DAYUE CHEN

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Education

1983   **B.S.** in Mathematics, Fudan University, Shanghai, China

1985   **M.A.** in Mathematics, University of California, Los Angeles, USA

1989   **Ph.D.** in Mathematics, University of California, Los Angeles, USA

Employment

1985 – 1989   Teaching/Research Assistant, Dept. of Mathematics, UCLA

1989 – 1991   Visiting Assistant Professor, Dept. of Mathematics, Northwestern University

1991 – 1993   Postdoctoral Research Fellow, Dept. of Mathematics, Peking University

1993 – 1997   Associate Professor, Department of Probability and Statistics, Peking University

1997 –   Professor, School of Mathematical Sciences, Peking University

Administrative Services

1995 – 1997   Vice Chair, Dept. of Probability and Statistics, School of Math. Sciences, Peking Univ.

1998 – 2002   Vice Dean, School of Mathematical Sciences, Peking University

2003 – 2008   Associate Director, Key Lab of Mathematics and Its Application, Peking Univ.

2004 – 2008   Head, Probability Group, School of Mathematical Sciences, Peking University

2008 – 2012   Chair, Department of Probability and Statistics, School of Math. Sciences, Peking Univ.

2010 – 2019   Deputy Director, Center of Statistical Science, Peking University

2012 –   Member, Executive Board, Beijing International Center for Mathematical Research, PKU

2013 – 2015   Vice Dean, School of Mathematical Sciences, Peking University

2015 – 2017   Executive Vice Dean, School of Mathematical Sciences, Peking University

2017 –   Dean, School of Mathematical Sciences, Peking University

Professional Services

2012 – 2015   Vice President, Chinese Mathematical Society

2016 – 2019   Secretary General, Chinese Mathematical Society

2014 – 2022   Vice President, Chinese Society of Probability and Statistics

2002 – 2010   Member, Standing Committee of the Council, Chinese Society of Probability and Statistics

1994 – 1998   Deputy Secretary General, Chinese Society of Probability and Statistics

Editorial Services

2011 – 2014   Editor, *Advances in Mathematics* (China)

2006 – 2014   Member of the Editorial Board, *Chinese Journal of Applied Probability and Statistics*

2006 – 2016   Member of the Editorial Board, *Acta Mathematicae Applicatae Sinica, Chinese Series*

2004 – 2013   Member of the Editorial Board, *J. of System Sci. & Mathematical Science, Chinese Series*

Honors and Awards:

2009   **National Award for Educational Achievements**, Ministry of Education, with S.Y. He, Z. Geng, X.Z. Fang & Y.X. Ren.

2009   **Top 10 Teachers**, best teachers selected by students' vote campus-wide

2005   Zhengda Teaching Award, First Class, Peking University

2004   **Award for Educational Achievements**, Municipal Government of Beijing,   with M.P. Qian, S.Y. He & L.P. Liu.

2002   **Award for Young College Teachers**, The Ministry of Education.

2001   **Award for Progress in Science & Technology**, Second Class, Municipal Government of Beijing, with Min-ping Qian.

1999   **Zhou Peiyuan Teaching Award**, Peking University

1994 & 1996   **Gangsong Teaching Award**, Peking University

1985–1989   **Tuition Fellowship**, UCLA, Full tuition scholarship for graduate study in mathematics.

1984   **University Fellowship**, University of California, Los Angeles.

1983   **Selected and recommended** by the AMS Committee on screening students from the PR China.

1979   **Winner** (second class), National Competition of Mathematics for High School Students

Research Interests

Discrete-time Markov chains in particular, interacting particle systems, random walk on trees and in a random environment, percolation.

Selected Publications

[1] The metastability of exponentially perturbed Markov chains, (with Minping Qian and Jianfeng Feng) *Science in China*, Series A, Vol.39 (**1996**), 7-28.

[2] Average properties of random walks on Galton-Watson trees, *Ann. Inst. H. Poincare*, Vol.33, No.3, (**1997**), 359-369.

[3] On the infinite cluster of the Bernoulli bond percolation in the Scherk's graph, *J. Applied Probab.*, Vol.38, No.4, (**2001**) 828-840

[4] Anchored expansion, percolation and speed, (with Yuval Peres), *Ann. of Probability,* Vol.32, No.4, (**2004**) 2978-2995

[5] A note on the finite collision property of random walks, (with Bei Wei and Fuxi Zhang), *Statistics and Probability Letters*, Vol 78, (**2008**), 1742-1747

[6] Two random walks on the open cluster of Z^2 meet infinitely often (with Xinxing Chen), *Science China Mathematics,* Vol 53, No.8, (**2010**), 1971-1978.

[7] The favorite sites of subdiffusive biased walks on a Galton-Watson tree, (with Loic de Raphelis and Yueyun Hu), *Stochastic Processes and Their Appl.,* Vol.128, No. 5, (**2018**) 1525 -1557

Invited Talks

2019   3rd BRICS Mathematics Conference, Kasan, Russia

2017   Stochastic Processes and Their Applications, Moscow, Russia

2016   Asian Mathematical Conference, Bali, Indonesia

2012   Workshop on Percolation and Interacting Systems, MSRI, USA

2008   Sino-French Workshop on Probability and Analysis, Luminy, Marseille, France

2004   6th World Congress of the Bernoulli Society, Barcelona, Spain

1996   4th World Congress of the Bernoulli Society, Vienna, Austria

List of Publications

[1] On the survival probability of generalized nearest-particle systems, *Stochastic Processes and Their Applications*, 30 (**1988**), 209-223.

[2] Finite reversible nearest-particle systems in inhomogeneous and random environments, (with T.M. Liggett), *Ann. of Prob.,* Vol.20, No.1, (**1992**), 152-173.

[3] Finite nearest particle systems on a tree, *Acta Mathematica Scientia,* Vol.14, No.3,(**1994**), 348-353.

[4] The metastable behavior of the two dimensional Ising model, (with M.P. Qian and J.F. Feng), *Proceedings of the International Conference on Dirichlet Forms and Stochastics Processes*, **1995.**

[5] The metastability of exponentially perturbed Markov chains, (with M.P. Qian and J.F. Feng) *Science in China*, Series A, Vol.39 (**1996**), 7-28.

[6] Average properties of random walks on Galton-Watson trees, *Ann. Inst. H. Poincare*, Vol.33, No.3, (**1997**), 359-369.

[7] The consensus times of the majority vote process on a torus, *J. Stat. Physics*, Vol.86, No.3/4, (**1997**), 779-802.

[8] The metastable behavior of the three dimensional Ising model, I (with M.P. Qian and J.F. Feng) *Science in China*, Series A, Vol.40, No.8, (**1997**) 832-842.

[9] The metastable behavior of the three dimensional Ising model, II (with M.P. Qian and J.F. Feng) *Science in China*, Series A, vol.40, No.11, (**1997**) 1129-1135.

[10] The reduction method, the loop erased exit path, and the metastability of the biased majority vote process, (with O. Catoni and J. Xie), *Stochastic Processes and Their Applications,* Vol.86, No.2, (**2000**) 231-262.

[11] On the infinite cluster of the Bernoulli bond percolation in the Scherk's graph, *J. Applied Probab.*, Vol.38, No.4, (**2001**) 828-840.

[12] Estimating the speed of random walks, *Proceedings of the IMS Workshop on Applied Probability,* AMS/IP Studies in Advanced Mathematics, Vol.26, pp17-23, **2002.**

[13] Anchored expansion, percolation and speed, (with Y. Peres), *Ann. of Probability,* Vol.32, No.4, (**2004**), 2978-2995.

[14] The reversible nearest particle system on a finite set (with J. Liu and F Zhang), *Bernoulli,* Vol. 12, No. 1, (**2006**). 101-111.

[15] On the Monotonicity of the Speed of Random Walks on a Percolation Cluster of Trees (with F. Zhang) *Acta Mathematica Sinica, English Series,* Vol.23 No. 11 (**2007**), 1949-1954.

[16] A note on the finite collision property of random walks, (with Bei Wei and Fuxi Zhang), *Statistics and Probability Letters*, 78 (2008) 1742-1747.

[17] Contact processes on scale-free networks (with Qi Liu), *Acta Mathematica Sinica*, Vol. 26, No. 7, (**2010**), 1383-1392.

[18] Two random walks on the open cluster of Z^2 meet infinitely often (with Xinxing Chen), *Science China Mathematics,* Vol 53, No.8 (**2010**), 1971-1978.

[19] Some sufficient conditions for infinite collisions of simple random walks on a wedge comb, (with Xinxing Chen) *Electronic Journal of Probability*, Vol 16, (**2011**), 1341-1355.

[20] The voter model in a random environment (with Zhichao Shan), *Frontiers of Mathematics in China*, Vol. 7 No. 5, (**2012**), 895-905.

[21] The contact process on the regular tree with random vertex weights (with Yu Pan & Xiaofeng Xue), *Frontiers of Mathematics in China*, Vol.12, No.5, (**2017**), 1163-1181.

[22] The favorite sites of subdiffusive biased walks on a Galton-Watson tree, (with Loic de Raphelis and Yueyun Hu), *Stochastic Processes and Their Applications*, Vol.128, No. 5, (**2018**), pp 1525-1557.

[23] Resistance growth of branching random networks, (with Yueyun Hu and Shen Lin), *Electronic Journal of Probability*, Vol 23 (**2018**), paper no. 52, 17 pp.

[24] Limit theorems for the tagged particle in exclusion processes on regular trees (with Peng Chen, Nina Gantert, Dominik Schmid), *Electron. Commun. Probab.*, Vol. 24 (**2019**), paper no. 2, 10 pp.

[25] The Limiting Behavior of the FTASEP with Product Bernoulli Initial Distribution (with Linjie Zhao), *Statistics and Probability Letters*. Vol. 154, (2019), 108557.

Papers in Chnese

[26] 一族带指数扰动的 Markov 链的亚稳态性(I), (与冯建丰,钱敏平合作), 《中国科学》第 25 卷第 5 期, 465－477, 1995.

[27] 一族带指数扰动的 Markov 链的亚稳态性(II), (与冯建丰,钱敏平合作), 《中国科学》第 25 卷第 6 期, 590－595, 1995.

[28] 三维随机 Ising 模型的亚稳态性(I), (与冯建丰,钱敏平合作), 《中国科学》第 27 卷第 6 期, 504－513, 1997.

[29] 三维随机 Ising 模型的亚稳态性(II), (与冯建丰,钱敏平合作), 《中国科学》第 27 卷第 7 期, 619－623, 1997.

[30] Galton-Watson 树上的接触过程 (与赵立久合作), 《应用概率统计》第 15 卷第 1 期，43-47 页，1999.

[31] 可满足性(SAT)问题的概率研究 (与张奎合作),《数学进展》第 30 卷, 231-237, 2001.

[32] 随机游动的常返和相遇问题 (与章复熹合作), 《数学进展》第 43 卷第 2 期 175-182, 2014.

[33] 关于随机树上 λ-随机游动速度的一个注记 (与章复熹合作), 《中国科学 数学》第 45 卷第 5 期, 471-476, 2015.

[34] 高斯自由场及其相关领域 (与章复熹合作),《中国科学 数学》第 47 卷第 12 期, 1635-1646, 2017.

[35] 树上带随机偏差的随机游动的一些近期进展 (与胡跃云合作), 《中国科学 数学》第 49 卷第 11 期, 1475-1486, 2019.

[36] 《应用随机过程》，与钱敏平，龚光鲁，章复熹合编，高等教育出版社, 2011 年，北京.

Supervising Students

Ph. D. Students

1. Shumei JIA (2002), 2. Qi LIU (2008), 3. Qiang YAO (2009), 4. Da ZHOU (2011), 5. Zhichao SHAN (2012), 6. Peng CHEN (2013), 7.Xiaofeng XUE (2014), 8.Yu PAN (2018), 9. Linjie ZHAO (2019), 10. Yingxin MU (2020, expected), 11. Li QIAN (2021 expected).

Master Degree Students

1. Jun XIE (1997), 2. Lijiu ZHAO (MS 1998), 3. Shumei JIA (1999), 4. Liuxia WANG (2000), 5. Weizhong XUE (2000), 6. Nan CHEN (2001), 7. Juxin LIU (2003), 8. Lie WANG (2003), 9. Shimo WANG (2004), 10. Bei WEI (2005), 11. He LI (2005), 12. Wenhua GAO (2006), 13. Quanchang LI (2007), 14. Huanbo LIN (2007), 15. Lefeng LIN (2008), 16. Huixin ZHOU (2008), 17. Cong QU (2008), 18. Weiyang NING (2008), 19. Lixin CHEN (2009), 20. Xiaoxing WANG (2014), 21. Fei Di (2015), 22. Liqiang Gong (2015), 23. Wenchang Xu (2017), 24. Daoxu Lu (2017), 25.Yongjia XIE (2017).

Grants

15. 520,000 yuans, NSFC (No. 11971038), 2020-2023
14. 355,000 yuans, NSFC (No. 10531001), 2016-2020
13. 200,000 yuans, NSFC (No. 11528101), 2016-2017
13. 350,000 yuans, National Basic Research Program of China (2011CB808001), 2011-2015
11. 144,000 yuans, National Basic Research Program of China (2006CB805900), 2006-2011
10. 30,000 yuans, NSFC (No.), 2008-2009
9. 1,400,000 yuans, NSFC (No. 10625101), 2007-2010
8. 130,000 yuans, NSFC (No. 10531070), 2006-2009
7. 200,000 yuans, Ministry of Education, 2000
6. 275,000 yuans, Ministry of Science and Tech. (No. G1999075106), 1999-2004
5. 42,000 yuans, NSFC (No.19631060), 1997-2001
4. 60,000 yuans, Ministry of Education, 1998-2000
3. 20,000 yuans, NSFC (No.19401003), 1995-1997
2. 40,000 yuans, Ministry of Education, 1993-1995
1. 20,000 yuans+ USD 2,000, Post-Doctorial Fellow Foundation, 1992-1993

Academic Visits

Jan.-Aug.1995, University of California, Los Angeles, USA

Sept.1997- May 1998, University of California, Berkeley, USA

July -Sept. 2001, Cambridge University, UK

Jan.- Feb. 2003, University of California, Berkeley, USA

Nov. 2003- Jan 2004, TU Berlin, Germany

Jan.-May 2005, Mathematical Science Research Institute, Berkeley, USA

Jan.-Feb. 2006, University Paris 13, France

July-Aug. 2010, Clay Summer Institute, Rio, Brazil

Memberships

Chinese Mathematical Society

American Mathematical Society, member since 1987

Institute of Mathematical Statistics, member since 1994