

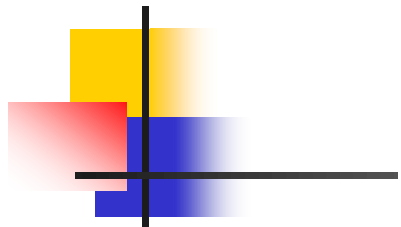


***Interdisciplinary training:  
how to smash the silos***

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Keith Fowke

Professor, Medical Microbiology, Community Health Sciences



# CIHR International Infectious Disease & Global Health Training Program

Canada • Colombia • India • Kenya





# CIHR's STIHR Program

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- Strategic Training In Health Research
- Established in 2002
- Renewal process in 2008
- Multiple themes
- Criteria
  - Excellence in mentorship
  - Multi-disciplinary
  - Innovative and effective
  - Raise national standards for training
- Not being renewed – Sunsets 2015





# Renewal Process

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- First program funding ended March 31, 2008
- Renewal application due Nov 17, 2008
- 156 STIHR LOI, 120 invited for full application, 54 funded
- This program ranked 2<sup>nd</sup> overall



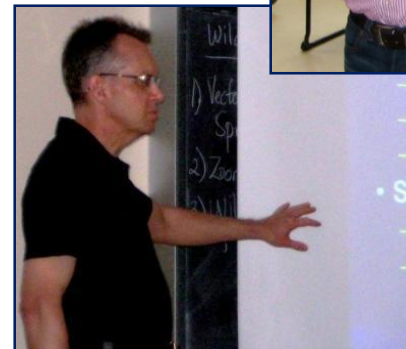
# Leadership

## ■ Key Leaders

- Keith Fowke, Francis Plummer, Stephen Moses, John Wylie, Javier Mignone

## ■ Site Coordinators

- Keith Fowke, Shrinath Maddur, Julius Oyugi, Carlos Rojas





## ■ Other Leadership

- Joe Kaufert, James Blanchard, Reynold Washington, Benson Estambale, Carlos Rojas, Marissa Becker, Maryanne Crockett, Joshua Kimani, Lawrence Elliott, Julius Oyugi





# Mentors

<b>Ross Upshur</b>	<b>Eric Meslin</b>	<b>Catherine Cook</b>	<b>Brenda Elias</b>
<b>Kathi Avery Kinew</b>	<b>Michael Eze</b>	<b>Mike Drebot</b>	<b>Sharon Bruce</b>
<b>Robbin Lindsay</b>	<b>T. Blake Ball</b>	<b>Carole Beaudoin</b>	<b>Pat Martens</b>
<b>Stephanie Booth</b>	<b>Walter Jaoko</b>	<b>Omu Anzala</b>	<b>Jody Berry</b>
<b>Martim Songok</b>	<b>Solomon Mpoke</b>	<b>B.M. Ramesh</b>	<b>Margaret Fast</b>
<b>Sushena Reza-Paul</b>	<b>Maria Teresa Rugeles</b>	<b>Joanne Embree</b>	<b>Chris Green</b>
<b>Larry Gelmon</b>	<b>Pam Orr</b>	<b>Darryl Hoban</b>	<b>Michael Williams</b>
<b>George Zhanel</b>	<b>Xiaojian Yao</b>	<b>Xi Yang</b>	<b>Darren Fast</b>





# Administrative Support

- Eva Polak
- Jude Zieske
- Natasha Hollett





# Trainees

- PhD students, PDF and clinical fellows
- Positions available for local and international trainees
  - 4-6 PhD trainees at each international site
- International network of trainees and mentors





# Recruitment

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- Brochure produced
  - Provided electronic and hard copies to sites
  - Translated into Spanish
- Banners produced
- Presence at scientific meetings
  - AMMI 2009
  - CAHR 2010
- Sponsorship of trainee-focused events
  - CAHR New Researcher workshop 2009-2012
  - Prairie Infectious Immunology Network 2009, 2010, 2011
- Web site
- Personal Networks - most effective



# Trainees: Jan 2014

- Round 1-22, Round 2–12, one left program – total 33
- Colombia 4, India 6, Kenya 6, Canada 12
- Basic/clinical – 13, Epi/Social - 18
- PhD - 26, PDF - 2, Clinical Fellow – 0
- **75% (9/12) of CDNs have external salary awards**



# Meet some trainees



**Nadia Musimbi Chanzu**

**Home Country:** Kenya

**Degree:** University of Nairobi Institute of Tropical and Infectious Diseases, PdD student; Masters of Science in Biomedical Science, Kingston University, London, UK; Bachelor of Science in Biochemistry from University of Nairobi, Kenya

**Supervisor:** Prof. Walter Mwanda, Prof. Omu Anzala, and Dr. Julius Oyugi

**Project Title:** Secretor Status, FUT2 Polymorphisms and the Risk of Infection by HIV and HPV in Female Sex Workers in Kenya



**Souradet Shaw**

**Home Country:** Vientiane, Laos

**Degree:** MSc (Department of Community Health Sciences) from the University of Manitoba, BA (Major: Psychology) UM

**Supervisor:** Dr. James F. Blanchard

**Project Title:** Understanding autoimmune diseases: combining traditional epidemiological techniques and complex systems approaches



**Zulma Vanessa Rueda**

**Home Country:** Colombia

**Degree:** University of Antioquia, doctoral student of Epidemiology, 3 year

**Supervisor:** Lázaro Vélez, MD. Professor of Medicine, University of Antioquia.

**Project Title:** Epidemiologic and clinical characteristics of Mycobacterium tuberculosis in prisoners at four different jails. Colombia 2010-2012



**Michael Babu Raj**

**Home Country:** India

**Degree:** Kuvempu University, Karnataka, Doctoral student

**Supervisor:** Dr. Chandrashekar.E, Lecturer, Kuvempu University

**Project Title:**

PPTCT Services: Are We Reaching Out? - From Human Rights Perspective



# Kenyan Trainees:

- Kenya-based
  - Frank Ndakala, Jesse Gitaka, Nadia Chanzu, Cesily Meeme



- Winnipeg-based
  - Winnie Apidi, Robert Were Omange



# Objectives

- To equip trainees with the research, scientific knowledge and skills to become **outstanding researchers** in infectious diseases and global health.
- To create a novel and stimulating **multidisciplinary** and **truly international** research training environment that fosters creativity, opportunity, and innovation, and one that demands excellence.
- 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.
- To make available **collaborative international research sites** for the trainees' primary research projects, sites for research practica and major course offerings.
- To offered 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.







# Primary Topics

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- HIV/AIDS
- Global Health
- Emerging Infectious Diseases



# International Infectious Diseases Training Program

## Four Continents: One Shared Experience



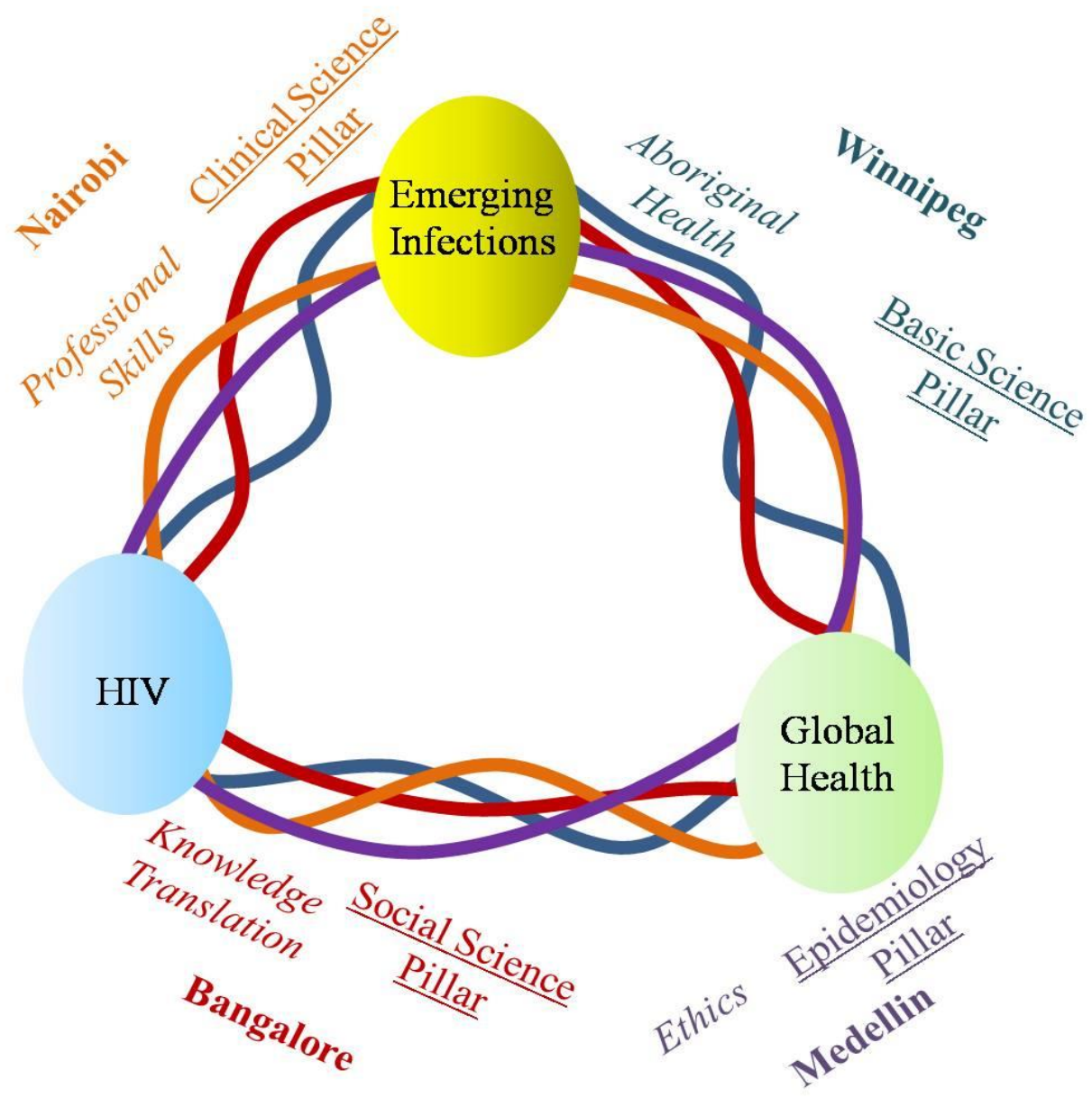
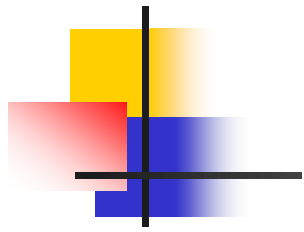


# Philosophy

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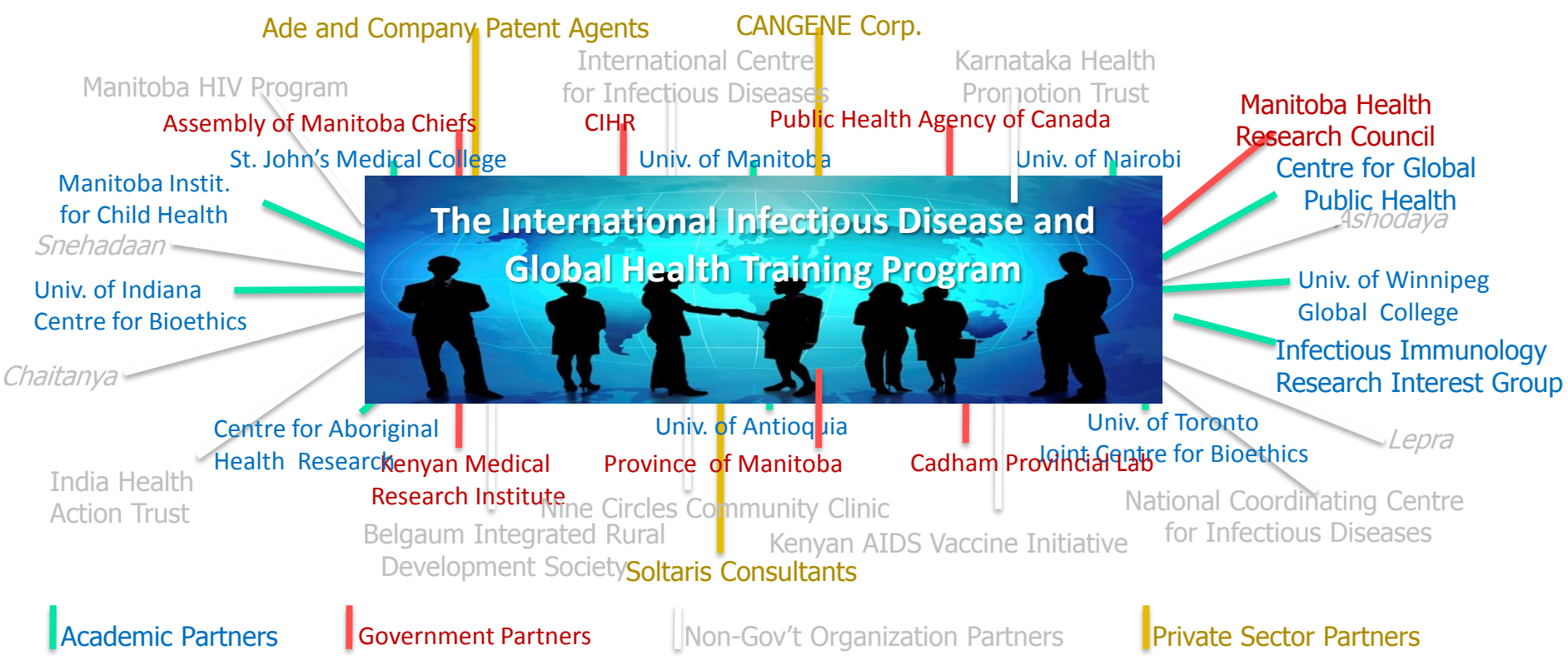
- To get maximal impact in Global Health and Int'l Infectious Disease research
  - Impact careers early
  - Take people to international settings
  - Engagement with community essential
  - Multinational, multidisciplinary groups
  - Trainee-trainee learning most important.







# IID&GH Training Program and Partners



## CANADA

- **Academic**
  - U of Manitoba
  - U of Winnipeg
- **Government**
  - CIHR
  - Public Health Agency of Canada (PHAC)
  - Province of Manitoba (TBC)
  - Winnipeg Regional Health Authority (WHRA) (TBC)
  - Assembly of Manitoba Chiefs (AMC)
- **Non-Gov't Organization**
  - National Collaborating Centre for Infectious Disease (NCCID)
  - Canadian Association for HIV Research (CAHR)
  - International Centre for Infectious Diseases (ICID)
- **Industry**
  - CanGene

## KENYA

- **Academic**
  - U of Nairobi Institute for Tropical and Infectious Diseases (UNITID)
- **Government**
  - Kenyan Medical Research Institute
- **Non-Gov't Organization**
  - Regional AIDS Training Network

## INDIA

- **Academic**
  - St. John's Medical College
- **Government**
  - Karnataka State AIDS Prevention Society
  - National AIDS Control Organisation
- **Non-Gov't Organization**
  - Karnataka Health Promotion Trust
  - Belgaum Integrated Rural Development Society (BIRDS)
  - India Health Action Trust (IHAT)
  - Sangama
  - Swasti

## COLOMBIA

- **Academic**
    - Universidad de Antiquia in Medellin
  - **Government**
    - TBD
  - **Non-Gov't Organization**
    - TBD
- TBC, to be confirmed  
TBD, to be determined







# Academic Program

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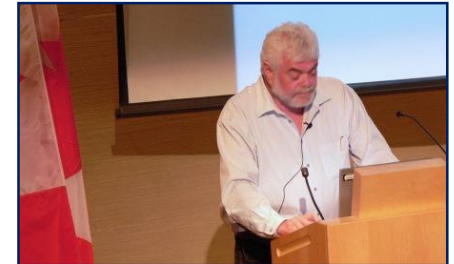
- Major Courses at Int'l sites
- Infectious Minds
- Learning Visits
- Scientific Symposia
- Research Practica



# Infectious Minds



- Scientific Discussion Group
- Monthly – linked by Video Conferencing
- Topics and guests chosen by trainees
- Expert guest on “hot” topics
- Trainee-led follow-up presentation
  - Trainees from all sites jointly present
- Sessions recorded and available on-line
  - <http://stream.bann.umanitoba.ca/media/CIHR>
- Javier Mignone leads





# Infectious Minds - 2011

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- September – Francisco J. Diaz, MD, PhD in Virology and Professor of Immunovirology Group, University of Antioquia  
Topic: Dengue Virus
- June – Margaret Lavalley, Elder-in-Residence at the University of Manitoba  
Topic: Traditional Medicine
- May – Dr. Pam Orr, Professor in the Departments of Medicine and Medical Microbiology, and Associate Professor of Community Health Sciences, at the University of Manitoba  
Topic: Tuberculosis





# Research Practica

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- Purpose: to foster multidisciplinary research
- Must be in a CIHR Pillar unrelated to trainee's primary project
- International practica encouraged
- Examples:
  - HIV immunologist performing qualitative ethics research
  - Geographic epidemiologist learning clinical microbiology skills
  - Epidemiologist doing social research in India
- John Wylie leads



# Scientific Symposium

- Two days of trainee presentations and keynote speakers
- National and international experts invited
- Trainees give oral presentations
- Trainees given extensive access to experts
- Networking encouraged so trainees can explore options for next phases of their careers and collaborations



# Learning Visits



- Trainees at site of Major Course host the learning visits
- Winnipeg: NML, Nine Circles, Whiteshell petroglyphs, Sweat Lodge, Bowling, U of M Centres (MCHP, CAHR, CGPH)
- Bangalore: visit Karnataka Health Promotion Trust (KHPT) projects
- Nairobi: Majengo clinic, KNH, KAVI, UNITID Labs





# Seminar Series

- Visiting speakers series hosted at each site
  - Gardiner Laureate in Global Health Dr. Nicholas White – Oct 19, 2011, Winnipeg
  - Co-sponsored the HIV Mucosal Immunology Symposium, Winnipeg, April 2011
- Trainee networking opportunities



# Major Course Offerings

- Each course would be 2-3 weeks
- Rotate between sites
- Ecology of ID
  - Winnipeg, 2010, 2013
- HIV Interventions
  - Bangalore, 2011, 2014
- Clinical trails/Int'l Research Ethics course
  - Nairobi, 2012, 2015
- Epidemiology/Indigenous Health
  - Medellin, Riohacha 2013



# HIV Interventions Course Bangalore India February 2011



Hosts were the Karnataka Health Promotion Trust (KHPT)



# Format

- Scientific Symposium
- Classroom orientation (didactic)
- Bangalore community project tours (interactive)
- Rural Site (experiential learning)
  - Multidisciplinary teams
  - Design an HIV intervention program
  - LOI and presentation
- Reconvene and present



# Meeting Community





# Kenya Course 2012

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- International Research Ethics and Clinical Trails in a Developing Country Setting
  - Host:
    - University of Nairobi
    - Kenyan AIDS Vaccine Initiative
  - Partners
    - Ethics: UM, Moi University, U Nairobi, Indiana University
    - Clinical Trials: KAVI, U Toronto, University of United Arab Republic, 6 clinical trial sites







# Format

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- Scientific Symposium
  - International Ethics, Introduction to Clinical Trials
  - Learning site visits in Nairobi
  - Rural Site (experiential learning)
    - Multidisciplinary teams
    - Design a Clinical Trials LOI
    - LOI and presentation
  - Reconvene and present





<u>Field Site</u>	<u>PI / Mentors</u>	<u>Current Trial</u>	<u>Hypothetical Trial for Part II</u>
<i>Kariobangi, Nairobi</i>	Joshua Kimani, Scott McClelland, Jessie Kwatampora	Prevention of vaginal infections -Phase II	Genetically modified Lactobacillus as treatment for BV (HIV as an outcome).
<i>Kangemi, Nairobi</i>	Omu Anzala, Gaudensia Mutua	HIV vaccine safety trial - Phase I	Phase III vaccine trial in MSM, FSW (with PrEP/vaccine as an arm)
<i>Thika</i>	Nelly Mugo, Kenneth Ngure	PrEP trial in discordant couples	Safety and efficacy of long-acting PrEP (in combination with contraception)
<i>Siaya</i>	Joshua Kimani	Prevention of malaria in pregnancy	Behavioural intervention to reduce HIV incidence in women aged 18-24.
<i>Bondo</i>	Kawango Agot, Fred Owino	PrEP trial in high-risk women	Cluster-randomized trial to improve adherence to PrEP
<i>Migori</i>	Elizabeth Bukusi, Craig Cohen, Maricianah Onono	Cluster-randomized trial of integrating HIV care with ANC and/or FP	CCR5 gene therapy Phase I safety trial.



# North/South, South/South Learning



Eric Meselin, Jeromy Sugarman, Julia Ambia



Ross Upshur, Jo Kaufert, Julius Oyugi



Makobu Kimani



Kwango Agot





**CIHR IRSC**

Canadian Institutes of  
Health Research

Instituts de recherche  
en santé du Canada



**UNIVERSITY  
OF MANITOBA**



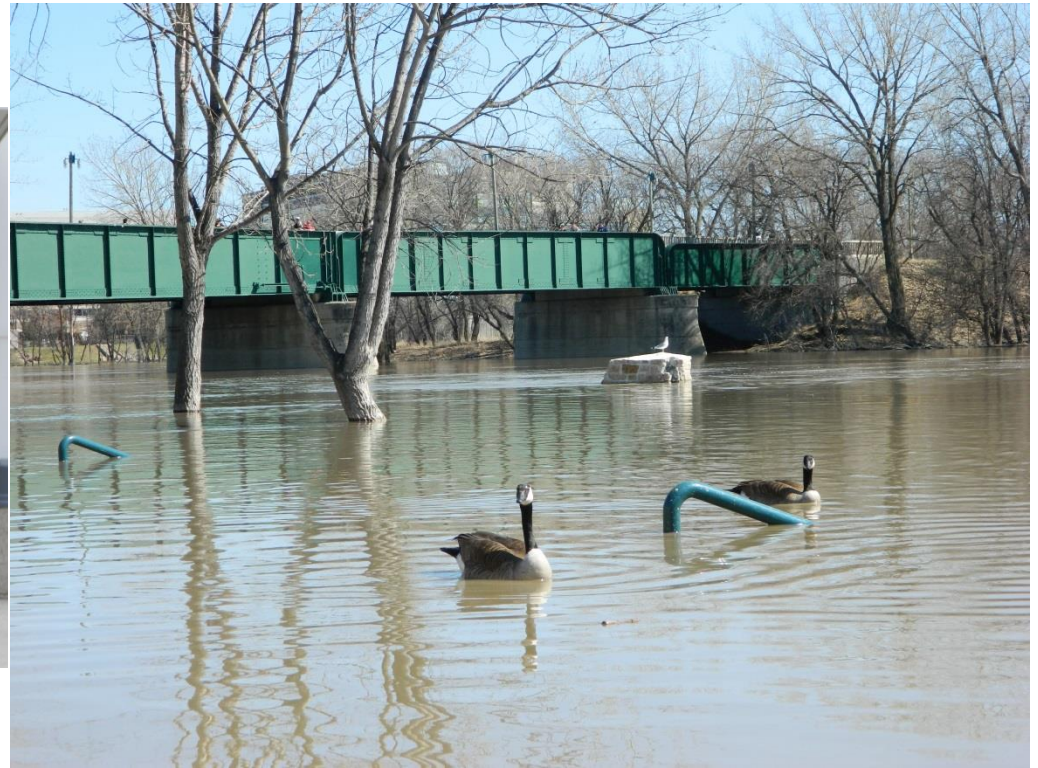
**Ecology of Infectious Diseases Course  
Winnipeg, Canada May 6-17, 2013**



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



# Eco ID May 2013





# Eco ID Format

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- Session lecturer – 45 min
- Trainee session – 2-3 present on related topic
- Trainee-led Group activity







# Ecology of Infectious Diseases - 2013

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23 guest lecturers

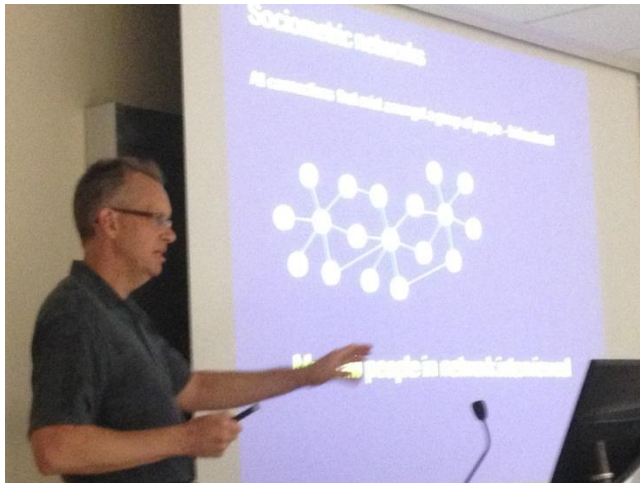
Final assessment - multi-disciplinary grant

Topics:

- Host responses
- Burden of IDs
- Epidemiology
- Molecular pathogenesis
- Medical anthropology
  - Research design
  - Research ethics
  - Knowledge translation/community
  - ID policy
  - Public communication
- International Public Health
  - Antimicrobial resistance
  - Social network analyses
  - Indigenous Health issues
  - Vectors and ID spread
  - Pandemic preparedness
  - Geographic Information Systems
  - Grantsmanship, scientific writing
  - Mock grant review panel
  - Intervention programming



# Eco ID Sessions



# Colombia 2013



**Practical Epidemiology and Indigenous Health  
Medellin and Riohacha, Colombia, August 8-23, 2013**







# Format

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- Scientific Conference – 2 days
- Medellin - Epidemiology course/Scientific Writing 1 week (didactic/interactive)
- Indigenous Health Conference - Rioacha (didactic) 2days
- La Guajira Rural Site (experiential learning) – 2 days
  - Multidisciplinary teams
  - Help with a Mother/Child health survey
  - Cultural exchange
- Reconvene and present



# Colombia 2013

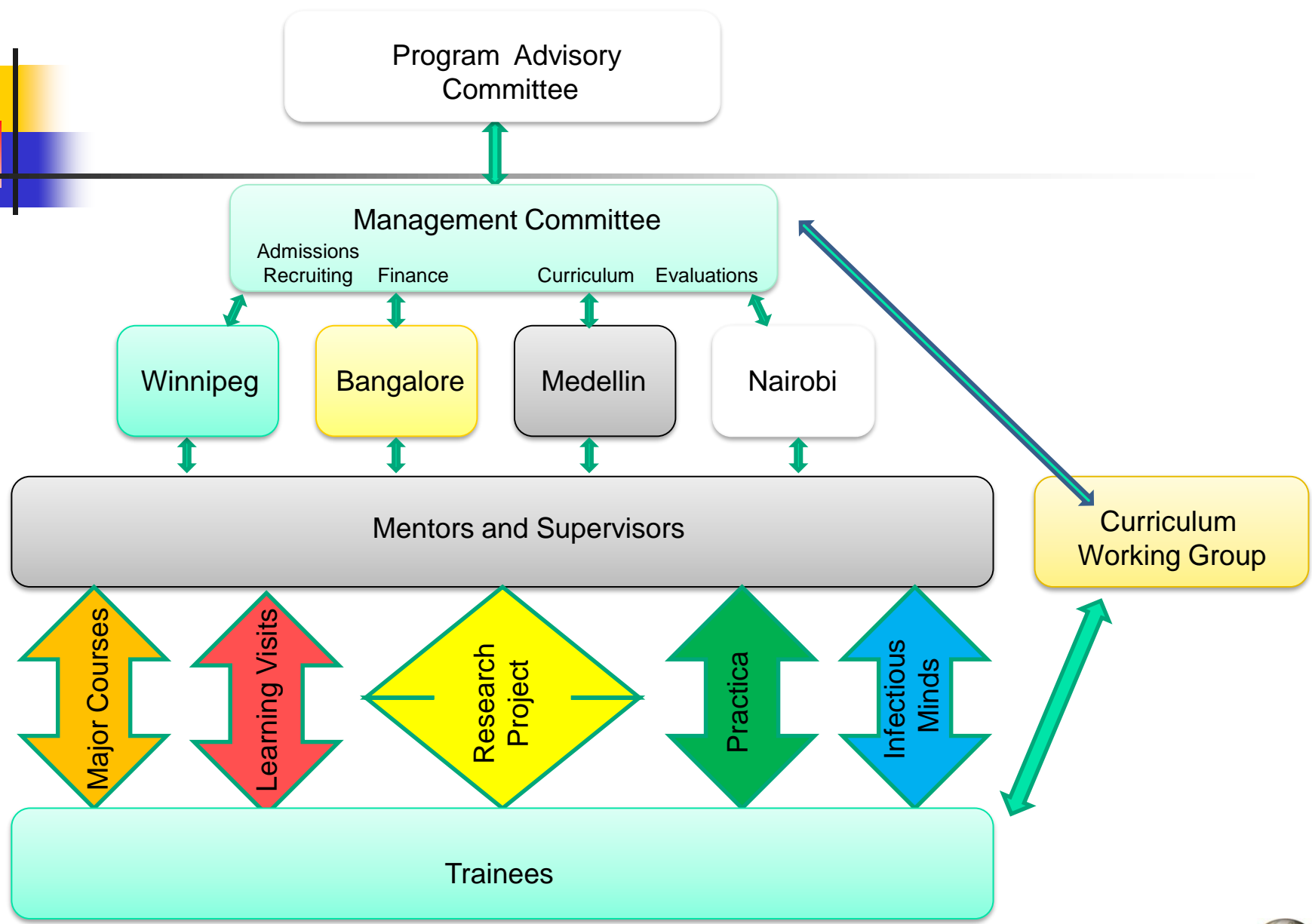
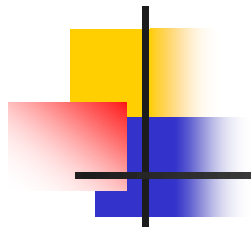
- CHS Representin'



# Medellin and Riohacha







# Inter-program collaborative activities

- Canadian Association for HIV Research (CAHR)
  - New Researcher Workshop
  - Co-sponsored and co-presented 2009, 2010, 2011
- KAVI - Kenyan AIDS Vaccine Initiative
  - Agreement to co-sponsor PhD Trainees
  - Grant Writing Workshop Oct 25, 2011, Nairobi
- Other HIV STIHR - University Without Walls
  - Cross-sponsor trainees to attend other's events
  - Shared research presentations – Nov 15, 2011
- Canada Africa Vaccine Enterprise (CAVE)
  - Agreement to co-sponsor PhD Trainees
- St. John's Medical School
  - Initial Discussions on co-sponsoring PhD trainees
- University of Winnipeg
  - Co-sponsor Summer Institute in Infectious Diseases 2010





# Program Advisory Committee

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- Major Stake-holders
  - Academia
  - Industry
  - Government
  - First Nations
  - Not-for-profit Sector
  - Community
  - International Sites
- May 2010, Oct 2011, Jan 2013, Jan 2014





# Communications

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- Video conference capabilities
  - All site have their own equipment
  - Enhancing training and research
- Web site [www.iidandghttp.com](http://www.iidandghttp.com)
  - On-line application information
  - Over 28,500 hits
- Google documents site
  - Document sharing
  - Group activities
- UM Bulletin Article in May 2010, 2013





# Thanks to Funding Partners

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- Canadian Institutes for Health Research (CIHR)
- Province of Manitoba, Manitoba Innovation Fund
- National Microbiology Laboratory (NML)
- U of M
  - Vice President (Research)
  - Faculty of Medicine
  - Faculty of Graduate Studies
- National Coordinating Centre for Infectious Disease (NCCID)





# Challenges

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- Balance in recruitment
  - Social/Epi in Winnipeg and Nairobi
  - Basic/Clinical in Bangalore and Medellin
- Partner Funding at each site
  - UN partnership CHVI Clinical Trials Capacity
- MOU with University of Antioquia
- Other recruitment/communication mechanisms
  - Annual Report
- Sustainability





# The Next Generation....



**Practical Epidemiology and Indigenous Health  
Medellín and Riohacha, Colombia, August 8-23, 2013**

