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Kyoto University/CUHK Joint Workshop

Analysis and Geometry of Fractals and Metric Measure Spaces

March 20 – 21, 2010 Rm. 222, Lady Shaw Building, CUHK

The workshop emphasizes on the recent developments of fractals that are deeply interplay with analysis, geometry and probability. Topics includes iterated function systems, dynamical systems, boundary theory, function spaces and Laplacian on fractals, and heat kernel estimates on metric measure spaces.

Speakers include:

| The Chinese University of Hong Kong |
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| Bielefeld University |
| Central China Normal University |
| Kyoto University |
| Tsinghua University |
| University of Tsukuba |
| Kyoto University |
| Kyoto University |
| The Chinese University of Hong Kong |
| The Chinese University of Hong Kong |
| Université de Bretagne-Sud |
| Central China Normal University |
| The Hong Kong Polytechnic University |
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All are Welcome!



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20 March 2010 (Saturday)

| Time | Speaker & Title | |
|-------------------|---|--|
| 9:00am - 9:50am | Alexander Grigoryan (Bielefeld University) Two-Sided Estimates of Heat Kernels in Metric Measure Spaces | |
| Tea Break | | |
| 10:10am - 10:40am | Jia-Xin Hu (Tsinghua University) Comparison Inequalities for Heat Semigroups on Metric Measure Spaces | |
| 10:50am - 11:20am | Masanori Hino (Kyoto University) An Upper Estimate of the Martingale Dimension for Sierpinski Carpets | |
| 11:30am - 12:00am | Frederic Matheus (Universite de Bretagne-Sud) Asymptotic Properties of Random Walks on Free Products of Groups | |
| 2:00pm - 2:50pm | <i>Jun Kigami (Kyoto University)</i> Dirichlet Forms and Associated Heat Kernels on the Cantor Set Induced by Random Walks on Trees | |
| 3:00pm - 3:30pm | Satoshi Ishiwata (University of Tsukuba) Manifolds with a Bottleneck Type Heat Kernel Estimate | |
| Tea Break | | |
| 3:50pm - 4:20pm | Naotaka Kajino (Kyoto University) Heat Kernel Asymptotics for the Measurable Riemannian Structure on the Sierpinski Gasket | |
| 4:30pm - 5:00pm | Jonathan Tsai (Hong Kong Polytechnic University) The Scaling Limit of Myopic Random Walk in the Upper Half-Plane | |
| 5:10pm - 5:40pm | De-Jun Feng (CUHK) Invariant Measures of Maximal Hausdorff Dimension | |

21 March 2010 (Sunday)

| Time | Speaker & Title | |
|-------------------|---|--|
| 9:00am - 9:30am | <i>Ka-Sing Lau (CUHK)</i> Self-Similar Set, Hyperbolic Boundary and Martin Boundary | |
| 9:40am - 10:10am | <i>Chi-Wai Leung (CUHK)</i> Orthogonal Matrix Coefficients on Certain Homogeneous Spaces | |
| Tea Break | | |
| 10:30am - 11:00am | Xing-Gang He (Central China Normal University) Lipschitz Equivalence of Self-Similar Sets in One Dimension | |
| 11:10am - 11:40am | Hui Rao (Central China Normal University) Lipschitz Equivalence of Cantor Sets | |