Chengcheng Ling

Curriculum Vitae

Personal Information

28.02.1994 Born in Gansu Province, China

Experience and Education

2020.12–2023.09 **Postdoc**, *Technische Universität Berlin*, Berlin
In the group of Prof. Dr. Michael Scheutzow

2020.01–2020.11 **Research assistant**, *Bielefeld University*, Bielefeld
In the group of Prof. Dr. Michael Röckner

2016.10–2019.12 **PhD of Probability Theory**, *Bielefeld University*, Bielefeld
Supervisor: Prof. Dr. Michael Röckner

2015.09–2020.07 **PhD of Probability Theory and Statistics**, *Beijing Jiaotong University*, Beijing
Supervisor: Prof. Dr. Zhiming Ma

2011.09–2015.07 **Bachelor of Information and Computing Science**, *Beijing Jiaotong University*, Beijing, *GPA – 3.98*
Acquiring merit student and scholarship several times

Exchange study

2018 **Seoul National University, Science of Mathematics faculty**
01.03–30.08 Prof. Dr. Gerald Trutnau (Seoul, South Korea)

Bachelor Thesis

Title *Laws of Large numbers under Sublinear Expectations*

Supervisor Prof. Dr. Xiangxchan Zhu

Description This thesis studies laws of large numbers under the framework of sublinear expectation introduced by Peng Shige. The main results in this paper include weak law of large numbers and convergence rate laws of large numbers under sublinear expectations.

Phd Thesis

Title *Stochastic Differential Equations with Singular Drifts and Multiplicative Noises*

Supervisor Prof. Dr. Michael Röckner

– Technische Universität Berlin, Germany
ling@math.tu-berlin.de

Link https://pub.uni-bielefeld.de/download/2941478/2941479/thesis.pdf

Tutorial

2017 Summer semester **Introduction to Stochastic Partial Differential Equations**, Lecture for master student in Bielefeld University, given by Prof. Dr. Michael Röckner

2019 Summer semester **Probability theory III-Stochastic differential equations**, Lecture for master student in Bielefeld University, given by Dr. Michael Hinz

Talks

2018 19.10 **BGTS Doctoral Day**
SDEs with singular coefficients (Bielefeld, Germany)

2018 29.10 **IRTG Seminar**
SDEs with singular coefficients and Partial differential equations (Bielefeld, Germany)

2019 15.01 **IRTG Seminar**
SDEs with distributional valued drift driven by α-stable processes (Bielefeld, Germany)

2019 15.11 **Cluster Group Stochastic Analysis**
Strong well-posedness for stochastic differential equations with coefficients in mixed-norm spaces (Bielefeld, Germany)

2019 16.12 **Cluster Group Stochastic Analysis**
Stochastic differential equations with singular drifts and multiplicative noises (Bielefeld, Germany)

2020 24.01 **Cluster Group Stochastic Analysis**
SDEs with singular drifts and multiplicative noise on general space-time domains (I) (Bielefeld, Germany)

2020 31.01 **Cluster Group Stochastic Analysis**
SDEs with singular drifts and multiplicative noise on general space-time domains (II) (Bielefeld, Germany)

2020 13.02 **Young researchers between geometry and stochastic analysis**
SDEs with singular drifts and multiplicative noise on general space-time domains (Bergen, Norway)

2020 26.02 **DFG-NRF on-site review**
Regularity versus irregularity in PDEs and diffusions (Bielefeld, Germany)

2020 14.09 **DMV Annual Meeting 2020**
Well-posedness of stochastic differential equations with singular drifts and Lévy noise (Technische Universität Chemnitz, Germany) (online)

2020 01.12 **Oberseminar: Stochastische Analysis**
Well-posedness of stochastic differential equations with singular drifts and Lévy noise (Technische Universität Berlin, Germany)

2021 29.04 **SPDE seminar**
Wong-Zakai approximation for singualr SDEs with unbounded drift (Technische Universität Berlin, Germany)

2021 06.10 **Workshop: Junior Female Researchers in Probability**
Approximation for singualr SDEs with unbounded drift (Harnack-Haus, Berlin, Germany)

2021 01.12 **Seminar: Stochastic Analysis**
Taming singular SDEs: A numerical method (Tianjin University, China)(online)

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2022 17.02 **Workshop: Regularization by Noise: Theoretical Foundations, Numerical Methods and Applications**
Regularization by noise: a numerical (Wong-Zakai approximation) viewpoint (Oberwolfach, Germany)

2022 04.05 **IRS Seminar**
Singular SDEs and PDEs (WIAS, Germany)

2022 **42nd Conference of Stochastic Processes and their Applications (SPA) 2022**
27.06-01.07 Taming singular SDEs: A numerical method (Wuhan, China)(online)

2022 **2022 IMS Annual Meeting in Probability and Statistics**
27.06-30.06 Taming singular SDEs: A numerical method (London, UK)

2022 **15th International Conference on Monte Carlo and Quasi-Monte Carlo**
17.07-22.07 **Methods in Scientific Computing**
Taming singular SDEs: A numerical method (Linz, Austria)

Research interests

Stochastic analysis, Singular stochastic (partial) differential equations, Regularization by noise, Rough path, Random dynamical systems, Stochastic numerical analysis, Application of stochastic analysis and PDEs (e.g. machine learning)

Preprints

1 SDEs with singular drifts and multiplicative noise on general space-time domains, C. Ling, M. Röckner, X. Zhu, https://arxiv.org/pdf/1910.03989.pdf. (*Selected as one of the 'top ten representative papers from IRTG 2235'*)

2 Taming singular stochastic differential equations: A numerical method, K. Lê, C. Ling, https://arxiv.org/pdf/2110.01343.pdf

Publications

1 Stochastic Differential Equations with Singular Drifts and Multiplicative Noises, C. Ling, (PhD thesis (2019)) https://pub.uni-bielefeld.de/record/2941478

2 Strong well-posedness for stochastic differential equations with coefficients in mixed-norm spaces, C. Ling, L. Xie https://arxiv.org/pdf/2002.07097.pdf. (*Potential Analysis*)

3 Regularity of Local times associated to Volterra-Lévy processes and pathwise regularization of stochastic differential equations, F.A. Harang, C. Ling https://arxiv.org/pdf/2007.01093.pdf. (*Journal of Theoretical Probability*)

4 Nonlocal elliptic equation in Hölder space and the martingale problem, C. Ling, G. Zhao, https://arxiv.org/pdf/1907.00588v1.pdf (*Journal of Differential Equations*)

5 The perfection of local semi-flows and local random dynamical systems with applications to SDEs, C. Ling, M. Scheutzow, I. Vorkastner https://arxiv.org/pdf/2109.00206.pdf (*Stochastics and Dynamics*)

6 A Wong-Zakai theorem for SDEs with singular drift, C. Ling, S. Riedel, M. Scheutzow https://arxiv.org/pdf/2109.12158.pdf (*Journal of Differential Equations*)

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