Guangchen WANG

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School of Control Science and Engineering
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Personal Data

Sex: Male; Nationality: Chinese; Marital Status: Married

Degrees Obtained

2007	PhD, School of Mathematics and System Sciences, Shandong University
2004	MSc, School of Mathematics and System Sciences, Shandong University
2001	BSc, Department of Mathematics, Shandong Normal University

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Teaching

Linear Algebra; Probability Theory

Research Interests

Stochastic Control; Stochastic Filtering; Mathematical Finance

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Professional Experiences

2016-2018	The Ministry of Education Young Changjiang Scholar Shandong University
2015-Now	Professor School of Control Science and Engineering Shandong University
2011-2014	Associate Professor School of Control Science and Engineering Shandong University
2007-2010	Lecturer School of Mathematical Sciences Shandong Normal University

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Professional Activity

1. 2014-Now, Member of the Editorial Board of Journal of System Science and Mathematical Science Chinese Series

2. 2012-2014, Guest Editor of Mathematical Problems in Engineering-Stochastic Systems

2011, Outstanding reviewer of the journal of IEEE Transactions on Automatic Control

2015, The 10th Shandong Province Youth Science and Technology Prize Winner

SELECTED JOURNAL PAPERS

1. Pengyan Huang, **Guangchen Wang** and Huanjun Zhang (2019).
   A partial information linear-quadratic optimal control problem of backward stochastic differential equation with its applications.
   To appear in SCIENCE CHINA Information Science, 2019.

2. **Guangchen Wang** and Huanjun Zhang (2019).
   Mean-field backward stochastic differential equation with non-Lipschitz coefficient.
   Asian Journal of Control, DOI: 10.1002/asjc.2087, 2019.

3. **Guangchen Wang**, Hua Xiao and Jie Xiong (2018).
   A kind of LQ non-zero sum differential game of backward stochastic differential equation with asymmetric information.
   Automatica, 2018, pp 346-352.

4. **Guangchen Wang**, Zhen Wu and Jie Xiong (2018).
   An introduction to optimal control of FBSDE with incomplete information.
   SpringerBriefs in Mathematics. Springer, Cham, 2018.

5. **Guangchen Wang**, Hua Xiao and Guojing Xing (2017).
   An optimal control problem for mean-field forward-backward stochastic differential equation with noisy observation,
   Automatica, 86, pp. 104-109, 2017.

6. Jingtao Shi, **Guangchen Wang** and Jie Xiong (2017).
   Linear-quadratic stochastic Stackelberg differential game with asymmetric information,
   SCIENCE CHINA Information Science, 60, pp. 092202:1-092202:15, 2017.

7. Jingtao Shi and **Guangchen Wang** (2016).
   A non-zero sum differential game of BSDE with time-delayed generator and applications,
   IEEE Transactions on Automatic Control, 61(7), pp. 1959-1964, 2016.

8. Jingtao Shi, **Guangchen Wang** and Jie Xiong (2016).
   Leader-follower stochastic differential game with asymmetric information and applications. (Regular Paper)
   Automatica, 63 (1), pp. 60-73, 2016.

9. **Guangchen Wang**, Jie Xiong and Shuaiqi Zhang (2016).
   Partially observable stochastic optimal control.
   International Journal of Numerical Analysis & Modeling, 13(3), pp. 493-512, 2016.

10. **Guangchen Wang**, Zhen Wu and Jie Xiong (2015).
    A linear-quadratic optimal control problem of forward-backward stochastic differential equations with partial information. (Regular Paper)
    IEEE Transactions on Automatic Control, 60 (11), pp. 2904-2916, 2015.

11. **Guangchen Wang** and Hua Xiao (2015).
    Arrow sufficient conditions for optimality of fully coupled forward-backward stochastic differential equations with applications to finance.

Journal of Optimization Theory and Applications, 165, pp. 639-656, 2015.

12. Eddie C. M. Hui, **Guangchen Wang** (2015).
A new optimal portfolio selection model with owner-occupied housing.
Applied Mathematics and Computation, 270, pp. 714-723, 2015.

13. **Guangchen Wang**, Chenghui Zhang and Weihai Zhang (2014).
Stochastic maximum principle for mean-field type optimal control under partial information.
IEEE Transactions on Automatic Control, 59(2), pp. 522-528, 2014.

14. **Guangchen Wang**, Zhen Wu and Jie Xiong (2013).
Maximum principles for forward-backward stochastic control systems with correlated state and observation noises.
SIAM Journal on Control and Optimization, 51 (1), pp. 491-524.

15. **Guangchen Wang** and Zhiyong Yu (2012).
A partial information non-zero sum differential game of backward stochastic differential equations with applications. (Regular Paper)
Automatica, 48 (2), pp. 342-352.

16. **Guangchen Wang** and Zhen Wu (2011).
Mean-variance hedging and forward-backward stochastic differential filtering equations.
Abstract and Applied Analysis, Volume 2011, Article ID 310910, 20 pages.

17. **Guangchen Wang** and Zhiyong Yu (2010).
A Pontryagin's maximum principle for non-zero sum differential games of BSDEs with applications.
IEEE Transactions on Automatic Control, 55 (7), pp. 1742-1747.

18. Jianhui Huang, **Guangchen Wang** and Zhen Wu (2010).
Optimal premium policy of an insurance firm: full and partial information.
Insurance: Mathematics and Economics, 47 (2), pp. 208-215.

19. Jianhui Huang, Xun Li and **Guangchen Wang** (2010).
Maximum principle for a class of partial information risk-sensitive optimal controls.
IEEE Transactions on Automatic Control, 55 (6), pp. 1438-1443.

20. Jianhui Huang, Xun Li and **Guangchen Wang** (2010).
Near-optimal control problems for linear forward-backward stochastic systems.
Automatica, 46 (2), pp. 397-404.

21. **Guangchen Wang** and Zhen Wu (2009).
The maximum principles for stochastic recursive optimal control problems under partial information. (Regular Paper)
IEEE Transactions on Automatic Control, 54 (6), pp. 1230-1242.

22. **Guangchen Wang** and Zhen Wu (2009).
General maximum principles for partially observed risk-sensitive optimal control problems and applications to finance.
Journal of Optimization Theory and Applications, 141 (3), pp. 677-700.

23. Jianhui Huang, **Guangchen Wang** and Jie Xiong (2009).
A maximum principle for partial information backward stochastic control problems with applications.
SIAM Journal on Control and Optimization, 48 (4), pp. 2106-2117.

24. **Guangchen Wang** and Zhen Wu (2008).
Kalman-Bucy filtering equations of forward and backward stochastic systems and

applications to recursive optimal control problems.
Journal of Mathematical Analysis and Applications, 342 (2), pp. 1280-1296.