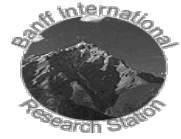




Mathematical Epidemiology

August 20 - 25, 2005



FOCUS OF WORKSHOP

The focus of the workshop is the use of new mathematical approaches in the study of infectious disease transmission and their applications to specific diseases. Some lectures present new mathematical methods and others present applications.

LECTURES

Lectures are scheduled for 50 minutes. Approximately 30 minutes of formal discussion will follow each lecture. We ask that the lectures *be designed for a broad audience, give a background to the area, and an overview of results, methods, and their implications, rather than be technical in nature.*

DISCUSSIONS

We anticipate approximately 30 minutes of formal discussion time for each lecture. There is also time in the afternoons for informal discussions/break out groups (not currently scheduled). *If you are a Discussion Leader, please contact the speaker ahead of time for some background information on the lecture. Be ready to give a short introduction about the speaker and the area, and be ready to lead the discussion after the talk. You may want to prepare questions that will stimulate discussion.*

MEALS

Breakfast (Continental): 7:00 – 9:00 am, 2nd floor lounge, Corbett Hall, Sunday – Thursday

*Lunch (Buffet): 11:30 am – 1:30 pm, Donald Cameron Hall, Sunday – Thursday

*Dinner (Buffet): 5:30 – 7:30 pm, Donald Cameron Hall, Saturday – Wednesday

Coffee Breaks: As per daily schedule, 2nd floor lounge, Corbett Hall

***Please remember to scan your meal card at the host/hostess station in the dining room for each lunch and dinner.**

MEETING ROOMS

All lectures will be held in Max Bell 159 (Max Bell Building accessible by bridge on 2nd floor of Corbett Hall). Hours: 6 am – 12 midnight. LCD projector, overhead projectors and blackboards are available for presentations. *Please note that the meeting space designated for BIRS is the lower level of Max Bell, Rooms 155-159. Please respect that all other space has been contracted to other Banff Centre guests, including any Food and Beverage in those areas.*

SCHEDULE

Saturday, August 20

- 16:00 Check-in begins (Front Desk – Professional Development Centre - open 24 hours)
17:30-19:30 Buffet Dinner, Donald Cameron Hall
20:00 Informal gathering in 2nd floor lounge, Corbett Hall
Beverages and small assortment of snacks available on a cash honour-system basis.

Sunday, August 21

- 7:00-8:45 Breakfast
8:45-9:00 Introduction and Welcome to BIRS by BIRS Station Manager, Max Bell 159
9:00-9:15 Short introduction: Herb Hethcote/Simon Levin/Pauline van den Driessche
9:15-10:35 Viggo Andreasen: *Influenza drift evolution*
Discussion Leader - Joshua Plotkin: *pathogen evolution*
10:35-11:00 Coffee Break, 2nd floor lounge, Corbett Hall
11:00-12:20 Junling Ma: *Source of seasonality in the flu epidemic*
Discussion Leader - Jonathan Dushoff: *challenges in influenza modeling*
12:20-13:30 Lunch
Free Afternoon
17:30-19:30 Dinner
19:30-20:50 Lora Billings: *Antibody dependent enhancement in multi-strain diseases*
Discussion Leader - James Watmough: *diseases with antigenic variation*

Monday, August 22

- 7:00-9:00 Breakfast
9:00-10:20 Mark Newman: *Disease dynamics on contact networks*
Discussion Leader - Alun Lloyd: *spatial network modeling*
10:20-10:50 Coffee Break, 2nd floor lounge, Corbett Hall
10:50-12:10 Mercedes Pascual: *Scaling from individual-based dynamics on networks to SIR approximations at the population level*
Discussion Leader - Martina Morris: *models for networks*
12:10 Group Photo; meet on the front steps of Corbett Hall
12:10-13:30 Lunch
Free Afternoon
17:30-19:30 Dinner
19:30-20:50 James Yorke: *The trajectory of HIV in Africa and India*
Discussion Leader - Alan Perelson: *modeling HIV*

Tuesday, August 23

- 7:00-9:00 Breakfast
9:00-10:20 David Greenhalgh: *Estimation of R_0 and evaluation of vaccination programs from age-structured serological data*
Discussion Leader - Arni Rao: *R_0 , vaccination modeling, and disease reporting*
10:20-10:50 Coffee Break, 2nd floor lounge, Corbett Hall
10:50-12:10 John Glasser: *A two dose varicella/zoster model*
Discussion Leader- Jan Medrock: *modeling transmission and vaccination*
12:10-13:30 Lunch
Free Afternoon
17:30-19:30 Dinner
19:30-20:50 Chris Bauch: *Dynamic vaccination games*
Discussion Leader - Gerardo Chowell: *parameter estimation, uncertainty and sensitivity*

Wednesday, August 24

- 7:00-9:00 Breakfast
9:00-10:20 Zhien Ma: *Modeling SARS transmission and control in China*
Discussion Leader - Ying-Hen Hsieh: *modeling SARS*
10:20-10:50 Coffee Break, 2nd floor lounge, Corbett Hall
10:50-12:10 Zhilan Feng: *Models for emerging/reemerging diseases such as SARS and smallpox*
Discussion Leader - David Earn: *invasions of new pathogens*
12:10-13:30 Lunch
Free Afternoon
17:30-19:30 Dinner
19:30-20:50 Shigui Ruan: *Nonlocal epidemic models*
Discussion Leader- Julien Arino: *spatial aspects of disease transmission*

Thursday, August 25

- 7:00-9:00 Breakfast
9:00-10:20 Linda Allen: *Wildlife disease modeling*
Discussion Leader – Rachel Norman: *modeling wildlife diseases*
10:20-10:50 Coffee Break, 2nd floor lounge, Corbett Hall
10:50-11:30 Closing: Herb Hethcote/Simon Levin/Pauline van den Driessche
11:30-13:30 Lunch

Checkout by 12 noon.

** 5-day workshops are welcome to use the BIRS facilities (2nd Floor Lounge, Max Bell Meeting Rooms, Reading Room) until 4 pm on Thursday, although participants are still required to checkout of the guest rooms by 12 noon. **