

# Mathematics and HIV

## Operations Research and Network Modeling for HIV Treatment and Prevention

March 29-30, 2014

The IRMACS Centre, Simon Fraser University  
Burnaby, British Columbia, Canada



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### About this Workshop

Operations research utilizes a variety of mathematical modeling techniques to improve workflows, procedures and operations within organizations or programs, and to guide planning and management decisions. Among countless applications, network models have been used to study epidemics of infectious disease. Network modeling and operations research are often applied independently to questions related to the HIV epidemic. However, the intersection of these fields is an emerging area of research.

This workshop, hosted by the IMAPCT-HIV group at the IRMACS Centre at Simon Fraser University, explored approaches combining network modeling and operations research to applications in HIV epidemiology – particularly to the ongoing Treatment as Prevention (TasP) effort. The workshop preceded the 4th International Treatment as Prevention Workshop in Vancouver (<http://www.treatmentaspreventionworkshop.org>).

The program included presentations by leading scientists, including Dr. Steve Bellan (University of Texas at Austin), Dr. Margaret Brandeau (Stanford University), Dr. Salal Humair (Harvard University), Dr. Babak Pourbohloul (UBC and BCCDC) and Dr. Brian Williams (SACEMA, UNAIDS and WHO).

During an oral poster session, current research on applications using operations research and network modelling were presented.

Dr. Lukas Ahrenberg, author of the NepidemiX software package was the instructor at the all-day tutorial session, which demonstrated the use of NepidemiX in constructing networks models for an operations research application.

