# Dirichlet forms and their geometry -program-

Date: March 18th (Sat) – March 23rd (Thu), 2017.

Venue: Tohoku University GSIS 2F Lecture Hall

Organizers: J. Masamune (Hokkaido Univ.), N. Obata (Tohoku Univ.)
M. Schmidt (U. Jena, Germany), T. Uemura (Kansai Univ.), M. Wada (Tohoku Univ.)

## March 18th, Saturday

08:30–          Registration

09:25–10:10     Takashi Shioya
    Compactification of the space of metric measure spaces

10:20–11:05     Asuka Takatsu
    High-dimensional metric measure limit of Stiefel and Grassmann manifolds

11:15–12:00     Melchior Wirth
    Geometry of Dirichlet forms under order isomorphisms

13:20–14:50     Masatoshi Fukushima
    Liouville property of harmonic functions of finite energy for Dirichlet forms

15:20–16:50     Marcel Schmidt
    Energy forms (I)

## March 19th, Sunday

09:25–10:10     Xiang Dong Li
    Harnack inequalities and entropy formulae on manifolds with $(K, m)$-super Ricci flows

10:20–11:05     Gilles Carron
    Some geometric inequalities induced by the Ricci curvature in the Kato Class

11:15–12:00     Michael Hinz
    Essential self-adjointness of Laplacians and two-parameter processes

13:20–14:50     Masatoshi Fukushima
    Reflections at infinity of time changed RBMs on a domain with Liouville branches

15:20–16:50     Marcel Schmidt
    Energy forms (II)

## March 20th, Monday

09:25–10:10     Shin-ichi Ohta
    Rigidity for the spectral gap inequality on RCD$(K, \infty)$-spaces

10:20–11:05     Kazumasa Kuwada
    Monotonicity and rigidity of the W-entropy on RCD (0,N) spaces

11:15–12:00     Kazuhiro Kuwae
    Radial processes on RCD-spaces

12:00–      Free time

18:00–      Banquet

March 21st, Tuesday

09:25–10:10     Atsushi Kasue
Convergence of Dirichlet forms induced on boundaries of nonparabolic weighted
Riemannian manifolds

10:20–11:05     Satoshi Ishiwata
Heat kernel estimates on manifolds with ends and their applications

11:15–12:00     Minoru Murata
Martin boundaries of the products of Riemannian manifolds

13:20–14:05     Guan-Yu Chen
Products of random walks on finite groups

14:15–15:00     Yuichi Shiozawa
Some topics related to global properties of Markov processes

15:20–16:50     Marcel Schmidt
Energy forms (III)

March 22nd, Wednesday

09:25–10:10     Bobo Hua
The Davies-Gaffney-Grigor'yan estimate on graphs

10:20–11:05     Yoshihiro Tawara
Compactness of Markov and Schrödinger semigroups: A probabilistic approach

11:15–12:00     Masayoshi Takeda
Criticality and Subcriticality for Positive Schrödinger Forms

13:20–14:05     Kazuhiro Ishige
The heat kernel of a Schrödinger operator with inverse square potential

14:15–15:00     Radoslaw Wojciechowski
The Feller property and uniform transience

15:20–16:50     Short Communications

March 23rd, Thursday

09:25–10:10     Naotaka Kajino
Weyl's eigenvalue asymptotics for the Laplacian on the Apollonian gasket and on circle
packing limit sets of certain Kleinian groups

10:20–11:05     Jun Kigami
Completely Symmetric Resistance Forms on the Stretched Sierpinski Gasket

11:15–12:00     Masanori Hino
An integrated version of Varadhan's asymptotics for lower-order perturbations of strong
local Dirichlet forms

13:20–14:05     Jian Wang
Intrinsic Ultracontractivity of Symmetric Pure-Jump Processes on Unbounded Domains

14:15–15:00     Takashi Kumagai
Time changes of stochastic processes associated with resistance forms