

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

## The 10th International Conference on Stochastic Analysis and its Applications (確率解析とその応用)

Dates: 6 September 2021 (Monday) 8:50 – 10 September 2021 (Friday) 18:10

Venue: Online (Zoom, LINC Biz and YouTube)

Scientific Committee:

Takashi Kumagai (Kyoto University, Chair)  
 Martin Barlow (University of British Columbia)  
 Zhen-Qing Chen (University of Washington)  
 Alison Etheridge (University of Oxford)  
 Tadahisa Funaki (Waseda University)  
 Jean-François Le Gall (University Paris-Sud Orsay)  
 James Norris (University of Cambridge)  
 Michael Röckner (University of Bielefeld)

Local Organizing Committee:

Masanori Hino (Kyoto University, Chair)  
 David Croydon (Kyoto University)  
 Ryoki Fukushima (University of Tsukuba)  
 Naotaka Kajino (Kyoto University)  
 Takashi Kumagai (Kyoto University)  
 Seiichiro Kusuoka (Kyoto University)  
 Daisuke Shiraishi (Kyoto University)  
 Kouji Yano (Kyoto University)

## Program

(As of September 4: The slots of the talks by Ni and Gubinelli have been interchanged.)

(Time in JST)	Sept. 6 (Mon.)	Sept. 7 (Tue.)	Sept. 8 (Wed.)	Sept. 9 (Thu.)	Sept. 10 (Fri.)
8:50–9:00	Opening Remarks				
9:00–9:40	Khoshnevisan	Fribergh	Gordina	Jabin	Takeda
10:00–10:40	Shen	Sethuraman	Murugan (10:00-10:25)	Fukushima	Uemura (10:00-10:25)
11:00–11:25	Zhu	Okamura	Inahama (10:40-11:05)	Ganguly	Jie-Ming Wang (10:40-11:05)
(11:15–11:40)			Shiraishi (11:15-11:40)		Kim (11:15-11:40)
	Lunch Break				
15:00–15:25	Jian Wang (14:40-15:20)	Hoshino	Free Discussion	Zhang	Feng-Yu Wang
15:40–16:20	Barbu	Zambotti		Stannat	Grigor'yan
16:40–17:05	Ottobre	Penington		Grothaus	Hartung
17:20–18:00	Chevyrev (17:20-17:45)	<b>Gubinelli</b>		<b>Ni</b>	Bovier
18:00–18:10					Closing

## Pre-recorded talks (streamed via LINC Biz and YouTube)

- Xin Chen (Shanghai Jiao Tong University)  
 Quenched Invariance Principle for a class of random conductance models with long-range jumps

- Sunil Chhita (Durham University)  
GOE Fluctuations for the maximum of the top path in ASMs
- Shen Lin (Sorbonne Université)  
Scaling limits of tree-valued branching random walks
- Leonid Mytnik (Technion)  
On the speed of a front for stochastic reaction-diffusion equations
- Zhongmin Qian (University of Oxford)  
Semi-linear parabolic equations on the Sierpinski gasket

## 6 September 2021 (Monday)

- 8:50–9:00 Opening Remarks
- 9:00–9:40 Davar Khoshnevisan (University of Utah)  
Phase analysis of a family of stochastic reaction-diffusion equations
- 10:00–10:40 Hao Shen (University of Wisconsin-Madison)  
Stochastic Yang-Mills process in 3D
- 11:00–11:25 Xiangchan Zhu (Chinese Academy of Science)  
Global-in-time probabilistically strong and Markov solutions to stochastic 3D Navier-Stokes equations: existence and non-uniqueness

(Lunch Break)

- 14:40–15:20 Jian Wang (Fujian Normal University)  
Convergence rates for inhomogeneous Markov chains from stochastic algorithms
- 15:40–16:20 Viorel Barbu (Romanian Academy)  
Exact and asymptotic controllability of nonlinear Fokker-Planck equations
- 16:40–17:05 Michela Ottobre (Heriot Watt University)  
Uniform in time approximations of stochastic dynamics
- 17:20–17:45 Ilya Chevyrev (University of Edinburgh)  
Path functions and homogenisation

## 7 September 2021 (Tuesday)

- 9:00–9:40 Alexander Fribergh (Université de Montréal)  
The ant in high-dimensional labyrinths
- 10:00–10:40 Sunder Sethuraman (University of Arizona)  
On microscopic derivation of a continuum mean-curvature flow
- 11:00–11:25 Kazuki Okamura (Shizuoka University)  
Some results for range of random walk on graph with spectral dimension two

(Lunch Break)

- 15:00–15:25 Masato Hoshino (Osaka University)  
Paracontrolled calculus and regularity structures
- 15:40–16:20 Lorenzo Zambotti (Sorbonne Université)  
Hairer's Reconstruction Theorem without Regularity Structures

- 16:40–17:05 Sarah Penington (University of Bath)  
Brownian bees in the infinite swarm limit
- 17:20–18:00 Massimiliano Gubinelli (University of Bonn)  
A variational method for Euclidean quantum fields

## 8 September 2021 (Wednesday)

- 9:00–9:40 Masha Gordina (University of Connecticut)  
Ergodicity for Langevin dynamics with singular potentials
- 10:00–10:25 Mathav Murugan (University of British Columbia)  
On the comparison between jump processes and subordinated diffusions
- 10:40–11:05 Yuzuru Inahama (Kyushu University)  
Stochastic Flows and Rough Differential Equations on Foliated Spaces
- 11:15–11:40 Daisuke Shiraishi (Kyoto University)  
Convergence of three-dimensional loop-erased random walk in the natural parameterization

(Lunch Break and Free Discussion in the afternoon)

## 9 September 2021 (Thursday)

- 9:00–9:40 Pierre-Emmanuel Jabin (Pennsylvania State University)  
Mean-field limit for non-exchangeable multi-agent systems
- 10:00–10:40 Ryoki Fukushima (University of Tsukuba)  
Number of paths in oriented percolation as zero temperature limit of directed polymer
- 11:00–11:25 Shirshendu Ganguly (UC Berkeley)  
Fractal geometry, noise-sensitivity and chaos in last passage percolation

(Lunch Break)

- 15:00–15:25 Xicheng Zhang (Wuhan University)  
Singular kinetic equations and applications
- 15:40–16:20 Wilhelm Stannat (TU Berlin)  
McKean-Vlasov SDEs in Nonlinear Filtering
- 16:40–17:05 Martin Grothaus (TU Kaiserslautern)  
Hypocoercivity for non-linear infinite-dimensional degenerate stochastic differential equations
- 17:20–18:00 Hao Ni (University College London)  
Conditional Sig-Wasserstein Generative models to generate realistic synthetic time series

## 10 September 2021 (Friday)

- 9:00–9:40 Masayoshi Takeda (Kansai University)  
Recurrent Dirichlet Forms, Critical Schrödinger Forms and Optimal Hardy Type Inequalities
- 10:00–10:25 Toshihiro Uemura (Kansai University)  
Homogenization of Diffusion Processes with Drifts via Unfolding
- 10:40–11:05 Jie-Ming Wang (Beijing Institute of Technology)  
Boundary Harnack principle for diffusion with jumps

- 11:15–11:40 Panki Kim (Seoul National University)  
Green function estimates and Boundary Harnack principles for non-local operators whose kernels degenerate at the boundary

(Lunch Break)

- 15:00–15:25 Feng-Yu Wang (Tianjin University)  
Wasserstein convergence for empirical measures of diffusion processes
- 15:40–16:20 Alexander Grigor’yan (University of Bielefeld)  
Analysis and heat kernels on ultra-metric spaces
- 16:40–17:05 Lisa Hartung (Universität Mainz)  
The structure of the extreme levels in the 2d discrete Gaussian free field
- 17:20–18:00 Anton Bovier (Bonn University)  
Branching Brownian motion with self repulsion
- 18:00–18:10 Closing

## Poster Session (held via LINC Biz)

- Yuichi Shiozawa (Osaka University)  
Maximal displacement of branching symmetric stable processes
- Liangbing Luo (University of Connecticut)  
Logarithmic Sobolev Inequalities on Non-isotropic Heisenberg Groups
- Takuya Murayama (Chuo University)  
On the continuity of half-plane capacity with respect to Carathéodory convergence
- Kei Noba (Institute of Statistical Mathematics)  
On the optimality of refraction — reflection strategies for Lévy processes
- Stefana-Lucia Anita (“Octav Mayer” Institute of Mathematics of the Romanian Academy)  
Optimal Control Problem for McKean-Vlasov Stochastic Equation
- Kouhei Matsuura (University of Tsukuba)  
Hölder estimates for resolvents of time-changed Brownian motions
- Marco Carfagnini (University of Connecticut)  
Small deviation principle and Chung’s law of the iterated logarithm for hypoelliptic diffusions
- Takahiro Mori (RIMS, Kyoto University)  
 $L^p$ -Kato class measures and their relations with Sobolev embedding theorems for Dirichlet spaces
- Lukas Wessels (Technische Universität Berlin)  
Peng’s Maximum Principle for Stochastic Partial Differential Equations
- Wenjian Liu (City University of New York)  
Bayesian Phylogenetic Inference of Stochastic Block Models on Infinite Trees
- Toru Sera (Osaka University)  
A conditional limit theorem for intermittent dynamical systems
- Gregor Pasemann (Humboldt-Universität zu Berlin)  
Statistical Analysis of Discretely Sampled Semilinear SPDEs: A Power Variation Approach
- Lucas Broux (LPSM, UMR 8001, Sorbonne Université; in collaboration with David Lee)  
Besov Reconstruction
- Kosuke Imada (Kyoto University)  
Fat selectability of measurable nondegenerate bases on spectral measure spaces