

Curriculum Vitae

Yimin Xiao

Department of Statistics and Probability Michigan State University
East Lansing, MI 48824
E-Mail: xiaoy@msu.edu

Research Interests

Stochastic Processes and Random Fields (Gaussian random fields; matrix-valued random fields; infinitely divisible random fields; Lévy processes; and Markov processes)
Stochastic Partial Differential Equations
Statistical Analysis of Random Field Models (Estimation and prediction)
Extreme Value Theory
Random Fractals, Geometry of Fractals

Education

6/1993 to 6/1996	Ph.D., Mathematics. The Ohio State University
9/1987 to 7/1990	Ph.D., Mathematics. Wuhan University, China
9/1984 to 7/1987	M.S., Mathematics. Wuhan University, China
9/1978 to 7/1981	Mathematics/Math Education. Yichang Normal College, China

Professional Experience

7/2018 – present	MSU Foundation Professor Department Statistics and Probability, Michigan State University
7/2005 – present	Professor Department Statistics and Probability, Michigan State University
7/2001 – 6/2005	Associate Professor Department Statistics and Probability, Michigan State University
9/2001 – 5/2002	Post-doctoral Member MSRI, Berkeley
8/2000 – 7/2001	Assistant Professor Department of Statistics and Probability, Michigan State University
8/1999 – 7/2000	Post-doctoral Researcher Microsoft Corporation
9/1996 – 7/1999	Post-doctoral Instructor Department of Mathematics, University of Utah

Service Experience at Michigan State University

8/2020 – 8/2021	Associate Chair Department Statistics and Probability, Michigan State University
8/2015 – 8/2016	Acting Chair Department Statistics and Probability, Michigan State University
8/2012 – 8/2015	Associate Chair Department Statistics and Probability, Michigan State University

Visiting Experience

3/2022	Visitor (Virtual) Isaac Newton Institute, Cambridge, UK
5/2019	Visiting professor Zhejiang Gongshang University, China
6/2018	Invited researcher CEMPI, Lille, France
5/2018	Visiting professor Zhejiang Gongshang University, China
3/4–3/10/2018	Visiting professor University of Ulm, Germany
10/2017–11/2017	Visiting member Institut Mittag-Leffler, Sweden
6/2017	Visiting professor Zhejiang Gongshang University, China
3/5–3/12/2016	Visiting professor University of Rome Tor Vergata, Italy
6/2015	Visiting professor Beijing Institute of Technology, China
2/21–2/28/2015	Visiting professor University of Rome Tor Vergata, Italy
6/2014	Visiting professor Beijing Institute of Technology, China
5/2013	Invited professor (professeur invité) Ecole Central Paris, France
6/2012	Invited professor (professeur invité) Ecole Polytechnique Fédérale de Lausanne, Switzerland
7/2011	Visiting professor Hong Kong University of Science and Technology
6/2009	Invited professor (professeur invité) Institut Elie Cartan, Nancy-Université, France
9/2007–5/2008	Research Fellow (on sabbatical leave from MSU) Statistical and Applied Mathematical Sciences Institute
5/2007	Visiting professor Université Rene Descartes-Paris 5, France
6/2006	Invited professor (professeur invité) Department of Mathematics, Université de Lille 1, France
6/2005	Invited professor (professeur invité) Department of Mathematics, Université Paul Sabatier, France
5/2005	Visiting professor Philipps-Universität Marburg, Germany
8/2004, 8/2005	Visiting professor The National Center for Theoretical Sciences, Taipei
8/2001–6/2002	Post-doctoral Member MSRI, Berkeley.
1/1993–6/1993	Visiting scholar Department of Mathematics, University of Bristol, England

Honors

MSU Foundation Professor (July 2018– present)

Fellow of the Institute of Mathematical Statistics (elected in 2011)

Grants

1. NSF grant DMS-2153846, 2022–2025. Title: Analysis and Geometry of Random Fields. Principal Investigator: Yimin Xiao.
2. NSF grant DMS-1855185, 2019–2022. Title: Collaborative Research: Asymptotic Geometry and Analysis of Stochastic Partial Differential Equations. Principal Investigator: Yimin Xiao.
3. NSF grant DMS-1951535 for the conference “Seminar on Stochastic Processes 2020”. PIs: Yimin Xiao, Shlomo Levental, Lyudmila Sakhanenko, and Jeffrey Schenker.
4. NSF grant DMS-1612885, 2016–2019. Title: Estimation, Prediction, and Extremes of Multivariate Random Fields. Principal Investigator: Yimin Xiao.
5. NSF grant DMS-1607089, 2016–2019. Title: Collaborative Research: Fractals, Multifractals, and Stochastic Partial Differential Equations. Principal Investigator: Yimin Xiao.
6. NSF grant DMS-1309856, 2013–2016. Title: Extreme Value Theory and Fixed-Domain Asymptotics of Multivariate Random Fields. Principal Investigator: Yimin Xiao.
7. NSF grant DMS-1307470, 2013–2016. Title: Intermittency and Random Fractals. Principal Investigator: Davar Khoshnevisan; Co-PI: Yimin Xiao.
8. NSF grant DMS-1241389 for NSF/CBMS Regional Conference in the Mathematical Sciences—“Analysis of Stochastic Partial Differential Equations.” Principal Investigators: Yimin Xiao and V. Mandrekar.
9. NSF grant DMS-1006903, 2010–2013. Title: Geometry of Random Fields and Stochastic Partial Differential Equations. Principal Investigator: Davar Khoshnevisan; Co-PI: Yimin Xiao.
10. NSF grant DMS-0706728, 2007–2010. Title: Random Fields and Stochastic Partial Differential Equations. Principal Investigator: Davar Khoshnevisan; Co-PI: Yimin Xiao.
11. NSF grant DMS-0404729, 2004–2007. Title: New Perspectives on Random Fields with Applications. Principal Investigator: Davar Khoshnevisan; Co-PI: Yimin Xiao.
12. NSF grant DMS-0103939, 2001–2004. Principal Investigator: Davar Khoshnevisan; Co-PI: Yimin Xiao.
13. NSF grant DMS-9803747, 1998–2001. Principal Investigator: Davar Khoshnevisan; Co-PI: Yimin Xiao.

Teaching at Michigan State University

I have taught various statistics and probability courses at all levels, including service courses on introductory statistics in large lectures, undergraduate and graduate-level courses for students in statistics and mathematics.

Ph.D. Students at Michigan State University

- Dongsheng Wu, Ph.D. 2006. Professor at University of Alabama in Huntsville.
- Yun Xue, Ph.D. 2011. Director in Data Science, Nielsen.
- Wei-Ying Wu, co-advised with Dr. C. Lim, Ph.D. 2011. Assistant Professor at National Dong Hwa University, Taiwan.
- Dan Cheng, Ph.D. 2013. Assistant Professor in the School of Mathematical and Statistical Sciences at Arizona State University.
- Abolfazl Safikhani, co-advised with Dr. A. Sikorski, Ph.D. 2015. Assistant Professor in the Department of Statistics at the University of Florida.
- Yuzhen Zhou, Ph.D. 2015. Assistant Professor in the Department of Statistics at the University of Nebraska-Lincoln.
- Jeonghwa Lee, Ph.D. 2019. Assistant Professor in the Statistics Department at Truman State University.
- Cheuk Yin Lee, Ph.D. 2020. Assistant Professor the Department of Mathematics at National Tsing Hua University, Taiwan.
- Nian Liu, current, Ph.D. expected 2024.
- Hanxiang Feng, current, Ph.D. expected 2024.
- Dali Liu, current, co-advised with Dr. Haolei Weng, Ph.D. expected 2025.

Research Supervision of Undergraduate Students at Michigan State University

Faculty mentor in the REU program at Michigan State University funded by the National Science Foundation and the National Security Agency (2016–2018, 2019–2021).

Professional Service

- Panelist for National Science Foundation (2014, 2015, 2017, 2018), and NSF Graduate Research Fellowship Program (2019).
- Reviewer of grant proposals for ARO, NSA, NSF, the Natural Sciences and Engineering Research Council of Canada, the National Fund for Scientific and Technological Development of Chile, the German-Israel Foundation for Scientific Research and Development, the Israel Science Foundation (ISF), the National Research Foundation of Ukraine, the Research Grants Council (RGC) of Hong Kong, the National Science Centre of Poland, South Africa's National Research Foundation, the Swiss National Science Foundation.

- Co-Editor-in-Chief of *Statistics and Probability Letters*, 2011–2022.
- Managing Editor for *Journal of Fractal Geometry* since 2013.
- Member of Editorial Board of *Science in China, Mathematics* since 2015.
- Member of Editorial Board of *Illinois Journal of Mathematics* since 2016.

Conference/Special Sessions Organized

- Contributed Session “Gaussian Processes and Related Topics” at the 42nd Conferences of Stochastic Processes and their Applications, Wuhan, China. June 27 to July 1, 2022.
- Local Organizing Committee and Scientific Committee member of “Seminar on Stochastic Processes 2020” at Michigan State University, March 5–7, 2020.
- Scientific Committee member of the “IMS-China International Conference in Statistics and Probability”. Dalian, China. July 6–10, 2019.
- Scientific Committee member of the “Workshop on Stochastic Processes and Stochastic Analysis” at Zhejiang Gongshang University, December 28–30, 2018.
- Invited Session “Random Fields and Spatial Statistics” at the 5th IMS-APRM Meeting, Singapore, June 26–29, 2018.
- Special Session “Gaussian Random Fields and Stochastic Partial Differential Equations” at the IMS-China International Conference in Statistics and Probability in Nanning, China, June 26–30, 2017.
- Invited Session “Random Fields in Statistics and Applications” at the 10th International Chinese Statistical Association Conference, Shanghai, China, December 19–22, 2016.
- Invited Session “Random Fields in Statistics and Applications” at Joint Statistical Meeting, Chicago, July 30–August 4, 2016.
- Invited Session “Random Fields: Theory and Applications” at the 4th IMS-APRM Meeting, Hong Kong, June 27–30, 2016.
- Scientific Committee Member of the “International Workshop on Statistical Modeling of Heavy-tailed Phenomena with Applications”, Zhejiang Gongshang University, Hangzhou, China, June 3–5, 2016.
- Special Session on “Gaussian Random Fields: Theory and Applications” at the IMS-China International Conference in Statistics and Probability in Kunming, China, July 1–4, 2015.
- (with Mark M. Meerschaert) Special Session “Random Fields and Long Range Dependence” at the Central Spring Sectional Meeting of the AMS. Michigan State University, East Lansing, MI on March 13–15, 2015.
- Topic Contributed Session “Extreme Value Analysis of Random Fields and Applications” at Joint Statistical Meeting, Boston, August 2–7, 2014.

- (with V. Mandrekar) NSF/CBMS Regional Conference in the Mathematical Sciences—“Analysis of Stochastic Partial Differential Equations” at Michigan State University, August 2013.
- (with Robert Dalang and Davar Khoshnevisan) The workshop on “Stochastic Analysis and Stochastic Partial Differential Equations” at Banff International Research Station for Mathematical Innovation and Discovery, Canada, April 1–6, 2012.

Principal Lecturer at NSF/CBMS Conference 2021

I delivered ten lectures at the NSF/CBMS Regional Research Conference on “Gaussian Random Fields, Fractals, SPDEs, and Extremes” at the University of Alabama in Huntsville in August 2–6, 2021.

Invited Conference/Seminar Talks (2015-2022)

75. Invited session speaker at the “Special session on Fractal Geometry, Dynamical Systems, and Their Applications” at the 13th AIMS conference, Wilmington, NC, May 31–June 4, 2023.
74. Invited session speaker at the “Special Session on Stochastic Processes and Related Topics” at the Spring 2023 AMS Sectional Meeting, Georgia Tech, Atlanta, March 18–19, 2023.
73. Invited speaker at the “International Workshop on Random Fractals and Markov Processes” at Cadi Ayyad University, Marrakesh, Morocco, November 21–26, 2022.
72. Invited speaker at the 4th Conference on “Fractals and Related Fields” at the island of Porquerolles, France, September 4–9 2022.
71. Invited speaker at the Workshop “Expressing and Exploiting Structure in Modeling, Theory, and Computation with Gaussian Processes” at the Institute for Mathematical and Statistical Innovation (IMSI) in Chicago, August 29–September 2, 2022.
70. Invited speaker at the “Probability Victoria Online Seminar” (Victoria, Australia), August 18, 2022.
69. Invited speaker at the CBMS Follow-Up Conference on “Gaussian Random Fields, Fractals, SPDEs, and Extremes” at the University of Alabama in Huntsville in August 12–13, 2022.
68. Invited session speaker at the IMS London Annual Meeting, June 27–30, 2022.
67. Invited speaker at the “Cornell Conference on Analysis, Probability, and Mathematical Physics on Fractals” at Cornell University, June 4–8, 2022.
66. Seminar speaker at the workshop “Regularity of Stochastic Processes” at University of Luxembourg, May 19–20, 2022.
65. Invited speaker (online) at the Bernoulli Society East Asian and Pacific Regional Meeting, May 7, 2022.

64. Invited speaker (online) at the workshop “Random Fields and Their Applications” dedicated to the memory of M.I. Yadrenko. Taras Shevchenko National University of Kyiv, Ukraine, April 14, 2022.
63. Invited session speaker at the “Special Session on Gaussian and non-Gaussian Stochastic Analysis” at the AMS Spring Central Sectional Meeting, March 26–27, 2022.
62. Invited speaker (online) at the workshop “Fractional Kinetics, Hydrodynamic Limits and Fractals”, Isaac Newton Institute for Mathematical Sciences, UK, March 21–25, 2022.
61. Keynote speaker (online) at “The 23rd Applied Stochastic Processes Workshop”, Department of Statistics, Shiraz University, Iran, February 15–17, 2022.
60. Seminar speaker (online), School of Mathematics, Shandong University, China. November 24, 2021.
59. Seminar speaker (online), School of Mathematics, Zhejiang University, China. July 30, 2021.
58. Invited speaker (online) at the special session on SPDEs at the Summer Meeting of the 75th Canadian Mathematical Society, Ottawa, Canada, June 7–11, 2021.
57. Invited speaker at the Stochastic Webinar, Institute of Applied Mathematics, Chinese Academy of Sciences. March 17, 2021.
56. Keynote speaker (online) at “The 22nd Applied Stochastic Processes Workshop”, Alzahra University, Tehran, Iran, February 2–4, 2021.
55. Seminar speaker (two lectures) in the Department of Mathematics at the University of California–Riverside. February 27, 2020.
54. Invited session speaker on “Gaussian Random Fields on the Sphere” at the 11th ICSA International Conference. Hangzhou, December 20–22, 2019.
53. Invited speaker at the special session on “Fractal Geometry, Dynamical Systems, and Related Topics”. AMS Fall Western Sectional Meeting, University of California, Riverside. November 9–10, 2019.
52. Invited speaker at “The 15th Workshop on Markov Processes and Related Topics”. Changchun, China. July 11–15, 2019.
51. Invited speaker at “The Workshop on Theory and Applications of Stochastic Partial Differential Equations”. Fields Institute, Canada. June 10–14, 2019.
50. Seminar speaker in the Department of Mathematics at Purdue University. April 10, 2019.
49. Colloquium in the Department of Statistics and Actuarial Science at the University of Waterloo. March 28, 2019.
48. Colloquium in the Department of Statistics at Indiana University Bloomington. October 22, 2018.

47. Invited speaker at the session “Self-similarity and Long-range Dependence in Stochastic Processes” at the AMS Fall Central Sectional Meeting. Ann Arbor, Michigan, October 20–21, 2018.
46. Invited speaker at the International Conference on SPDEs, University of Alberta, Canada, September 29–October 1, 2018.
45. Invited speaker at the BIRS-CMO workshop “Theoretical and Applied Stochastic Analysis”. Oaxaca, Mexico, September 10–14, 2018.
44. Invited session speaker at the 40th International Conference on Stochastic Processes and their Applications. Gothenburg, Sweden, June 11–15, 2018.
43. Seminar speaker at Laboratoire Paul Painlevé, L’Université de Lille, France, May 30, 2018.
42. Seminar speaker in the Department of Mathematics at the University of Ulm, Germany, March 6, 2018.
41. Seminar speaker in the Department of Mathematics at the University of Macau, December 11, 2017.
40. Colloquium in the Department of Statistics at Iowa State University, November 27, 2017.
39. Invited speaker at the Workshop on Probability and Statistics at Zhejiang University, China, November 18–19, 2017.
38. Distinguished lecture in the School of Mathematics, Zhejiang University, November 17, 2017.
37. Statistics seminar in the Department of Mathematical Sciences at Norwegian University of Science and Technology (NTNU), October 30, 2017.
36. Invited speaker at the workshop on “Fractal Geometry and Dynamics” at the Mittag-Leffler Institute, Sweden, October 11, 2017.
35. Colloquium in the Department of Mathematics, Statistics, and Computer Science at the University of Illinois in Chicago, October 4, 2017.
34. Invited plenary speaker at the “Research School on Harmonic Analysis, Geometric Measure Theory and Applications”, Universidad de Buenos Aires, Argentina, July 31–August 11, 2017.
33. Invited session speaker at the IMS-China International Conference in Statistics and Probability, Nanning, China, June 26–30, 2017.
32. Invited speaker at the Workshop on Stochastic Processes and Applied Probability, Jilin University, June 17–18, 2017.
31. Probability Seminar in the Department of Finance and Statistics at East China Normal University. Shanghai, China, June 8, 2017.
30. Invited speaker at the Special Session “Self-similarity and Long-range Dependence in Stochastic Processes” in the AMS Spring Central Sectional Meeting, Bloomington, April 1–2, 2017.

29. Colloquium speaker in the Department of Mathematics and Statistics, Auburn University. February 14, 2017.
28. Invited speaker (four lectures on “Theory of Gaussian Random Fields”) in Department of Mathematics at South China University of Science and Technology. January 2–6, 2017.
27. Invited speaker at the “Workshop on Analysis on Fractals and Graphs”, Tsinghua Sanya International Mathematics Forum, China, December 26–30, 2016.
26. Invited speaker at the 10th International Chinese Statistical Association Conference, Shanghai, China, December 19–22, 2016.
25. Invited speaker at “The International Symposium on Probability Theory and Related Fields”, Southern University of Science and Technology, Shenzhen, China, November 26–29, 2016.
24. Colloquium speaker in the Department of Mathematics at Beifang University of Nationalities. August 26, 2016.
23. Invited speaker (five lectures on “Theory of Random Fields”) at the “Summer School in Probability”, Northwestern University, July 11–21, 2016.
22. Invited speaker at the “4th Institute of Mathematical Statistics Asia Pacific Rim Meeting”, Hong Kong, June 27–30, 2016.
21. Invited speaker at the “8th International Conference on Stochastic Analysis and Its Applications”, Beijing Institute of Technology, June 13–17, 2016.
20. Invited speaker at the “Workshop on Dependence, Stability and Extremes”, the Fields Institute, Toronto, May 2–6, 2016.
19. Invited speaker at the “Seminar on Stochastic Processes”, University of Maryland, College Park, March 17–19, 2016.
18. Colloquium speaker in School of Mathematics at Huazhong University of Science and Technology, Wuhan, December 31, 2015.
17. Invited speaker (four lectures) in Department of Mathematics at South China University of Science and Technology. Guangzhou, December 27–30, 2015.
16. Invited speaker at the “Workshop on Applied Probability and Computational Methods in Applied Sciences”, Fudan University, China, November 2–3, 2015.
15. Invited speaker at the conference “Fractals and Related Fields III”, île de Porquerolles, France, September 19–25, 2015.
14. Invited speaker (two lectures) in Summer School in Probability at the Institute of Mathematics, Chinese Academy of Sciences, Beijing, July 20–21, 2015.
13. Probability Seminar speaker in the School of Mathematics at Peking University. July 13, 2015.
12. Special Invited Session speaker at the IMS-China Conference. Kunming, China, July 1–4, 2015.

11. Invited speaker at the 11th Workshop on Markov Processes and Related Topics. Shanghai, China, June 27–30, 2015.
10. Invited speaker at the Workshop on Markov Processes and Stochastic Models. Changsha, China, June 23–25, 2015.
9. Invited speaker at the 9th International Extreme Value Analysis Conference. University of Michigan, June 15–19, 2015.
8. Probability Seminar speaker in the Department of Mathematics at the University of Chicago, April 3, 2015.
7. Invited session speaker at the AMS meeting at the University of Alabama in Huntsville, March 28–29, 2015.
6. Probability Seminar speaker at Brigham Young University March 24, 2015.
5. Invited session speaker at the AMS meeting at Michigan State University, March 14–15, 2015.
4. Probability Seminar speaker in Department of Mathematics, University of Montreal, March 13, 2015.
3. Invited session speaker at the AMS meeting at Georgetown University, March 8–9, 2015.
2. Colloquium speaker in Department of Mathematics, University of Kansas, March 3, 2015.
1. Colloquium speaker in Department of Statistics, University of South Carolina, February 22, 2015.

Publications

1. Y. Xiao, Uniform packing dimension results for fractional Brownian motion. In: *Probability and Statistics – Rencontres Franco-Chinoises en Probabilités et Statistiques*, eds. A. Badrikian, P. A. Meyer and J. A. Yan, pp. 211–219, World Scientific, 1993.
2. H. Lin and Y. Xiao, Dimension properties of the sample paths of self-similar processes. *Acta Math. Sinica N. S.* **10** (1994), 289–300.
3. Y. Xiao, Multiple points of Ornstein-Uhlenbeck processes of two parameters. *Chinese Ann. Math.* **16A** (1995), 8–15.
4. D. Hu, L. Liu, J. Wu, Y. Xiao and X. Zhao, Random fractals. *Adv. in Math. (China)* **24** (1995), 193–214.
5. Y. Xiao and Y. Zhong, Self-intersection local times and multiple points of the stable sheet. *Acta Math. Sci. (Chinese)* **15** (1995), 141–152.
6. J. Wu and Y. Xiao, Some geometric properties of Brownian motion on Sierpinski Gasket. *Chinese Ann. Math.* **16B** (1995), 191–202.
7. K. J. Falconer and Y. Xiao, Average densities of the image and zero set of stable processes. *Stoch. Process. Appl.* **55**(1995), 271–283.

8. Y. Xiao, Dimension results for Gaussian vector fields and index- α stable fields. *Ann. Probab.* **23** (1995), 273–291.
9. M. Talagrand and Y. Xiao, Fractional Brownian motion and packing dimension. *J. Theoret. Probab.* **9** (1996), 579–593.
10. Y. Xiao, Packing measure of the sample paths of fractional Brownian motion. *Trans. Amer. Math. Soc.* **348** (1996), 3193–3213.
11. Y. Xiao, Packing dimension, Hausdorff dimension and Cartesian product sets. *Math. Proc. Cambridge Phil. Soc.* **120** (1996), 535–546.
12. L. Liu and Y. Xiao, Results on the packing dimension of a class of Lévy processes and self-similar Markov processes. *Chinese Ann. Math. Ser. A* **17** (1996), 389–396.
13. Y. Xiao, Hausdorff measure of the sample paths of Gaussian random fields. *Osaka J. Math.* **33** (1996), 895–913.
14. Y. Xiao, Packing dimension of the image of fractional Brownian motion. *Statist. Prob. Lett.* **33** (1997), 379–387.
15. Y. Xiao, Weak variation of Gaussian processes. *J. Theoret. Probab.* **10** (1997), 849–866.
16. Y. Xiao, Hölder conditions for the local times and the Hausdorff measure of the level sets of Gaussian random fields. *Probab. Th. Rel. Fields* **109** (1997), 129–157.
17. Y. Xiao, Hausdorff measure of the graph of fractional Brownian motion. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), 565–576.
18. Y. Xiao, Fractal measures of the sets associated to Gaussian random fields. In: *Trends in Probability and Related Analysis: Proceedings of the Symposium on Analysis and Probability 1996* (N. Kôno and N-R. Shieh, Editors), pp. 311–324, World Scientific, 1997.
19. Y. Xiao, Local time and related properties of multi-dimensional iterated Brownian motion. *J. Theoret. Probab.* **11** (1998), 383–408.
20. Y. Xiao, Hausdorff-type measures of the sample paths of fractional Brownian motion. *Stoch. Process. Appl.* **74** (1998), 251–272.
21. Y. Xiao, Asymptotic results for self-similar Markov processes. In: *Asymptotic Methods in Probability and Statistics (ICAMPS'97)* (B. Szyszkowicz, Editor), pp. 323–340, Elsevier Science, 1998.
22. L. Liu and Y. Xiao, Hausdorff dimension theorems for self-similar Markov processes. *Probab. Math. Statist.* **18** (1998), 369–383.
23. Y. Xiao, Hitting probabilities and polar sets for fractional Brownian motion. *Stochastics and Stochastics Reports* **66** (1999), 121–151.
24. Y. Xiao, Hausdorff dimension of the level sets of stable processes in random scenery. *Acta Sci. Math. (Szeged)* **65** (1999), 373–383.
25. D. Khoshnevisan, Y. Peres and Y. Xiao, Limsup random fractals. *Electronic J. Probab.* **5** No. 4, (2000), 1–24.

26. D. Khoshnevisan and Y. Xiao, Level sets of additive random walks. *High Dimensional Probability (Seattle, 1999)*, Progr. Probab. **47**, pp. 329–345, Birkhäuser, 2000.
27. David J. Mason and Y. Xiao, Sample path properties of operator self-similar Gaussian random fields. *Teor. Veroyatnost. i Primenen.* **46** (2001), 94–116. Also in *Th. Probab. Appl.* **46** (2002), 58–78.
28. D. Khoshnevisan and Y. Xiao, Level sets of additive Lévy processes. *Ann. Probab.* **30** (2002), 62–100.
29. J. Wu and Y. Xiao, The exact Hausdorff measure of the graph of Brownian motion on the Sierpinski gasket. *Acta Sci. Math. (Szeged)* **68** (2002), 369–391.
30. Y. Xiao and T. Zhang, Local times of fractional Brownian sheet. *Probab. Th. Rel. Fields* **124** (2002), 204–226.
31. D. Khoshnevisan and Y. Xiao, Weak unimodality of finite measures, and an application to potential theory of additive Lévy processes. *Proc. Amer. Math. Soc.* **131:8** (2003), 2611–2616.
32. Y. Xiao, The packing measure of the trajectories of multiparameter fractional Brownian motion. *Math. Proc. Cambridge Philos. Soc.* **135** (2003), 349–375.
33. D. Khoshnevisan, Y. Xiao and Y. Zhong, Measuring the range of an additive Lévy process. *Ann. Probab.* **31** (2003), 1097–1141.
34. D. Khoshnevisan, Y. Xiao and Y. Zhong, Local times of additive Lévy processes. *Stoch. Process. Appl.* **104** (2003), 193–216.
35. Y. Xiao, Random fractals and Markov processes. In: *Fractal Geometry and Applications: A Jubilee of Benoit Mandelbrot*, (Michel L. Lapidus and Machiel van Frankenhuysen, editors), pp. 261–338, American Mathematical Society, 2004.
36. D. Khoshnevisan and Y. Xiao, Additive Lévy processes: capacity and Hausdorff dimension. *Proc. of Inter. Conf. on Fractal Geometry and Stochastics III*, Progress in Probability, **57**, pp. 151–170, Birkhäuser, 2004.
37. M. M. Meerschaert and Y. Xiao, Dimension results for the sample paths of operator stable processes. *Stoch. Process. Appl.* **115** (2005), 55–75.
38. D. Khoshnevisan and Y. Xiao, Lévy processes: capacity and Hausdorff dimension. *Ann. Probab.* **33** (2005), 841–878.
39. A. Ayache and Y. Xiao, Asymptotic properties and Hausdorff dimension of fractional Brownian sheets. *J. Fourier Anal. Appl.* **11** (2005), 407–439.
40. Y. Xiao, Properties of local nondeterminism of Gaussian and stable random fields and their applications. *Ann. Fac. Sci. Toulouse Math.* **XV** (2006), 157–193.
41. D. Khoshnevisan, D. Wu and Y. Xiao, Sectorial local non-determinism and the geometry of the Brownian sheet. *Electron. J. Probab.* **11** (2006), 817–843.
42. N.-R. Shieh and Y. Xiao, Images of Gaussian random fields: Salem sets and interior points. *Studia Math.* **176** (2006), 37–60.

43. D. Wu and Y. Xiao, Fractal properties of the random string processes. In: *IMS Lecture Notes-Monograph Series-High Dimensional Probability*, **51** (2006), 128–147. Institute of Mathematical Statistics, Beachwood, Ohio, U.S.A.
44. L. Li and Y. Xiao, Wavelet-based estimators of mean regression function with long memory data. *Appl. Math. Mech.* (English Ed.) **27** (2006), 901–910.
45. X. Ding and Y. Xiao, Natural boundary of random Dirichlet series. *Ukrainian Math. J.* **58** (2006), 1129–1138.
46. D. Khoshnevisan and Y. Xiao, Images of the Brownian sheet. *Trans. Amer. Math. Soc.* **359** (2007), 3125–3151.
47. L. Li and Y. Xiao, On the minimax optimality of block thresholded wavelet estimators with long memory data. *J. Statist. Plann. Inference* **137** (2007), 2850–2869.
48. L. Li and Y. Xiao, Mean integrated squared error of nonlinear wavelet-based estimators with long memory data. *Ann. Inst. Statist. Math.* **59** (2007), 299–324.
49. D. Gilliland, S. Levental and Y. Xiao, A note on absorption probabilities in one-dimensional random walk via complex-valued martingales. *Statist. Probab. Lett.* **77** (2007), 1098–1105.
50. D. Wu and Y. Xiao, Dimensional properties of fractional Brownian motion. *Acta Math. Sinica* **23** (2007), 613–622.
51. D. Wu and Y. Xiao, Geometric properties of the images fractional Brownian sheets. *J. Fourier Anal. Appl.* **13** (2007), 1–37.
52. A. Ayache, F. Roueff and Y. Xiao, Local and asymptotic properties of linear fractional stable sheets. *C. R. Math. Acad. Sci. Paris* **344** (2007), 389–394.
53. C. A. Tudor and Y. Xiao, Sample path properties of bifractional Brownian motion. *Bernoulli* **13** (2007), 1023–1052.
54. Y. Xiao, Strong local nondeterminism and the sample path properties of Gaussian random fields. In: *Asymptotic Theory in Probability and Statistics with Applications* (Tze Leung Lai, Qiman Shao, Lianfen Qian, editors), pp. 136–176, Higher Education Press, Beijing, 2007.
55. A. Ayache, F. Roueff and Y. Xiao, Joint continuity of the local times of linear fractional stable sheets. *C. R. Math. Acad. Sci. Paris* **344** (2007), 635–640.
56. D. Khoshnevisan, N.-R. Shieh and Y. Xiao, Hausdorff dimension of the contours of symmetric additive Lévy processes. *Probab. Th. Rel. Fields* **140** (2008), 169–193.
57. D. Khoshnevisan and Y. Xiao, Packing dimension of the range of a Lévy process. *Proc. Amer. Math. Soc.* **136** (2008), 2597–2607.
58. M. M. Meerschaert, E. Nane and Y. Xiao, Large deviations for local time fractional Brownian motion and applications. *J. Math. Anal. Appl.* **346** (2008), 432–445.
59. A. Ayache, D. Wu and Y. Xiao, Joint continuity of the local times of fractional Brownian sheets. *Ann. Inst. H. Poincaré Probab. Statist.* **44** (2008), 727–748.

60. M. M. Meerschaert, D. Wu and Y. Xiao, Local times of multifractional Brownian sheets. *Bernoulli* **14**(3) (2008), 865–898.
61. D. Khoshnevisan and Y. Xiao, Packing dimension profiles and fractional Brownian motion. *Math. Proc. Cambridge Philos. Soc.* **145** (2008), 205–213.
62. Y. Xiao, A packing dimension theorem for Gaussian random fields. *Statist. Probab. Lett.* **79** (2009), 88–97.
63. Y. Xiao, Sample path properties of anisotropic Gaussian random fields. In: *A Minicourse on Stochastic Partial Differential Equations*, (D. Khoshnevisan and F. Rassoul-Agha, editors), *Lecture Notes in Math.* **1962**, pp. 145–212. Springer, New York, 2009.
64. D. Baraka, T. Mountford and Y. Xiao, Hölder properties of local times for fractional Brownian motions. *Metrika* **69** (2009), 125–152.
65. A. Ayache, F. Roueff and Y. Xiao, Linear fractional stable sheets: wavelet expansion and sample path properties. *Stoch. Process. Appl.* **119** (2009), 1168–1197.
66. D. Wu and Y. Xiao, Continuity with respect to the Hurst index of the local times of anisotropic Gaussian random fields. *Stoch. Process. Appl.* **119** (2009), 1823–1844.
67. L. Li and Y. Xiao, A note on the bound of wavelet interpolation and approximation in Besov space. *Current Development in Theory and Applications of Wavelets* **3** (2009), 71–80.
68. M. M. Meerschaert, E. Nane and Y. Xiao, Correlated continuous time random walks. *Statist. Probab. Lett.* **79** (2009), 1194–1202.
69. H. Biermé, C. Lacaux and Y. Xiao, Hitting probabilities and the Hausdorff dimension of the inverse images of anisotropic Gaussian random fields. *Bull. London Math. Soc.* **41** (2009), 253–273.
70. D. Khoshnevisan and Y. Xiao, Harmonic analysis of additive Lévy processes. *Probab. Th. Rel. Fields* **145** (2009), 459–515.
71. D. Wu and Y. Xiao, Uniform Hausdorff dimension results for Gaussian random fields. *Sci. China, Ser. A* **52** (2009), 1478–1496.
72. L. Li, J. Liu and Y. Xiao, On wavelet regression with long memory infinite moving average errors. *J. Appl. Probab. Statist.* **4** (2009), 183–211.
73. D. Wu and Y. Xiao, Regularity of intersection local times of fractional Brownian motions. *J. Theoret. Probab.* **23** (2010), 972–1001.
74. Y. Xiao, Uniform modulus of continuity of random fields. *Monatsh. Math.* **159** (2010), 163–184.
75. N. Luan and Y. Xiao, Chung’s law of the iterated logarithm for anisotropic Gaussian random fields. *Statist. Probab. Lett.* **80** (2010), 1886–1895.
76. N.-R. Shieh and Y. Xiao, Hausdorff and packing dimensions of the images of random fields. *Bernoulli* **16** (2010), 926–952.

77. E. Nane, Y. Xiao and A. Zeleke, A strong law of large numbers with applications to self-similar stable processes. *Acta Sci. Math. (Szeged)* **76** (2010), 697–711.
78. L. Li and Y. Xiao, A note on block thresholded wavelet estimators with correlated noise. *Comm. Statist. Theory Methods* **39** (2010), 1111–1128.
79. D. Wu and Y. Xiao, On local times of anisotropic Gaussian random fields. *Comm. Stoch. Anal.* **5** (2011), 15–39.
80. A. Estrade, D. Wu and Y. Xiao, Packing dimension results for anisotropic Gaussian random fields. *Comm. Stoch. Anal.* **5** (2011), 41–64.
81. Y. Xiao, Properties of strong local nondeterminism and local times of stable random fields. In: *Seminar on Stochastic Analysis, Random Fields and Applications VI*, (R.C. Dalang, M. Dozzi and F. Russo, editors), pp. 279–310. Progr. Probab., 63, Birkhäuser, Basel, 2011.
82. Y. Li and Y. Xiao, Multivariate operator-self-similar random fields. *Stoch. Process. Appl.* **121** (2011), 1178–1200.
83. A. Ayache, N.-R. Shieh and Y. Xiao, Multiparameter multifractional Brownian motion: local nondeterminism and joint continuity of the local times. *Ann. Inst. H. Poincaré Probab. Statist.* **47** (2011), 1029–1054.
84. Y. Xue and Y. Xiao, Fractal and smoothness properties of anisotropic Gaussian models. *Frontiers Math. China* **6** (2011), 1217–1246.
85. N. Luan and Y. Xiao, Spectral conditions for strong local nondeterminism and exact Hausdorff measure of ranges of Gaussian random fields. *J. Fourier Anal. Appl.* **18** (2012), 118–145.
86. E. Nane, D. Wu and Y. Xiao, α -time fractional Brownian motion: PDE connections and local times. *ESAIM: Probab. & Stat.* **16** (2012), 1–24.
87. Y. Li and Y. Xiao, Occupation time fluctuations of weakly degenerated branching systems. *J. Theoret. Probab.* **25** (2012), 1119–1152.
88. R. C. Dalang, D. Khoshnevisan, E. Nualart, D. Wu and Y. Xiao, Critical Brownian sheet does not have double points. *Ann. Probab.* **40** (2012), 1829–1859.
89. Z. Chen and Y. Xiao, On intersections of independent anisotropic Gaussian random fields. *Sci. China Math.* **55** (2012), 2217–2232.
90. D. Khoshnevisan, R. L. Schilling and Y. Xiao, Packing dimension profiles and Lévy processes. *Bull. London Math. Soc.* **44** (2012), 931–943.
91. Y. Xiao, and X. Zheng, Discrete fractal dimensions of the range of the random conductance model in \mathbb{Z}^d . *Probab. Th. Rel. Fields* **156** (2013), 1–26.
92. M. M. Meerschaert, W. Wang and Y. Xiao, Fernique-type inequalities and moduli of continuity of anisotropic Gaussian random fields. *Trans. Amer. Math. Soc.* **365** (2013), 1081–1107.

93. C. Lim, W. Wu and Y. Xiao, Tail estimation of the spectral density under fixed-domain asymptotics. *J. Multivar. Anal.* **116** (2013), 74–91.
94. Y. Xiao, Recent developments on fractal properties of Gaussian random fields. In: *Further Developments in Fractals and Related Fields*, (J. Barral and S. Seuret, eds.) pp.255–288, Springer, New York, 2013.
95. B. Li, N.-R. Shieh and Y. Xiao, Hitting probability and packing dimensions of the random covering sets. In: *Fractal Geometry and Dynamical Systems in Pure and Applied Mathematics. II.* (David Carfi, Michel L. Lapidus, Erin P. J. Pearse, and Machiel van Frankenhuysen, editors), pp. 307–323, Amer. Math. Soc., Providence, RI, 2013.
96. M. M. Meerschaert, E. Nane and Y. Xiao, Fractal dimensions for continuous time random walk limits. *Statist. Probab. Lett.* **83** (2013), 1083–1093.
97. Y. Li and Y. Xiao, A class of fractional Brownian fields from branching systems and their regularity properties. *Inf. Dim. Anal. Quan. Probab. Rel. Topics* **16** (2013), 1350023 (33 pages).
98. K. J. Falconer and Y. Xiao, Generalized dimensions of images of measures under Gaussian processes. *Adv. Math.* **252** (2014), 492–517.
99. D. Khoshnevisan and Y. Xiao, Brownian motion and thermal capacity. *Ann. Probab.* **43** (2015), 405–434.
100. Y. Li, W. Wang and Y. Xiao, Exact moduli of continuity for operator scaling Gaussian random fields. *Bernoulli* **21** (2015), 930–956.
101. Z. Chen, D. Wu and Y. Xiao, Smoothness of the local times of anisotropic Gaussian random fields. *Frontiers Math. China* **10** (2015), 777–805.
102. Y. Du, J. Miao, D. Wu and Y. Xiao, Packing dimensions of the images of Gaussian random fields. *Statist. Probab. Lett.* **106** (2015), 209–217.
103. A. Ayache and Y. Xiao, Harmonizable fractional stable fields: local nondeterminism and joint continuity of the local times. *Stoch. Process. Appl.* **126** (2016), 171–185.
104. D. Cheng and Y. Xiao, Mean Euler characteristic approximation to excursion probability of Gaussian random fields. *Ann. Appl. Probab.* **26** (2016), 722–759.
105. D. Cheng and Y. Xiao, Excursion probability of Gaussian random fields on sphere. *Bernoulli* **22** (2016), 1113–1130.
106. T. Luks and Y. Xiao, On the double points of operator stable Lévy processes. *J. Theoret. Probab.* **30** (2017), no. 1, 297–325.
107. D. Khoshnevisan and Y. Xiao, On the macroscopic fractal geometry of some random sets. In: *Stochastic Analysis and Related Topics*, pp.179–206, Progr. Probab., 72, Birkhäuser/Springer, Cham, 2017.
108. E. Järvenpää, M. Järvenpää, H. Koivusalo, B. Li, V. Suomala, and Y. Xiao, Hitting probabilities of random covering sets in torus and metric spaces. *Electron. J. Probab.* **22** (2017), paper no. 1, 1–18.

109. C. Tudor and Y. Xiao, Sample paths of the solution to the fractional-colored stochastic heat equation. *Stochastics and Dynamics* **17** (2017), No. 1, 1750004 (20 pages).
110. Y. Zhou and Y. Xiao, Tail asymptotics of extremes for bivariate Gaussian random fields. *Bernoulli* **23** (2017), 1566–1598.
111. L. Li and Y. Xiao, Wavelet-based estimation of regression function with strong mixing errors under fixed design. *Commun. Statist. Theory Meth.* **46** (2017), 4824–4842.
112. H. Allouba and Y. Xiao, L-Kuramoto-Sivashinsky SPDEs vs. time-fractional SPIDEs: exact continuity and gradient moduli, $1/2$ -derivative criticality, and laws. *J. Diff. Equations* **263** (2017), 1552–1610.
113. D. Khoshnevisan, K. Kim and Y. Xiao, Intermittency and multifractality: a case study via parabolic stochastic PDEs. *Ann. Probab.* **45** (2017), 3697–3551.
114. R. Dalang, C. Mueller and Y. Xiao, Polarity of points for Gaussian random fields. *Ann. Probab.* **45** (2017), 4700–4751.
115. P. Kern, M. M. Meerschaert and Y. Xiao, Asymptotic behavior of semistable Lévy exponents and applications to fractal path properties. *J. Theoret. Probab.* **31** (2018), 598–617.
116. Y. Zhou and Y. Xiao, Joint asymptotics for estimating the fractal indices of bivariate Gaussian processes. *J. Multivar. Anal.* **165** (2018), 56–72.
117. X. Lan and Y. Xiao, Strong local nondeterminism of spherical fractional Brownian motion. *Statist. Probab. Lett.* **135** (2018), 44–50.
118. X. Lan, D. Marinucci and Y. Xiao, Strong local nondeterminism and exact modulus of continuity for spherical Gaussian fields. *Stoch. Process. Appl.* **128** (2018), 1294–1315.
119. X. Sun, Y. Xiao, L. Xu and J. Zhai, Uniform dimension results for a family of Markov processes. *Bernoulli* **24** (2018), 3924–3951.
120. D. Khoshnevisan, K. Kim and Y. Xiao, A macroscopic multifractal analysis of parabolic stochastic PDEs. *Comm. Math. Physics* **360** (2018), 307–346.
121. H. Sang and Y. Xiao, Exact moderate and large deviations for linear random fields. *J. Appl. Probab.* **55** (2018), 431–449.
122. R. Song, Y. Xiao and X. Yang, Inverse images of stable Lévy processes. *Electron. Comm. Probab.* **23** (2018), paper no. 75, 1–10.
123. B. Li, Y. Xiao and X. Yang, On the favorite sites of symmetric Lévy processes. *J. Theoret. Probab.* **32** (2019), 1943–1972.
124. A. Beknazaryan, H. Sang and Y. Xiao, Cramér type moderate deviations for random fields. *J. Appl. Probab.* **56** (2019), 223–245.
125. A. Safikhani and Y. Xiao, Spectral conditions for equivalence of Gaussian random fields with stationary increments. *Electron. J. Probab.* (2019), **24**, paper no. 8, 1–19.

126. W. Wang and Y. Xiao, The Csörgő-Révész modulus of non-differentiability for fractional Brownian motion. *Statist. Probab. Lett.* **150** (2019), 81–87.
127. X. Lan and Y. Xiao, Regularity properties of the solution to a stochastic heat equation driven by a fractional Gaussian noise on \mathbb{S}^2 . *J. Math. Anal. Appl.* **476** (2019), 27–52.
128. L. Li, K. Lu and Y. Xiao, Wavelet thresholding in fixed design regression for Gaussian random fields. *J. Fourier Anal. Appl.* **25** (2019), 3184–3213.
129. C-Y. Lee and Y. Xiao, Local nondeterminism and the exact modulus of continuity for stochastic wave equation. *Electron. Comm. Probab.* **24** (2019), paper no. 52, 1–8.
130. E. Herbin and Y. Xiao, Sample paths properties of the set-indexed fractional Brownian motion. In: *New Trends in Applied Harmonic Analysis, Volume 2: Harmonic Analysis, Geometric Measure Theory, and Applications* (A. Aldroubi, C. Cabrelli, S. Jaffard, U. Molter, Editors). Springer, 2019.
131. Z. Chen and Y. Xiao, Local times and inverse images of Gaussian vector fields with space-anisotropy. *Sci. China Math.* **49** (2019), no. 11, 1487–1500.
132. Z. Su, W. Wang and Y. Xiao, On global and local properties of the trajectories of Gaussian random fields—A look through the set of limit points. *Acta Math. Sinica* **36** (2020), 137–152.
133. E. Nane, Y. Xiao and A. Zeleke, Strong laws of large numbers for arrays of random variables and stable random fields. *J. Math. Anal. Appl.* **484** (2020), no 1, 123734, 20 pp.
134. A. Ayache, N.-R. Shieh and Y. Xiao, Wavelet series representation and geometric properties of harmonizable fractional stable sheets. *Stochastics* **92** (2020), 1–23.
135. T. Luks and Y. Xiao, On multiple points of operator semi-stable Lévy processes. *J. Theoret. Probab.* **33** (2020), 153–179.
136. W. Wang, Z. Su and Y. Xiao, The moduli of non-differentiability and local times of Gaussian random fields with stationary increments. *Bernoulli* **26** (2020), 1410–1430.
137. R. Herrell, R. Song, D. Wu and Y. Xiao, Sharp space-time regularity of the solution to a stochastic heat equation driven by a fractional-colored noise. *Stoch. Anal. Appl.* **38** (2020), 747–768.
138. H. Park, Y. Xiao and X. Yang, Uniform Hausdorff and packing dimension results for the inverse images of Lévy processes. *J. Theoret. Probab.* **33** (2020), 2213–2232.
139. S. Panigrahi, P. Roy and Y. Xiao, Maximal moments and uniform modulus of continuity of stable random fields. *Stoch. Process. Appl.* **136** (2021), 92–124.
140. R. Dalang, C-Y. Lee, C. Mueller and Y. Xiao, Multiple points of Gaussian random fields. *Electron. J. Probab.* **26** (2021), paper no. 17, 1–25.
141. J. Song, Y. Xiao and W. Yuan, On collision of multiple eigenvalues for matrix-valued Gaussian processes. *J. Math. Anal. Appl.* **502** (2021), no 2, 125261, 22 pp.

142. R. Dalang, C. Mueller and Y. Xiao, Polarity of almost all points for systems of non-linear stochastic heat equations in the critical dimension. *Ann. Probab.* **49** (2021), no. 5, 2573–2598.
143. C-Y. Lee and Y. Xiao, Propagation of singularities in stochastic wave equation. *Stoch. Process. Appl.* **143** (2022), 31–54.
144. R. Wang and Y. Xiao, Exact uniform modulus of continuity and Chung’s LIL for the generalized fractional Brownian motion. *J. Theoret. Probab.*, <https://doi.org/10.1007/s10959-021-01148-8>
145. Z. Hu, B. Li and Y. Xiao, On the intersection of dynamical covering sets with fractals. *Math. Zeitschrift* **301** (2022), 485–513.
146. M. Peligrad, H. Sang, Y. Xiao and G. Yang, Limit theorems for linear random fields with innovations in the domain of attraction of a stable law. *Stoch. Process. Appl.* **150** (2022), 596–621.
147. R. Wang and Y. Xiao, Lower functions and Chung’s LILs of the generalized fractional Brownian motion. *J. Math. Anal. Appl.* **514** (2022), 126320.
148. C-Y. Lee and Y. Xiao, Chung-type law of the iterated logarithm and exact moduli of continuity for a class of anisotropic Gaussian random fields. *Bernoulli* **29**(1) (2023), 523–550.
149. Y. Ding, Q. Peng and Y. Xiao, Linear multifractional stable sheets in the broad sense: existence and joint continuity of local times. *Bernoulli* **29**(1) (2023), 785–814.
150. T. Lu, C. Ma and Y. Xiao, Strong local nondeterminism and exact modulus of continuity for isotropic Gaussian random fields on compact two-point homogeneous spaces. *J. Theoret. Probab.*, to appear.
151. H. Park and Y. Xiao, Spectral heat content for Lévy processes on self-similar sets in the real line. *Mathematische Nachrichten*, to appear.