

Curriculum Vitae
Linglong Yuan

Mathematical Sciences Building
Department of Mathematical Sciences
University of Liverpool
Peach Street, L69 7ZL
Liverpool, UK

E-mail: linglong.yuan@liverpool.ac.uk
Webpage: linglongyuan.weebly.com
Mobile: +44 7999108991

Research Interests

Probability theory, stochastic processes and their applications. Stochastic modelling and computing. Data-driven computations. Coalescent theory, branching processes, random trees, measure-valued processes. Bayesian statistics and exchangeability. Condensation phenomena in statistical physics. Statistical inferences and applications.

Work Experience

- **Lecturer at Department of Mathematical Sciences**
University of Liverpool (UoL), Liverpool, UK. 2020-Present
- **Lecturer at Department of Mathematical Sciences**
Xi'an Jiaotong-Liverpool University (XJTLU), Suzhou, China. 2017-2020
- **Post-doctoral Researcher**
Johannes-Gutenberg-Universität, Mainz, Germany. 2015-2017
Team Stochastics (*Stochastik*), Institute of Mathematics.
- **Post-doctoral Researcher**
Uppsala Universitet, Uppsala, Sweden. 2013-2015
Team Analysis and Probability (*Analys och sannolikhetssteori*), Department of Mathematics.

Education

- **PhD**
Université Paris 13, Villetaneuse, France 2010-2013
 - **Place:** Supervised by Prof. Jean-Stéphane Dhersin in the laboratory [LAGA](#), in the team Probability-Statistics of [Galilei Institute](#). Defended on 03.12.2013 in Université Paris 13, Villetaneuse, France.
 - **Title :** Small-time behaviours of Λ n -coalescents with emphasis to the external branch lengths.
(*Comportements en temps petits des Λ n -coalescents avec l'accent sur les longueurs des branches externes*).
 - **Mention:** Very honourable.
 - **Jury :** Prof. Jean-François Delmas (President), Prof. Julien Berestycki (Reporter), Prof. Götz Kersting (Reporter), Prof. Sylvie Méléard (Examiner), Prof. Yueyun Hu (Examiner), Prof. Jean-Stéphane Dhersin (Supervisor).

- **MSc**
Université Paris 6, Paris, France 2009 - 2010
 - **Programme:** Probability and random models.
(*Probabilités et Modèles aléatoires*).
 - **Master thesis:** Asymptotic behaviours of an external branch length of certain coalescent processes, supervised by Prof. Jean-Stéphane Dhersin.
(*Comportement asymptotique de la longueur d'une branche externe de certains processus de coalescence*).
- **Engineering education**
Ecole Polytechnique, Palaiseau, France 2006 - 2010
 - **Major:** Mathematical engineering for finance and ecological systems.
(*Ingénierie mathématique pour la finance et les systèmes écologiques*).
- **BSc**
Tongji University, Shanghai, China 2003 - 2006
 - **Major:** Statistics (quitted in the third academic year to pursue education in France).

Grants

- **National Natural Science Foundation of China (Youth Program)**
Principal Investigator. Value: 200,000 CNY (22,731 GBP).
“Evolutionary and genealogical stochastic processes of a diploid population model with applications”. Project code: 11801458; 01.01.2019 - 31.12.2021.
- **Research Development Fund, Xi'an Jiaotong-Liverpool University**
Principal Investigator. Value: 82,000 CNY (9,319 GBP).
“Mathematical modelling and statistical inferences of diploid populations”. Project code: RDF-17-01-39; 01.06.2018 - 31.05.2021.

Awards

- **Itô Prize 2017.** The Prize was awarded in the [39th Conference on Stochastic Processes and their Applications](#), July 2017, Moscow, to:

An individual-based model for the Lenski experiment and the deceleration of the relative fitness. *Stochastic Processes and their Applications* 126(8), 2211-2252, 2016. Joint work with Adrian Gonzalez-Casanova, Noemi Kurt and Anton Wakolbinger.

The prestigious Prize is given bi-annually to the best article in *Stochastic Process and Their Applications* together with 5000 USD.
- **2006 Collective Scientific Projects Prize.** The project was classified within the best three for the 2006 promotion in Ecole Polytechnique. The Prize was awarded to:

Chaos, mélange, ordre et structure: de quelques charmes des systèmes dynamiques. (Chaos, mixture, order and structure: some charms of dynamical systems.) Joint work with Lee Antony, Mattei Arnaud, Nguyen Hoang-Nguyen, Pascal Ambroise.
- **Fellow of The Higher Education Academy.** In recognition of attainment against the UK Professional Standards Framework for teaching and learning support in higher education. Recognition reference: PR148198. Date of recognition: 29 June 2018.

Review for Journals

- AIMS - American Institute of Mathematical Sciences
- ALEA - Latin American Journal of Probability and Statistics
- Electronic Journal of Probability
- Journal of Applied Probability
- Journal of Mathematical Analysis and Applications
- Journal of Statistical Physics
- Mathematical Population Studies
- Statistics and Probability Letters
- The Brazilian Journal of Probability and Statistics

Research Publications

16. [Limit theorems for continuous-state branching processes with immigration](#)(with C. Foucart, C. Ma) **Submitted.**
15. [Kingman's model with random mutation probabilities: convergence and condensation I.](#) **Submitted.**
14. [Does the ratio of Laplace transforms of powers of a function identify the function?](#) (with T. Konstantopoulos) **Journal of Mathematical Analysis and Applications.** 491(1), 2021.
13. [Kingman's model with random mutation probabilities: convergence and condensation II.](#) **Journal of Statistical Physics.** 181(3), 870896, 2020.
12. [On the extendibility of finitely exchangeable probability measures](#) (with T. Konstantopoulos) **Transactions of the American Mathematical Society.** 7371(10), 7067-7092, 2019.
11. [A note on small-time behaviour of the largest block size of beta n-coalescent](#) (with A. Siri-Jégousse) **XII Symposium of Probability and Stochastic Processes.** 219-234. Birkhauser, Cham, 2018.
10. [A fully stochastic approach to limit theorems for iterates of Bernstein operators](#) (with T. Konstantopoulos, M. Zazanis) **Expositiones Mathematicae.** 36(2),143-165, 2018.
9. [A probabilistic interpretation of the Gaussian binomial coefficients](#) (with T. Konstantopoulos) **Journal of Applied Probability.** 54, 1295-1298, 2017.
8. [A generalization of Kingman's model of selection and mutation and the Lenski experiment](#) **Mathematical Biosciences.** 285, 61-67. 2017.
7. [On a representation theorem for finitely exchangeable random vectors](#) (with S. Janson, T. Konstantopoulos) **Journal of Mathematical Analysis and Applications.** 442(2), 703-714, 2016.
6. [An individual-based model for the Lenski experiment, and the deceleration of the relative fitness](#) (with A. Gonzalez-Casanova, N. Kurt, A. Wakolbinger) **Stochastic Processes and Their Applications.** 126(8), 2211-2252, 2016.
5. [Asymptotics of the minimal clade size and related functionals of certain beta-coalescents](#) (with A.Siri-Jégousse) **Acta Applicandae Mathematicae.** 142(1), 127-148, 2016.

4. [On the total length of external branches for beta-coalescents](#) (with J.-S.Dhersin) **Advances in Applied Probability.** 47(3), 693-714, 2015.
3. [On the measure division construction of \$\Lambda\$ -coalescents](#) **Markov Processes and Related Fields.** 20, 229-264, 2014.
2. [Probabilités et biologie](#) (with with V. Bansaye, J-F. Delmas, O. Hénard and P. Vallois) **European Series in Applied and Industrial Mathematics Proceedings.** 44, 197-213, 2014.
1. [On the length of an external branch in the Beta-coalescent](#) (with J.-S.Dhersin, A.Siri-Jégousse, F.Freund) **Stochastic Processes and Their Applications.** 123(5), 1691-1715, 2013.

Invited Talks

- Talk in the online conference *organized by Prof. Kainan Xiang* in Xiangtan University (Hunan, China), *2020.11.14*.
- Talk in the online conference *organized by Prof. Matthias Birkner* in Johannes-Gutenberg-University at Mainz (Mainz, Germany), *2020.09.22*.
- Talk in the online seminar of Ritsumeikan University (Shiga, Japan), *invited by Prof. Jiro Akahori, 2020.09.03*.
- Seminar talk in Zhongkai university of agriculture and engineering (Guanzghou, China), *invited by Prof. Bipei Zhang, 2020.01.10*.
- Seminar talk in Shanghai Jiaotong University (Shanghai, China), *invited by Prof. Xinxing Chen, 19.09.2019*.
- Section talk in IMS-China 2019: International Conference on Statistics and Probability. (Dalian, China), *09.07.2019*.
- Seminar talk in University of Liverpool (Liverpool, UK), *invited by Prof. Takis Konstantopoulos, 03.04.2019*.
- Seminar talk in Nankai University (Tianjin, China), *invited by Prof. Chunhua Ma, 22.01.2019*.
- Seminar talk at Joint Seminar of Fudan University and Zhejiang University (Hangzhou, China), *invited by Prof. Minzhi Zhao, 17.11.2018*.
- Speaker at the 2nd conference on probability and statistics for young researchers in Jiangsu Normal University (Xuzhou, China), *14.10.2018*.
- Organizer and speaker of a 2-day workshop “Stochastic processes with applications in finance and related fields” in XJTLU (Suzhou, China), *13.09.2018 - 14.09.2018*.
- Invited by Prof. Rongfeng Sun to attend the workshop “Genealogies of Interacting Particle Systems”, *financially supported by the Institute for Mathematical Sciences, National University of Singapore, 17.07.2017 - 18.08.2017*.
- Seminar talk in East China Normal University (Shanghai, China), *invited by Prof. Naihong Hu, 03.07.2016*.
- Seminar talk in Johannes-Gutenberg-Universität Mainz (Mainz, Germany), *14.03.2016*.
- Seminar talk in TU Berlin (Berlin, Germany), *invited by Prof. Jochen Blath, 15.10.2015*.
- Seminar talk in Beijing Normal University (Beijing, China), *invited by Prof. Zenghu Li, 30.08.2015*.

- Invited joint talk with Dr. Adrian Gonzalez-Casanova in the conference “Probability and Biological Evolution” (Marseille, France), *17.06.2015*.
- Invited speaker at the 17th Stockholm-Uppsala symposium in Mathematical Statistics (Stockholm, Sweden), *28.05.2015*.
- Organizer and speaker of a 1-day workshop “Stochastic processes with emphasis to coalescents and branching” in Uppsala Universitet (Uppsala, Sweden), *24.03.2015*.
- Seminar talk in Universität Frankfurt am Main (Frankfurt, Germany), *invited by Prof. Anton Wakolbinger, 15.05.2013*.
- Invited talk in a scientific meeting (Aussois, France), *01.04.2013*.
- Seminar talk in Université Cergy-Pontoise (Cergy-Pontoise, France), *12.03.2013*.
- Talk in the doctoral seminar in Université Paris 13 (Paris, France), *02.03.2013*.
- Invited talk in the Journées MAS (Clermont-Ferrand, France), *invited by Prof. Jean-François Delmas, 29.08.2012 - 31.08.2012*.
- Seminar talk in the working group of doctoral students in Université Paris 6 (Paris, France), *13.04.2012*.
- Seminar talk in Tongji University (Shanghai, China), *invited by Prof. Shaohua Li, 04.01.2012*.
- Invited talk in a scientific meeting and spring school (Saint Raphaël, France), *21.06.2011*.

Teaching and Student Supervision

- **Teaching**
 - **Introduction to Statistics with R**, University of Liverpool (module coordinator), 02.2021 - 06.2021.
 - **Statistical Distribution Theory**, Xi’an Jiaotong-Liverpool University (lecturer), 02.2019 - 06.2019.
 - **Introduction to Probability and Statistics**, Xi’an Jiaotong-Liverpool University (lecturer), 09.2018 - 01.2019, 09.2019-01.2020.
 - **Calculus**, Xi’an Jiaotong-Liverpool University (lecturer), 02.2017 - 06.2018.
 - **Introduction to Stochastics**, Johannes-Gutenberg-Universität Mainz, Germany (assistant to main lecturer), 10.2016 - 01.2017.
 - **Probability and Statistics**, Uppsala Universitet, Sweden (assistant to main lecturer), 09.2015 - 10.2015.
 - **Analysis**, Université Paris 13, France (integrated preparatory course for engineering education, lecturer), 01.2013 - 04.2013.
 - **Integration and Probability**, Université Paris 13, France (assistant to main lecturer), 01.2013 - 04.2013.
 - **Introduction to Analysis**, Université Paris 13, France (lecturer), 03.2012 - 06.2012.
 - **Probability and Statistics**, Université Paris 13, France (assistant to main lecturer), 09.2011 - 01.2012.
 - **Introduction to Analysis**, Université Paris 13, France (lecturer), 03.2011 - 05.2011.
 - **Probability and Statistics**, Ecole Polytechnique, France (tutor for students in difficulty), 2010.

• Student Supervision in XJTU

- **Principal Supervisor** of the Summer Undergraduate Research Fund (**SURF**) project:
Reading off the economic structure within the Yangtze River Delta economic zone using public data.
Co-supervisor: Dr. Pascal Grange.
Budget: 6000 CNY (682 GBP).
Students: Lina Lin, Yitian Wu, Jinghan Xu, 06.2019 - 07.2019, XJTU.
- **Principal Supervisor** of **SURF** project:
High-Frequency Trading strategies, statistical arbitrage and stationary processes.
Co-supervisor: Dr. Pascal Grange.
Budget: 11,500 CNY (1,307 GBP).
Students: Chunhui Tao, Ruolin Xiong, Yijie Zhou, 06.2017 - 08.2017, XJTU.
- **Supervisor** of Final Year Project (**FYP**):
High frequency trading based on stationary technical indicators.
Student: Yuqi Sun, 2018 - 2019, XJTU.
- **Supervisor** of **FYP** project:
A review of some results in branching process theory.
Student: Yan Li, 2017 - 2018, XJTU.

Workshop Organization

- Organizer of a **2-day international workshop**: [Stochastic processes with applications in finance and related fields](#). 13.09.2018 - 14.09.2018, XJTU.
External guests: Prof. Jiro Akahori, Dr. Yuri Imamura, Dr. Nienlin Liu (Japan); Prof. Takis Konstantopoulos, Prof. Corina Constantinescu (Liverpool); Dr. Bo Li (Nankai, China).
- Organizer of a **1-day international workshop**: Stochastic processes with emphasis to coalescents and branching. 2015, Uppsala, Sweden.
Speakers: Dr. Adrian Gonzalez-Casanova, Prof. Ingemar Kaj, Dr. Clément Foucart, Dr. Linglong Yuan.

Internships

- **Doctoral Internship**
Frankfurt, Germany 05.2013-06.2013
Internship on the modelling of the Lenski experiment,
funded by [La Fondation des Sciences Mathématiques de Paris](#).
Supervisor: Prof. Anton Wakolbinger, at Universität Frankfurt am Main.
- **Scientific Internship**
Shiga, Japan 05.2009-09.2009
Internship on the project:
Continuous version of Real Business Cycle Model : Deterministic and Stochastic modelling.
Supervisor : Prof. Jiro Akahori, at Ritsumeikan University.

Administration and Services in XJTU

- Research Fund Sub-Committee (2018-2019)
- Departmental Research Committee (2017-2019)

- University Research Centre for Precision Medicine (2018-2019)
- Financial Maths Sub-Committee (2018-2019)
- Departmental SURF Panel (2018-2019)
- Internal Moderator for Module MTH316 (Applied Multivariate Statistics) (2019)
- Working Group-Preparation for Research Centre on AI and Big Data in Taicang campus (2019)
- Working Group-Stats Modules Review (2018-2019)
- Mentor of Post Graduate Certificate in Teaching and Supporting Learning in Higher Education (PGCert)
- Student-Staff Liaison Committee (2017-2018)
- Student-Recruitment Staff (2017 summer in Guizhou Province, 2018 summer in Zhejiang province)

Administration and Services in UoL

- XJTLU Link Tutor (2020-present)
- Student-Staff Liaison Committee (2020-present)
- New-Starter Activities Co-coordinator (with Stewart Haslinger) (2020-present)

Computing skills

- Scientific computing: Matlab, Maple and Scilab
- Programming languages: Java, C and R

Languages

- Chinese (mother tongue)
- French (fluent)
- English (fluent)
- German (beginner)