Program of the Conference

The first week (July 28th – August 1st)
Kyoto University Clock Tower Centennial Hall

July 28th (Mon.)

9:45–10:15	Registration
10:15–10:30	**President of the Mathematical Society of Japan** Opening remark
10:30–11:20	**Cédric Villani**, École Normale Supérieure de Lyon, Lecture 1 Optimal transport in geometry
11:20–11:40	Tea
11:40–12:30	**Terry J. Lyons**, University of Oxford, Lecture 1 Rough paths — A story in non-commutative analysis
12:30–14:00	Lunch
14:00–14:50	**Martin T. Barlow**, University of British Columbia Uniqueness of Brownian motion on the Sierpinski carpet
15:00–15:30	**Max von Renesse**, Technische Universität Berlin Entropic measure and Wasserstein diffusion
15:40–16:10	**Tsuyoshi Kato**, Kyoto University A dynamical pattern formation, tropical geometry and informative entropy
16:10–16:40	Tea
16:40–17:30	**Roland Friedrich**, Max-Planck-Institute für Mathe- matik The global geometry of stochastic Loewner evolutions

July 29th (Tue.)

10:00–10:50	**Cédric Villani**, École Normale Supérieure de Lyon, Lecture 2 Optimal transport in geometry
10:50–11:10	Tea
11:10–12:00	**Shigeki Aida**, Osaka University, Lecture 1 Rough path analysis: An introduction
12:00–14:00	Lunch

14:00–14:50　**Bálint Virág**, University of Toronto
　　　　　　Random matrices, probability, and geometry

15:00–15:30　**Tatsuya Tate**, Nagoya University
　　　　　　Bernstein measures on convex polytopes

15:40–16:10　**Chang-Wan Kim**, Korea Institute for Advanced
　　　　　　Study
　　　　　　Ricci and flag curvatures in Finsler geometry

16:10–16:40　Tea

16:40–17:30　**Shin-ichi Ohta**, Kyoto University
　　　　　　Optimal transport and Ricci curvature in Finsler
　　　　　　geometry

July 30th (Wed.)

10:00–10:50　**Shun-ichi Amari**, Riken
　　　　　　Information geometry, its applications and related
　　　　　　mathematical problems

10:50–11:10　Tea

11:10–12:00　**Shigeki Aida**, Osaka University, Lecture 2
　　　　　　Rough path analysis: An introduction

12:00–14:00　Lunch

14:00–14:50　**Sumio Watanabe**, Tokyo Institute of Technology
　　　　　　What we can estimate about a singularity from random
　　　　　　samples

15:00–15:30　**Hiroshi Matsuzoe**, Nagoya Institute of Technology
　　　　　　Statistical manifolds and affine differential geometry

15:40–16:10　**Kazuhiro Kuwae**, Kumamoto University
　　　　　　On discrete harmonic maps into CAT(k)-spaces via
　　　　　　Markov chains

16:10–16:40　Tea

　[Poster]　　**Hyun Yoo**, Hankyong National University
　　　　　　Projections in the reproducing kernel Hilbert spaces and
　　　　　　the conditional probabilities of determinantal point pro-
　　　　　　cesses in discrete spaces

　[Poster]　　**Wen-Haw Chen**, Tunghai University
　　　　　　On topological obstructions of compact Riemannian and
　　　　　　combinatorial positively Ricci curved manifolds

16:40–17:30 **Shinto Eguchi**, The Institute of Statistical Mathematics
Information divergence geometry and its application to machine learning

18:30–20:30 Buffet-style party (Kyodai-Kaikan)

July 31st (Thu.)

10:00–10:50 **Cédric Villani**, École Normale Supérieure de Lyon, Lecture 3
Optimal transport in geometry

10:50–11:10 Tea

11:10–12:00 **Shigeki Aida**, Osaka University, Lecture 3
Rough path analysis: An introduction

12:00–14:00 Lunch

14:00–14:50 **Takashi Shioya**, Tohoku University
Geometric analysis on Alexandrov spaces

15:00–15:30 **Yuzuru Inahama**, Tokyo Institute of Technology
A stochastic Taylor-like expansion in the rough path theory

15:40–16:10 **Kazumasa Kuwada**, Ochanomizu University
Characterization of maximal Markovian couplings for diffusion processes

16:10–16:40 Tea

16:40–17:30 **Keisuke Hara**, Ritsumeikan University
Rough path condition for smooth paths

August 1st (Fri.)

10:00–10:50 **Cédric Villani**, École Normale Supérieure de Lyon, Lecture 4
Optimal transport in geometry

10:50–11:10 Tea

11:10–12:00 **Vladimir Pestov**, University of Ottawa
Urysohn's universal, or random, metric space, its group of isometries, and other related structures

12:00–14:00 Lunch

14:00–14:50　**Robert J. McCann**, University of Toronto
　　　　　　Curvature, continuity and uniqueness of optimal transportation maps

15:00–16:10　Contributed Talks

　　　　　　Kouji Yano, Kobe University
　　　　　　Excursions away from a regular point for one-dimensional symmetric Lévy processes without Gaussian part

　　　　　　Hiroshi Kawabi, Okayama University
　　　　　　Riesz transforms on a path space with Gibbs measures

　　　　　　AbdulRahman Al-Hussein, Qassim University
　　　　　　Time-dependent backward stochastic evolution equations

16:10–16:40　Tea

16:40–17:30　**Yukio Otsu**, Kyushu University
　　　　　　Statistical mechanics of 1-particle ideal gas and deformation of Alexandrov spaces

August 2nd (Sat.)

Excursion　**13:30–17:30**

The second week (August 4th – August 8th) Shiran Kaikan

August 4th (Mon.)

10:00–10:50　**Laurent Saloff-Coste**, Cornell University, Lecture 1
　　　　　　Heat kernel estimates

10:50–11:10　Tea

11:10–12:00　**Yann Ollivier**, École Normale Supérieure de Lyon, Lecture 1
　　　　　　Survey on random groups

12:00–14:00　Lunch

14:00–14:50　**John Lott**, University of Michigan
　　　　　　Optimal transport and Perelman's reduced volume

15:00–15:30	**Yoshikata Kida**, Tohoku University
	Orbit equivalence rigidity for some groups acting on trees
15:40–16:10	**Atsushi Atsuji**, Keio University
	Estimates on the number of omitted values of meromorphic functions
16:10–16:40	Tea
16:40–17:30	**Vadim Kaimanovich**, Jacobs University Bremen
	Random graphs and equivalence relations

August 5th (Tue.)

10:00–10:50	**Laurent Saloff-Coste**, Cornell University, Lecture 2
	Heat kernel estimates
10:50–11:10	Tea
11:10–12:00	**Yann Ollivier**, École Normale Supérieure de Lyon, Lecture 2
	Discrete positive curvature, Markov chains and concentration of measure
12:00–14:00	Lunch
14:00–14:50	**Terry J. Lyons**, University of Oxford, Lecture 2
	Rough paths — A story in non-commutative analysis
15:00–16:10	Contributed Talks
	Masayoshi Watanabe, Tohoku University
	Concentration of measure via approximated Brunn-Minkowski inequalities
	Kei Funano, Tohoku University
	Concentration of 1-Lipschitz maps and group action
	Asuka Takatsu, Tohoku University
	On Wasserstein geometry of the space of Gaussian measures
16:10–16:40	Tea
16:40–17:30	**Hiroyasu Izeki**, Tohoku University
	A fixed-point property of discrete groups and an energy of equivariant maps

August 6th (Wed.)

10:00–10:50   **Laurent Saloff-Coste**, Cornell University, Lecture 3
Heat kernel estimates

10:50–11:10   Tea

11:10–12:00   **Yann Ollivier**, École Normale Supérieure de Lyon, Lecture 3
Discrete positive curvature, Markov chains and concentration of measure

12:00–14:00   Lunch

14:00–14:50   **Anton Thalmaier**, Université du Luxembourg
Li-Yau type inequalities and a priori estimates for heat equations by stochastic analysis

15:00–15:30   **Takefumi Kondo**, Kyoto University
Fixed-point property of random groups

15:40–16:10   **Jun Kigami**, Kyoto University
Measurable Riemannian geometry on the Sierpinski gasket

16:10–16:30   Tea

16:30–17:10   Contributed Talks

               Naotaka Kajino, Kyoto University
Weyl type spectral asymptotics for the Laplacian on Sierpinski carpets

               Ryoki Fukushima, Kyoto University
Brownian survival among perturbed lattice traps

19:00–21:00   Banquet (Ganko Takasegawa Nijoen)

August 7th (Thu.)

10:00–10:50   **Laurent Saloff-Coste**, Cornell University, Lecture 4
Heat kernel estimates

10:50–11:10   Tea

11:10–12:00   **Yann Ollivier**, École Normale Supérieure de Lyon, Lecture 4
Discrete positive curvature, Markov chains and concentration of measure

12:00–14:00   Lunch

14:00–14:50	**Dominique Bakry**, Université Paul Sabatier
	Gradient bounds for some hypo-elliptic heat equations
15:00–16:10	Contributed Talks
	Juillet Nicolas, University of Bonn
	Synthetic Ricci curvature bounds in the Heisenberg group
	Takumi Yokota, University of Tsukuba
	Perelman's reduced volume and gap theorem for the Ricci flow
	Shinichiroh Matsuo, University of Tokyo
	The Runege theorem for instantons
16:10–16:40	Tea
16:40–17:30	**Atsushi Kasue**, Kanazawa University
	Functions of finite Dirichlet sum and compactifications of infinite graphs

August 8th (Fri.)

10:00–10:50	**Ichiro Shigekawa**, Kyoto University
	Non symmetric diffusions on a Riemannian manifold
10:50–11:10	Tea
11:10–12:00	**Terry J. Lyons**, University of Oxford, Lecture 3
	Rough paths — A story in non-commutative analysis
12:00–14:00	Lunch
14:00–14:50	**Andrzej Zuk**, Université Paris 7
	Automata groups
15:00–15:50	**Kenneth David Elworthy**, University of Warwick
	Stochastic flows and geometric analysis on path spaces