

**Random Interacting Systems,  
Scaling Limits, and Universality  
(04 Dec 2023–22 Dec 2023)**



**Venue**

IMS Auditorium  
Institute for Mathematical Sciences  
3 Prince George's Park  
Singapore 118402

**ORGANIZING COMMITTEE**

**Co-Chairs**

Akira Sakai  
Hokkaido University

Rongfeng Sun  
National University of Singapore

**Week 2**  
**Workshop in Honour of Takashi Hara**  
**(11 to 15 Dec 2023)**

**Monday, 11 December 2023**

Time	Title	Speaker
09:00-09:30	Registration	
09:30-10:20	A local limit theorem for the long-range self-avoiding walk	Lung-Chi Chen National Chengchi University, Taipei
10:20-10:50	Coffee Break	
10:50-11:40	Rate of convergence of the critical point for the memory- $\tau$ self-avoiding walk in dimension $d > 4$	Noe Kawamoto Hokkaido University, Japan
11:40-12:30	Percolation phase transition for the marked random connection model	Markus Heydenreich Universität Augsburg, Germany
12:30-14:00	Lunch break	
14:00-14:50	High-temperature cluster expansion for quantum spin lattice systems	Roberto Fernandez Utrecht University, Netherlands NYU Shanghai, China
14:50-15:20	Coffee Break	
15:20-16:10	Localization of a renormalized Hamiltonian in QFT by a path measure	Fumio Hiroshima Kyushu University, Japan

**Tuesday, 12 December 2023**

Time	Title	Speaker
09:00-09:30	Registration	
09:30-10:20	$x$ -space asymptotics in high-dimensional percolation, lattice trees and lattice animals	Remco van der Hofstad Eindhoven University of Technology, Netherlands
10:20-10:50	Coffee Break	
10:50-11:40	Lattice trees and friends in high dimensions	Mark Holmes The University of Melbourne, Australia
11:40-12:30	Convergence of the voter model to historical Brownian motion in $d > 2$ dimensions	Tim Banova The University of Melbourne, Australia
12:30-14:00	Lunch break	

Tuesday, 12 December 2023		
Time	Title	Speaker
14:00-14:50	The near-critical two-point function and the torus plateau in high-dimensional percolation	Tom Hutchcroft Caltech, USA
14:50-15:20	Coffee Break	
15:20-16:10	Stochastic analysis for strongly correlated, infinite particle systems	Hirofumi Osada Chubu University, Japan
Wednesday, 13 December 2023		
Time	Title	Speaker
09:00-09:30	Registration	
09:30-10:20	Self-organized criticality and avalanches in 2D forest fires	Pierre Nolin City University of Hong Kong, China
10:20-10:50	Group Photo & Coffee Break	
10:50-11:40	Incompressible limit for a weakly asymmetric simple exclusion process with collision	Kenkichi Tsunoda Kyushu University, Japan
11:40-12:30	Integrable interacting particle systems: from micro to macro	Cristian Giardinà Università degli Studi di Modena e Reggio Emilia, Italy
12:30-14:00	<b><i>Lunch Reception at IMS</i></b>	
Thursday, 14 December 2023		
Time	Title	Speaker
09:00-09:30	Registration	
09:30-10:20	Zeros of random power series with stationary Gaussian coefficients	Tomoyuki Shirai Kyushu University, Japan
10:20-10:50	Coffee Break	
10:50-11:40	Number of paths in oriented percolation as zero temperature limit of directed polymer	Ryoki Fukushima Tsukuba University, Japan
11:40-12:30	Heat kernel fluctuations and quantitative homogenization for the one-dimensional Bouchaud trap model	Takashi Kumagai Waseda University, Japan
12:30-14:00	Lunch break	
14:00-14:50	Conformal covariance of connection probabilities and fields in 2D critical percolation	Federico Camia NYU Abu Dhabi, UAE
14:50-15:20	Coffee Break	
15:20-16:10	Cutting Liouville quantum gravity by SLE with mismatched central charge	Morris Ang Columbia University, USA
16:10-16:40	Coffee Break	

**Thursday, 14 December 2023**

Time	Title	Speaker
16:40-17:30	Percolation exponent, conformal radius for SLE, and Liouville structure constant	Xin Sun Peking University, China
17:45-18:00	Walk to the Scholar	
18:00-20:00	Conference Dinner @ The Scholar	

**Friday, 15 December 2023**

Time	Title	Speaker
09:00-09:30	Registration	
09:30-10:20	Loop-erased random walk in three dimensions	Daisuke Shiraishi Kyoto University, Japan
10:20-10:50	Coffee Break	
10:50-11:40	Gaussian deconvolution and the lace expansion	Yucheng Liu The University of British Columbia, Canada
11:40-12:30	Boundary conditions and universal finite-size scaling in high dimensions	Gordon Slade The University of British Columbia, Canada

**This schedule is accurate as of 30 November 2023. It is subjected to changes**