

# WESTERN INTERNATIONAL WORKSHOP ON HARMONIC ANALYSIS AND PDE



## Program


June 10-12, 2015

The University of British Columbia  
Earth Sciences Building (ESB)  
2207 Main Mall, Vancouver

**ORGANIZERS:** Cristian Rios, University of Calgary; Malabika Pramanik,  
University of British Columbia; Tatiana Toro, University of Washington

# Getting Started

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 **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.

## Frequently Asked Questions

**Q: Where do I check in on the first day?**

Check-in and Package pick up can be done in the Atrium

**Q: Where are the sessions?**

All workshop sessions in the Earth Sciences Building Room 2012

**Q: Will the program change?**

Program changes and updates will be announced at each session.

**Q: When should I wear my badge?**

Please wear your name badges at all times on site so that PIMS Staff recognize you as a guest.

**Q: Where can I go for help on site?**

If you need assistance or have a question during the conference, please feel free to talk to one of the organizers

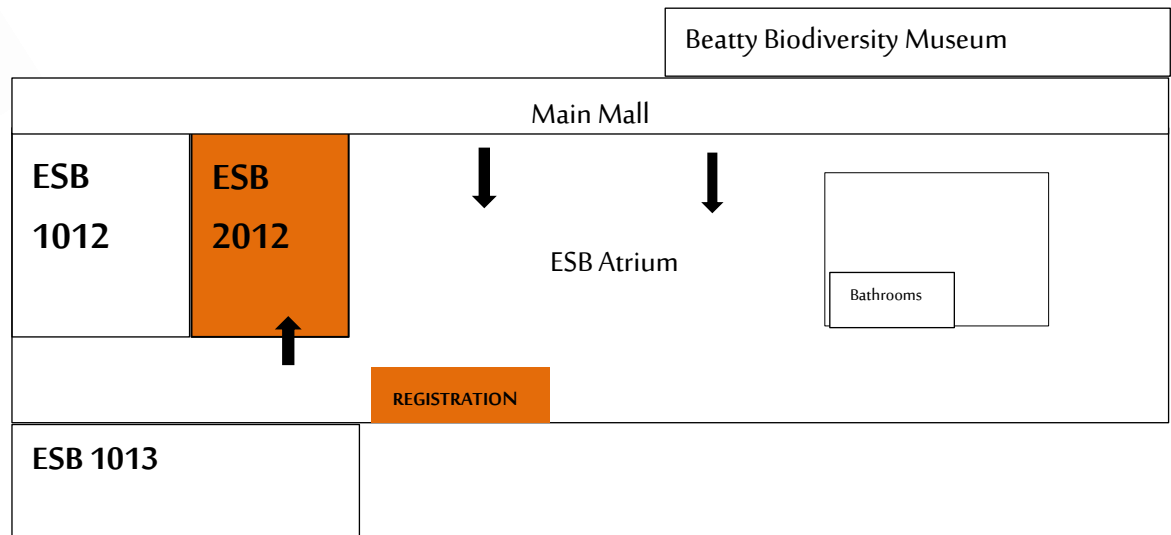
**Q: Where can I get refreshments and meals?**

For snack or quick meals, please view the list of UBC eateries attached at the end of the program; otherwise the workshop will provide morning coffee and pastries and afternoon coffee breaks

**Q: Where can I get directions for campus and the building?**

You will find a copy of the building floor on page 3 and a campus map at the end of the program

# Conference Room Guide: Earth Science Bldg 2207 Main Mall



## 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>

# Wednesday June 10, 2015

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\* Schedule is subject to changes and additions.

8:30 am - 8:50 am	Check-In/ Registration (ESB Atrium) & Coffee and Pastries (ESB 2012)
8:50 am - 9:00 am	Welcome Remarks: <ul style="list-style-type: none"><li>• <b>Workshop Organizers</b></li><li>• <b>Prof. Martin Barlow</b>, PIMS Interim Director</li></ul>
9:00 am - 10:00 am	<b>Eric Sawyer</b> , McMaster University  Local boundedness and continuity of weak solutions to infinitely degenerate elliptic equations, with applications to hypoellipticity of certain smooth quasilinear equations with infinite degeneracy
10:00 am -10:30 am	Coffee break (ESB 2012)
10:30 am - 11:30 am	<b>Arpad Benyi</b> , Western Washington University  Bilinear compactness, commutators and weights
11:30 am - 12:30 pm	<b>Diego Maldonado</b> , Kansas State University  Analysis on the Monge–Ampère quasi-metric space and applications
12:30 pm - 2:30 pm	Lunch (See list of on Campus eateries and cafes)
2:30 pm - 3:30 pm	<b>Virginia Naibo</b> , Kansas State University  Recent developments on mapping properties of certain bilinear pseudo-differential operators
3:30 pm - 4:10 pm	Networking and Coffee break (ESB 2012 Lobby)
4:10 pm- 4:30 pm	<u>Contributed Talk 1:</u> <b>Mathew Coles</b> , University of British Columbia Resonance in the Nonlinear Schrödinger Equation
4:30pm - 4:50pm	<u>Contributed Talk 2:</u> <b>Dimitrios Roxanas</b> , University of British Columbia Global large energy solutions of the equivariant heat-flow

# Thursday June 11, 2015

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8:30 am - 9:00 am	Coffee and Pastries (ESB 2012)
9:00 am - 10:00 am	<b>Eric Sawyer</b> , McMaster University  Cont'd: Local boundedness and continuity of weak solutions...
10:00 am -10:30 am	Coffee break (ESB 2012)
10:30 am - 11:30 am	<b>Joonil Kim</b> , Yonsei University at Korea (University of California at Irvine)  Oscillatory integrals over global domains
11:30 am - 12:30 pm	<b>Xinwei Yu</b> , University of Alberta  On Stationary Solutions to Doi-Onsager Models
12:30pm - 12:45pm	Group Photo (ESB South Entrance)
12:45pm - 2:30pm	Lunch (See list of on Campus eateries and cafes)
2:30 pm - 2:55 pm	<u>Contributed Talk 3:</u> <b>Senthil R. Kalirathnam Srinivasagam</b> , Indian Institute of Science  $L^p$ -Fourier asymptotics of fractal measures
2:55 pm - 3:20 pm	<u>Contributed Talk 4:</u> <b>Kazuo Yamazaki</b> , Washington State University  On the three-dimensional magneto-hydrodynamics system in scaling-invariant spaces
3:20 pm - 3:45 pm	Coffee break (ESB 2012)
3:45 pm - 4:45 pm	Problem Discussion Session

# Friday June 12, 2015

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8:30am - 9:00am	Coffee and Pastries (ESB 2012)
9:00am - 10:00am	<b>Eric Sawyer</b> , McMaster University  Cont'd: Local boundedness and continuity of weak solutions...
10:00am -10:30am	Coffee break (ESB 2012)
10:30 am - 11:30 am	<b>Mike Kouritzin</b> , University of Alberta  Simulation and Estimation in Stochastic Differential Equations
11:30 am - 12:30pm	<b>Deniz Sezer</b> , University of Calgary  X-harmonic functions, conditioning, and the Martin boundary of  Super-Brownian motion
12:30 pm - 2:30 pm	Lunch (See list of on Campus eateries and cafes)
2:30pm - 3:30pm	<b>Michael Lamoureux</b> , University of Calgary  Gabor Multipliers
3:30pm - 3:45pm	Coffee break (ESB 2012)
3:45 pm - 4:05 pm	<u>Contributed Talk 5:</u> <b>Robert Fraser</b> , University of British Columbia Kakeya-Type Sets in Local Fields with Finite Residue Field
4:05 pm - 4:25pm	<u>Contributed Talk 6:</u> <b>Tatchai Titichetrakun</b> , University of British Columbia Weighted Removal Lemma and A Multi-dimensional Szemerédi's Theorem in the Primes
4:25pm - 4:30pm	Concluding Remarks: Organizers

# Titles and Abstracts: Plenary lectures

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Arpad Benyi, Western Washington University

## **Bilinear compactness, commutators and weights**

We will present several facts connecting bilinear commutators and the notion of compactness, including results in the context of weighted Lebesgue spaces.

Mike Kouritzin, University of Alberta

## **Simulation and Estimation in Stochastic Differential Equations**

Randomness is prevalent. It appears in images, stock prices, animal movement, packet data, even within living cells. To make valid interpretations and predictions, we must learn how to simulate and process noisy dynamical systems. A most popular way to model noisy dynamical systems is through stochastic differential equations. In this talk, we will introduce new methods of simulation and estimation of stochastic differential equations. In particular, the notions of strong and weak solutions to stochastic differential equations, differential form and commutator conditions for simple explicit solutions to stochastic differential equations, the stochastic partial differential equations of filtering theory and a novel branching particle filter will all be introduced. The efficacy of our methods will be validated by simulation and intuition. References will be given for the rather-involved mathematical proofs.

Michael Lamoureux, University of Calgary

## **Gabor Multipliers**

Introduced as a non-stationary generalization of Fourier multipliers, the Gabor multipliers share many of the characteristics of the familiar pseudodifferential operators that arise in the analysis of partial differential equations. We will demonstrate a functional calculus for these linear integral operators, and demonstrate their use in physical modelling as well as their computational advantages in numerical work. Applications to simulation of wave propagation and non-stationary deconvolution in seismic imaging will be presented.

Diego Maldonado, Kansas State University

## **Analysis on the Monge–Ampère quasi-metric space and applications**

We will start by reviewing the construction of a doubling quasi-metric structure associated to convex solutions of the Monge–Ampère equation  $\det D^2 u = f$ . Then we will report on the existence of Sobolev and Poincaré-type inequalities adapted to such quasi-metric structure. Finally, we will go over some applications of the resulting first-order calculus, including intrinsic Harnack inequalities for the linearized elliptic and parabolic Monge–Ampère equations.

Virginia Naibo, Kansas State University

### **Recent developments on mapping properties of certain bilinear pseudodifferential operators**

The study of bilinear pseudodifferential operators is motivated by topics in analysis and partial differential equations such as commutators, paraproducts and fractional Leibniz-type rules. In this lecture, we will present an overview of recent results and techniques on boundedness properties of operators with symbols in the bilinear Hörmander classes and in the settings of Lebesgue spaces, Besov and Triebel-Lizorkin spaces, and BMO.

Jooni Kim, Yonsei University at Korea (University of California at Irvine)

### **Oscillatory integrals over global domains**

We discuss about the asymptotic behaviors for the 2D oscillatory integrals with polynomial phase functions.

Especially, we study the cases that (1) the domain of integral is unbounded, or (2) the phase function involves a vector polynomial. Similar problem is measuring a sublevel-set which can be an unbounded set, or an intersection of various different sublevel sets. Our results are described in terms of generalized notions of Newton polyhedra.

Eric Sawyer, McMaster University

### **Local boundedness and continuity of weak solutions to infinitely degenerate elliptic equations, with applications to hypoellipticity of certain smooth quasilinear equations with infinite degeneracy**

The classical DeGiorgi-Nash-Moser theory of local boundedness and continuity of weak solutions to elliptic equations with bounded measurable coefficients has seen significant extension over the decades to the case of subelliptic degeneracy where the appropriate eigenvalues vanish to finite order. In the case where the coefficients are in addition smooth, this theory has been extended even to the infinitely degenerate regime in special cases by Strook, Kusouka, Morimoto, Christ and others. In these three talks we will briefly review these rough subelliptic and smooth infinitely degenerate theories, and introduce a new modification of these ideas that can be used to further extend the theory to the rough coefficient infinitely degenerate regime. We concentrate on model cases where Orlicz spaces play a critical role with submultiplicative Young functions, and a careful determination of properties of infinitely degenerate geometries can be computed. This is ongoing joint work with Ludmila Korobenko, Cristian Rios and Ruipeng Shen.

Deniz Sezer, University of Calgary

### **X-harmonic functions, conditioning, and the Martin boundary of Super-Brownian motion**

In this talk I am going to describe a measure valued stochastic process called Super Brownian Motion (SBM) and how one can obtain certain conditional distributions of this process via X-harmonic functions. I will show an explicit construction of a Super-Brownian Motion conditioned on its exit measure, and discuss the connections of this conditioning to the Martin boundary of Super-Brownian motion.



Xinwei Yu, University of Alberta

### **On Stationary Solutions to Doi-Onsager Models**

We study the Doi-Onsager models with general potential kernel in  $\geq 2$  dimensions, with special emphasis on the classical Onsager kernel. We obtain the uniqueness of the trivial solution for low temperatures as well as the local bifurcation structure of the solutions through application of topological degree methods. This is joint work with Dr. Mohammad Ali Niksirat.

# Titles and Abstracts: Contributed Talks

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**Matthew Coles**, University of British Columbia

## **Resonance in the Nonlinear Schrödinger Equation**

The focusing Nonlinear Schrödinger Equation exhibits solitary wave solutions (solitons) whose stability is related to the spectrum of a linearized operator. In one space dimension with a cubic nonlinearity this operator has a resonance eigenvalue on the edge of its essential spectrum. When the power in the nonlinearity is perturbed from 3 we see the resonance pop out of the essential spectrum and become a true eigenvalue. We discuss an analytic study of this bifurcation.

**Robert Fraser**, University of British Columbia

## **Keakeya-Type Sets in Local Fields with Finite Residue Field**

In a 2013 paper, Evan Dummit and Márton Hablicsek published a paper describing a Keakeya set of measure zero in the ring of formal power series over a finite field. I describe how a construction appearing in a 1987 paper of Eric Sawyer, and a modification appearing in a 2004 paper of Laura Wisewell, can be modified to describe measure-zero Keakeya sets in other discrete valuation rings and local fields.

**Senthil Raani**, Indian Institute of Science

## **$L^p$ -Fourier asymptotics of fractal measures**

One of the basic questions in harmonic analysis is to study the decay properties of the Fourier transform of measures or distributions supported on thin sets in  $\mathbb{R}^n$ . If  $dS$  denotes the surface measure on the sphere and  $f$  any compactly supported function on  $\mathbb{R}^n$ , then using the properties of Bessel functions, the behavior of the Fourier transform of  $fdS$  are known at infinity. Similar results are known for measures supported in lower dimensional manifolds in  $\mathbb{R}^n$  under appropriate curvature conditions. In this talk we discuss  $L^p$ -asymptotics of the Fourier transform of fractal measures supported on a set  $E$  of finite packing measure by studying the behavior of the Fourier transform of such measures at infinity.

**Dimitrios Roxanas**, University of British Columbia

## **Global large energy solutions of the equivariant heat-flow.**

We consider  $m$ -corotational solutions to the harmonic map heat flow from  $\mathbb{R}^2$  to  $S^2$ ,  $m \geq 2$ . For maps with topological degree zero and energy of the initial data below two times the energy of the stationary harmonic map solutions, we establish global existence and decay. The proof is based on the "concentration-compactness plus rigidity" approach of Kenig and Merle and relies on a profile decomposition and the dissipation of energy. If time permits, we will discuss extensions to some higher energy and non-trivial topology cases. (This is based on joint work with S.Gustafson)

**Tatchai Titichetrakun**, University of British Columbia

### **Weighted Removal Lemma and A Multi-dimensional Szemerédi's Theorem in the Primes**

Multi-dimension Szemerédi theorem, first proved by Furstenberg-Katnelson, states that any given subset of  $\mathbb{Z}^d$  with positive upper density must contain affine copies of any finite subset of  $\mathbb{Z}^d$ . In 2004, Green and Tao extended this theorem in case  $d=1$  to primes (with relative density in place of density), using a pseudo-randomness property of primes.

Questions of extending Green-Tao result to higher dimensions left open for some time due to some correlations between elements of the cartesian product of primes, making it hard to satisfy a randomness condition. This problem is resolved by three methods in 2013 (also due to Tao-Ziegler and Fox-Zhao). In this talk, I will describe our approach using weighted hypergraph. By transferring hypergraph regularity and energy increment arguments to our weighted setting. Then we can use it to prove a simplex removal lemma on the corresponding weighted hypergraph which would imply multi-dimensional Green-Tao Theorem. This is a joint work with B. Cook and A. Magyar.

**Kazuo Yamazaki**, Washington State University

### **On the three-dimensional magnetohydrodynamics system in scaling-invariant spaces**

Sufficient and necessary conditions for a solution to fluid mechanics PDEs such as the Navier-Stokes equations, magnetohydrodynamics system and surface quasi-geostrophic equations has caught much attention over many decades. We discuss component reduction results of such conditions, that require in their proofs key identities due to divergence-free properties of the solutions and how anisotropic Littlewood-Paley theory has also become useful in the recent years. In connection to the rescaling of the solutions to these PDEs, we also discuss some challenging open problems.

# 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](http://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](http://www.catering.ubc.ca)

### Sage Bistro at University Centre

Casual fine dining available for breakfast, lunch and special events

[www.sage.ubc.ca](http://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](mailto: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](mailto: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 Biodiversity 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 lattes. 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 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 Pit Burger Bar



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

### The Pit Pub



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



### The Moon Noodle House



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

### 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 Pendulum Restaurant



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

### Pie R Squared



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

[www.catering.ubc.ca](http://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](http://theboulevard.ca)

### Mahony & Sons Public House

at David Strang, 5990 University Blvd.  
[www.mahonyandsons.com](http://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

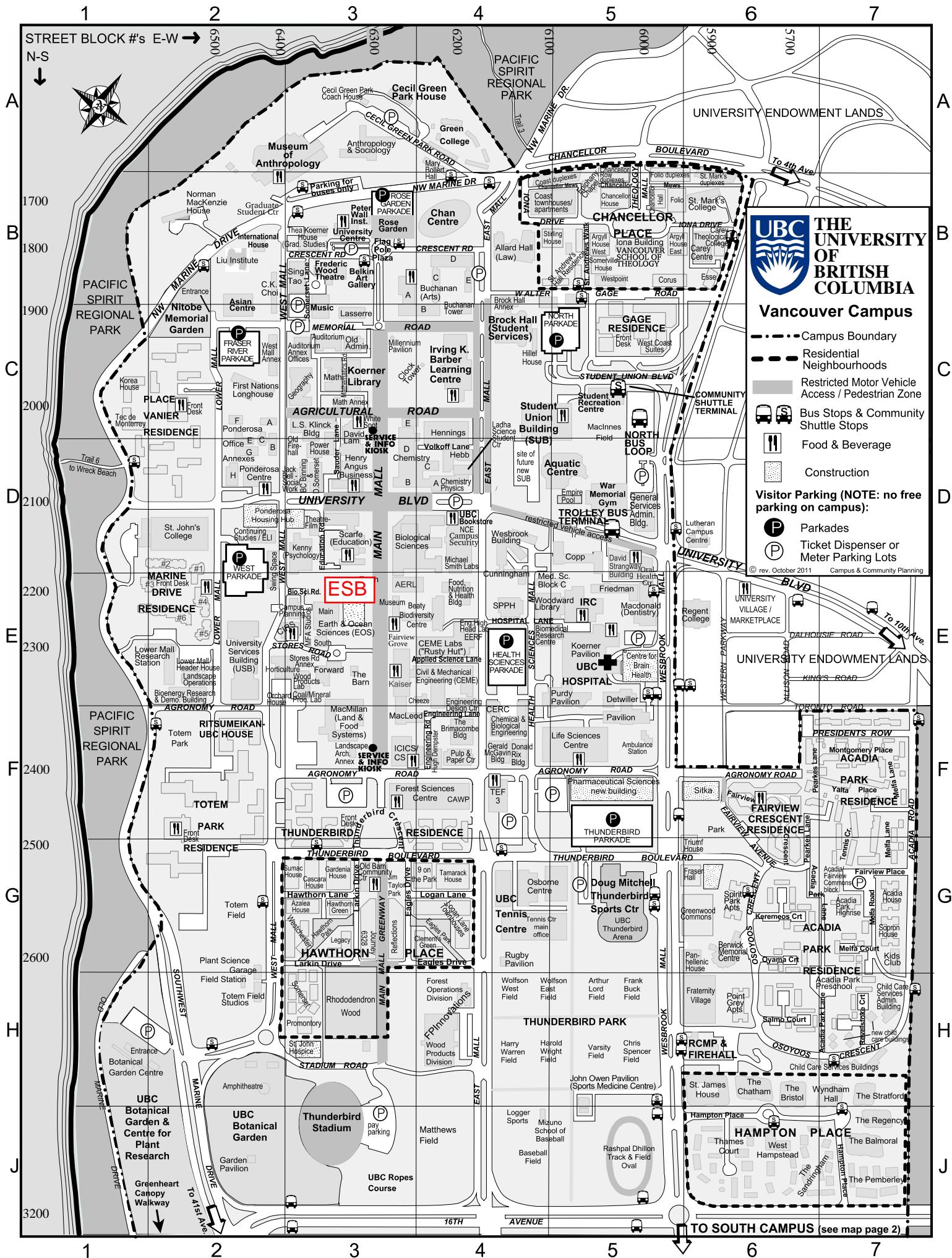
**Yi Kou Xiang** Chinese



ALSO RECOMMENDED...

**Westward Ho! PublicHouse & Grill Room** at the University Golf Club  
[www.universitygolf.com/dine](http://www.universitygolf.com/dine)





# 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. Greenhouses/ Workshops, 6088 S. Campus Rd .....	South Campus
Brimacombe Building, 2355 East Mall .....	F4
<b>BROCK HALL: Student Services &amp; Welcome Centre, 1874 East Mall .....</b>	<b>C4</b>
Brook 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 <i>Civil &amp; Mechanical Engineering Building</i>	
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 <i>Centre for Interactive Research on Sustainability</i> ..	
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 <i>Continuing Studies Building</i>	
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 <i>Thea Koerner House</i>	
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

Site or Building Name & Address	Grid
Hille 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
ICIS/ICS (Institute for Computing, Information & Cognitive Systems/Computer Science), 2366 Main Mall .....	E4
Instructional Resources Centre (IRC), 2194 Health Sciences Mall .....	F5
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 <i>Allard Hall</i>	
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 Health 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 <i>Auditorium</i>	
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

Site or Building Name & Address	Grid
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 <i>Doug Mitchell Thunderbird Sports</i> ..	
Totem Field Studies, 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

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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](http://www.maps.ubc.ca)

