

RIMS Research Project (RIMS 共同研究 (公開型)) :

Gaussian Free Fields and Related Topics (ガウス自由場および関連する話題)

Dates: 18 September 2018 (Tuesday) 9:45 – 21 September 2018 (Friday) 16:50

Venue: Room 420, Research Institute for Mathematical Sciences (RIMS), Kyoto University

Organizers: Naotaka Kajino (Kobe University, Chair)

Takashi Kumagai (Kyoto University)

Daisuke Shiraishi (Kyoto University)

Program

	Sept. 18 (Tue.)	Sept. 19 (Wed.)	Sept. 20 (Thu.)	Sept. 21 (Fri.)
9:50–10:40	Wu	Berestycki	Sheffield	Louidor
10:40–11:00	(Tea Break)	(Tea Break)	(Tea Break)	(Tea Break)
11:00–11:40	Sakagawa	Katori	Nakashima	Abe
11:50–12:40	Vargas	Vargas	Miller	Miller
12:40–14:00	(Lunch Break)	(Lunch Break)	(Lunch Break)	(Lunch Break)
14:00–14:50	Wu	Berestycki	Sheffield	Louidor
14:50–15:10	(Tea Break)	(Tea Break)	(Tea Break)	(Tea Break)
15:10–15:50	Murayama	Nakajima	de Gier	M. Fukushima
16:00–16:40	R. Fukushima	Kawabi	Sasamoto	Oshima
16:50–17:30			Kusuoka	
18:00–		Workshop Banquet		

18 September 2018 (Tuesday)

- 9:45–9:50 Opening Remarks
- 9:50–10:40 Hao Wu (Tsinghua University)
Gaussian free field: level lines and connection probabilities (I)

(Tea break for 20 minutes)

- 11:00–11:40 Hironobu Sakagawa (Keio University)
Localization of a Gaussian membrane model with weak pinning potentials
- 11:50–12:40 Vincent Vargas (École normale supérieure)
An introduction to Liouville conformal field theory (I)

(Lunch break for 80 minutes)

- 14:00–14:50 Hao Wu (Tsinghua University)
Gaussian free field: level lines and connection probabilities (II)

(Tea break for 20 minutes)

- 15:10–15:50 Takuya Murayama (Kyoto University)
Characterization of the explosion time for the Komatu–Loewner evolution
- 16:00–16:40 Ryoki Fukushima (Kyoto University)
Tail estimates for the random walk in random scenery

19 September 2018 (Wednesday)

- 9:50–10:40 Nathanaël Berestycki (University of Vienna)
Dimers and imaginary geometry (I)

(Tea break for 20 minutes)

- 11:00–11:40 Makoto Katori (Chuo University)
Elliptic DPP, one-component plasma, and GFF
- 11:50–12:40 Vincent Vargas (École normale supérieure)
An introduction to Liouville conformal field theory (II)

(Lunch break for 80 minutes)

- 14:00–14:50 Nathanaël Berestycki (University of Vienna)
Dimers and imaginary geometry (II)

(Tea break for 20 minutes)

- 15:10–15:50 Shuta Nakajima (Kyoto University)
Ergodic property of the number of infinite geodesics in first-passage percolation
- 16:00–16:40 Hiroshi Kawabi (Keio University)
Riemannian Wasserstein geometry on the space of Gaussian measures over the Wiener space

18:00– Workshop Banquet

20 September 2018 (Thursday)

- 9:50–10:40 Scott Sheffield (Massachusetts Institute of Technology)
Universal randomness in 2D (I)

(Tea break for 20 minutes)

- 11:00–11:40 Makoto Nakashima (Nagoya University)
Free energy of directed polymers in random environment
- 11:50–12:40 Jason P. Miller (University of Cambridge)
Quantum gravity zipper

(Lunch break for 80 minutes)

- 14:00–14:50 Scott Sheffield (Massachusetts Institute of Technology)
Universal randomness in 2D (II)

(Tea break for 20 minutes)

- 15:10–15:50 Jan de Gier (University of Melbourne)
Six vertex limit shape outside the free fermion point
- 16:00–16:40 Tomohiro Sasamoto (Tokyo Institute of Technology)
Fluctuations of the stochastic higher spin six vertex model
- 16:50–17:30 Seiichiro Kusuoka (Okayama University)
The invariant measure and flow associated to the Φ^4 -quantum field model on the three-dimensional torus

21 September 2018 (Friday)

- 9:50–10:40 Oren Louidor (Technion - Israel Institute of Technology)
Extreme and large values of the discrete Gaussian free field (I)

(Tea break for 20 minutes)

- 11:00–11:40 Yoshihiro Abe (Gakushuin University)
Thick points for simple random walk on two-dimensional lattice
- 11:50–12:40 Jason P. Miller (University of Cambridge)
Random walks on random planar maps

(Lunch break for 80 minutes)

- 14:00–14:50 Oren Louidor (Technion - Israel Institute of Technology)
Extreme and large values of the discrete Gaussian free field (II)

(Tea break for 20 minutes)

- 15:10–15:50 Masatoshi Fukushima (Osaka University)
Gaussian fields, equilibrium potentials and Liouville random measures for Dirichlet forms I
- 16:00–16:40 Yoichi Oshima (Kumamoto University)
Gaussian fields, equilibrium potentials and Liouville random measures for Dirichlet forms II

(End of Workshop)