Submittee: Daniel Coombs
Date Submitted: 2013-03-05 14:08
Title: Disease Dynamics 2013: Immunization, a true multi-scale problem
Event Type: Conference-Workshop

Location:
UBC PIMS HQ

Dates:
Jan 17-19, 2013

Topic:
Mathematical modeling of diseases at all scales (epidemic, host, cell, genome) but with a focus on immunization and other control measures.

Methodology:
Lectures, focused discussions led by the organizers, and a superb poster session.

Objectives Achieved:
There were 17 talks, extensive discussion, and a poster session with 20 posters. In total there were more than 50 participants, including many local drop-in participants. The room was usually full. The meeting schedule is attached. The most notable aspect of the meeting was its broad approach to disease modeling. We heard from people working in public health, and how they need to have sensible and tailored mathematical models for policy decisions. We also had speakers describing the intricate within-host dynamics of important diseases (malaria, HIV, herpes, flu) and looking at the evolution of disease characteristics in response to vaccination. The poster session was similarly broad, highlighting the wide range of disease models in progress by trainees across Canada and the US.

Organizers:
Conway, Jessica, Theoretical Biology and Biophysics, Los Alamos National Lab //   Coombs, Daniel, Mathematics, UBC Meza, Rafael, Public Health, Michigan

---

Speakers:
Antia, Rustom; Emory University; A cross-scale approach to determining measures of vaccine efficacy //   Chao, Dennis; Fred Hutchison Cancer Research Center; Modeling mass vaccination and other interventions: An individual-based approach //   Conway, Jessica; LANL Stochastic modeling insights into early HIV infection //   Davenport, Miles; University of New South Wales; Using epidemiological data to understand within-host parasite dynamics of malaria infection //   Elbasha, Elamin; Merck; Modeling Hepatitis C Virus Transmission and treatment //   Heffernan,

Jane; York University; Vaccination Against Genital Herpes //   Koelle, Katia; Duke University; The effect of vaccination on influenzas rate of antigenic drift //   Medlock, Jan; Oregon State University; Optimizing Influenza Vaccine Allocation //   Patrick, David; University of British Columbia; Mathematical Modeling: The View from Public Health Practice //   Perelson, Alan; LANL; Multiscale Modeling of Hepatitis C Virus Infection //   Reluga, Timothy C.; Penn State University; Risk and Externalities of Adaptive Immune Systems //   Scott, Jamie K.; Simon Fraser University; Dynamics of the immune response to HIV infection and their implications for vaccine design //   Wilson, David P.; University of New South Wales; Public Health Decision-Making in Global HIV/STIs //   Ciupe, Stanca; Virginia Tech; Models of immune tolerance and activation in HBV infection //   Rong, Libin; Oakland University; CD8+ T cell-mediated killing of infected cells plays an essential role in the control of simian immunodeficiency virus in rhesus macaques //   Mubayi, Anuj; Northeastern Illinois University; Combatting Neglected Disease Leishmaniasis in India: Identifying True Burden & Designing Efficient Control Policy //   Joshua Schiffer; Fred Hutchison Cancer Research Center; Rapid Localized Spread and Immunologic Containment Defines Herpes Simplex Virus-2 Reactivation in the Human Genital Tract

---

Links:

File Uploads:
Additional Upload 1: http://www.pims.math.ca/files/final_report/DD_Skeleton_program_1.pdf

---