



**CIHR International Infectious Disease &
Global Health Training Program**
Canada • Colombia • India • Kenya



UNIVERSITY
OF MANITOBA

Canadian Institutes of
Health Research

International
Infectious Disease
& Global Health
Training Program

ANNUAL REPORT •
2015

2015 At a Glance

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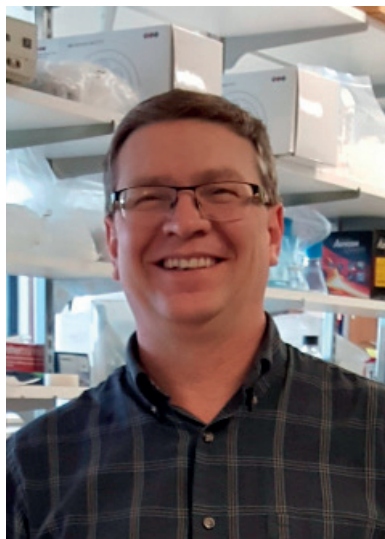


The IID&GH Training Program in Winnipeg, Canada
for the major course, “Ecology of Infectious Diseases”
May 19-29, 2015

ABOUT US

The International Infectious Disease and Global Health (IID&GH) Training Program is hosted by the University of Manitoba under the direction of Dr. Keith Fowke, Professor and Head of the Department of Medical Microbiology and Infectious Diseases.

The IID&GH Training Program seeks to enhance existing PhD and Post-Doctoral Fellow research training programs by linking trainees from four international research sites (Canada, India, Kenya and Colombia). This linkage provides an opportunity for the trainees to explore international infectious disease and global health issues from a multidisciplinary approach.



Dr. Keith Fowke, Director of the International Infectious Disease and Global Health Training Program

OBJECTIVES

1. To equip trainees with the research, scientific knowledge and skills to become **outstanding researchers** in infectious diseases and global health.
2. To create a novel and stimulating **multidisciplinary** and **truly international** research training environment that fosters creativity, opportunity, and innovation, and one that demands excellence.
3. To harness the unique opportunity offered by the **critical mass** of infectious diseases and global health infrastructure, research opportunities and outstanding scientists in the training of the next generation of infectious disease researchers.
4. To make available **collaborative international research sites** for the trainee's primary research projects, sites for research practica and major course offerings.
5. To offer a **shared learning environment**, where trainees and mentors from all four of CIHR's research pillars and the four international training sites work cooperatively to explore issues of international infectious diseases and global health.



Missiani Ochwoto in Hampi during the 2014 India Course

TRAINEE SPOTLIGHT

Missiani Ochwoto was born in Rift Valley province; Trans-Nzoia county, Kenya. Currently, he is studying Virology at the University of Nairobi, doing his PhD in Hepatitis B Virus research. Missiani became interested in The Training Program after attending an Infectious Minds meeting. He liked the session so much that he applied to The Training Program that year. To this day, Missiani's favorite aspect of The Training Program is the Infectious Minds sessions because "the sessions infect us with ideas and new approaches to issues affecting mankind."

Since joining The Training Program in 2014, Missiani has attended two major courses, one in Bangalore, India on Program science and the other in Winnipeg, Canada on the Ecology of Infectious Diseases. "Being in The Training Program has now made me open minded," he said. "These experiences have changed my approach from being a lab-based basic science researcher to a management and practical application researcher."

Missiani received an award for best oral presentation (Microbiology) at the Kenya Medical Research Institute in 2014. Congratulations Missiani!



Md Niaz Rahim during the 2015 EcoID course Welcome Reception

Md Niaz Rahim was born in Dhaka, Bangladesh. In 2009, he moved to Canada to start a PhD in Virology at the University of Manitoba because he was fascinated in biological processes. He wanted to understand how organisms cause disease and how cells react. Since starting his PhD, Md Niaz has received many scholarships/awards, such as a Manitoba Health Research Council (MHRC) & Manitoba Institute of Child Health (MICH) Award (2014-15), an Allan Ronald Studentship Award from the Department of Medical Microbiology (2013-14); and an International Graduate Student Scholarship (IGSS) from the University of Manitoba, 2010.

In 2014, Md Niaz joined the IID&GH Training Program. He liked how it focused on international issues by using a multidisciplinary approach, promoting creativity and oppor-

tunities for the trainees. Md Niaz has attended two major courses, one in Bangalore, India in 2014 and the other in Winnipeg, Canada in 2015. He said that “as a basic science researcher I gained knowledge that has helped me to understand infectious diseases and global health issues from a social science perspective. The Program provides [the trainees] opportunities to develop networking with mentors, researchers and other trainees from different disciplines and sites. I believe that the IID&GH Training Program will train me to incorporate multidisciplinary approaches in my research with effective collaborations and achieve my goal to become an independent biomedical scientist.”



Md Niaz Rahim and Missiani Ochwoto in India during the major course

Vanessa Cienfuegos is a third year PhD student at the Universidad de Antioquia in Medellín, Colombia. She chose to do a PhD in Epidemiology on antibiotic resistant infections because it is becoming a serious problem in Colombia.

Vanessa joined The Training Program in 2014 after hearing about it from a colleague. She liked how it focused on global health and infectious disease, how it used multidisciplinary approaches, and how it provided an opportunity to share academic and work experiences with researchers from different backgrounds (clinical, basic, and social sciences, and epidemiology).



Vanessa Cienfuegos during the EcoID course in Winnipeg, Canada, May 2015

To date, Vanessa has completed two international courses with The Training Program. She said, “I had an amazing experience learning about implementation in the field from the National TB program in India. The course was truly an incredible experience. We were given the opportunity to visit different settings, meet with stakeholders involved in TB diagnosis, and to propose a project to improve diagnosis from what we studied in the field.”

According to Vanessa, “the number one advantage of being in The Training Program is the opportunity to share academic and cultural experiences with trainees from other countries. These experiences have helped me to think about health and disease from a diverse perspective and context.”

LIST OF TRAINEES AND PROJECTS

PhD Trainees



Wbeimar Aguilar, PhD trainee from the Universidad de Antioquia in Medellin, Colombia, during the India Course

Wbeimar Aguilar

Association of variants in vitamin D pathway and innate immune response genes with natural resistance to HIV-1 infection

Dione Benjumea

Assessment of the effectiveness and adherence to treatment for latent tuberculosis infection in children under 5 years of age, household contacts of pulmonary tuberculosis patients in Medellín

Claudyne Chevrier

Sexual and reproductive health of female sex workers in Winnipeg; an ethnographic exploration of their needs and choices

Vanessa Cienfuegos

Molecular epidemiology, clinical and economic outcomes of carbapenem-resistant *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Pseudomonas aeruginosa* and *Acinetobacter baumannii* infections in five tertiary care hospitals in Medellín, Colombia



EcoID trainees relaxing after a long day attending the course. Left - Right: Vanessa Cienfuegos, Wei Cao, Leigh McClarty, Claudyne Chevrier, Genevieve Boily-Larouche, Dione Benjumea, and Natalia Castaño Villegas

Elizabeth Cooper

Culturally relevant HIV/AIDS prevention programming within a Canadian Aboriginal context

Elsabe du Plessis

HIV vaccine acceptability among vulnerable populations in Kenya

Sumit Dutta

Following the divine in a time of AIDS: Jogappas confront the HIV epidemic in Karnataka

Jesse Gitaka

Surveillance for artemether-lumefantrine clinical response, lumefantrine in vitro sensitivity and molecular markers of tolerance in currently circulating *Plasmodium falciparum* isolates in Kenya

Deepesh Gupta

Unintended pregnancies and risk of unsafe abortion: Men's perspective and involvement – A study among married males of Uttar Pradesh



PhD trainees, Satyanarana and Deepesh Gupta from Bangalore, India during the Colombia Course

TRAINEES AND PROJECTS, continued

PhD Trainees

- Leigh McClarty** Understanding healthcare priorities of young women involved in sex work in Zaporizhzhya, Ukraine: Implications for preventive HIV programming
- Frank Ndakala** Molecular genetic analysis of antiretroviral therapy related adverse drug events (ADEs) in Kenya
- Emily Nyariki** Volunteers' perceptions and experiences of clinical research participation in Kenya: Case study of KAVI volunteers
- Missiani Ochwoto** Molecular characterization of acute and chronic Hepatitis B Virus among patients attending selected hospitals in Kenya
- Juan Carlos Quintero** Study of the social determinants that influence infection by Rickettsia in the Uraba region, Colombia
- Md Niaz Rahim** Identification of host cellular factors and mechanisms that interact with Influenza A NS1 protein for replication
- Satyanarayana** Migration, mobility and HIV/AIDS: a comparative study of urban and rural female sex workers in Northern, Karnataka, India
- Elnaz Shadabi** Identification and characterization of immunologically relevant T cell epitopes of HIV-1 Nef
- Laura Thompson** HIV epidemic diversity among high risk populations in Pakistan



Frank Ndakala, PhD trainee from the University of Nairobi, Kenya during the 2013 Colombia course in Medellin



PhD trainee, Laura Thompson during the major course in Colombia

Post-Doctoral Fellow Trainee

- Genevieve Boily-Larouche** Longitudinal analysis of immune quiescence and the impact of sex work in HIV Exposed Seronegative (HESN) sex workers from Nairobi, Kenya



PhD Trainees, Leigh McClarty and Claudyne Chevrier after the EcoID course



University of Manitoba Trainees,
Laura Thompson (PhD) and
Genevieve Boily-Larouche (PDF)

2015 TRAINING PROGRAM GRADUATES

This year there were 11 trainees who graduated from the IID&GH Training Program. We will miss them all very much and thoroughly enjoyed having them in The Training Program. All the best graduates!

List of graduating trainees:

PhD Trainees

Wbeimar Aguilar
Elizabeth Cooper
Elsabe du Plessis
Sumit Dutta
Jesse Gitaka
Deepesh Gupta
Frank Ndakala
Satyanarayana
Elnaz Shadabi
Laura Thompson



PhD trainees, L-R: Frank Ndakala
(Nairobi, Kenya) and Deepesh Gupta
(Bangalore, India)



Left to Right: Elsabe du Plessis and Elizabeth
Cooper, PhD trainees from Winnipeg, Canada

PDF Trainee

Genevieve Boily-Larouche



PhD trainees, Left-Right: Satyanarayana (Bangalore, India), Jesse Gitaka (Nairobi, Kenya), Wbeimar Aguilar (Medellin, Colombia), Sumit Dutta (Bangalore, India), and Elnaz Shadabi (Winnipeg, Canada)

ACADEMIC PROGRAM

The Ecology of Infectious Diseases Course: A transect walk into the world of infectious diseases

by Emily Nyariki, University of Nairobi

From May 19-29, 2015, fifteen trainees met in Winnipeg, Canada at the University of Manitoba to participate in the Ecology of Infectious Diseases course. For me, attending this course was like taking a transect walk through the world of infectious diseases – *the past, the present and the future as they relate to human ecology*. This walk was aided by covering subjects such as pathogenesis, molecular epidemiology, human response to infections, zoonotic infections, pandemic preparedness and response, and anti-microbial resistance. In addition to these topics, a step by step grant writing session was offered. We learned valuable skills on how to write a CIHR grant and were given the opportunity to write our own grant which was critiqued by a panel of expert reviewers. The reviewers supplied feedback and suggestions on how to make our future grant writing opportunities more successful which will benefit us in our future careers as health researchers.

From my experience, the strengths of the course lie in the committed, meticulous faculty and their willingness to impart their immense knowledge and experiences to trainees. The depth and breadth with which they explored their subject areas was impressive as it was coupled with illustrations from their research work. I was able to gain an understanding and appreciation for the use of multidisciplinary approaches in finding solutions to global health issues. The use of an interactive didactic approach to training which combined both student led lecture sessions and group activities (which I loved listening to and participating in) was enjoyable. As well, the enthusiasm with which my colleagues were able to prepare and make presentations in subject areas that were not in their field was remarkable.



Trainees working together on a group activity during the student-led session of the EcoID course



Dr. Yoav Keynan, session leader for the EcoID topic “The Burden of Infectious Diseases”



Inspiring minds during the EcoID course, Winnipeg, 2015



EcoID trainees at Dr. Fowke's house for the course BBQ



EcoID trainees having a group discussion during the student-led activity



Missiani Ochwoto, Dr. Joseph Kaufert, and Dione Benjumea during the Welcome Reception for the EcoID course in Winnipeg, MB, May 2015



Split screen view of the trainees and mentors from the four research sites during an Infectious Minds Meeting. Clockwise from the top Left: Winnipeg, Canada; Medellin, Colombia; Nairobi, Kenya; and Bangalore, India.

I would like to say a big thank you to my colleagues for the support they offered me during my sessions, explaining some of the scientific jargon that was beyond my social science background. As well, I would like to thank the IID&GH Training Program and the EcoID course coordinators, Drs. Keith Fowke and Julius Oyugi for this great opportunity. It was a fantastic course.



The IID&GH Training Program at Dr. Fowke's Welcome BBQ during the EcoID course, May 2015

INFECTIOUS MINDS SCIENTIFIC DISCUSSIONS

The purchase of video conference equipment for each international site has enabled important scientific discussions to take place in real time and has allowed the smaller sites the benefit of “critical mass.” These sessions are called Infectious Minds and over the years, numerous sessions have taken place allowing trainees and mentors from all four of CIHR’s research pillars and the four international training sites to work cooperatively to explore issues of international infectious diseases and global health.

Each month, a topic is selected and hosted by a team of trainees from different pillars and training sites. The trainees invite a guest speaker who is an expert in the chosen topic to give a talk and participate in the group discussion. The Infectious Minds meetings are coordinated by Dr. Javier Mignone, a mentor of the training program and former trainee. A list of topics covered in 2015 will follow on page 9.

2015 Infectious Minds Meetings

January 15

Topic: Social Movements, Public Health and Biomedicine

Guest Speaker: Dr. Robert Lorway

Presenters: Sumit Dutta and Claudyne Chevrier

February 19

Topic: Water Quality: A Global Crisis?

Guest Speaker: Mr. Ayan Biswas

Presenters: Satyanarayana, Elizabeth Cooper, and Md Niaz Rahim

March 19

Topic: Vaccination with an emphasis on ethical and political issues

Guest Speaker: Luis Guillermo Restrepo Vélez

Presenters: Dione Benjumea and Missiani Ochwoto

April 16

Topic: Developing a national policy for cervical cancer in Kenya: Exploring the engagements and decision making process

Presenters: Genevieve Boily-Larouche, Leigh McClarty, and Emily Nyariki

June 16

Topic: Politicizing the (know-do) gap: what can we learn from Program Science

Guest Speaker: Elsabe du Plessis

Presenters: Claudyne Chevrier and Frank Ndakala

September 24

Topic: Politics and Power in Global Health

Guest Speaker: Javier Mignone

Presenters: Elsabe du Plessis, Deepesh Gupta, and Vanessa Cienfuegos

October 15

Topic: Long-acting antiviral agents for HIV treatment, are we close to the functional cure?

Presenters: Laura Thompson and Wbeimar Aguilar

November 19

Topic: Infectious Diseases in Isolated Tribes of the World

Guest Speaker: Dr. Carlos Rojas

Presenters: Elnaz Shadabi and Juan Carlos Quintero

December 4

Topic: Molecular Epidemiology of Infectious Diseases

Guest Speakers: Dr. Lee Riley and Dr. Barry Kreiswirth

Presenters: Vanessa Cienfuegos, Jesse Gitaka, Md Niaz Rahim



Trainees and mentors from the Winnipeg site during an Infectious Minds group activity



Dr. David Safrontez, guest speaker for one of the Infectious Minds meetings



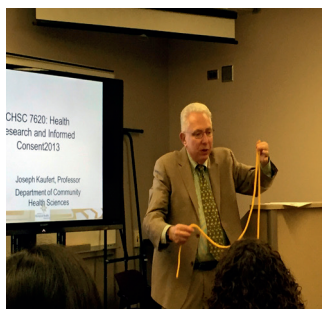
Members of the IID&GH Training Program from the Winnipeg site listening attentively during an Infectious Minds meeting



Trainees, mentors and session leaders networking during the EcoID course Welcome Reception



A trainee group discussion during the EcoID course



Dr. Joseph Kaufert, session leader for the “Health Research and Informed Consent” session

PRACTICA: 2015 REPORT

Dr. John Wylie is the coordinator of the practicum portion of the IID&GH Training Program. The intention of the practicum is to expose trainees to a completely different type of research experience apart from their main research area and to foster interdisciplinary research. Each practica is intended to last from four to twelve weeks and to be tailored to the specific goals, objectives and time lines of each trainee. The Training Program encourages trainees to seek out their own research practica site in order to reach their practicum goal. Following completion of the practicum, the trainee will write a report and complete an evaluation form to provide feedback to The Training Program on their experience.

This year, one of our basic science trainees travelled to Colombia to complete a practicum in epidemiology. She found the experience to be very rewarding because she could share what she learned with her colleagues and apply her new found knowledge to her research project, developing innovative ways to analyze her data.

PROGRAM ADVISORY COMMITTEE

The Program Advisory Committee (PAC) for the IID&GH Training Program is composed of key stakeholders such as government, industry, community members, non-profit sector, academia, international partners and trainees.

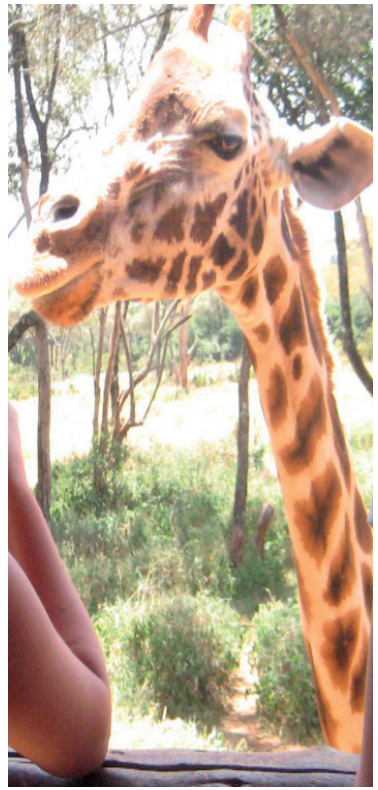
The committee was struck in March 2010 with Dr. Gary Glavin, UofM Associate Vice-President (Research) serving as the PAC Chair. The responsibilities of the PAC are to advise the Principal Investigator (Dr. Fowke), the Core Committee (Drs. Wylie, Mignone, and Moses), and the Program Coordinator (Mrs. Natasha Hollett) of The Training Program; provide recommendations; and give feedback with regard to the program goals, vision and responsibility. Since 2010, there have been five PAC meetings with the last one held on October 20, 2015. The next PAC meeting will be scheduled near the end of 2016.

PLANS FOR 2016

From November 14-25 2016, the IID&GH Training Program will meet in Nairobi, Kenya for its eighth major course: Clinical Trials in a Developing Country Setting, hosted by the Kenyan Site Leader, Dr. Julius Oyugi.

We plan to have 30 trainees attend this course, 17 from the IID&GH Training Program and 13 local students from Nairobi, Kenya. During the Clinical Trials in a Developing Country Setting course, the trainees will learn both in the classroom and in the field. Each trainee will have an opportunity to visit a clinical trial site in rural Kenya where they will observe the daily activities at the site, meet with trial staff, and design their own clinical trial. Upon return to Nairobi, each trainee group will present their assignments to their peers and a panel of judges.

This is the second time the major course will be offered in Nairobi, Kenya and we are confident it will be just as successful as the first course.



IID&GHTP Trainees during the first Kenya course in 2012.



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University of Nairobi

FUNDING & ACADEMIC PARTNERS

Funding Partners

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- Faculty of Medicine
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Kenya AIDS Vaccine Initiative (KAVI)
Karnataka Health Promotion Trust (KHPT)
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National Collaborating Centre for Infectious Diseases (NCCID)

Academic Partners

University of Nairobi
Universidad de Antioquia
University of Manitoba Centre for Global Public Health
Centre for Aboriginal Health Research
St. John's Medical College
University of Winnipeg Global College
Infectious Immunology Research Interest Group



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