

# Random Processes and Systems

GCOE conference

Organizer: T. Kumagai (Kyoto)

DATES: February 16 (Mon.) – 19 (Thur.), 2009

PLACE: Room 110, Bldg. No 3, Department of Math., Kyoto University

## Program

February 16 (Mon.)

- 10:00–10:50 G. Grimmett (Cambridge)  
The quantum Ising model via stochastic geometry
- 10:50–11:00 Tea Break
- 11:00–11:50 T. Hara (Kyushu)  
Q-lattice animals: a model which interpolates lattice animals and percolation
- 13:20–13:50 B. Graham (UBC)  
Influence and statistical mechanics
- 14:00–14:30 R. Fukushima (Kyoto)  
Brownian survival and Lifshitz tail in perturbed lattice disorder
- 14:30–14:50 Tea Break
- 14:50–15:40 R.W. van der Hofstad (TUE)  
Incipient infinite clusters in high-dimensions
- 16:00–16:50 G. Slade (UBC)  
Random walks and critical percolation

February 17 (Tue.)

- 10:00–10:50 A.S. Sznitman (ETH)  
Disconnection of discrete cylinders and random interlacements
- 10:50–11:00 Tea Break
- 11:00–11:50 D. Croydon (Warwick)  
Random walks on random paths and trees
- 13:20–13:50 J. Goodman (UBC)  
Exponential growth of ponds in invasion percolation
- 14:00–14:50 M.T. Barlow (UBC)  
Convergence of random walks to fractional kinetic motion
- 14:50–15:10 Tea Break
- 15:10–16:00 A. Nachmias (Microsoft)  
The Alexander-Orbach conjecture holds in high dimensions
- 16:10–17:00 G. Kozma (Weizmann)  
Arm exponents for high- $d$  percolation

February 18 (Wed.)

- 10:00–10:50 T. Funaki (Tokyo)  
Scaling limits for weakly pinned random walks with two large deviation minimizers
- 10:50–11:00 Tea Break
- 11:00–11:50 H. Tasaki (Gakushuin)  
Extended thermodynamic relation and entropy for nonequilibrium steady states
- 13:20–13:50 M. Sasada (Tokyo)  
Hydrodynamic limit for two-species exclusion processes with one conserved quantity
- 14:00–14:30 H. Sakagawa (Keio)  
Behavior of the massless Gaussian field interacting with the wall
- 14:40–15:10 S. Bhamidi (UBC)  
Gibbs measures on combinatorial structures
- 15:10–15:30 Tea Break
- 15:30–16:20 N. Yoshida (Kyoto)  
Phase transitions for linear stochastic evolutions
- 16:30–17:20 S. Olla (Paris)  
From Hamiltonian dynamics to heat equation: a weak coupling approach

February 19 (Thur.)

- 10:00–10:50 D. Brydges (UBC)  
Self-avoiding walk and the renormalisation group
- 10:50–11:00 Tea Break
- 11:00–11:50 A. Sakai (Hokkaido)  
Critical behavior and limit theorems for long-range oriented percolation in high dimensions
- 13:20–14:10 H. Tanemura (Chiba)  
Non-equilibrium dynamics of determinantal processes with infinite particles
- 14:20–15:10 H. Osada (Kyushu)  
Interacting Brownian motions with  $2D$  Coulomb potentials
- 15:10–15:20 Tea Break
- 15:20–16:10 H. Spohn (TU München)  
Kinetic limit of the weakly nonlinear Schrödinger equation with random initial data

This conference is based on the joint research project between PIMS and Kyoto University.