



Forests, Fires, Stochastic Modeling Workshop

Saturday May 6 – Thursday May 11, 2006



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 May 6

- 4:00pm Check-in begins (Front Desk – Professional Development Centre - open 24 hours)
- 5:30-7:30 Buffet Dinner, Donald Cameron Hall
- 8:00pm Informal gathering in 2nd floor lounge, Corbett Hall
Beverages and small assortment of snacks available on a cash honour-system basis.

Sunday May 7

- 7:00-8:45 Breakfast
- 9:30-11:30 Informal Discussions
- 11:30-1:00 Lunch
- 1:00-1:15 Introduction and Welcome to BIRS by BIRS Station Manager, Max Bell 159
- 1:15-1:30 Overview: John Braun & Charmaine Dean
Chair (Sunday pm): Charmaine Dean
- 1:30-2:30 Speaker: Jim Zidek
A stochastic space-time model for annual precipitation extremes
- 2:30-3:30 Speaker: Steve Cumming
*Model specification and inference for conservation biology:
the distribution and abundance of boreal forest birds*
- 3:30-4:00 Afternoon Tea and Informal Discussions, 2nd floor lounge, Corbett Hall
- 4:00-5:30 Session on Ecology
Subhash Lele: *On Using Expert Opinion in Ecological Analysis - A Frequentist Approach*
Fangliang He: *Tree size distribution across forest communities*
Marian Kazda: *Drought, roots and below-ground processes*
Ed Johnson: *A process approach to predicting tree mortality in surface fires*
- 5:30-7:30 Dinner



Monday May 8

- 7:00-9:00 Breakfast
- 9:00-9:15 Announcements
Chair (Monday): Fangliang He
- 9:15-10:30 Roundtable Discussion: Ecology Issues
Chair: Fangliang He
Recorder: Charmaine Dean
Topics:
Modelling species occurrences across spatial scale
Spatio-temporal modeling of pine weevil infestation including resistance
Zero-Heavy Spatial Models for Handling *Excess Zeros*
Spline Mixture Models for Analyzing Trends of Hidden Subpopulations
Interacting disturbances in the boreal mixedwood forest:
influences of forest fire, harvest and climate change on systems dynamics
- Introductory Presentations:
Ed Johnson
Marian Kazda
Frank Liu
Laurie Ainsworth
Jason Nielsen
Farouk Nathoo
Kirstin Campbell
Paramjit Gill
Meg Krawchuk
- 10:30-10:45 Morning Tea and Informal Discussions, 2nd floor lounge, Corbett Hall
- 10:45-11:15 Roundtable Discussion: Ecology Issues *Continued*
- 11:15-11:30 Ecology Research Themes: Summary of Roundtable Discussion
Fangliang He & Charmaine Dean
- 11:30-12:30 Lunch
- 12:30-1:30 Guided Tour of The Banff Centre; meet in the 2nd floor lounge, Corbett Hall
- 1:30-6:00 Field Trip: Kananaskis Field Stations
- 6:00-7:30 Dinner

Wildfires in the Canadian Rockies:

A field trip to Kananaskis Country and the Kananaskis Field Stations

This trip will leave the Banff International Research Station and make a stop at the Kananaskis Field Stations (<http://www.kfs.ucalgary.ca> and <http://g8legacy.ca>) for a tour of the research facilities and tea and snacks. We will then make our way down the Kananaskis Valley (up in elevation) and make several stops in which we will consider what we know about the wildfire regime in the Canadian Rockies including the weather associated with large area burned years, fire behavior and fire frequency. We will also stop at several locations where we will talk about how tree population dynamics is affected by fires. Since this is a mountain environment, with rapidly changing weather dress appropriately to anticipate any kind of weather. Comfortable shoes are advised although we will not be doing much hiking.

Tuesday May 9

- 7:00-9:00 Breakfast
- 9:00-9:15 Announcements
Chair (Tuesday): John Braun
- 9:15-10:15 Speaker: David Brillinger
Synthetic Plots
- 10:15-10:45 Morning Tea and Informal Discussions, 2nd floor lounge, Corbett Hall
- 10:45-11:45 Session on Fire Management
Haiganoush Preisler: *Empirical Modeling of Insect Wildfire Interactions in the Forests of the Pacific Northwest, USA*
- 11:45 Group Photo; meet on the front steps of Corbett Hall
- 12:00-1:30 Lunch
- 1:30-2:45 Session on Fire Ignition and Spread Modeling
Cordy Tymstra: *The Use of Deterministic and Stochastic Fire Growth Models in Alberta*
Steve Taylor
Bruce Smith: *Introduction to Point Processes*
- 2:45-3:30 Roundtable Discussion: Fire Ignition and Spread Modeling
Topics:
Use of neuron models and planar processes: integrate-and-fire models
Simulating and modelling thunder/lightning storm tracks
Parameter estimation for percolation fire spread models
Causal inference for estimating the effect of prescribed burning
Chair: Mike Wotton
Recorder: John Braun
Introductory Presentations:
Steve Cumming
Andre Dabrowski
Katherine Davies
Marcia Gumpertz
Reg Kulperger
Bruce Smith
Dave Stanford
Rolf Turner
Doug Woolford
- 3:30-4:00 Afternoon Tea and Informal Discussions, 2nd floor lounge, Corbett Hall
- 4:00-4:45 Roundtable Discussion: Fire Ignition and Spread Modeling (Continued)
- 4:45-5:00 Fire Modeling Themes: Summary of Roundtable Discussion
Mike Wotton & John Braun
- 5:30-7:30 Dinner



Wednesday May 10

- 7:00-8:45 Breakfast
8:45-9:00 Announcements
Chair (Wednesday): Dave Martell
9:00-10:00 Rick Routledge
Fire History – Evidence from Natural Recorders
10:00-10:30 Morning Tea and Informal Discussions, 2nd floor lounge, Corbett Hall
10:30-11:30 Bill Reed
Statistical Concepts and Methods in Forest Fire History Studies
11:30-1:00 Lunch
1:00-1:45 Roundtable Discussion:
The Use of Forest Inventory Data for Assessing Historical Fire Regimes
Chair: Dave Martell
Recorder: Rick Routledge
Introductory Presentations:
Steve Cumming
Ed Johnson
Bill Reed
1:45-2:00 Forest Inventory Data: Summary of Roundtable Discussion
Dave Martell & Rick Routledge
2:00-3:00 Banff Park Manager
Banff Management, Fire and Ecological Risk Research Questions
3:00-6:00 Field Trip: Banff prescribed burn areas
6:00-7:30 Dinner

Thursday May 11

- 7:00-9:00 Breakfast
9:00-9:15 Announcements
Chair (Thursday): Haiganoush Preisler
9:15-10:00 Roundtable Discussion: Fire Management
Topics:
Problems in estimating the economic value of fire suppression
Chair: Haiganoush Preisler
Recorder: Sylvia Esterby
Introductory Presentations:
Steve Cumming
Sylvia Esterby
Jason Myers
Hua Shi
10:00-10:30 Morning Tea and Informal Discussions, 2nd floor lounge, Corbett Hall
10:30-10:45 Fire Management Themes: Summary of Roundtable Discussion
Haiganoush Preisler & Sylvia Esterby
10:45-11:15 Closing Session: Future Planning and Research Organization
John Braun, Charmaine Dean & Dave Martell
11:15 Checkout of guest rooms
11:30-13:30 Lunch

Checkout by 12 noon.

Participants 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. **

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Roundtable Discussions:

Roundtable discussions at the BIRS forestry meeting focus discussions in a specific area within the general scope of forestry research. They will help participants understand each other's research expertise and current research projects in these areas, engage participants in a discussion of current research needs and permit open discussion of these topics, and facilitate the planning and development of new work as emerges from discussions, with potential involvement from forestry agencies. Not all participants need be involved in each roundtable discussion, though broad participation is encouraged. Expertise of participants will be outlined at the start of the discussions through **introductory presentations**. A summary of the discussion will be provided by the discussion leaders, the Chair and the Recorder, at the end of the discussion.

Introductory Presentations:

Introductory presentations at the roundtable discussion provide a brief description of research expertise and interests of participants and problems under current investigation or open forestry problems of interest. We encourage all participants to prepare such brief biographical and forestry or statistical related material in the form of handouts or short presentations (about 5 minutes). **Please let us know (dean@stat.sfu.ca) at which roundtable sessions you would be willing to offer such presentations summarizing your research interests and expertise, and engage in discussions. We also need to hear your audio-visual needs.** Copies of handouts may be made at the BIRS facility, or such handouts may be sent beforehand. **If your presentation discusses open problems and you will need more than 5 minutes to give them adequate description, let us know beforehand for planning purposes.**

Topics of Roundtable Discussions: There will be four roundtable discussions

1. Ecology Issues (Monday morning)
2. Fire Ignition and Spread Modeling (Tuesday afternoon)
3. The Use of Forest Inventory Data for Assessing Historical Fire Regimes (Wednesday afternoon)
4. Fire Management (Thursday morning)

What we need:

1. Titles of the roundtable sessions at which you will participate; please do choose several – the more, the merrier.
2. Titles for your Introductory Presentations, including Statistical Expertise or Forestry Problems of Interest; send the presentations along electronically beforehand, bring them on USB flash drives or other regular storage device, send handouts beforehand or bring handouts along to the meeting.
3. Your Audio-Visual Requests

Send to dean@stat.sfu.ca