

Event Summary: Summer School June 8 – July 3 2009

Organizers: David Brydges, Edwin Perkins, Gordon Slade, Mathematics UBC.

Under the collective title *Probability and Statistical Mechanics* two four-week graduate courses were given by David Brydges and Donald Dawson, on *Statistical Mechanics and the Renormalisation Group* and *Stochastic Population Systems*, respectively. The courses ran from June 8 to July 3 2009. They took place at UBC hosted by PIMS. Each course consisting of 16 1.5 hour lectures and student presentations on a voluntary basis for an additional 6 hours per course making a total of 30 hours per course so that they count as graduate courses under the Western Deans Agreement. Social activities, hikes and a picnic on the beach and a film also took place. It had 87 registered participants from many countries. Support for students was allocated by an international committee whose members were Jean-Francois LeGall, Paris 11; Maria Emilia Caballero, UNAM; Neal Madras, York University, Vladas Sidoravicius, IMPA; Zhen-Qing Chen, University of Washington; Martin Barlow, Gordon Slade, Edwin Perkins, David Brydges, UBC.

Scientific Highlights. Fisher Wright evolution and more complex models that include mutation and selection and infinitely many types Gromov metric and other beautiful topics that emerge in studying the Kingman Coalescant and trees identified with random measures on the real line Phase transitions, outstanding open problems in statistical mechanics, Gaussian measures on high dimensional spaces Combinatorial objects counted by Feynman diagrams and the role of supersymmetry Analysis and existence of scaling limits by Renormalisation Group Role of duality in proving that martingale problems are well posed

Further details are available at
<http://www.math.ubc.ca/~db5d/SummerSchool09/index.html>

Event Outcomes

The Summer school came at a time of increasing interest in probability, probably related to recent Fields Medals awarded for work with a big component in probability. In consequence we attracted many bright students and more senior visitors. The social interactions and the relaxed pace allowed everyone

to get to know each other as well as have extended discussions on science. For the graduate students and postdocs the contacts will help their careers. Their good experience at the Summer school has been clear in the increased number of very strong applications to the UBC probability program by graduate students and postdocs. It has also made our subsequent Summer schools very popular. We have about 90 very strong applications for the 2012 Summer school in probability.

Table 1: List of Participants

Last Name	First Name	Organization	Occupation	Supported	Female
Xu	Fang	McMaster university	Graduate Student	1	1
Chandra	Ajay	University of Virginia	Graduate Student	1	0
Rastegar	Reza	Iowa State University		0	0
Dumaz	Laure	ENS	Graduate Student	1	1
Okhrati	Ramin	Concordia University	Graduate Student	0	0
Shiraishi	Daisuke	Kyoto university	Graduate Student	1	0
Nakashima	Makoto	Kyoto university	Graduate Student	1	0
Allez	Romain	ENS	Graduate Student	1	0
Fitzner	Robert	Eindhoven University of Technology	Graduate Student	1	0
Le	Tuan	State University of New York at Buffalo	Graduate Student	1	0
Dahlqvist	Antoine	ENS Paris	Graduate Student	1	0
Lohmann	Martin	ETH Zurich	Graduate Student	0	0
Timmers	Dennis	UBC	Graduate Student	0	0
Ortiz	Vctor	UB	Graduate Student	1	0
Diaz Espinosa	Oliver	University of Toronto	Postdoctoral Fellow	0	0
Berger	Quentin	Ecole Normale Suprieure	Undergraduate Student	1	0
Mardin	Arif	Telecom SudParis	Professor	0	0
Eslami	Peyman	Concordia University	Graduate Student	1	0
Cortes	David	Universidad Nacional Autonoma de Mexico	Graduate Student	1	0
Zhao	Guowei	State University of New York at Buffalo	Graduate Student	1	0
Kuan	Jeffrey	California Institute of Technology	Undergraduate Student	0	0
Prost	Stefan	Max Planck Institute	Graduate Student	0	0
Chhita	Sunil	Brown University	Graduate Student	1	0
Petrov	Leonid	Institute for Information Transmission Problems	Graduate Student	1	0
Verella	J. Tipan	University of Virginia	Graduate Student	1	0
LaGatta	Tom	University of Arizona	Graduate Student	1	0
Sapozhnikov	Artem	TU/e	Postdoctoral Fellow	1	0
Fernandez	Luis	Instituto de Fsica Interdisciplinar y Sistemas Complejos	Graduate Student	1	0
Li	Song	University of Toronto	Graduate Student	0	0
Wang	Feijia	Leiden University	Graduate Student	1	0
Kliem	Sandra	UBC	Graduate Student	0	1
Ahn	ShinMi	Seoul National Univ.	Graduate Student	1	1
Morin-Duchesne	Alexi	Universite de Montreal	Graduate Student	1	0
Xu	Lihu	Eindhoven Technology University	Postdoctoral Fellow	1	0
Santos	Renato	Leiden University	Graduate Student	1	0
Provencher	Guillaume	Centre de Recherches Mathmatiques	Graduate Student	1	0
Pittman-Polletta	Benjamin	University of Arizona		0	0
Nakashima	Benjamin	University of Arizona	Graduate Student	0	0
Vollering	Florian	Universiteit Leiden	Graduate Student	1	0
chatterjee	shirshendu	cornell university	Graduate Student	1	0
Barrios	Juan	School of Sciences- UNAM	Graduate Student	1	0
Riley	Eric	Portland State University	Graduate Student	1	0
Avena	Luca	Leiden University	Graduate Student	1	0
Gomez	Alejandro	University of Rochester	Graduate Student	1	0
Nadal	Celine	ENS/LPTMS Orsay	Graduate Student	1	1
Amorim	Gustavo	Universidade Federal de Minas Gerais	Graduate Student	0	0
Troiani	Alessio	Leiden University	Graduate Student	1	0
Liu	Rongli	Peking University	Graduate Student	1	1
He	Hui	Beijing Normal University	N/A	0	0
Ma	Chunhua	Nankai University	N/A	0	0

Table 2: List of Particants continued

Last Name	First Name	Organization	Occupation	Supported	Female
Chu	Weijuan	Peking University	Graduate Student	1	1
Vafayi	Kiamars	Leiden University	Graduate Student	1	0
den Hollander	Frank	Leiden University	Professor	0	0
Halasan	Florina	UBC	Graduate Student	0	1
Fadoua	ghanimi	ibn tofail	Graduate Student	0	0
Ryser	Marc D.	McGill University	Graduate Student	0	0
Geng	Xin	UBC	Graduate student	0	0
Helmuth	Tyler	University of British Columbia	Graduate Student	0	0
Ferrante	Marco	University of Padova		0	0
legrand	laurne	university of paris 6		0	0
Straka	Peter	University of New South Wales		0	0
Folz	Matthew	University of British Columbia	Graduate Student	0	0
Perkins	Ed	UBC		0	0
Tassion	Vincent	ENS Lyon		0	0
Andres	Sebastian	Technical University Berlin		0	0
Yang	Scott	Simon Fraser University		0	0
Shen	Hao	Princeton University		0	0
Torabi	Behnam	Simon Fraser University		0	0
Rifkind	Ben	UBC		0	0
Zheng	Xinghua	UBC		0	0
Kang	Yicheng	UBC		0	0
Braga	Gasto	UFMG (Brazil)		0	0
Kroc	Edward	UBC		0	0
Shi	Qiyang	Fuzhou University		0	1
Ermolaev	Victor	University of Groningen		0	0
Iacobelli	Giulio	University of Groningen		0	0
Colaneri	Katia	Universit degli studi RomaTre		0	1
Salvi	Michele	Roma 3 university		0	0
Attar	Alireza	UBC		0	0
Schlemm	Eckhard	TUM		0	0
Rutherford	Alexander	Simon Fraser University		0	0
wu	chunhu	nk		0	0
Goodman	Jesse	University of British Columbia		0	0
Namvar Gharehshiran	Omid	University of British Columbia		0	0
Cooper	Alan	Langara College		0	0
Bauerschmidt	Roland	UBC		0	0
Mejia Miranda	Yuri	UBC		0	1

Demographics

- Number of Participants: 89
- Males: 78
- Females: 11
- Professors: 7
- Postdoctoral Fellows: 8
- Graduate Students: 70
- Undergraduate Students: 2
- Industrial Scientists: 1

- Others: 1
- From Canada: 28
- British Columbia: 31, Ontario 3, Quebec 4, Other North Americans 14, Others 45

Small deviations from the numbers in the table of participants may occur because demographic forms were filled out by people attending classes whereas the participant list is created from registered participants.

Table 3: Final Budget

Probability Summer School 2009		
Contact organizer: David Brydges		
Date: Jun 7 - Jul 4, 2009		
<i>Budget last update: Feb 4, 2009</i>		
Income	Amount	Source
PIMS	\$15,000.00	PIMS
CRM	\$35,000.00	CRM
MITACS (2500 pending)	\$25,000.00	MITACS
UBC MATH - Brydges' course buyout	\$10,500.00	MATH
GORDON SLADE	\$3,000.00	NSERC
ED PERKINS	\$1,500.00	NSERC
Subtotal	\$90,000.00	
Expenses		
Student accommodation expenses at Gage 27 nights @ \$239/night per 6 students	\$38,718.00	PIMS
Expenses \$424.50/head * 36	\$15,282.00	PIMS
so that each student receives a total of \$1500		
Subtotal	\$54,000.00	
Additional supported students		
Accommodation for Arif Mardin	\$1,500.00	PIMS
Accommodation for Eric Riley	\$1,500.00	PIMS
Sapozhnikov	\$1,500.00	
Lihu Xu	\$1,500.00	
Subtotal	\$6,000.00	
Prof. Don Dawson		
Lodging @ Carey Centre 30 nights from Jun 6-Jul 6	\$1,980.00	PIMS
Parking expenses	\$60.00	PIMS
Stipend for Don Dawson	\$10,500.00	PIMS
Subtotal	\$12,540.00	
Brydges course buyout	\$10,500.00	MATH
Administrative support (chair sessions and collect abstracts) - Dennis Timmers	\$1,700.00	PIMS
Coffee breaks		
32 breaks for 50 people @ \$2.5/head	\$4,000.00	PIMS
Subtotal	\$16,200.00	
Net total	\$1,260.00	

Planned follow-up to this event (if any)

We have the 2010 Probability Summer School school at the University of Washington and Microsoft Research and there will be a 2012 Probability Summer school at UBC.