *falciparum* and *vivax* malaria in Sabah, Malaysia: high proportion with severe disease. *PLoS One* 8: e74111.

William T, Jèip J, Menon J, Andriös F, Mohammad, Mohammad IA, Matthew J Grigg MJ, Yeó IW, Anstey NM, Barber BE (2014). *Clinical epidemiology of Plasmodium knowlesi in Malaysia: increasing incidence of Plasmodium knowlesi. Malaria J* 13 (1): 39

## B. Positions and Honors

### Positions and Employment

- 1996-96 Medical Officer, Tambunan Hospital, Sabah, Malaysia
- 1999-02 Medical Officer, Dept. of Medicine, Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia
- 2003-05 Consultant Clinician for Infectious Disease and Clinical Specialist of Infectious Diseases, Kuala Lumpur Hospital, Malaysia
- 2006 General Physician for Internal Medicine and Infectious Diseases, Specialist Infectious Diseases, Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia
- 2007 Registrar, General Practice, Queensland Health, Australia
- 2008-15 Consultant, Infectious Disease Unit, Queen Elizabeth Hospital, Kota Kinabalu, Sabah, Malaysia
- 2008 - Clinical Researcher, Queen Elizabeth Hospital Clinical Research Centre, Kota Kinabalu, Sabah, Malaysia
- 2012 - Honorary Associate Professor, Sabah Medical Research Centre, Kota Kinabalu, Sabah, Malaysia
- 2012 - President, Infectious Disease Society, Kota Kinabalu, Sabah, Malaysia
- 2017 - Infectious Disease Consultant and Head of Infectious Diseases Unit, GLENELG HOSPITAL, Kinabalu, Sabah, Malaysia

### Other Experience and Professional membership

- Member, Malaysian Medical Association
- Member, Malaysian Medical Council
- Executive Committee, Sabah Medical Association
- President, Infectious Disease Society, Sabah, Malaysia

### Honors

- 2003 Professional Excellence Award, Ministry of Health, Sabah, Malaysia
- 2003 Professional Excellence Award, Ministry of Health, Sabah, Malaysia
- 2003 Royal Patron, Glenda Award (Kudat Award), Sabah, Malaysia
- 2009 Professional Excellence Award, Ministry of Health, Sabah, Malaysia
- 2010 Professional Excellence Award, Ministry of Health, Sabah, Malaysia
- 2013 American Society of Tropical Medicine and Hygiene, Malaysia
- 2017 Merdeka Award for Health, Science and Technology

## C. Contributions

**1. Publications** I have authored 60 publications with 2000 citations. These publications have made a significant contribution to the knowledge of the epidemiology, clinical features and treatment of *P. knowlesi* malaria. My studies on an endemic severe malaria in urban malaria (William et al. *Emerg Infect Dis* 2011, Barber et al. *Infect Dis* 2013) have changed global (WHO) and SEA Asian policy and practice. With collaborators Anstey, Barber and Grigg, my RCTs of artemisinin combination therapy for non-falciparum species have led to national policy change to universal ACT for uncomplicated vivax and knowlesi malaria. In Sabah, I lead a large ongoing program of research into the prevention, surveillance and management of malaria and other tropical infections with national and international collaborators. In 2017 I was a joint recipient of Malaysia's prestigious **Merdeka Award in Health, Science and Technology** for outstanding contribution to the treatment of knowlesi malaria.

- a. Grigg MJ, William T, Menon J, Dhanaraj P, Barber BE, Wilkes CS, von Sechen A, Pasay C, Maitland S, Cartny O, Patei K, Anstey NM, Yeo TW (T. equal contribution). (2016). Randomized open-label clinical trial of artesunate-fluoroquinolone combination for the treatment of uncomplicated *Plasmodium knowlesi* malaria in Sabah, Malaysia (ACT KNOW trial). *Lancet Infect Dis* 16(2):180-8.
- b. Rajahram GS, Barber BE, William T, Grigg MJ, Menon J, Yeo TW, Anstey NM (2016). Falling *Plasmodium knowlesi* malaria death rate among adults despite rising incidence, Sabah, Malaysia, 2010-2014. *Emerg Infect Dis* 22(1).
- c. Grigg MJ, Cox J, William T, Jelip J, Fornace KE, Sison A, Prakelev CJ (2017). Individual factors associated with the risk of acquiring human *Plasmodium knowlesi* malaria in Malaysia: a case-control study. *Lancet Infect Dis* 17(10):1277-1284.
- d. Grigg MJ, William T, Barber BE, Rajahram GS, Menon J, Sison A, Wilkes CS, Patei K, Chanana A, Prince PN, Yeo TW, Anstey NM (2016). Efficacy of artesunate-fluoroquinolone combination for the treatment of uncomplicated *Plasmodium knowlesi* malaria: an open-label, randomised controlled trial (ACT KNOW). *Clin Infect Dis* 66(2):220-226.

**D. Additional Information: Research Support and/or Scholastic Performance**

**Ongoing Research Support**

NIH 1R01 AI116472-01	William (PI)	2015-2020
Comparative incidence and clinical spectrum of <i>Plasmodium knowlesi</i> malaria, a longitudinal study in Malaysia		

Asg. Gov. Dept. of Foreign Affairs and Trade	William (PI)	2016-2019
Strengthening regional research collaboration in the prevention and containment of multidrug-resistant tuberculosis and malaria		

**Completed Research Support**

MRC (UK)	William (Malaysian PI)	2012-2017
Environment Canada		
Defining the biomarkers of environmental and social risk factors for human infection with <i>Plasmodium knowlesi</i>		