

Jinniao Qiu

Address	MS 580, University of Calgary 2500 University Drive NW Calgary, Alberta, Canada T2N1N4	Office Phone	+1 (403)210 8474
		Email	jinniao.qiuATucalgary.ca

Current Position

- Professor at the Department of Mathematics and Statistics, Faculty of Science, University of Calgary, Calgary, AB, Canada

Scientific interests

- PDEs, Stochastic PDEs, & Stochastic Control
- Probability and Stochastic Analysis
- Games & Optimizations
- Mathematical Finance and Economics
- Applied Machine/Deep Learning

Education

2007-2012 Ph.D. in the School of Mathematical Sciences - Fudan University

2003-2007 B.S. in the School of Mathematical Sciences - Nankai University

Employment History

July 2026 - Present Department of Mathematics and Statistics, University of Calgary, Calgary, AB, Canada
Professor

June 2021 - June 2026 Department of Mathematics and Statistics, University of Calgary, Calgary, AB, Canada
Associate Professor

May 2017 - May 2021 Department of Mathematics and Statistics, University of Calgary, Calgary, AB, Canada
Assistant Professor

Jan 2016 - May 2017 Department of Mathematics, University of Michigan, Ann Arbor, MI, USA
Postdoctoral Assistant Professor (counted as postdoctoral category in UMich)

Dec 2012 - Dec 2015 Department of Mathematics, Humboldt-Universität zu Berlin, Berlin, Germany
Postdoctoral Fellow

Peer-reviewed Fund

- NSERC Individual Discovery Grant, 2025-2030, Stochastic Equations in Controls, Games, Optimizations, and Mathematical Finance.
- NSERC Individual Discovery Grant (with COVID-19 and ECR extensions), 2018-2024, Backward Stochastic Partial Differential Equations: Theory and Applications in Stochastic Control and Mathematical Finance.
- The 2022 Winner of PIMS-Europe Fellowship.

Peer-Reviewed Journal Articles (in alphabetical order)

- [1] C. BAYER, U. HORST, AND J. QIU, *A functional limit theorem for limit order books with state dependent price dynamics*, Ann. Appl. Probab., 27 (2017), pp. 2753–2806.
- [2] C. BAYER, J. QIU AND Y. YAO, *Pricing options under rough volatility with backward SPDEs*, SIAM Journal on Financial Mathematics, 13 (2022), pp. 179–212.
- [3] E. BAYRAKTAR, H. CHEUNG, I. EKREN, J. QIU, H. M. TAI, AND X. ZHANG, *Viscosity solutions of fully second-order HJB equations in the wasserstein space*, SIAM J. Control Optim., 64 (2026), pp. 2250–2280.
- [4] E. BAYRAKTAR AND J. QIU, *Controlled reflected SDEs and Neumann problem for backward SPDEs*, Ann. Appl. Probab., 29 (2019), pp. 2819–2848.
- [5] G. BORGHİ, H. HUANG AND J. QIU, *A particle consensus approach to solving nonconvex-nonconcave min-max problems*, SIAM J. Control Optim., 64 (2026), pp. 1573–1601.
- [6] E. CHENCHENE, H. HUANG, AND J. QIU, *A consensus-based algorithm for non-convex multiplayer games*, Journal of Optimization Theory and Applications 206 (45), 2025
- [7] H. CHEUNG*, J. QIU AND Y. YANG, *Feynman-Kac Formula for Nonlinear Schrödinger Equations with Applications in Numerical Approximations*, Stoch. Process. Appl., 202 (2026), <https://doi.org/10.1016/j.spa.2026.105091>
- [8] H. CHEUNG, H.M. TAI AND J. QIU, *Viscosity solutions of a class of second order Hamilton–Jacobi–Bellman equations in the Wasserstein space*, Appl. Math. Optim. 91(1), 2025
- [9] C. CIPRIANI, H. HUANG, AND J. QIU, *Zero-inertia limit: from particle swarm optimization to consensus-based optimization*, SIAM Journal on Mathematical Analysis, 54 (2022), pp. 3091–3121.
- [10] F. DELBAEN, J. QIU, AND S. TANG, *Forward–backward stochastic differential systems associated to Navier–Stokes equations in the whole space*, Stoch. Proc. Appl., 125 (2015), pp. 2516–2561.
- [11] K. DU, J. QIU, AND S. TANG, *L^p theory for super-parabolic backward stochastic partial differential equations in the whole space*, Appl. Math. Optim., 65 (2011), pp. 175–219.
- [12] R. ELLIOTT, J. QIU, AND W. WEI, *Neumann problem for backward SPDEs with singular terminal conditions and application in constrained stochastic control under target zone*, Stochastic Processes and their Applications, 148 (2022), pp. 68–97.
- [13] G. FU, U. HORST, AND J. QIU, *Maximum principle for quasi-linear reflected backward SPDEs*, J. Math. Anal. Appl., 456 (2017), pp. 307–336.

- [14] P. GRAEWE, U. HORST, AND J. QIU, *A non-markovian liquidation problem and backward SPDEs with singular terminal conditions*, SIAM J. Control Optim., 53 (2015), pp. 690–711.
- [15] U. HORST, J. QIU, AND Q. ZHANG, *A constrained control problem with degenerate coefficients and degenerate backward SPDEs with singular terminal condition*, SIAM J. Control Optim., 54 (2016), pp. 946–963.
- [16] H. HUANG, AND J. QIU, *On the mean-field limit for the consensus-based optimization*, Mathematical Methods in the Applied Sciences, 45 (2022), pp. 7814–7831.
- [17] H. HUANG, AND J. QIU, *The microscopic derivation and well-posedness of the stochastic Keller–Segel equation*, Journal of nonlinear science, 31 (2021), pp. 1–31.
- [18] H. HUANG, J. QIU, AND K. RIEDL, *Consensus-Based Optimization for Saddle Point Problems*, SIAM Journal Control and Optimization, 62(2): 1093–1121, 2024
- [19] H. HUANG, J. QIU, AND K. RIEDL, *On the global convergence of particle swarm optimization methods*, Appl. Math. Optim 88, 30 (2023). <https://doi.org/10.1007/s00245-023-09983-3>
- [20] J. MA, M. OGUNSOLU, J. QIU, AND A. D. SEZER, *Credit risk pricing in a consumption-based equilibrium framework with incomplete accounting information*, Mathematical Finance 33, pp. 666–708, 2023
- [21] H.U. MOLLA, AND J. QIU, *Numerical approximations of coupled forward–backward SPDEs*, Stochastic Analysis and Applications, 41 (2023), pp. 291–326.
- [22] J. QIU, *Weak solution for a class of fully nonlinear stochastic Hamilton–Jacobi–Bellman equations*, Stoch. Process. Appl., 127 (2017), pp. 1926–1959.
- [23] J. QIU, *Hörmander-type theorem for Itô processes and related backward SPDEs*, Bernoulli, 24 (2018), pp. 956–970.
- [24] J. QIU, *Viscosity solutions of stochastic Hamilton–Jacobi–Bellman equations*, SIAM J. Control Optim., 56 (2018), pp. 3708–3730.
- [25] J. QIU, *L^2 -theory of linear degenerate SPDEs and L^p ($p > 0$) estimates for the uniform norm of weak solutions*, Stochastic Processes and their Applications, 130 (2020), pp. 1206–1225.
- [26] J. QIU, *Controlled ordinary differential equations with random path-dependent coefficients and stochastic path-dependent Hamilton–Jacobi equations*, Stochastic Processes and their Applications, 154 (2022), pp. 1–25.
- [27] J. QIU AND S. TANG, *Maximum principles for backward stochastic partial differential equations*, J. Funct. Anal., 262 (2012), pp. 2436–2480.
- [28] J. QIU, S. TANG, AND Y. YOU, *2D backward stochastic Navier–Stokes equations with nonlinear forcing*, Stoch. Process. Appl., 122 (2012), pp. 334–356.
- [29] J. QIU AND W. WEI, *On the quasi-linear reflected backward stochastic partial differential equations*, J. Funct. Anal., 267 (2014), pp. 3598–3656.
- [30] J. QIU AND W. WEI, *Uniqueness of viscosity solutions of stochastic Hamilton–Jacobi equations*, Acta Mathematica Scientia, 39 (2019), pp. 857–873.
- [31] J. QIU, A. WARE AND Y. YANG, *Stochastic Path-Dependent Volatility Models for Price-Storage Dynamics in Natural Gas Markets and Discrete-Time Swing Option Pricing*, J. Comp. Finance, 29 (2025), pp. 69–109

- [32] J. QIU AND Y. YANG, *Optimal Control of Infinite-Dimensional Differential Systems with Randomness and Path-Dependence and Stochastic Path-Dependent Hamilton–Jacobi Equations*, ESAIM: Control, Optimisation and Calculus of Variations, 30(12), 2024
- [33] J. QIU AND J. ZHANG, *Stochastic differential games with random coefficients and stochastic Hamilton–Jacobi–Bellman–Isaacs equations*, Ann. Appl. Probab., 33 (2023), pp. 689–730.

Book Chapters

- [1] S. GRASSI, H. HUANG, L. PARESCHI, AND J. QIU, *Mean-field particle swarm optimization*, in Modeling and Simulation for Collective Dynamics, vol. 40 of Lecture Notes Series, Institute for Mathematical Sciences, National University of Singapore, 2023, pp. 127–193.

Papers submitted/in preparation

- [1] H. CHEUNG, AND J. QIU, *SCMO: Stochastic Control for Optimization over Probability Measures on Infinite-Dimensional Spaces*, under review, conference paper at ICLR 2027, arXiv:2609.14548
- [2] H. CHEUNG, J. QIU, AND A. BADESCU, *A viscosity solution theory of stochastic Hamilton–Jacobi–Bellman equations in the Wasserstein space*, Ann. Appl. Probab., under review, arXiv:2310.14446, 2025.
- [3] U. HORST, J. QIU, AND Y. YANG, *Optimal Resource Extraction under Distribution Learning and Infinite-Horizon Stochastic Hamilton–Jacobi Equations*, under review, SIAM J. Control Optim., arXiv:2609.17717, 2026
- [4] H. MOLLA, AND J. QIU, *A Policy Iteration Scheme for Semilinear Stochastic Hamilton–Jacobi–Bellman Equations with Exponential Convergence*, under review, SIAM J. Control Optim., arXiv:2607.29024, 2026
- [5] J. QIU, X. YANG, AND J. ZHANG, *Controlled SPDEs and Adjoint Equations with Conormal Boundary Condition in Domains*, under review, SIAM J. Control Optim., 2026
- [6] H. CHEUNG, J. QIU AND G. ZHANG, *A Feynman–Kac formula for wave equations and numerical approximations*, under review, Mathematics of Computation, 2026
- [7] J. QIU, *Stochastic Control Methods for Optimization*, under review, J. Mach. Learn. Res., arXiv:2601.01248, 2026
- [8] K. MIRZAEI, AND J. QIU, *On the Strong Measurability and Adapted Approximations*, to submit, 2026
- [9] R. C. FETEAU, H. HUANG, AND J. QIU, *Swarming models with specular boundary condition and environmental noise*, to submit, arXiv:2304.02130, 2025
- [10] J. QIU, *Stochastic Path-Dependent Hamilton–Jacobi–Bellman Equations and Controlled Stochastic Differential Equations with Random Path-Dependent Coefficients*, <https://arxiv.org/abs/2006.13043>, 2020.
- [11] J. QIU AND S. TANG, *On backward doubly stochastic differential evolutionary system*, to submit, arXiv:1309.4152, 2013.
- [12] M. BACKHOUSE, A. BANERJEE, H. U. MOLLA, AND J. QIU, *A Deep Learning-Based Method for Fully Coupled Non-Markovian FBSDEs with Applications*, , 2025.

Book preprint

- [1] J. QIU, *Stochastic Optimal Controls in Brownian Setting and Applications: Markovian and Non-Markovian Studies*, preprint, 2022.

Other Publications

- [1] P. CARDALIAGUET, M. GRIGOROVA, T. MASTROLIA, J. QIU, AND J. ZHANG, *New trends and challenges in stochastic differential games*, BIRS Workshop Report, Lead Organizer, <https://www.birs.ca/files/workshops/UBCO/2024/24w5277/report24w5277.pdf>, 2024.

Teaching

University of Calgary, instructor:

- *MATH/STAT/ACSC 600: Seminar*, graduate level
- *MATH 691.05: Stochastic Optimal Control and Applications in Finance*, Ph.D./Masters level
- *MATH 683: Computational Finance*, Ph.D./Masters level
- *MATH 605: Differential Equations III*, Ph.D./Masters level
- *MATH 583: Computational Finance*, senior level
- *MATH 383 (formerly known as Applied Mathematics 481): Introduction to Mathematical Finance*, Sophomore and junior level
- *MATH 275: Calculus for Engineers and Scientists*, undergraduate freshmen level
- *MATH 265: Introductory Calculus*, undergraduate freshmen level
- *MATH 249: Introductory Calculus*, undergraduate freshmen level

University of Michigan (Ann Arbor), instructor:

- *MATH 115: Calculus I*, undergraduate freshmen level, University of Michigan,
- *MATH 423: Mathematics of Finance*, senior level

Humboldt-Universität zu Berlin, instructor:

- *Mean Field Games and Mean Field Type Control*, Ph.D. level
- *Stochastic Partial Differential Equations: Theory and Applications*, Master/Ph.D. level

Academic Event Administration

- (1) 2024/5–2025/7: organizer, Session 61: *Recent Advances in Mathematical Finance and Related Fields*, Mathematical Congress of the Americas (MCA25), Miami, USA, 2025/7/21–2025/7/25
- (2) 2025/1–2025/5: organizer, Session: *Recent Developments in Stochastic Analysis, PDEs and Related Topics*, Alberta Mathematics Dialogue (AMD) 2025, Calgary, 2025/5/1–2025/5/2
- (3) 2024/11–2024/12: organizer, Session: *Optimization, control, dynamics and stochastics: interplay and applications*, 2024 CMS Winter meeting, Vancouver, Canada, 2024/11/30–2024/12/01

- (4) 2022/8–2024/8: lead organizer, BIRS Workshop: 24w5277: *New Trends and Challenges in Stochastic Differential Games*, 2024/6/23 - 2024/6/28
- (5) 2022/10–2023/7: co-organizer, Workshop: *Mathematical Modeling and Forecasting for Renewable Energy*, PIMS, Vancouver, 2023/7/26–2023/7/28
- (6) 2018/1–2018/5: organizer, Session: *Mathematical Finance in Alberta Mathematics Dialogue* at the University of Calgary, Conference, 2018/5 - 2018/5

National and International Collaboration Activities

- (1) 2026/3–2026/3: visiting scholar, Department of Mathematics and Statistics, Auburn University, USA
- (2) 2026/2–2026/2: visiting scholar, Department of Mathematics, Humboldt-Universität zu Berlin, Germany
- (3) 2025/5–2025/5: visiting scholar, School of Mathematical Sciences, Fudan University, China
- (4) 2024/7–2024/7: visiting scholar, Humboldt-Universität zu Berlin, Germany
- (5) 2024/5–2024/5: visiting scholar, Department of Mathematics, University of Washington, Seattle, USA
- (6) 2024/3–2024/3: visiting scholar, Department of Mathematics, University of Southern California, USA
- (7) 2023/4–2023/6: Scientific guest, CEREMADE at Université Paris-Dauphine, France.
- (8) 2021/9–2021/10: Visiting Scholar, Fudan University, Shanghai, China, (Remote)
- (9) 2020/1–2020/1: Visiting Scholar, Department of Mathematical and Statistical Sciences, University of Alberta, Edmonton, Canada
- (10) 2019/6–2019/7: Visiting Scholar, Fudan University, Shanghai, China
- (11) 2019/3–2019/3: Department of Mathematics, Simon Fraser University, Burnaby, Canada
- (12) 2015/3–2015/7: associate member, Center for Interdisciplinary Research (ZiF), Bielefeld, Germany
- (13) 2014/10–2014/10: visiting scholar, Department of ORFE, Princeton University, USA
- (14) 2013/6–2013/8: visiting research scholar, Hausdorff Research Institute for Mathematics (HIM), Bonn, Germany
- (15) 2012/3–2012/3: visiting scholar, Department of Mathematics and Statistics, University of South Florida, Tampa, USA
- (16) 2012/2–2012/2: visiting scholar, Institute for Pure & Applied Mathematics (IPAM), UCLA, USA
- (17) 2011/10–2011/10: visiting scholar, Institut de mathématiques, EPFL, Lausanne, Switzerland
- (18) 2011/9–2011/9: visiting scholar, IRMAR, Université de Rennes 1, Rennes, France
- (19) 2011/8–2011/10: visiting research scholar, Department of Mathematics, ETH Zurich, Switzerland

Memberships

- (1) Founding Member, World Association for Complex Systems (WACS)
- (2) Committee Member, The Machine Learning in Finance CREATE Admission Committee, Fin-ML
- (3) SIAM member
- (4) member, Canadian Mathematical Society
- (5) member, The Canadian Applied and Industrial Mathematics Society
- (6) Mathematical Reviews Reviewer, American Mathematical Society

Selected Presentations

- (1) invited, *Stochastic Control Methods for Optimization*, MS33 Mathematical Frontiers in Social Sciences: Models, Methods, and Applications Part II of I, 2026 SIAM Annual Meeting (AN26), Cleveland, Ohio, USA, July 6-10, 2026
- (2) invited, *Stochastic Control Methods for Optimization*, BIRS Workshop 26w5527 - Interacting Particle Systems: Theoretical Innovations and Practical Applications, Jun. 28–Jul. 3, 2026
- (3) invited, *Stochastic Control Methods for Optimization*, CS 14, 45th Conference on Stochastic Processes and their Applications, Ithaca, New York, USA, June 14–20, 2026
- (4) invited, *Microscopic Derivation and Well-Posedness of the Stochastic Keller-Segel Equation*, Seminars on Analysis and Stochastic Analysis (SASA), Auburn University, USA, 2026/03/25
- (5) invited, *Some Recent Progress on stochastic HJB equations*, Math Department Colloquium, Department of, Math Department Colloquium & SASA Seminar, Auburn University, USA, 2026/03/24
- (6) invited, *Some Recent Progress on stochastic HJB equations*, Workshop "Path-Dependent Stochastic Optimal Control and Applications in Finance and Economics", Humboldt-Universität zu Berlin, Germany, March 9–11, 2026
- (7) invited, *Some Recent Progress on stochastic HJB equations*, Mathematical Finance Session, 2025 CMS Winter Meeting, Toronto, Canada, 2026/12/07
- (8) invited, *Viscosity Solution of Stochastic Hamilton-Jacobi-Bellman Equations in the Wasserstein Space*, MS19: Stochastic Control Theory and Applications, SIAM Conference on Control and Its Applications (CT25), Montréal, Canada, 2025/07/29
- (9) invited, *Stochastic path-dependent volatility models for price-storage dynamics in natural gas markets and discrete-time swing option pricing*, Session 61: Recent Advances in Mathematical Finance and Related Fields, Mathematical Congress of the Americas (MCA) 2025, Miami, Florida, USA, 2025/07/22
- (10) invited plenary, *Recent Progress on Stochastic HJB Equations*, Byrne B2A2 Conference on Stochastic Analysis in Finance and Insurance, Ann Arbor, MI, USA, 2025/06/10
- (11) invited, *Interacting Particle Systems for Optimization: from Particle Swarm Optimization to Consensus-based Optimization*, Math Colloquium at Fudan University, Shanghai, China, 2025/05/16
- (12) invited, Lecture on *Some Recent Progress on Stochastic HJB Equations*, Research Center for Mathematics and Interdisciplinary Sciences, Shandong University, China, 2025/05/09

- (13) organizer, *A particle consensus approach to solving nonconvex-nonconcave min-max problems*, Session: Optimization, control, dynamics and stochastics: interplay and applications, 2024 CMS Winter meeting, Vancouver, Canada, 2024/12/01
- (14) invited, *Viscosity solutions of a class of second-order Hamilton-Jacobi-Bellman Equations in the Wasserstein Space*, Session: Recent Progress of Stochastic Analysis and Related Fields, 2024 CMS Winter meeting, Vancouver, Canada, 2024/11/30
- (15) invited, *A particle consensus approach to solving nonconvex-nonconcave min-max problems*, BIRS Workshop 24w5257 - Modeling, Learning and Understanding: Modern Challenges between Financial Mathematics, Financial Technology and Financial Economics, Banff, Canada, 2024/11/15
- (16) invited, *Interacting Particle Systems for Optimization: from Particle Swarm Optimization to Consensus-Based Optimization*, Coffee Series Talk at the Department of Mathematics and Statistics, University of Calgary, Canada, 2024/10/17
- (17) invited, *Consensus-based optimization for equilibrium points of games*, Mathematical Finance Seminar, TU Berlin, Berlin, Germany, 2024/07/11
- (18) invited, *Interacting Particle Systems for Optimization: from Particle Swarm Optimization to Consensus-based Optimization*, Probability Colloquium, WIAS, Berlin, Germany, 2024/07/10
- (19) invited, *Consensus-based optimization methods for Nash equilibria*, Byrne Conference on Stochastic Analysis in Finance and Insurance, Ann Arbor, USA, 2024/06/05
- (20) invited, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations*, Probability Seminar at University of Washington, Seattle, USA, 2024/05/20
- (21) invited, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations*, Math Seminar at Northeast Normal University, Changchun, China, 2024/04/08
- (22) invited, *Stochastic Black-Scholes equation and approximations for option pricing under a non-Markovian framework.*, USC Math Finance Colloquium, Los Angeles, USA, 2024/03/25
- (23) invited, *Stochastic Black-Scholes equation for option pricing under a non-Markovian framework*, Seminar Series on Financial Mathematics and Computational Finance, Beijing, China, 2024/03/21
- (24) invited, *Consensus-based optimization for Nash equilibria. Stochastic Modelling in Insurance*, Workshop: Asset Management and Banking, Munich, Germany, 2024/02/22
- (25) invited Plenary speaker, *Stochastic Black-Scholes equation and approximations for option pricing under a non-Markovian framework*, 4th Tianfu International Workshop on Financial Mathematics, Chengdu, China, 2023/07/22
- (26) invited, *Stochastic Black-Scholes equation for option pricing under a non-Markovian framework*, Paris BACHELIER seminar at Institut Henri Poincaré, Paris, France, 2023/06/09
- (27) invited, *Stochastic Black-Scholes Equations under Rough Volatility*, BIRS Workshop Stochastic Modelling of Big Data in Finance, Insurance and Energy Market, Banff, Canada, 2023/05/21
- (28) invited, *Microscopic Derivation and Well-Posedness of the Stochastic Keller-Segel Equation*, Department colloquium at Fudan University, Shanghai, China, 2023/04/08
- (29) invited, *Numerical approximations of forward-backward stochastic (partial) differential equations with applications in finance*, Department Seminar at University of Shanghai for Science and Technology, Shanghai, China, 2022/12/20

- (30) invited keynote talk, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations*, (Duke Kunshan-NUS)DKU-NUSRI Joint Workshop on Pure and Applied Mathematics 2022, Kunshan, China, 2022/01/07
- (31) invited, *Numerical approximations of coupled forward-backward SPDEs with applications in finance*, Session MS 18: Recent Advances In Mathematical And Computational Finance, CAIMS/SCMAI 2022, Kelowna, Canada
- (32) invited, *Controlled random path-dependent ODEs and stochastic path-dependent Hamilton-Jacobi equations*, Math Colloquium at Fudan University, Shanghai, China, 2022
- (33) invited, *Stochastic Black-Scholes equation for option pricing under rough volatility*, Math Colloquium at Fudan University, Shanghai, China, 2022
- (34) invited, *Stochastic Black-Scholes Equation under Rough Volatility and Approximations via Deep Learning*, Financial Mathematics Seminars 2021 Spring, Florida, USA, 2021
- (35) invited, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations*, Math Colloquium at Fudan University, Shanghai, China, 2021
- (36) invited, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations and Applications in Mathematical Finance*, Mathematical Finance Seminar, Berlin, Germany, 2021
- (37) invited, *Stochastic Black-Scholes Equation under Rough Volatility*, CMS 75th Anniversary Summer Meeting, Ottawa, Canada, 2021
- (38) invited, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations*, Math Colloquium at Fudan University, Shanghai, China, 2021/10/29
- (39) invited, Seminar Talk, Department of Mathematical and Statistical Sciences, University of Alberta, Canada, Jan. 31, 2020
- (40) invited, *Stochastic Black-Scholes Equation under Rough Volatility and Computations with Deep Learning- Based Methods*, Department colloquium at University of Calgary, Calgary, Canada, 2020
- (41) invited, *Optimal Liquidation in Target Zone Models and Neumann Problem with Singular Terminal Condition*, CMS Winter Meeting, Toronto, Canada, December 6-9, 2019
- (42) invited, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations and Applications in Mathematical Finance*, CAIMS Annual Meeting 2019, Whistler, Canada, June 11, 2019.
- (43) invited, *Controlled SDEs with Reflections and Associated Stochastic HJB Equations*, SIAM Conference on Financial Mathematics & Engineering, Toronto, Canada, June 7, 2019.
- (44) invited, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations and Their Applications in Mathematical Finance*, The 47th Annual Meeting of the Statistical Society of Canada, Calgary, Canada, May 27, 2019.
- (45) invited, *An Introduction to Stochastic (parabolic) PDEs and Their Applications*, PIMS-SFU Applied & Computational Math Seminar, Burnaby, Canada, March 20, 2019.
- (46) invited, lectures on *An Introduction to Stochastic PDEs and Their Applications: Forward Case*. PIMS Summer School on Stochastic and Deterministic Modelling with PDE, PIMS Summer School on Stochastic and Deterministic Modelling with PDE, Jasper, Canada, September 22, 2019.
- (47) invited, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations*, International Conference on Stochastic Partial Differential Equations, Edmonton, Canada, September 29, 2018.

- (48) invited, *Viscosity Solutions of Stochastic Hamilton-Jacobi-Bellman Equations*, Lunch at the Lab Financial Mathematics Seminar, Calgary, Canada, October 11, 2018.
- (49) Session chair, *A Functional Limit Theorem for Limit Order Books with State Dependent Price Dynamics*, 10th World Congress of the Bachelier Finance Society, Dublin, Ireland, July 18, 2018.
- (50) Lunch at the Lab Financial Mathematics Seminar, Calgary, Canada, September 20, 2017.
- (51) Lunch at the Lab Financial Mathematics Seminar, Calgary, Canada, November 15, 2017.
- (52) Departmental Colloquium at the Department of Mathematics and Statistics of University of Calgary, Canada, September 29, 2017.
- (53) Young Researchers' meeting on mathematics, Shanghai Center for Mathematical Sciences, China, Feb. 27-Mar. 2, 2017
- (54) Financial Mathematics Seminar, University of Michigan, Ann Arbor, USA, March 2017
- (55) The First Berlin-Princeton-Singapore Workshop on Quantitative Finance, NUS, Singapore, June 29-July 1, 2015
- (56) Workshop "Mathematics and Financial Economics", ZiF, Bielefeld, Germany, May 19-22, 2015.
- (57) New Directions in Financial Mathematics and Mathematical Economics, Banff, Canada, July, 2014
- (58) 8th World Congress of the Bachelier Finance Society, Brussels, Belgium, June, 2014
- (59) First Berlin-Singapore Workshop on Quantitative Finance & Financial Risk, Berlin, Germany, May 21-24, 2014
- (60) The 7th International Symposium on Backward Stochastic Differential Equations, Weihai, China, June, 2014
- (61) Stochastic Analysis and Stochastic Finance Seminar, HU Berlin, Germany, October, 2013
- (62) Workshop "Modeling Market Dynamics and Equilibrium - New Challenges, New Horizons", Hausdorff Research Institute for Mathematics (HIM), Bonn, Germany, August 19-22, 2013
- (63) Seminaire d'Analyse et Applications, Université d'Evry, Paris, France, May, 2013
- (64) Stochastic Analysis and Stochastic Finance Seminar, TU Berlin, Germany, April, 2013
- (65) Analysis and Control of Stochastic Partial Differential Equations, Fudan University, 3-6 December, 2012
- (66) The 12th Annual Conference of China Society for Industrial and Applied Mathematics, Hefei City, China, 19-24 Aug. 2012
- (67) Fudan-Loughborough Workshop on Stochastic Analysis and Applications, Fudan University, China, July 12-13, 2012
- (68) Young Researchers' Meeting on BSDEs, Numerics and Finance, University of Oxford, UK, July 2012
- (69) Special Session on SPDEs and Random Global Dynamics, University of South Florida, USA, 10th- 11th March, 2012
- (70) Seminar of Probability and Stochastic Process, Institut de mathématiques, EPFL, Switzerland, 18th-21th October, 2011

- (71) 6th International Symposium on Backward Stochastic Differential Equations, University of Southern California, USA, 8th-10th June, 2011
- (72) Doctorial Forum Fudan-Kyoto Universities, Kyoto University, Japan, 10th-15th March, 2011