

RIMS workshop

Potential Theory and its Related Fields

Dates: September 3 – 7, 2012

Venue: Research Building No. 8 Lecture Room 2,
Faculty of Engineering, Kyoto University

Organizers: Kentaro Hirata (Akita, Chair), Hiroaki Aikawa (Sapporo),
Jun Kigami (Kyoto), Masaharu Nishio (Osaka)

Program

Monday, September 3

10:00 – 10:15 Opening

10:15 – 11:15 **John Lewis**

p harmonic measure in simply connected domains revisited

11:30 – 12:30 **Atsushi Kasue**

Quasi-monomorphisms and p-harmonic functions with finite Dirichlet sum

14:00 – 15:00 **Nageswari Shanmugalingam**

Constructing a prime end boundary for non-simply connected domains in Euclidean spaces and metric measure spaces

15:15 – 15:45 **Vadim Kaimanovich**

Electrical network reduction and the finite Dirichlet problem

15:55 – 16:25 **Hiroaki Masaoka**

On harmonic Hardy-Orlicz spaces

16:40 – 17:10 **Ryozi Sakai**

A characterization of entire functions and approximation

17:20 – 17:50 **Yûsuke Okuyama**

Equilibrium measures for uniformly quasiregular dynamics

Tuesday, September 4

9:15 – 10:15 **Masanori Hino**

Geodesic distances and intrinsic distances on some fractal sets

- 10:30 – 11:30** **Laurent Saloff-Coste**
Heat kernel estimates on inner uniform domains
- 11:45 – 12:45** **Kazumasa Kuwada**
Applications of Hopf-Lax formulae to analysis of heat distributions
- 14:00 – 15:00** **Anders Björn**
The Perron method for p -harmonic functions: Resolutivity and invariance results
- 15:15 – 15:45** **Tsubasa Itoh**
Modulus of continuity of p -Dirichlet solutions in a metric measure space
- 15:55 – 16:25** **Yoshihiro Mizuta**
Sobolev's inequality for Riesz potentials in Lorentz spaces of variable exponent
- 16:40 – 17:10** **Tanran Zhang**
A potential theoretic approach to the curvature equation
- 17:20 – 17:50** **Sachiko Hamano**
Variation for the metrics induced by Schiffer and harmonic spans

Wednesday, September 5

- 9:15 – 10:15** **Eleutherius Symeonidis**
A concept of harmonicity for families of planar curves
- 10:30 – 11:30** **Tomas Sjödin**
Two-phase quadrature domains and harmonic balls
- 11:45 –** **Excursion**

Thursday, September 6

- 9:15 – 10:15** **John Mackay**
The quasisymmetric geometry of boundaries of relatively hyperbolic groups
- 10:30 – 11:30** **Bruce Kleiner**
Asymptotic geometry, harmonic functions, and finite generation of isometry groups
- 11:45 – 12:45** **Eero Saksman**
Rotation of planar quasiconformal maps
- 14:00 – 15:00** **Mario Bonk**
Non-linear potential theory and the Rickman-Picard theorem
- 15:15 – 15:45** **Naotaka Kajino**
Weyl's Laplacian eigenvalue asymptotics for the measurable Riemannian structure on the Sierpiński gasket

- 15:55 – 16:25** **Tetsu Shimomura**
Hardy averaging operator on generalized Banach function spaces
- 16:40 – 17:10** **Kiyoki Tanaka**
A representation for harmonic Bergman function and its application
- 17:20 – 17:50** **Fumi-Yuki Maeda**
Mean continuity for potentials of functions in Musielak-Orlicz spaces
- 18:30 –** Dinner

Friday, September 7

- 9:15 – 10:15** **Jeremy Tyson**
Distortion of dimension by projections and Sobolev mappings
- 10:30 – 11:30** **Yoshihiro Sawano**
Morrey spaces and fractional integral operators
- 11:45 – 12:45** **Thomas Ransford**
Computation of capacities
- 14:00 – 15:00** **Tom Carroll**
Isoperimetric inequalities for a Sobolev Constant
- 15:15 – 15:45** **Minoru Yanagishita**
The first boundary value problem of the biharmonic equation for the half-space
- 15:55 – 16:25** **Hiroaki Aikawa**
Extended Harnack inequalities with exceptional sets and a boundary Harnack principle
- 16:35 – 17:05** **Kentaro Hirata**
Heat kernel estimates and growth estimates of solutions of semilinear heat equations
- 17:10 – 17:20** Closing

This workshop is supported by Research Institute for Mathematical Sciences in Kyoto University and the following JSPS Grant-in-Aid for Scientific Research:

- (A) #20244007 (Principal researcher: Hiroaki Aikawa, Hokkaido University),
- (B) #23340025 (Principal researcher: Jun Kigami, Kyoto University),
- (C) #23540220 (Principal researcher: Masaharu Nishio, Osaka City University).