Pacific Institute *for the* Mathematical Sciences

RECENT TRENDS IN STOCHASTIC ANALYSIS

Conference program

July 22-26, 2013

Pacific Institute for the Mathematical Sciences
Earth Sciences Building (ESB)
2207 Main Mall, Vancouver

Message from the Organizers

Welcome to the conference on ``Recent Trends in Stochastic Analysis'' in honor of the 60th birthdays of Martin Barlow and Ed Perkins.

Martin Thomas Barlow FRS FRSC was born June 16, 1953. He received a BA, Diploma in Statistics from Cambridge University, and a PhD from the University College of Swansea under the supervision of David Williams. Martin worked as a research fellow at the University of Liverpool 1978-1980. He was a Fellow of Trinity College and a member of the Statistical Laboratory at the University of Cambridge from 1980-1992. He has been a professor of mathematics at UBC since 1992. Martin won the Rollo Davidson Prize in 1984, and the CRM-Fields-PIMS Prize in 2009. He was elected a Fellow of the Royal Society of Canada in 1998, and a Fellow of the Royal Society in 2005.

Edwin Arend Perkins FRS FRSC was born August 31, 1953. He received a BA from the University of Toronto and a PhD from the University of Illinois under the supervision of Frank Knight. Ed took up a post-doc at UBC in 1979 and has been on the mathematics faculty since 1982. He has held a Canada Research Chair since 2001. Ed won the Rollo Davidson Prize in 1983, the G. de B. Robinson Award of the Canadian Mathematical Society in 1996, the CRM-Fields Prize in 2003, and a Canada Council Killam Research Fellowship for 2007-09. He was elected a Fellow of the Royal Society of Canada in 1988, and a Fellow of the Royal Society in 2007.

Both Martin and Ed have given invited addresses at the International Congress of Mathematicians.

Martin and Ed have written some 14 papers together in fields such as stochastic differential equations, local time, superprocesses, and the sample path properties of Brownian motion. Their most influential collaboration is probably their 1988 paper introducing Brownian motion on the Sierpinski gasket which has initiated a huge amount of further research on stochastic processes on fractals. In recent years, much of Martin's work has centered on the behavior of random walks on graphical structures such as percolation clusters, while Ed has focused on stochastic PDEs and interacting particle systems.

The conference brings together distinguished researchers from around the world who have contributed to the areas where Martin and Ed have had their greatest impact. Several of these mathematicians have collaborated extensively with one or both of them. We look forward to a week of exciting mathematics that will underscore the extensive contributions that Martin and Ed have made to contemporary stochastic analysis.

Steven N. Evans (Berkeley); **Ben M. Hambly (**Oxford); **Takashi Kumagai** (Kyoto);
Asaf Nachmias (UBC); **Gordon Slade** (UBC)

Getting Started

- **Get connected:** Select the "ubcvisitor" wireless network on your wireless device. Open up a web browser, and you will be directed to the login page.
- **Event Evaluation Survey**: Please help PIMS to improve the quality of its events and plan for the future by filling out the survey at the end of the conference. It is located at: http://www.pims.math.ca/scientific-event/130722-rtsac
- **All Speaker Abstracts can be found beginning on Page 6.**

Monday 22nd July: ESB Room 1012

9:00 AM	Registration and Refreshments
9:25 AM	Welcome from PIMS Director: Alejandro Adem
9:30 AM	**Ofer Zeitouni**: Slowdown in branching random walk
10:30 AM	**Alison Etheridge**: The spatial Lambda-Fleming-Viot process and friends
11:15 AM	Coffee Break
11:45 AM	**Jiri Cerny**: Directed random walk on the backbone of an oriented percolation cluster.
12:30 PM	Lunch (Self Catered. See last page on Campus Food outlets)
2:30 PM	**Anja Sturm**: New results on pathwise uniqueness for the heat equation with colored noise
3:15 PM	Coffee Break
3:45 PM	**Saul Jacka**: Minimising the time to shuttle a diffusion between two points
4:45 PM	**Erwin Bolthausen**: On the TAP equation in spin glasses

Tuesday 23rd July: ESB Room 1013

9:00 AM	Coffee and refreshments
9:30 AM	**Jean-Francois Le Gall**: The harmonic measure of critical Galton-Watson trees
10:30 AM	**Don Dawson**: A hierarchical mean-field view of mutually catalytic branching
11:15 AM	Coffee Break
11:45 AM	**Leonid Mytnik**: Multifractal analysis of superprocesses with stable branching in dimension one
12:30 PM	Lunch (Self Catered)
2:00 PM	**Ted Cox:** A complete convergence theorem for voter model perturbations
2:45 PM	Coffee Break
3:15 PM	**Greg Lawler**: The probability that planar loop-erased random walk uses a given edge
4:15 PM	**Rich Bass**: Revisiting the most visited site of Brownian motion
6:30 PM	**Conference Dinner (RSVP required) See page 4 for directions**

Wednesday 24th July: ESB Room 1012

8:30 AM	Coffee and Refreshments
9:00 AM	**Jean-Dominique Deuschel**: Quenched invariance principle for the random conductance model in ergodic environment
10:00 AM	**Carl Mueller**: Does the Brownian sheet have multiple points in the critical dimension?
10:45 AM	Coffee Break
11:15 AM	**Jun Kigami**: Analyses on metric measure spaces - Cheeger construction and measurable Riemnnian structure
12:15 PM	**Gerard Ben Arous**: Randomly Trapped Random Walks
1:00 PM	Lunch (Self Catered)

Thursday 25th July: ESB Room 1013

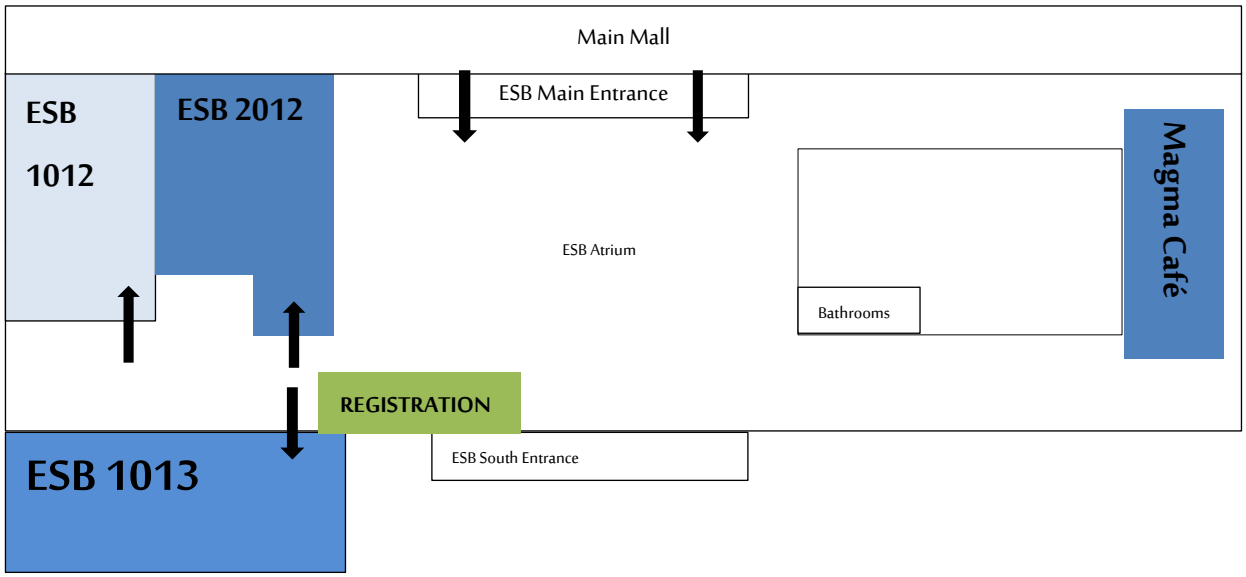
9:00 AM	Coffee and Refreshments
9:30 AM	**Alain-Sol Sznitman**: Large deviations for occupation time profiles of random interlacements
10:30 AM	**Mark Holmes**: Particle systems and super Brownian motion
11:15 AM	Coffee Break
11:45 AM	**Zhen-Qing Chen**: Brownian Motion on Spaces with Varying Dimension
12:30 PM	Lunch (Self Catered)
2:30 PM	**Yuval Peres**: Markov type and Threshold embeddings
3:15 PM	Coffee Break
3:45 PM	**Owen Jones**: A class of multifractal processes constructed using an embedded branching process
4:45 PM	**Haya Kaspi**: Stochastic PDE limits of many server queues

Friday 26th July: ESB Room 1012

9:00 AM	Coffee and Refreshments
9:30 AM	**Yves le Jan:** Markov loop clusters
10:30 AM	**Robin Pemantle:** Zeros of random functions and their derivatives
11:15 AM	Coffee Break
11:45 AM	**Chris Burdzy**: Forward Brownian motion
12:30 PM	**Conclusion of Conference**

Directions

ESB Building Ground Floor Plan:



General Travel Directions:

UBC Map link: http://www.maps.ubc.ca/PROD/images/pdf/ubcmap.pdf

Airport to UBC: Easiest by taxi (25min, around $30). If your accommodation is at Walter H Gage Towers, please give them the address: *5959 Student Union Boulevard, UBC*. By public transport, take the Canada Line (rail) to Broadway-City Hall station. From Broadway-City Hall station, cross Broadway and Cambie streets to get to the #99 UBC bus stop in front of London Drugs. Tickets (valid for the whole journey to UBC) can be purchased from the machine in the airport station. Cost: approximately $6. Journey time: Circa more than 1 hour

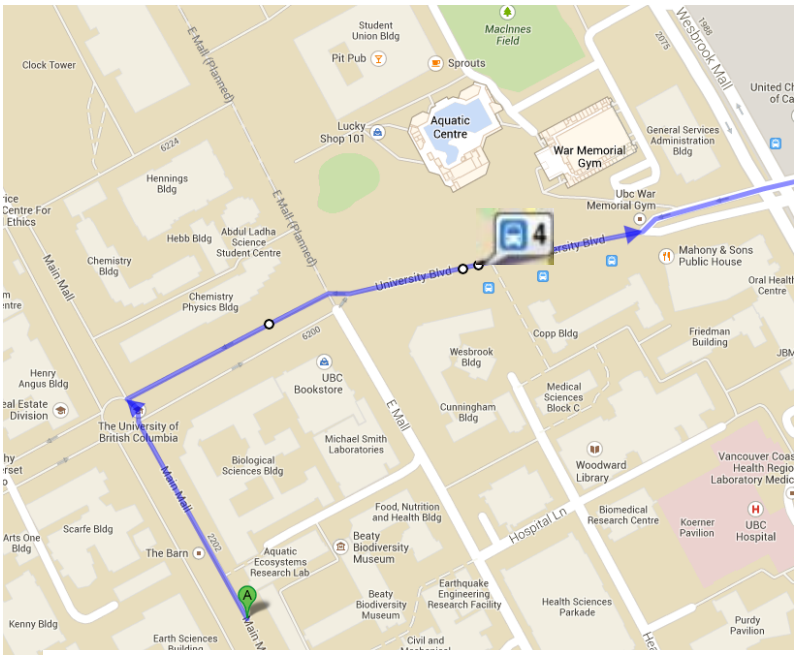
UBC Bus Loop/ Gage to Earth Science Building (ESB) 2207 Main Mall: A quick 10min walk. See UBC map. Head west past the student union building, cross East Mall and get onto Main Mall. Turn left (South) on Main Mall and Earth Science Building will be on your right after a few minutes. It is a large new building, and is on Main Mall directly across from the Beatty Biodiversity Centre and prominent blue whale skeleton.

Public Transit: Feel free to search and plan your public transport rides by visiting http://www.translink.ca/, where directions, ticket costs and bus schedules are indicated.

Parking at UBC: http://www.parking.ubc.ca/visitor.html

Directions to Brock House Restaurant

[3875 Point Grey Rd, Vancouver, BC V6R 1B3]

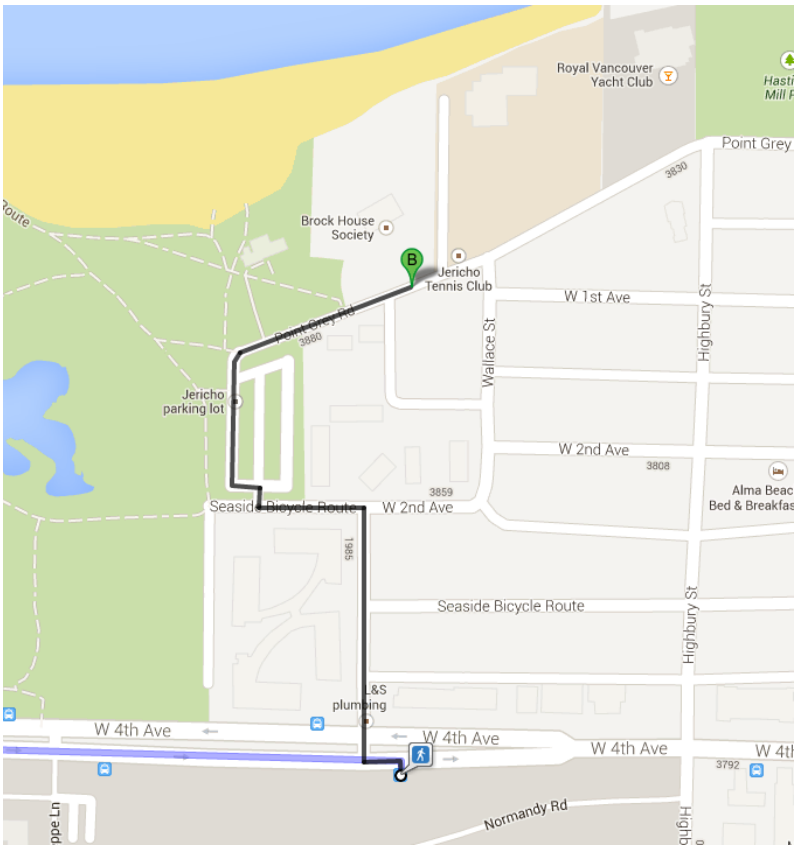


2207 Main Mall, Vancouver:

Walk to UBC Trolley loop (~ 6 min)

At UBC trolley Loop: Take

Bus #4, Powell



Alight at 4th Ave at WALLACE Street

Walk to Brock House Restaurant. About 6 min (450 m)

Brock House Restaurant

Speaker Abstracts

Recent Trends in Stochastic Analysis

UBC, Vancouver, 22-26 July, 2013

Titles and Abstracts

Richard Bass (UConn)

Revisiting the most visited site of Brownian motion

A most visited site of a one-dimensional Brownian motion at any time (also called a favorite point) is a point where the local time takes its maximum. It is known that the absolute values of the most visited sites tend to infinity as time goes to infinity. We determine the rate of escape and also the corresponding result for simple random walk.

Gerard Ben Arous (Courant)

Randomly Trapped Random Walks

I will describe a very general scheme of trapping for random walks on graphs, which contains the usual Fractional Kinetics or Bouchaud Trap models as simple examples. A full study of their possible scaling limits in dimension 1 will be given. This will be applied to the case of the scaling limit of the RW on incipient infinite cluster on critical trees, and on invasion percolation clusters on trees. This work was started long ago in the PhD thesis of Roman Royfman and has been completed only recently in a joint work with Jiri Cerny and Manuel Cabezas.

Erwin Bolthausen (Zurich)

On the TAP equation in spin glasses

The Touless-Anderson-Palmer equation (TAP equation for short) is supposed to have as solutions the quenched means of the spin variables for the Sherrington-Kirpatrick model. Proofs of this have been given only in the high temperature regime by Talagrand and Chatterjee. Recently, in a paper to appear in Comm. Math. Phys. we proposed an iterative construction of solutions of the TAP equations for the SK model which is proved to converge up to and including the de Almeida-Thouless critical line. We present this result as well as some recent progress concerning the so-called perceptron which is structurally considerably more complicated than the SK-model.

Krzysztof Burdzy (UW)

Forward Brownian motion

A "forward Brownian motion" is a process which has the distribution of standard Brownian motion (in the forward direction of time) starting from random points on the trajectory which accumulate at $-\infty$. These processes do not have to have the distribution of standard Brownian motion in the backward direction of time, no matter which random time we take as the origin. I will discuss the maximum and minimum rates of growth for these processes in the backward direction. I will also address the question of which extra assumptions make one of these processes a two-sided Brownian motion.
Joint work with Michael Scheutzow.

Jiri Cerny (Vienna)

Directed random walk on the backbone of an oriented percolation cluster

We consider a directed random walk on the backbone of the infinite cluster generated by supercritical oriented percolation, or equivalently the space-time embedding of the "ancestral lineage" of an individual in the stationary discrete-time contact process. We prove a law of large numbers and a quenched central limit theorem using the regeneration approach.

Zhen-Qing Chen (UW)

Brownian Motion on Spaces with Varying Dimension

Imagine an insect moves randomly in a playground with a pole on it. In this talk, I will introduce, discuss and characterize Brownian motion on a state space with varying dimension. Sharp two-sided estimates for the transition density function (also called heat kernel) will be presented. The two-sided estimates are of Guassian type but the parabolic Harnack inequality fails for such process and the measure on the underlying state space does not satisfy volume doubling.

Ted Cox (Syracuse)

A complete convergence theorem for voter model perturbations

We review limit theorems for "voter model perturbations," which are infinite particle systems with dynamics "close" to voter model dynamics. One of these results provides conditions under which coexistence holds, meaning the existence of invariant measures for the process which concentrate on configurations for which both types are present. A second and more recent result applies to processes satisfying the above conditions, and which are also symmetric and cancellative with an annihilating dual. In this case there is a unique coexistence measure, and in fact that the processes converges weakly from any initial configuration. A special case of interest is the stochastic spatial Lotka-Volterra model introduced by Neuhauser and Pacala. The first result is joint work with Rick Durrett and Ed Perkins, the second is joint work with Ed Perkins.

Donald Dawson (Carleton)

A hierarchical mean-field view of mutually catalytic branching

We consider some features and problems of a mutually catalytic branching population on a countable abelian group S. We review some open problems in the case $S = \mathbb{Z}^d$ and formulate their analogues on the hierarchical group $S = \Omega^{\mathbb{N}}$. In the latter case we investigate the hierarchical mean-field limit ($N \to \infty$) and the related continuum hierarchical mean-field limit as well as the structure of "collision hot-spots". This is joint work with A. Greven and I. Zähle.

Jean-Dominique Deuschel (TU Berlin)

Quenched invariance principle for the random conductance model in ergodic environment

We consider a continuous time random walk on the lattice $\mathbb{Z}^d$ in an environment of symmetric random conductances, $\mu_{x,y}$. The law of the environment is assumed to be ergodic with respect to space shifts with $\mathbb{P}(0 < \mu_{x,y} < \infty) = 1$. In this talk, we show how a quenched invariance principle can be established under suitable moment conditions. A key ingredient in the proof is to establish the sub-linearity of the corrector by means of Moser's iteration scheme. We also get parabolick Harnack inequalities and quenched local limit theorems.
This is joint work with Sebastian Andres (Univ. Bonn) and Martin Slowik (TU Berlin).

Alison Etheridge (Oxford)

The spatial Lambda-Fleming-Viot process and friends

The spatial Lambda-Fleming-Viot process refers to a whole class of models that have been introduced to model frequencies of different genetic types in a population evolving in a spatial continuum. In this talk we examine some instances of that process and their relationship to more familiar stochastic processes.

Mark Holmes (Auckland)

Particle systems and super Brownian motion

This talk will be an overview of what is known and not known about the scaling limits of various branching particle systems such as lattice trees, and contact and voter processes.

Saul Jacka (Warwick)

Minimising the time to shuttle a diffusion between two points

Motivated by a problem in simulated tempering (a form of Markov chain Monte Carlo), we seek to minimise, in a suitable sense, the time it takes a (regular) diffusion with instantaneous reflection at 0 and 1 to travel from the origin to 1 and then return. The control mechanism is that we are allowed to chose the diffusion's drift at each point in [0,1]. We consider the static and dynamic versions of this problem, where, in the dynamic version, we are only able to choose the drift at each point at the time of first visiting that point.

Owen Jones (Melbourne)

A class of multifractal processes constructed using an embedded branching process

Using known results on multitype branching random walks we construct a class of multifractal processes on $\mathbb{R}$, and derive the multifractal spectrum. Along the way we construct cascade measures on the boundaries of multitype Galton-Watson trees. In addition, if we observe one of our processes at a fixed resolution then we obtain a finite Markov representation, which allows efficient simulation.
Joint work with Geoffrey Decrouez and Ben Hambly

Haya Kaspi (Technion)

Stochastic PDE limits of many server queues

In this talk we shall consider a many servers queueing system in which customers with i.i.d service times enter service in their order of arrival. Motivating examples of such systems are large call centers and computer networks but the results apply to other service systems with many servers and high arrival rates. The state of the system is represented by a process that describes the number of customers in the system and a measure valued process that keeps track of the ages (amount of time in service) of the customers in service. This two component process is a Markov process with dynamics that satisfy a stochastic evolution equation. In this talk Ill discuss a functional strong law of large numbers(a fluid limit), as the number of servers and the arrival rates go to infinity, and a functional central limit theorem (FCLT, a diffusion limit), for the above pair of processes. The diffusion limit process describing the total number of customers in the system (properly centered and scaled) obtained by the above FCLT is shown to be an Ito diffusion whose diffusion coefficient is insensitive to the service distribution and its drift is described by the limiting measure valued process and the hazard rate function of the service distribution. The corresponding limit of the measure valued process is a distribution valued diffusion and, applied to a family of test functions, it is characterized as the unique solution of a set of stochastic PDEs.

Jun Kigami (Kyoto)

Analyses on metric measure spaces – Cheeger construction and measurable Riemnnian structure

Under certain conditions, Cheeger has constructed measurable differentiable structures on measure-metric spaces, based on Lipschitz functions. On the other hand, there is a notion of measurable Riemannian structure induced by Brownian motion or a Dirichlet form on fractals like the Sierpinski gasket. In general, very little is known about the relation between those two structures, i.e., measurable differentiable structure and measurable Riemannian structure. In this talk, I am going to review those two structures and discuss some related unsolved problems.

Greg Lawler (Chicago)

The probability that planar loop-erased random walk uses a given edge

We give a new proof of a result of Rick Kenyon that the probability that an edge in the middle of a square of side length n is used in a loop-erased walk connecting opposite sides is of order $n^{-3/4}$. We, in fact, improve the result by giving the asymptotics and relating it to the Green's function for the Schramm-Loewner evolution (SLE) with parameter $\kappa = 2$.

Jean-Francois Le Gall (Orsay)

The harmonic measure of critical Galton-Watson trees

We consider simple random walk on a critical Galton-Watson tree conditioned to have height greater than n. It is well known that the cardinality of the set of vertices of the tree at generation n is then of order n. We prove the existence of a universal constant $b < 1$ such that, with high probability, the hitting distribution of generation n by random walk is concentrated (up to an arbitrarily small mass) on a set of cardinality approximately equal to n^b. In terms of the analogous continuous model, the dimension of harmonic measure on a level set of the tree is equal to b, whereas the dimension of any level set is equal to 1. This dimension drop phenomenon is similar to the one observed for harmonic measure at infinity on supercritical Galton-Watson trees by Lyons, Pemantle and Peres. The constant b is approximately equal to 0.78 and can be expressed in terms of the asymptotic distribution of the conductance of large critical Galton-Watson trees. This is joint work with Nicolas Curien.

Yves Le Jan (Orsay)

Markov loop clusters

Wilson algorithm allows to construct Poissonnian ensembles of Markov loops. These are associated with fields related to the free field. They also form clusters similar to percolation clusters. If one incresases the density of loops, these clusters evolve as a coalescence process. After a general presentation, we will study in more detail several examples and raise a few unsolved questions.

Carl Mueller (Rochester)

Does the Brownian sheet have multiple points in the critical dimension?

This is joint work with Robert Dalang. Consider the Brownian sheet taking values in multidimensional space, with multidimensional time parameter. By studying the Hausdorff dimension of the range, we can guess the critical dimensions for the Brownian sheet to have multiple points of various orders. A classical question is, does the Brownian sheet have multiple points in the critical case? We answer this question.

Leonid Mytnik (Technion)

Multifractal analysis of superprocesses with stable branching in dimension one

It has been well-known for a long time that the super-Brownian motion with $1+\beta$-stable branching mechanism has densities at any fixed time, provided that the spatial dimension d is small enough ($d < 2/\beta$). Then, in 2003, it was shown in a joint work with Ed Perkins that in the case of $\beta < 1$ there is a dichotomy for the corresponding density functions: they are either continuous if $d = 1$, or locally unbounded in dimensions $d \in (1, 2/\beta)$. Recently we determined the spectrum of singularities of the continuous densities in dimension $d = 1$.

This is a joint work with V. Wachtel.

Robin Pemantle (UPenn)

Zeros of random functions and their derivatives

First, consider n points chosen IID from a measure mu on the complex plane. Form the polynomial with these roots. We ask about the distribution of the zeros of the derivative (the critical points of the polynomial). I will describe a series of results by various people culminating in a Glivenko-Cantelli law for the zeros of the derivative. Next, consider infinitely many points chosen from a homogeneous Poisson process on R. I will discuss work in progress with S. Subramanian characterizing the zero set under iterated differentiation.

Yuval Peres (Microsoft)

Markov type and Threshold embeddings

Barlow and Perkins (1988) showed that simple random walks on subsets of $\mathbb{Z}^d$ could escape super-diffusively, but this is impossible if the walk is started from stationarity on a finite subset of the lattice. A metric space X has Markov type 2 if every reversible stationary Markov chain taking values in X escapes at most diffusively from its starting point. In 1992, Keith Ball showed that Hilbert space has Markov type 2, and this was extended to L^p for $p > 2$, to trees and hyperbolic spaces by Naor, Schramm, Sheffield and the speaker in [NPSS](2006). In joint work with Jian Ding and James Lee, we answer a question raised in [NPSS], by proving that planar graph metrics and doubling metrics also have Markov type 2. The behavior of random walks on metric spaces can sometimes be understood by embedding such a walk into a more approachable space. We offer a new twist on this study by showing that one can employ mappings that are significantly weaker than bi-Lipschitz. A key tool in Barlow-Perkins (1988) and in NPSS was a Martingale decomposition for real-valued reversible Markov chains; A crucial new ingredient in the present paper is a local-to-global bound for Martingales. As an application, I will describe a sharp bound obtained recently with A. Stauffer and J. Steif on the rate of escape of simple random walk on dynamical percolation.

Anja Sturm (Gottingen)

New results on pathwise uniqueness for the heat equation with colored noise

We consider strong uniqueness and thus also existence of strong solutions for the stochastic heat equation with a multiplicative colored noise term. Here, the noise is white in time and colored in q dimensional space with a singular correlation kernel. The noise coefficient is Hoelder continuous in the solution. We discuss improvements of the sufficient conditions obtained in Mytnik, Perkins and Sturm (2006) that relate the Hoelder coefficient with the singularity of the correlation kernel of the noise. For this we use new ideas of Mytnik and Perkins (2011) who treat the case of strong uniqueness for the stochastic heat equation with multiplicative white noise in one dimension. Our main result on pathwise uniqueness confirms a conjecture that was put forward in their paper.

Alain-Sol Sznitman (ETH)

Large deviations for occupation time profiles of random interlacements

In this talk I will describe recent results obtained jointly with Xinyi Li about large deviations for the density profile of occupation times of random interlacements at a fixed level in a large box of $\mathbb{Z}^d, d \geq 3$. As a step we obtain a similar large deviation principle for the occupation-time measure of Brownian interlacements at a fixed level in a large box of $\mathbb{R}^d$, and derive a new identity for the Laplace transform of the occupation-time measure based on the analysis of certain Schrödinger semi-groups.

Ofer Zeitouni (Weizmann)

Slowdown in Branching random walks

The classical result of Bramson gives a precise logarithmic correction to the speed of front propagation in one dimensional branching random walks. I will discuss several variants of this model where the slowdown term is not classical.

Campus Dining

at the University of British Columbia

From world-class catering to casual dining, coffee shops and internationally-inspired food outlets, UBC offers a delicious assortment of food services solutions. Here is an overview of food service providers certain to deliver a satisfying campus dining experience.

UBC Food Services

www.food.ubc.ca

Serving only locally-roasted fair trade organic shade-grown coffee at all UBC Food Services non-franchise locations

Wescadia Catering

Conference and special event catering

www.catering.ubc.ca

Sage Bistro at University Centre

Casual fine dining available for breakfast, lunch and special events

www.sage.ubc.ca

The Point Grill at Marine Drive Residence

New upscale casual dining restaurant open for brunch, lunch, and dinner. Open M-F

Triple O's at David Lam Research Centre

Casual dining in a family-friendly environment. Open daily

Residence Dining

Totem Park and Place Vanier Cafeterias

For information about group meal plans, please call 604-822-6204 or email rene.atkinson@ubc.ca

Pacific Spirit Place Cafeteria at the SUB

Student Union Building, 6138 Student Union Blvd

Pacific Spirit Place is open weekdays for breakfast and lunch. For information about group meal plans, please call 604-822-9310 or email fred.cheng@ubc.ca

- Bakeshop
- Pasta Bar
- Salad Bar
- Pizza Pizza
- A&W
- Koya Japan
- Manchu Wok
- Subway

Proudly Brewing Starbucks Coffee

- **Starbucks Coffee** at Student Union Building
- **The Barn** at Main Mall
- **Starbucks Coffee** at Fred Kaiser
- **Steamies Café** at the Bookstore
- **Pond Café** at Ponderosa Centre

More Great Locations…

- **Niche Café** at Beaty Biodivesity Museum
- **Caffé Perugia** at Life Sciences Centre
- **Café MOA** at Museum of Anthropology
- **Ike's Café** at Irving K. Barber Learning Centre
- **Tim Horton's** at Forest Sciences Centre

For guests, visitors, or groups visiting the UBC Campus, the UBC Food Services gift card is the easiest way for you and your group to dine at any of our locations.

Food Outlets

at the Student Union Building (SUB)

The SUB features a variety of food outlets all under one roof and conveniently located at the heart of campus. Get a delicious bagel or muffin to go, grab a slice of pizza at Pie R Squared, pick up some freshly made sushi or sit and enjoy a juicy beef burger at Pit Pub. The SUB has something for everyone!

Concourse and Sub-Level

Blue Chip Cookies

Proudly serving organic, fair trade coffees, cappuccinos and lattés. All our cookies and fabulous baked goods are made in-house and baked fresh daily.

Bernoulli's Bagels

Montreal-style bagels, sandwiches, and bagel melts using high-quality ingredients and freshly squeezed vegetable or citrus juice!

The Delly

Fresh sandwiches made to order. A wide selection of salads, wraps, curries, soups and pasta made daily.

The Moon Noodle House

Great wonton soup, daily specials, fresh steamed veggies, combos and hot & sour soup.

The Honour Roll

Maki rolls, nigiri, sushi, donburi rice bowls and bento boxes are made fresh throughout the day. Ask about party platters and catering.

The Patio BBQ

On the south side of the SUB, Monday to Friday (weather permitting) offering grilled 1/4 pound burgers, veggie burgers, smokies and drinks.

The Pit Burger Bar

Charbroiled hamburger specials, veggie burgers, hot wings, beer-battered fish & chips and more!

The Pendulum Restaurant

Delicious grilled sandwiches and panninis, and lots of vegetarian and vegan dishes!

The Pit Pub

Satellite big-screen sports, six high-definition TV's, great drink prices, and a great atmosphere!

Pie R Squared

Great house-made pizza slices, great prices, cold drinks. Now offering soft-serve ice cream and doughnuts.

www.catering.ubc.ca

NEED CATERING? *For catered events or meals on the go, Wescadia Catering offers a multitude of menu ideas to meet a range of dietary needs. We pride ourselves on our knowledgeable, friendly staff, professional service and quality ingredients.*

University Boulevard

Restaurants and Food Outlets

University Boulevard boasts a vibrant neighbourhood feel, and features dozens of places to enjoy a sit-down meal, people-watch over coffee, or grab a quick bite on the run. Visitors will feel right at home choosing from internationally-recognized franchises and unique offerings from local entrepreneurs.

The Boulevard Coffee Roasting Co.

at David Strang, 5870 University Blvd.
theboulevard.ca

Mahony & Sons Public House

at David Strang, 5990 University Blvd.
www.mahonyandsons.com

The Well Café

at Regent College, 5800 University Blvd.

University Village

5700 Block, University Blvd.

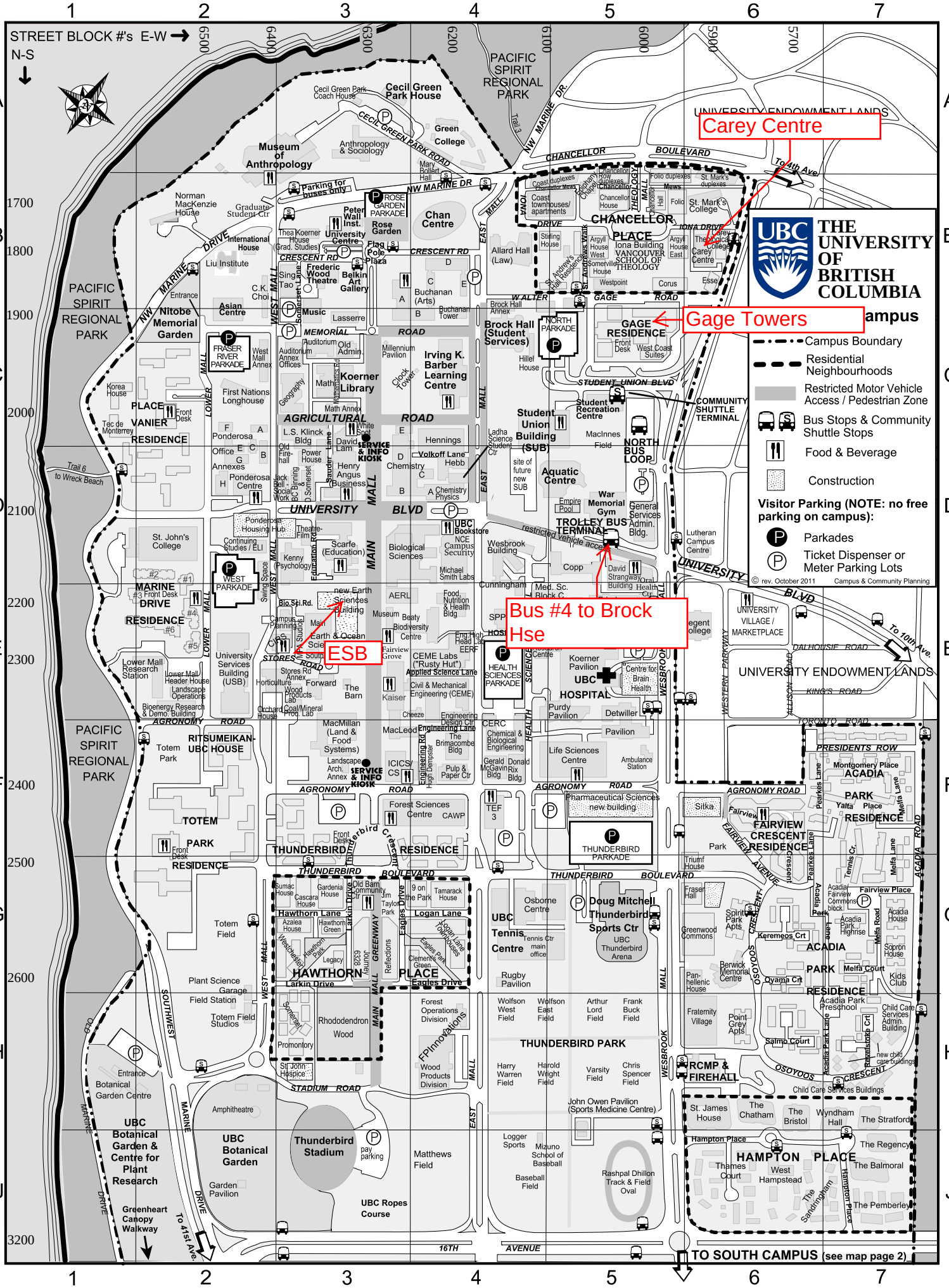
- Blenz — Coffee Shop
- Booster Juice — Juice & Snack Bar
- Mio Japan — Japanese Fast Food
- McDonald's — Breakfast – Late-Night Fast Food
- Pearl Fever — Tea House & Snack Bar
- Pita Pit — Lunch – Late-Night Take-Out & Delivery
- One More Sushi — Japanese Dining
- Only U Café — Deli & Diner
- Starbuck's — Coffee Shop
- University Pizza — Take-Out & Delivery
- Vera's Burger Shack — Diner
- Village Restaurant — Chinese Dining

International Food Fair

University Marketplace, Lower Level

- A-1 Vietnamese Food — Pho & Noodle House
- Curry Point — East Indian
- Donair Town — Persian, Mediterranean, Catering
- Leona Mediterranean Food — Lebanese
- Malaysian Cuisine — Malaysian, Thai
- Osaka Sushi — Japanese
- Timpo Mongolian BBQ — Stir-Fry
- Yi Kou Xiang — Chinese

ALSO RECOMMENDED… ***Westward Ho! PublicHouse & Grill Room*** *at the University Golf Club*
www.universitygolf.com/dine


STREET BLOCK #'s E-W
N-S
Carey Centre
Gage Towers
Bus #4 to Brock Hse
ESB
THE UNIVERSITY OF BRITISH COLUMBIA
Vancouver campus
Campus Boundary
Residential Neighbourhoods
Restricted Motor Vehicle Access / Pedestrian Zone
Bus Stops & Community Shuttle Stops
Food & Beverage
Construction
Visitor Parking (NOTE: no free parking on campus):
Parkades
Ticket Dispenser or Meter Parking Lots
© rev. October 2011 Campus & Community Planning
PACIFIC SPIRIT REGIONAL PARK
UNIVERSITY ENDOWMENT LANDS
CHANCELLOR BOULEVARD
NW MARINE DR.
UNIVERSITY BLVD
AGRONOMY ROAD
STADIUM ROAD
THUNDERBIRD BOULEVARD
WESBROOK MALL
EAST MALL
WEST MALL
MAIN MALL
LOWER MALL
CRESCENT RD
STUDENT UNION BLVD
TROLLEY BUS TERMINAL
NORTH BUS LOOP
COMMUNITY SHUTTLE TERMINAL
TO SOUTH CAMPUS (see map page 2)

Map Directory

Site or Building Name & Address	Grid
Abdul Ladha Science Student Ctr, 2055 East Mall	D4
Acadia/Fairview Commonsblock, 2707 Tennis Cres	G7
Acadia House, 2700-2720 Acadia Rd	G7
Acadia Park Residence	F/H-6/7
Acadia Park Highrise, 2725 Melfa Rd	G7
Acadia Park Preschool, 2750 Acadia Park Lane	H7
Allard Hall [Faculty of Law], 1822 East Mall	B4
Anthropology & Sociology Bldg, 6303 NW Marine Dr	A3
Aquatic Centre, 6121 University Blvd	D5
Aquatic Ecosystems Research Lab (AERL), 2202 Main Mall	E3
Asian Centre, 1871 West Mall	B2
Auditorium (a.k.a. "Old Auditorium"), 6344 Memorial Rd	C3
Auditorium Annex Offices, 1924 West Mall	C3
Barn (daycare), 2323 Main Mall	E3
B.C. Binning Studios (formerly Hut M-17), 6373 University Blvd	D3
Beaty Biodiversity Centre & Museum, 2212 Main Mall	E3/4
Belkin (Morris & Helen) Art Gallery, 1825 Main Mall	B3
Berwick Memorial Centre, 2765 Osoyoos Cres	G6
Bioenergy Research & Demonstration Bldg., 2337 Lower Mall	E2
Biological Sciences Bldg [Science Faculty office], 6270 University Blvd	D3
Biomedical Research Ctr, 2222 Health Sciences Mall	E4
Biotechnology Laboratory, 2125 East Mall	D4
Bollert (Mary) Hall, 6253 NW Marine Dr	A4
Bookstore, 6200 University Blvd	D4
Botanical Garden Centre/Gatehouse, 6804 SW Marine Dr	H1
Botanical Garden Pavilion (enter at Gatehouse, 6804 SW Marine Dr)	J2
Botan. Gard. Greenhses/ Workshops, 6088 S. Campus Rd	South Campus
Brimacombe Building, 2355 East Mall	F4
BROCK HALL: Student Services & Welcome Centre, 1874 East Mall	**C4**
Brock Hall Annex, 1874 East Mall	C4
Buchanan Building (Blocks A, B, C, D, & E) [Arts], 1866 Main Mall	B3/4
Buchanan Tower, 1873 East Mall	C4
C.K. Choi Building for the Institute of Asian Research, 1855 West Mall	B2
Campus & Community Planning, 2210 West Mall	E3
Campus Security, 2133 East Mall	D4
Carey Centre, 5920 Iona Drive	B6
Carey Theological College, 1815 Wesbrook Mall	B6
CAWP (Centre for Advanced Wood Processing), 2424 Main Mall	F4
Cecil Green Park Coach House, 6323 Cecil Green Park Rd	A3
Cecil Green Park House, 6251 Cecil Green Park Rd	A3
CEME — *see Civil & Mechanical Engineering Building*	
Centre for Comparative Medicine, 4145 Wesbrook Mall	South Campus
Centre for Interactive Research on Sustainability (CIRS), 2260 West Mall	E3
CERC (Clean Energy Research Ctr), 2360 East Mall	F4
Chan Centre for the Performing Arts, 6265 Crescent Rd	B4
Chancellor Place neighbourhood	B5
Chemical & Biological Engineering Bldg, 2360 East Mall	F4
Chemistry A Block - Chemistry Physics Building, 6221 University Blvd	D4
Chemistry B,C,D & E Blocks, 2036 Main Mall	D3
Child Care Services Administration Bldg, 2881 Acadia Rd	H7
Child Care Services Bldgs, Osoyoos Cresc and Revelstoke Crt	H7
CIRS — *see Centre for Interactive Research on Sustainability...*	
Civil & Mechanical Engineering Bldg (CEME), 6250 Applied Science Lane	E4
Civil & Mechanical Eng. Labs ("Rusty Hut"), 2275 East Mall	E4
Coal & Mineral Processing Lab, 2332 West Mall	E3
Continuing Studies Bldg [English Language Institute], 2121 West Mall	D2
Copp (D.H.) Building, 2146 Health Sciences Mall	D5
Cunningham (George) Building [Pharmaceutical Sc.], 2146 East Mall	E4
David Lam Learning Centre, 6326 Agricultural Rd	C3
David Lam Management Research Ctr, 2033 Main Mall	C3
Donald Rix Building, 2389 Health Sciences Mall	F4
Doug Mitchell Thunderbird Sports Centre, 6066 Thunderbird Blvd	G5
Dorothy Somerset Studios (formerly Hut M-18), 6361 University Blvd	D3
Earth Sciences Building (ESB) under construction, 2207 Main Mall	E3
Earth & Ocean Sciences (EOS) - Main and South, 6339 Stores Rd	E3
Earthquake Engineering Research Facility (EERF), 2235 East Mall	E4
Engineering High Head Room Lab, 2225 East Mall	E4
English Language Institute (E.L.I.) — *see Continuing Studies Building*	
Environmental Services Facility, 6025 Nurseries Rd	South Campus
Fairview Crescent Residence, 2600-2804 Fairview Cres	F6
Fire Department, 2992 Wesbrook Mall	H6
First Nations Longhouse, 1985 West Mall	C2
Flag Pole Plaza (Main Mall & Crescent Rd)	B3
Food, Nutrition and Health Bldg, 2205 East Mall	E4
Forest Sciences Centre [Faculty of Forestry], 2424 Main Mall	F4
Forward (Frank) Building, 6350 Stores Rd	E3
FPInnovations (Forest Operations & Wood Products), 2601/2665 E. Mall	H4
FPInnovations (Pulp & Paper Division), 3800 Wesbrook Mall	South Campus
Fraser Hall (public rental housing), 2550 Wesbrook Mall	G6
Fraternity Village, 2880 Wesbrook Mall	H6
Frederic Wood Theatre, 6354 Crescent Rd	B3
Friedman Bldg, 2177 Wesbrook Mall	E5
Gage Residence, 5959 Student Union Blvd	C5
General Services Administration Bldg (GSAB), 2075 Wesbrook Mall	D5
Geography Building, 1984 West Mall	C3
Gerald McGavin Building, 2386 East Mall	F4
Graduate Student Centre — *see Thea Koerner House*	
Green College, 6201 Cecil Green Park Rd	A4
Greenheart Canopy Walkway, Botanical Garden, 6804 SW Marine Dr	H1
Greenwood Commons (public rental housing), 2660 Wesbrook Mall	G6
Hampton Place neighbourhood	H/J-6/7
Hawthorn Place neighbourhood	G/H3
Hebb Building, 2045 East Mall	D4
Hennings Building, 6224 Agricultural Rd	C4
Henry Angus Building [Sauder School of Business], 2053 Main Mall	D3
Hillel House - The Diamond Foundation Centre for Jewish Campus Life, 6145 Student Union Blvd	C4
Horticulture Building/Greenhouse, 6394 Stores Rd	E2/3
Hugh Dempster Pavilion, 6245 Agronomy Rd	F4
ICICS/CS (Institute for Computing, Information & Cognitive Systems/Computer Science), 2366 Main Mall	F4
Instructional Resources Centre (IRC), 2194 Health Sciences Mall	E5
International House, 1783 West Mall	B2
In-Vessel Composting Facility, 6035 Nurseries Road	South Campus
Irving K. Barber Learning Centre, 1961 East Mall	C4
Jack Bell Building for the School of Social Work, 2080 West Mall	D3
John Owen Pavilion & Allan McGavin Sports Medicine Centre, 3055 Wesbrook Mall	H5
Kaiser (Fred) Building [Faculty of Applied Science], 2332 Main Mall	E3
Kenny (Douglas T) Building, 2136 West Mall	D3
Kids Club, 2855 Acadia Rd	G7
Klinck (Leonard S.) Bldg, 6356 Agricultural Rd	C3
Koerner (Walter C.) Library, 1958 Main Mall	C3
Landscape Architecture Annex, 2371 Main Mall	F3
Lasserre (Frederic) Building, 6333 Memorial Rd	C3
Law, Faculty of — *see Allard Hall*	
Leon and Thea Koerner University Centre, 6331 Crescent Rd	B3
Life Sciences Centre, 2350 Health Sciences Mall	F5
Liu Institute for Global Issues, 6476 NW Marine Dr	B2
Lower Mall Header House, 2269 Lower Mall	E2
Lower Mall Research Station, 2259 Lower Mall	E2
Macdonald (J.B.) Building [Dentistry], 2199 Wesbrook Mall	E5
MacLeod (Hector) Building, 2356 Main Mall	F3
MacMillan (H.R.) Bldg [Faculty of Land & Food Systems], 2357 Main Mall	F3
Marine Drive Residence (Front Desk in Bldg #3), 2205 Lower Mall	E2
Material Recovery Facility, 6055 Nurseries Rd	South Campus
Mathematics Annex, 1986 Mathematics Rd	C3
Mathematics Building, 1984 Mathematics Rd	C3
Medical Sciences Block C, 2176 Health Sc. Mall	E4
M.F.A. Studios (formerly B.C. Binning MFA Studios), 6363 Stores Rd	E3
Michael Smith Laboratories, 2185 East Mall	D4
Museum of Anthropology (MOA), 6393 NW Marine Dr	A2/3
Music Building, 6361 Memorial Rd	B/C3
Networks of Ctrs of Excellence (NCE), 2125 East Mall	D4
Nitobe Memorial Garden, 1895 Lower Mall	B/C2
Nobel Biocare Oral Heath Centre (David Strangway Bldg), 2151 Wesbrook Mall	E5
Norman MacKenzie House, 6565 NW Marine Dr	B2
NRC Institute for Fuel Cell Innovation, 4250 Wesbrook Mall	South Campus
Old Administration Building, 6328 Memorial Rd	C3
Old Auditorium — *see Auditorium*	
Old Barn Community Centre, 6308 Thunderbird Blvd	G3
Old Firehall, 2038 West Mall	D3
Orchard House, 2336 West Mall	E2
Osborne (Robert F.) Centre/Gym, 6108 Thunderbird Blvd	G4
Panhellenic House, 2770 Wesbrook Mall	G6
Peter Wall Institute for Advanced Studies, 6331 Crescent Rd	B3
Place Vanier Residence, 1935 Lower Mall	C/D2
Plant Ops Nursery/Greenhouses, 6029 Nurseries Rd	South Campus
Plant Science Field Station & Garage, 2613 West Mall	H2
Point Grey Apartments, 2875 Osoyoos Cresc	H6
Police (RCMP) & Fire Department, 2990/2992 Wesbrook Mall	H6
Ponderosa Centre, 2071 West Mall	D2
Ponderosa Office Annexes: A, B, & C, 2011-2029 West Mall	C/D2
Ponderosa Office Annexes: E to H, 2008-2074 Lower Mall	C/D2
Power House, 2040 West Mall	D3
Pulp and Paper Centre, 2385 East Mall	F4
Ritsumeikan-UBC House, 6460 Agronomy Rd	F2
Rose Garden	B3
Roy Barnett Recital Hall - in Music Building	
Rugby Pavilion, 2584 East Mall	G4
Scarfe (Neville) Building [Education], 2125 Main Mall	D3
School of Population & Public Health (SPPH), 2206 East Mall	E4
Simon K.Y. Lee HKU-UBC House — Bldg #1, Marine Drive Residence	E2
Sing Tao Building, 6388 Crescent Rd	B3
Sopron House, 2730 Acadia Rd	G7
South Campus Warehouse, 6116 Nurseries Rd	South Campus
Spirit Park Apartments, 2705-2725 Osoyoos Cresc	G8
St. Andrew's Hall/Residence, 6040 Iona Dr	B5
St. John's College, 2111 Lower Mall	D2
St. Mark's College, 5935 Iona Dr	B6
Staging Research Centre, 6045 Nurseries Rd	South Campus
Stores Road Annex, 6368 Stores Rd	E3
Student Recreation Ctr, 6000 Student Union Blvd	C5
Student Union Bldg (SUB), 6138 Student Union Blvd	C4
TEF3 (Technology Enterprise Facility 3), 6190 Agronomy Rd	F4
Thea Koerner House [Faculty of Graduate Studies], 6371 Crescent Rd	B3
Theatre-Film Production Bldg, 6358 University Blvd	D3
Thunderbird Residence, 6335 Thunderbird Cresc	F3/4
Thunderbird Stadium, 6288 Stadium Rd	J3
Thunderbird Winter Sports Ctr — *see Doug Mitchell Thunderbird Sports...*	
Totem Field Studios, 2613 West Mall	H2
Totem Park Residence, 2525 West Mall	F/G2
TRIUMF, 4004 Wesbrook Mall	South Campus
Triumf House (TRIUMF Visitor's Residence), 5835 Thunderbird Blvd	G6
UBC Bookstore, 6200 University Blvd	D4
UBC Farm, 6182 Wesbrook Mall	South Campus
UBC Hospital, 2211 Wesbrook Mall	E5
UBC Tennis Centre, 6160 Thunderbird Blvd	G4
UBC Thunderbird Arena (in Doug Mitchell Centre), 2555 Wesbrook Mall	G5
University Centre (Leon & Thea Koerner), 6331 Crescent Rd	B3
University Neighbourhoods Association, 5923 Berton Ave	South Campus
University Services Building (USB), 2329 West Mall	E2
Vancouver School of Theology, 6000 Iona Drive	B5
Walter H. Gage Residence, 5959 Student Union Blvd	C5
War Memorial Gymnasium, 6081 University Blvd	D5
Wayne & William White Engineering Design Ctr, 2345 East Mall	E4
Wesbrook Bldg, 6174 University Blvd	D4
Wesbrook Place neighbourhood	South Campus
Wesbrook Village shopping centre	South Campus
West Mall Annex, 1933 West Mall	C2
West Mall Swing Space Bldg, 2175 West Mall	D2
Wood Products Laboratory, 2324 West Mall	E3
Woodward IRC, 2194 Health Sciences Mall	E4/5
Woodward Library, 2198 Health Sciences Mall	E4/5

SOUTH CAMPUS MAP

Campus & Community Planning
www.planning.ubc.ca

Note:
Local traffic only along Wesbrook Mall on South Campus

Map Information

Need help finding your way on campus? Call the Campus & Community Planning MapInfo Line at 604-827-5040, M-F, 8:30-4:30

Or use the online searchable colour map at www.maps.ubc.ca