

# SHUWEN LOU

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## RESEARCH INTERESTS

- Potential theory for Markov processes and Dirichlet form theory.
- Rough paths for Gaussian processes and SDE driven by fBM.
- Random walks and discrete probability.

## EMPLOYMENT

- Research Assistant Professor, Department of Mathematics, Statistics and Computer Science,  
University of Illinois at Chicago Since August 2014

## EDUCATION

- Ph.D., Department of Mathematics, University of Washington September 2008 – June 2014  
*Advisor*: Professor Zhen-Qing Chen
- B.Sc., Department of Mathematics, Fudan University, China September 2004 – June 2008

## PUBLICATIONS

- **S. Lou**, Brownian motion with drift on spaces with varying dimension, available at <http://arxiv.org/abs/1610.09751>.
- **S. Lou**, On-diagonal heat kernel lower bound for strongly local symmetric Dirichlet forms, submitted (to *Osaka J. Math.*), available at <https://arxiv.org/abs/1609.04883>.
- **S. Lou, C. Ouyang**, Local times of stochastic differential equations driven by fractional Brownian motions, accepted (with minor revision) by *Stoch. Process. Their Appl.*
- **S. Lou, C. Ouyang**, Fractal dimensions of rough differential equations driven by fractional Brownian motions, *Stoch. Process. Their Appl.*, **126** (2016), no.8, 2410-2429.
- **Z.-Q. Chen, S. Lou**, Brownian motion on spaces with varying dimension, submitted (to *Ann. Probab.*), available at <https://arxiv.org/abs/1604.07870>.

## TEACHING

### • Lecturer

- STAT 501, Probability theory I, UIC, Fall 2016.
- STAT 502, Probability theory II, UIC, Spring 2016
- STAT 401, Introduction to probability, UIC, Fall 2014, Spring 2015, Fall 2015, Fall 2016.
- MATH 120, Pre-calculus, UW, Spring 2014.
- MATH 307, Introduction to differential equations, UW, Fall 2010, Winter 2012, Fall 2012,  
Spring 2013, Fall 2013, Winter 2014.

### • Teaching assistant

- MATH 125, Calculus II: single variable, UW, Winter 2009, Spring 2009, Summer 2009.

### • Math club instructor

- Thurgood Marshall Elementary School, Seattle, September 2011– June 2012.

#### INVITED TALKS

- Fudan University, China. July 2016
- University of Illinois at Chicago, USA. *Analysis Seminar* April 2016
- University of Illinois at Urbana–Champaign, USA. April 2015
- Purdue University, USA. April 2015
- University of Chicago, USA. January 2015
- University of Illinois at Chicago, USA. January 2014
- University of Washington, USA. November 2011
- Melbourne University, Australia. August 2011

#### CONFERENCE TALKS

- *Seminar on Stochastic Process*, University of Maryland, College Park, USA. March 2016
- *Workshop on Dirichlet Form Theory and its Applications*, Mathematisches Forschungsinstitut Oberwolfach, Germany. October 2014
- *Seminar on Stochastic Process*, University of California, San Diego, USA. March 2014
- *Seminar on Stochastic Process*, Duke University, USA. March 2013
- *PIMS Summer School on Probability*, University of British Columbia, Canada. June 2012
- *Seminar on Stochastic Process*, Kansas Univeristy, USA. March 2012
- *PIMS Summer School on Probability*, University of Washington, Seattle, USA. July 2010

#### ORGANIZATION OF SEMINARS

- Organizer of Probability and Statistics Seminar, University of Illinois at Chicago Since August 2015

#### REFERENCES

- **Professor Fabrice Baudoin** Department of Mathematics, University of Connecticut
- **Professor Krzysztof Burdzy** Department of Mathematics, University of Washington
- **Professor Zhen-Qing Chen** Department of Mathematics, University of Washington
- **Professor Cheng Ouyang** Department of MSCS, University of Illinois at Chicago
- **Professor Renming Song** Department of Mathematics, UIUC
- **Professor Samad Hedayat** Department of MSCS, University of Illinois at Chicago