

Xiaochuan YANG

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Date of Birth: 2/26/1986, Jilin, China

Research interests

Probability theory and stochastic processes,

- regularity and sojourn properties of sample paths, multifractal analysis;
- construction and heat kernel estimates of anisotropic Markov jump processes;
- additive functionals of Markov processes and permanent processes;
- applications to model selection in signal and image processing.

Employment

- 2016 – now **Visiting assistant professor**, Department of Statistics and Probability, Michigan State University, USA.
- 2012 – 2016 **Teaching assistant**, Department of Mathematics, Université Paris-Est, France.

Education

- 2013 – 2016 **PhD in Probability**, Université Paris-Est, France
Topic : Various dimension properties of the regularity of jump diffusion processes..
Jury : Stéphane Jaffard and Stéphane Seuret (Advisors), Nicolas Fournier (President), Jean Bertoin and Yimin Xiao (Referees), Béatrice De Tilière and Giovanni Peccati (Examiners).
- 2011 – 2013 **MSc in Probability and Analysis**, Université Paris-Est, France.
Pass with high honors, rank 2/20.
- 2010 – 2011 **French study**, Université de Caen, France.
Diploma of French (DALF Level C1)
- 2005 – 2009 **BSc in Mathematics**, Jilin University, China.

Distinction

- 2016 **Chinese government award for outstanding students abroad.**
- 2013 **The RDM-DIM Ph.D scholarship provided by Région Ile de France.**
- 2012 **The Bézout Excellence Track for Master study.**

Publications

- [1] **Multifractal analysis for the occupation measure of stable-like processes**, with Stéphane Seuret, Electronic Journal of Probability, 22 :Paper No. 47, 36, 2017.
- [2] **Hausdorff dimension of the range and the graph of stable-like processes**, Journal of Theoretical Probability, <https://doi.org/10.1007/s10959-017-0784-y>.
- [3] **Multifractality of jump diffusion processes**, to appear, Annales de l'Institut Henri Poincaré.

Preprints

- [4] **Multifractal properties of sample paths of ground state-transformed jump processes**, with Jozsef Lorinczi, arxiv :1705.00551.
- [5] **On sojourn of Brownian motion inside moving boundaries**, with Stéphane Seuret, arxiv :1706.04519.
- [6] **On the favorite points of symmetric Lévy processes**, with Yimin Xiao, arxiv :1711.04210.
- [7] **Inverse image of stable processes**, with Renming Song and Yimin Xiao.

Scientific activities

- 2016 – now **Co-organizer of Probability seminar**, *Michigan State University*.
- 2015 – 2016 **Co-organizer of Ph.D students' seminar**, *Université Paris-Est*.
- 2013 – 2015 **Organizer of a weekly reading group**, *Université Paris-Est and Paris 6*.
Topics : Lévy processes, Stochastic equations, Random trees.
- From 2015 **Reviewer for some international journals**.

Conferences and research schools attended

- 2017
- 39th Midwest Probability Colloquium, Northwest University.
 - **Talk** at Probability seminar, University of Illinois, Urbana-Champaign.
- 2016
- 38th Midwest Probability Colloquium, Northwest University.
 - **Talk** at Journées des jeunes probabilistes et statisticiens, Houches.
 - **Talk** at Probabilistes de demain, IHES, Paris.
 - **Talk** at Statistical Mechanics Meeting, Créteil.
 - **Talk** at Probability seminar, Michigan State.
 - Future Directions in Fractional Calculus Research and Applications, Michigan State.
- 2015
- **Talk** at Fractals and Related Fields III, Iles de Porquerolles.
 - **Talk** at 38th Stochastic processes and their applications, Oxford.
 - LMS-CMI Research School : Developments in modern probability, Oxford.
 - Journées de probabilités, Toulouse.
 - **Talk** at Probability seminar, Créteil.
- 2014
- Multifractal Analysis : From Theory to Applications and Back, Banff.
 - Fractal Geometry & Stochastics V, Germany.
 - Spring school on analysis, Clermont-Ferrand.
 - 2nd summer school on stochastic analysis, Barcelona.
 - 10th workshop on Markov processes and related topics, Xi'an, China.
 - Colloque GDR Multifractales, Orléans.
 - **Talk** at Journée de restitution, IHP, Paris.
 - From martingales to dynamical systems, Marne-la-Vallée.
 - Processes with variable memories in probability and statistical mechanics, Créteil.
 - **Talk** at Seminar of PhD student, Marne-la-Vallée.
- 2013
- Colloque GDR Multifractales, Ile de Porquerolles.
 - CIMPA conference Lévy processes and self-similarity, Hammamet.
 - **Talk** at Seminar of PhD student, Marne-la-Vallée.

Teaching experiences

- 2017 - 2018 **Lectures (incl. exams)**, *Michigan State University*, **130 hours**,
- STT351 Probability and statistics for engineers
- STT441 Probability theory .
- 2016 - 2017 **Lectures (incl. exams)**, *Michigan State University*, **130 hours**,
- STT351 Probability and statistics for engineers .
- 2012 - 2016 **TA sessions**, *Université Paris-Est*, **64 hours/year**,
- Probability theory, 3rd year Mathematics.
- Mathematics for physics, 2nd year Engineering.
- Linear algebra, 1st and 2nd year Mathematics and Engineering.
- Calculus, 1st and 2nd year Mathematics and Engineering.
- Tools from mathematics, 1st year Biology.

Miscellaneous

- Computer Basics in Python, Scilab. Active learner in Coursera.
- French **Fluent**

English **Fluent**
Chinese **Native**