Yang LU

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CITIZENSHIP

People's Republic of China.

EMPLOYMENT

2021–	Assistant professor of actuarial science, Concordia University, Quebec, Canada.
2017–2020	Assistant professor (maître de conférences) of actuarial science, University of Paris 13, France. Tenured.
2015–2017	Postdoctoral fellow at Aix-Marseille School of Economics, Aix-Marseille University, France.
2011–2015	Part-time (2 days per week) consulting for Scor Global Life Paris headquarters' actuarial team.

EDUCATION

2012–2015	PhD in Applied Mathematics at Paris-Dauphine University and CREST (Center for Research in Economics and Statistics).
	Supervisor : Christian Gouriéroux (CREST and University of Toronto).
	Title : Bivariate Survival Analysis with Latent Factors : Theory and Applications to Mortality and Long-term Care.
	Jury : Christian Genest (referee, McGill), Michel Denuit (referee, Catholique-Louvain), Donatien Hainaut (Catholique-Louvain), Armeille Guillou (Strasbourg), Serge Darolles (Paris-Dauphine), Xavier D'Haultfoeuille (CREST)
2010–2012	Master in Statistics and Economics at ENSAE Paris (National School of Statistics and Economic Administration). Obtained associate membership of the French Institute of Actuaries.
2008–2012	Bsc and Msc in Mathematics (probability) at Ecole Normale Supérieure, Paris.

PROFESSIONAL QUALIFICATIONS

Associate member of the French Institute of Actuaries.

Passed 6 Society of Actuaries Exams : Probability (P) ; Financial Maths (FM) ; Short-Term Actuarial Maths (STAM) ; Investment and Financial Markets (IFM), Statistics for Risk Modeling (SRM), Long-Term Actuarial Maths (LTAM).

COURSES TAUGHT

— Introduction to risk and insurance : undergrate, 2017, 2018,
— Minicourse in life insurance : graduate, 2016
— Graduate seminar in non-life insurance : 2018
— Time Series Econometrics : graduate, 2015-2018
— Econometric techniques for quantitative finance : graduate, 2017, 2018

PUBLICATIONS

Topic 1 : Life insurance :

1. (With Christian Gouriéroux) Love and Death : a Freund Model with Frailty, *Insurance : Mathematics and Economics*, 63, p. 191-203, (2015).

2. (With Hong Li) Coherent Forecasting of Mortality Rates : A Spatial-Temporal Approach, *ASTIN Bulletin*, 47(2), p. 563-600, (2017).

3. Broken-heart, Common Life, Heterogeneity : Analyzing the Spousal Mortality Dependence, forthcoming, *ASTIN Bulletin*, 47(3), p. 837-874, (2017).

4. (With Hong Li) A Bayesian Non-parametric Model for Small Population Mortality, *Scandinavian Actuarial Journal*, 2018(7), p. 605-628, (2018).

5. (With Hong Li) Modelling Competing Risks Using Hierarchical Archimedean Copula with Application to Longevity Forecast, *Scandinavian Actuarial Journal*, 3, p. 247-272, (2019).

6. (With Han Li, Hong Li, Anastasios Panagiotelis) A Forecast Reconciliation Approach to Cause-of-death Mortality Modeling, *Insurance : Mathematics and Economics*, 86, p.122-133, 2019

Topic 2 : Non-life insurance :

7. Dynamic Frailty Count Process in Insurance : A Unified Framework for Estimation, Pricing and Forecasting, 85(4), p.1083-1102, 2018, *Journal of Risk and Insurance.*

8. Flexible Panel Regression for Bivariate Count/Continuous Data with Insurance Application, p.1503-1521, 2019, 182(4), *Journal of the Royal Statistical Society, Series A (Statistics in Society).*

9. (With H. Li and Wenjun Zhu) Dynamic Bayesian Ratemaking : A Markov Chain Approximation Approach, forthcoming, *North American Actuarial Journal* (project funded by an SOA individual research grant of which I am the sole lead investigator).

10. (With Michel Denuit) Wishart-Gamma Random Effects Model with Applications to Nonlife Insurance, forthcoming *Journal of Risk and Insurance*

Topic 3 : Econometric methodology for finance and insurance (e.g. mutual funds, credit risk) :

11. (With Serge Darolles, Gaëlle Le Fol, Ran Sun) Bivariate Integer-Autoregressive Process with An Application to Mutual Fund Flows, volume 173, September 2019, 181-203, *Journal of Multivariate Analysis.*

12. (With C. Gouriéroux) Least Impulse Response Estimator for Stress Test Exercises, *Journal of Banking and Finance*, 103, 2019.

13. (With C. Gouriéroux) Negative Binomial Autoregressive Process with Stochastic Intensity, 40(2), p.225-247 (2019), *Journal of Time Series Analysis.*

14. The Distribution of Unobserved Heterogeneity in Competing Risks Models, 61(2) 681-696 (2020), *Statistical Papers.*

15. A Simple Parameter-Driven Model for Binary Time Series, 39(2), p.187-199 (2020), *Journal of Forecasting.*

16. The Predictive Distributions of Thinning-based Count Processes, forthcoming, *Scandinavian Journal of Statistics.*

WORKING PAPERS

— (With C. Gouriéroux) Long-Term Care and Longevity, Revise and Resubmit, *Journal of Econometrics.*

— (With H. Li and P. Lyu) Coherent mortality forecasting for less developed countries. (This project has received an SOA "China topic" research grant).

— (With C. Gouriéroux) A Flexible State-Space Model with Application to Stochastic Volatility, submitted.

— (With C. Gouriéroux) Noncausal Affine Processes with Application to Derivative Pricing, submitted.

— (With C. Gouriéroux) Noncausal Counting Processes : A Queuing Perspective, Revise and resubmit, Electronic Journal of Statistics.

— (With Zhanhui Chen, Jinggong Zhang, and Wenjun Zhu) Neural-network-based Index Insurance Design

— A class of hierarchical random effect models for posterior ratemaking

— (With Dan Zhu, Jaeyoun Ahn) Separating skill from moral hazard in insurance : A Bayesian nonparametric approach.

EXTERNAL GRANTS

2020. Co-investigator. Academic grant of the Canadian Institute of Actuaries. Title “Transformation Forests for Auto Insurance Risk Modeling”. Principal Investigator is Hong Li (Assistant Professor, University of Mannitoba). Funding amount : 16 K CAD.

2020 : Délégation grant from French National Center of Scientific Research (CNRS). The délégation is a yearly national competition allowing the laureates to buy out one’s teaching load. Title of the Grant : “Noncausal Affine Processes with Applications to Finance and Insurance”. My grant is worth 8K EUR and covers half year’s teaching.

2019 : Délégation grant from CNRS. Title of the Grant : “Noncausal Affine Processes with Applications to Finance and Insurance”. My grant is worth 16K EUR and covers one year’s teaching.

2018, Principal Investigator. Society of Actuaries Individual Grant Competition. Title “Dynamic Bayesian Ratemaking : A Markov Chain Approximation Approach”. Grant amount : 17,5 K USD. The co-investigators are Hong Li (Assistant Professor, University of Mannitoba, Canada) and Wenjun Zhu (Assistant Professor, Nanyang Technological University, Singapore).

2017, Co-investigator. Society of Actuaries China Research Project. Title “Modeling and Forecasting Chinese Population Dynamics in a Multi-population Context”. Grant amount : 9 K USD. Other researchers are Hong Li (PI, Assistant Professor, Nankai University, China) and Pintao Lyu (PhD student, Tilburg University, the Netherlands).

2015, Co-investigator of a grant from three French investment companies on “funding liquidity of mutual fund investors”. Other researchers are Serge Darolles (PI), Gaëlle Le Fol, and Ran Sun, all from University of Paris-Dauphine. The grant includes a PhD scholarship for Ran Sun. The project lead to a publication in the Journal of Multivariate Analysis.

SERVICES

June 2018 : Organization of a one-day workshop in financial econometrics, at University Paris 13. Senior invited speakers include C. Gouriéroux (Toronto), N. Meddahi (TSE), G. Chevillon (ESSEC), R. Tedongap (ESSEC), M. Dacorogna (Prime Re Solutions) and P. Soulier (Paris 10).

Since September 2018 : Member of the Scientific Committee of the MME-DII Laboratory of Excellence (Labex) in Mathematical and Economic Modelling. The MME-DII Labex is a large research grant involving five Parisian Universities (Paris 2, Paris 10, Paris 13, Cergy-Pontoise and ESSEC Business School) overseeing an annual research budget in excess of 1 M euros (see their website `labex-mme-dii.u-cergy.fr/?lang=en`). Tasks include selection of International visiting chairs, chairs of excellence, teaching buyout grants, postdoctoral grants, PhD scholarships, conference proposals, etc.

Since 2019 : Program director of the actuarial science master’s program at University of Paris 13. Completed tasks include

- Updating and budgeting the curricular and securing the accreditation of the Ministry of Higher Education
- Recruiting students
- Recruiting professional actuaries as adjunct professors

2020 : Member of the selection committee of an assistant professor position in quantitative economics at University of Paris 13; external member of the selection committee of an assisant professor position in financial economics at University of Paris Nanterre.

Referee for :
— Annals of Actuarial Science (2) papers
— Annals of Economics and Statistics (1) paper
— Astin Bulletin (4) papers
— Brazilian Journal of Probability and Statistics (1) paper
— Computational Statistics and Data Analysis (1) paper
— European Actuarial Journal (1) paper
— Insurance : Mathematics and Economics (4) papers
— International Economics (1) paper
— Journal of Banking and Finance (2) papers
— Journal of Risk and Insurance (4) papers
— Journal of Time Series Analysis (1) paper
— Scandinavian Actuarial Journal (2) paper
— Scandinavian Journal of Statistics (1) paper

PRESENTATIONS

2020 : Concordia University (Montreal), Georgia State University, University of New South Wales, Simon Fraser University, U. of Franche-Comté, ENSAI Rennes.

2019 : Insurance : Mathematics and Economics (IME) congress in Munich, Society of Financial Econometrics congress in Shanghai, Paris International Risk Forum, Université Catholique Louvain, 11th French Econometrics Conference (Marseille), Nanyang Techonological U., Monash U. , U. Waterloo, Université de Montréal.

2018 : Paris December Finance Meeting.

2017 : EM. Lyon, U. Cergy-Pontoise, U. Orléans, U. Mannheim, U. Amsterdam, SUNY at Albany, IUPUI, U. Waterloo, Nanyang Technological U., U. Aix-Marseille, Society of Nonlinear Dynamics and Econometrics (Paris), International Association of Applied Econometrics (Sapporo).

2016 : CFE-ERCIM Sevilla, CREST, U. Lyon.

2015 : U. Strasbourg, Monash U., Georgia State U., Australian National U., U. Vienna, U. Aix-Marseille, IME Liverpool.

2014 : EMLyon, IME Shanghai.