

## Curriculum Vitae

何 辉

北京师范大学,  
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Hui HE

School of Mathematical Sciences,  
Beijing Normal University,  
Beijing 100875, China.

### Experience

- 2013.9 – present, Associate Professor, School of Mathematical Sciences, Beijing Normal University, China.
- 2016. 10 – 2017.10, Visiting Scholar, Department of Statistics and Probability, Michigan State University, USA.
- 2009.9 – 2010.9, Post-Doc, MAPMO, Universite de Orleans, France. Supervisor: Professor Romain Abraham.
- 2008.8 – 2013.8, Assistant Professor, School of Mathematical Sciences, Beijing Normal University, China.
- 2003.9 – 2008.6, Ph.D in Mathematics, School of Mathematical Sciences, Beijing Normal University, China. Supervisor: Professor Zenghu Li.
- 1999.9 - 2003.6, Bachelor in Mathematics, Department of Mathematics, Anhui University, China.
- 1983.6, Birth at Lujiang, Anhui province, China.

### Research Interests

Branching processes; Random Trees; Superprocesses; Interacting Particle Systems; Branching Random Walks; Large Deviations; Stochastic Equations.

### Papers and Preprints

1. He, H. (2009): Discontinuous superprocesses with dependent spatial motion. *Stochastic Processes and Their Applications* **119**, 130–166.
2. He, H. (2009): Strong uniqueness for a class of singular sdes for catalytic branching diffusions. *Statistics and Probability Letters* **79**, 182–187.
3. He, H. (2010): Fleming-Viot processes in an environment. *Infinite Dimensional Analysis, Quantum Probability and Related Topics* **13**, 489–509.
4. He, H. (2011): Rescaled Lotka-Volterra models converge to super stable processes. *Journal of Theoretical Probability* **24**, 688–728.
5. Abraham, R., Delmas, J.-F., He, H. (2012): Pruning galton-watson trees and tree-valued markov processes. *Annales de l'Institut Henri Poincaré Probabilités et Statistiques* **48**, 688–705.
6. He, H. and Luan, N.(2012): An martingale transformation for superprocesses, *Statistics and Probability Letters* **82**, 1082–1087.

7. He, H., Li, Z. and Zhou, X. (2013): An integral test on time dependent local extinction for super-coalescing Brownian motion with Lebesgue initial measure. *Journal of Theoretical Probability* **26**, 31–45.
8. He, H. and Luan, N. (2013): A note on the scaling limits of contour functions of Galton-Watson trees *Electronic Communications in Probability* No. 19, 1–13.
9. He, H., Ma, R. (2014): Some limit theorems for flows of branching processes. *Frontier Math. China.* **9**, No. 1, 63–79.
10. He, H., Li, Z. and Yang, X. (2014): Stochastic equations of super-Lévy processes. *Stochastic Processes and Their Applications* **124**, 1519–1565.
11. He, H. and Ma, R. (2014): Limit theorems for continuous time branching flows. *Journal of Applied Probability* **51**, No. 2, 317–322.
12. Abraham, R., Delmas, J.-F., He, H. (2015): Pruning of CRT-Sub-trees. *Stochastic Processes and Their Applications* **115**, 1569–1604.
13. He, H., Li, Z. and Zhou, X. (2015): Superprocesses Embedded in Spectrally One-sided Lévy Processes. *Frontier Math. China.* No. 2, 875–900.
14. Bi, H. and He, H. (2017): A tree-valued Markov process associated with an admissible family of branching mechanisms. *Submitted*. <http://arxiv.org/abs/1403.0397>
15. He, H. and Winkel, M. (2014): Invariance principles for pruning processes of Galton-Watson trees. *Submitted*. <http://arxiv.org/abs/1409.1014>
16. He, H. (2016): On large deviation rates for sums associated with Galton-Watson processes. *Advances in Applied Probability* **48**, No. 3, 1–19.
17. He, H., Li, Z. and Xu, W. (2018): Continuous state branching processes in Lévy random environments. To appear in *Journal of Theoretical Probability*.
18. He, H., Liu, J. and Zhang, M. (2018): On Seneta-Heyde scaling for a stable branching random walk. To appear in *Advances in Applied Probability*.
19. He, H. and Winkel, M. (2018): Gromov-Hausdorff-Prohorov convergence of vertex-cut-trees of  $n$ -leaf GW trees. To appear in *Bernoulli*. <https://arxiv.org/abs/1704.00044>
20. Chen, X. and He, H. (2017): On large deviation probabilities for empirical distribution of branching random walks: Schroder case and Bottcher case. *Submitted*.

### Awards

- 2008年“京津地区青年概率统计会议”钟家庆优秀论文奖

### Talks (Invited)

1. Seminar at Capital Normal University, Beijing, Oct. 21th, 2008.
2. Seminar at Dijion University, Dijion, France, Nov. 18th, 2009.
3. Seminar at University of Orleans, Orleans, France, Jan. 27th, 2010.
4. Pruning of CRT-subtrees. Beijing Institute of Technology, Beijing, China, July 26th, 2012.

5. Workshop on continuum random trees and applications, CIRM, Luminy, September 3-7, 2012.
6. IMS-SWUFE International Conference on Statistics and Probability, Chendu, China, June 30-July 4, 2013.
7. The 9th Workshop on Markov Processes And Related Topics, emeishan, Sichuang, P.R.China, July 6-10, 2013.
8. Seminar at Institute of Applied Mathematics, AMSS, CAS, Nov. 24, 2013.
9. Department of Mathematics, Beihang University, June 24, 2014.
10. The 3rd IMS-APRM conference, Taipei, June 29-July 3, 2014.
11. The 10th Workshop on Markov Processes And Related Topics, Xi'an, P.R.China, Aug.14-18, 2014.
12. 第十届全国概率统计会议, 山东大学, 济南, Oct. 17-20, 2014.
13. 武汉大学青年概率学者学术会议, 武汉大学, 武汉, May 1-4, 2015.
14. 分枝马氏过程学术研讨会, 北方民族大学, 银川, May 22-24, 2015.
15. 2015年随机过程与应用概率论研讨会, 吉林大学, 长春, June 4-8, 2015.
16. The 11th Workshop on Markov Processes And Related Topics, 上海交通大学, P.R.China, June 25-30, 2015.
17. 2015 IMS-China International Conference on Statistics and Probability, Yunnan University, Kunming, China, 1-4 July, 2015.
18. 2015年北京大学青年概率论坛, 北京大学, 北京, July 6-8, 2015.
19. 随机分析青年学者会议, 中科院应用数学所, 北京, Dec. 17-20, 2015.
20. Beijing-London-Swansea Worksop on Stochastic analysis and applications, Beijing, April 1-5, 2016.
21. Workshop on SDEs and stochastic processes, Nankai University, Tianjing, April 28-30, 2016.
22. The 8th International Conference on Stochastic Analysis and Its Applications, Beijing, China, June 13th-June 17th 2016.
23. Research Seminar RTG 2131, Universität Duisburg-Essen, Fakultät für Mathematik, Essen, Germany, July 18, 2016.
24. 中国科学技术大学青年概率论坛, 中国科学技术大学, 合肥, Aug. 8-12, 2016.
25. 北京大学数学科学学院 “概率论系列报告”, Oct. 10, 2016.
26. Probability Seminar at Michigan State University, Jan. 19, 2017
27. Probability Seminar at University of Illinois Urbana-Champaign, March 7, 2017.
28. The 3rd workshop on branching processes and related topics, Beijing Normal University, Beijing, May 8-12, 2017.
29. Workshop on Genealogies of Interacting Particle Systems, National University of Singapore, August 7-11, 2017.
30. 2017年”随机图与随机过程”学术研讨会, 上海交通大学, Nov.24-26, 2017.
31. 学术报告, 南京航空航天大学理学院数学系, Dec.1, 2017.

32. 2017年随机分析研讨会, 四川大学数学学院, Dec.8–10, 2017.
33. Bath-Beijing-Paris V workshop, Peking University, Beijing, May 14–18, 2018.
34. The 4th workshop on branching processes and related topics, East China Normal University, Shanghai, May 21–25, 2018.

### Talks(Contributed)

- The 5th Workshop on Markov Processes And Related Topics, Beijing, P.R.China, July 14-18, 2007
- 京津地区青年概率统计会议, 北京大学, May 10, 2008
- The 6th Workshop on Markov Processes And Related Topics, Wuhu, Anhui, P.R.China, July 20-24, 2008
- The Third International Conference on Stochastic Analysis and Its Applications, Beijing Institute of Technology, Beijing, P.R.China, July 13-17, 2009
- Workshop on Random Trees and Applications, Bordeaux, France, June 14-15, 2010
- The 7th Workshop on Markov Processes And Related Topics, Beijing, P.R.China, July 19-23, 2010
- 第九届全国概率统计会议, 南开大学, 天津, Oct.22-25, 2010

**Reviewers For:** The Annals of Applied Probability; Abstract and Applied Analysis; Acta Math Sinica; AIHP; Bernoulli; Frontier Math. China; Journal of Applied Mathematics; Journal of Mathematics (数学杂志); Journal of Theoretical Probability; Markov processes and related fields; Science China Mathematics; Statistic and Probability Letters; Stochastics; Stochastic Processes and Their Applications; 数学的实践与认识.

### Visiting

- Concordia University, Canada, Jan. 12-Feb. 11, 2009.
- Centro de Investigación en Matemáticas, Guanajuato, Mexico, March 15-21, 2009.
- University of Michigan State, USA, May. 18-June. 3, 2010.
- Bohn University, Germany, Aug. 8-Aug. 20, 2010.
- Concordia University, Canada, July. 14-Sep. 2, 2011.
- HongKong University of Sciences and Technology, HongKong, June 17-July 14, 2012.
- HongKong University of Sciences and Technology, HongKong, Aug. 17-Aug. 30, 2012.
- Concordia University, Montreal, Aug. 05-Aug. 30, 2013.
- Academia Sinica, Taipei, June 30- July 4, 2014.
- MAPMO, University of Orleans, Orleans, France, Feb.14– Feb.27, 2016.
- CERMICS, Ecole des Ponts ParisTech, Paris, France, May 2–May 6, 2016.
- Universität Duisburg-Essen, Fakultät für Mathematik, Essen. Germany, July 11–22, 2016.
- CERMICS, Ecole des Ponts ParisTech, Paris, France, Jan. 15–24, 2018.
- ICJ, Université Claude Bernard Lyon 1, Lyon, France, Jan. 24–26, 2018.

### Teaching (In Chinese)

- 2008. 9 - 2009. 6, 大学数学B, 经济与工商管理学院, 会计学, 工商管理 2008级
- 2010. 9 - 2011. 6, 大学数学C, 地理学与遥感科学学院, 地理科学师范专业 2010级
- 2011. 9 - 2012. 6, 大学数学C, 地理学与遥感科学学院, 地理科学师范专业 2011级
- 2012. 9 - 2013. 6, 大学数学C, 地理学与遥感科学学院, 地理科学师范专业 2012级
- 2013. 9 - 2014. 6, 大学数学C, 地理学与遥感科学学院, 地理科学师范专业 2013级
- 2014. 9 - 2015. 6, 大学数学C, 地理学与遥感科学学院, 地理科学师范专业 2014级
- 2014. 9 - 2015. 6, 大学数学B, 环境学院, 环境科学专业 2014级
- 2015. 9 - 2016. 1, 一元微积分, 地理学与遥感科学学院, 地理科学类 2015级; 励耘学院, 生物, 化学 2015级.
- 2016. 2 - 2016. 6, 多元微积分与线性代数, 地理学与遥感科学学院, 地理科学类 2015 级; 励耘学院, 生物, 化学 2015级.
- 2017. 10 - , 一元微积分, 地理学与遥感科学学院, 地理科学类 2017级; 励耘学院, 生物, 化学 2017级.

#### Grants(In Chinese)

1. 创新研究群体科学基金 10721091, 参加人. 项目名称: 粒子系统, 马氏过程与谱理论. 资助单位: 国家自然科学基金委(NSFC). 2008.1 - 2010. 12 (已结题)
2. 国家自然科学基金面上项目 11071021, 参加人. 项目名称: 随机环境下的分支过程. 资助单位: 国家自然科学基金委(NSFC). 2011.1 - 2013.12 (已结题)
3. “Agence Nationale de la Recherche”, ANR-08-BLAN-0190, 参加人. 项目名称: ARBRES ALEATOIRES (CONTINUS) ET APPLICATIONS, 资助单位: Agence Nationale de la Recherche de France, 2009.9 - 2010.9 (已结题)
4. 国家自然科学基金天元基金 11126037, 负责人. 项目名称: Galton-Watson树和Levy树. 资助单位: 国家自然科学基金委(NSFC). 2012.1 - 2012.12 (已结题)
5. 教育部博士点基金新教师类 20110003120003, 负责人. 项目名称: 树的剪切以及随机树的尺度极限. 资助单位: 教育部(Ministry of Education). 2012.1-2014.12 (已结题)
6. 中央高校基本科研业务费 2013YB59, 负责人. 项目名称: 树值马氏过程与轨道值分枝过程. 资助单位: 北京师范大学. 2013.11-2015.11 (已结题)
7. 国家自然科学基金青年基金 11201030, 负责人. 项目名称: 分支过程与随机树. 资助单位: 国家自然科学基金委(NSFC). 2013.1 - 2015.12 (已结题)
8. 国家自然科学基金面上项目 11371061, 参加人. 项目名称: 广义分枝过程与粒子系统. 资助单位: 国家自然科学基金委(NSFC). 2014.1 - 2017.12 (已结题)
9. 国家自然科学基金重点项目 11531001, 参加人. 项目名称: 随机树, 随机图与随机过程. 资助单位: 国家自然科学基金委(NSFC). 2016.1 - 2020.12
10. 国家自然科学基金面上项目 11671041, 负责人. 项目名称: 随机树理论在分枝过程研究中的应用. 资助单位: 国家自然科学基金委(NSFC). 2017.1 - 2020.12