

Curriculum Vitae

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北京师范大学,
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Hui HE

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

Experience

- 2016. 10 – present, Visiting Scholar, Department of Statistics and Probability, Michigan State University, USA.
- 2013.9 - present, Associate Professor, School of Mathematical Sciences, Beijing Normal University, China.
- 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; Measure-valued Processes; Interacting Particle Systems; Branching Random Walks; Large Deviations; Stochastic Differential Equations; Stochastic PDEs; Fractal Geometry.

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, *S-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. (2016): Continuous state branching processes in Lévy random environments. To appear in *Journal of Theoretical Probability*. <http://arxiv.org/abs/1601.048>

18. He, H., Liu, J. and Zhang, M. (2016): On Seneta-Heyde scaling for a stable branching random walk. *Submitted*. <http://arxiv.org/abs/1610.03575>
19. He, H. and Winkel, M. (2017): Gromov-Hausdorff-Prohorov convergence of vertex-cut-trees of n -leaf GW trees. *Submitted*.
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. Scaling limits of interacting particle systems. Capital Normal University, Beijing, Oct. 21th, 2008.
2. Branching Processes and Some Related Models: an Overview. Dijion University, Dijion, France, Nov. 18th, 2009.
3. Pruning GW trees and Tree-valued Markov Processes. University of Orleans, Orleans, France, Jan. 27th, 2010.
4. Pruning of CRT-subtrees. Beijing Institute of Technology, Beijing, China, July 26th, 2012.
5. Pruning of CRT-subtrees. Workshop on continuum random trees and applications, CIRM, Luminy, September 3-7, 2012.
6. Pruning trees and tree-valued Markov processes, 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. 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.

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; Bernoulli; Frontier Math. China; Journal of Mathematics (数学杂志); Journal of Theoretical Probability; Statistic and Probability Letters; Stochastics; Stochastic Processes and Their Applications; Journal of Applied Mathematics; 数学的实践与认识.

Visiting

- Concordia University, Canada, Jan. 12, 2009-Feb. 11, 2009.
- Centro de Investigación en Matemáticas, Guanajuato, Mexico, March 15-21, 2009.
- University of Michigan State, USA, May. 18, 2010-June. 3, 2010.
- Bohn University, Germany, Aug. 8, 2010-Aug. 20, 2010.
- Concordia University, Canada, July. 14, 2011-Sep. 2, 2011.
- HongKong University of Sciences and Technology, HongKong, June 17, 2012-July 14, 2012.
- HongKong University of Sciences and Technology, HongKong, Aug. 17, 2012-Aug. 30, 2012.
- Concordia University, Montreal, Aug. 05, 2013-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– July 22, 2016.

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.

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
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