# Publication List

## Xin Sun

1. **Backbone exponent and annulus crossing probability for planar percolation**, Pierre Nolin, Wei Qian, Xin Sun, and Zijie Zhuang. *Physical Review Letters.*, accepted.

2. **The moduli of annuli in random conformal geometry**, Morris Ang, Guillaume Remy and Xin Sun. *Ann. Sci. Éc. Norm. Supér.*, accepted.

3. **Boundary touching probability and nested-path exponent for non-simple CLE**, Morris Ang, Xin Sun, Pu Yu, and Zijie Zhuang *Annals of Probability*, accepted.

4. **Quantum triangles and imaginary geometry flow lines**, Morris Ang, Xin Sun, and Pu Yu. *Ann. Inst. Henri Poincaré Probab. Stat.*, accepted.

5. **Joint scaling limit of a bipolar-oriented triangulation and its dual in the peanosphere sense**, Ewain Gwynne, Nina Holden and Xin Sun. *Acta Mathematica Sinica, English Series*, accepted

6. **Probabilistic conformal blocks for Liouville CFT on the torus**, Promit Ghosal, Guillaume Remy, Xin Sun and Yi Sun. *Duke Math. J.*, **173** (2024), no. 6, 1085–1175.

7. **Integrability of SLE via conformal welding of random surfaces**, Morris Ang, Nina Holden and Xin Sun. *Communications on Pure and Applied Mathematics*, **77** (2024), no. 5, 2651–2707.

8. **Schnyder woods, $\mathrm{SLE}_{16}$ and Liouville quantum gravity**, Yiting Li, Xin Sun and Samuel Watson. *Trans. Amer. Math. Soc.*, **377** (2024), no. 4, 2439–2493.

9. **The bulk one-arm exponent for the $\mathrm{CLE}_{\kappa'}$ percolations**, Haoyu Liu, Xin Sun, Pu Yu, and Zijie Zhuang. *ArXiv e-prints*, 2024.

10. **Annulus crossing formulae for critical planar percolation**, Shengjing Xu, Xin Sun, and Zijie Zhuang. *ArXiv e-prints*, 2024.

11. **Integrability of the conformal loop ensemble: imaginary DOZZ formula and beyond**, Morris Ang, Gefei Cai, Baojun Wu, and Xin Sun. *ArXiv e-prints*, 2024.

12. **SLE Loop Measure and Liouville Quantum Gravity**, Morris Ang, Gefei Cai, Baojun Wu, and Xin Sun. *ArXiv e-prints*, 2024.

13. **FZZ formula of boundary Liouville CFT via conformal welding**, Morris Ang, Guillaume Remy and Xin Sun. *Journal of the European Mathematical Society*, 2023.

14. **Bootstrap, Markov Chain Monte Carlo, and LP/SDP Hierarchy for the Lattice Ising Model**, Minjae Cho and Xin Sun. *Journal of High Energy Physics*, **11** (2023), no. 47.

15. **Convergence of uniform triangulations under the Cardy embedding**, Nina Holden and Xin Sun. *Acta Mathematica*, Vol. 230, No. 6, 93-203 (2023).

16. **Percolation on triangulations: a bijective path to Liouville quantum gravity**, Olivier Bernardi, Nina Holden and Xin Sun. *Mem. Amer. Math. Soc.*, Vol. 289, No. 1440 (2023).

17. **Baxter permuton and Liouville quantum gravity**, Jacopo Borga, Nina Holden, Xin Sun and Pu Yu *Probab. Theory Relat. Fields*, **186** (2023), no. 3-4, 1225–1273.

18. **Brownian half-plane excursion and critical Liouville quantum gravity**, Juhan Aru, Nina Holden, Ellen Powell and Xin Sun. *Journal of the London Mathematical Society*, 107(1), 441-509 (2023).

19. **Mating of trees for random planar maps and Liouville quantum gravity: a survey**, Ewain Gwynne, Nina Holden and Xin Sun. *Panoramas et Synthèses*, Vol. 59 *Soc. Math. France, Paris*, 2023.

20. **Conformal welding of quantum disks**, Morris Ang, Nina Holden and Xin Sun. *Electronic Journal of Probability*, Vol. 28, 1-50 (2023).

21. **The SLE loop via conformal welding of quantum disks**, Morris Ang, Nina Holden and Xin Sun. *Electronic Journal of Probability*, Vol. 28, 1-20 (2023).

22. **Equivalence of Liouville measure and Gaussian free field**, Nathanael Berestycki, Scott Sheffield and Xin Sun. *Ann. Inst. Henri Poincaré Probab. Stat.*, Vol. 59, No. 2, 795–816 (2023).

23. **Backbone exponent for two-dimensional percolation**, Pierre Nolin, Wei Qian, Xin Sun, and Zijie Zhuang *ArXiv e-prints*, 2023.

24. **Conformal welding of quantum disks and multiple SLE: the non-simple case**, Morris Ang, Nina Holden, Xin Sun, and Pu Yu *ArXiv e-prints*, 2023.

25. **SLE partition functions via conformal welding of random surfaces**, Xin Sun and Pu Yu *ArXiv e-prints*, 2023.

26. **Derivation of all structure constants for boundary Liouville CFT**, Morris Ang, Guillaume Remy, Xin Sun, and Tunan Zhu *ArXiv e-prints*, 2023.

27. **Natural parametrization of percolation interface and pivotal points**, Nina Holden, Xinyi Li and Xin Sun. *Ann. Inst. Henri Poincaré Probab. Stat.*, Vol. 58, No. 1, 7-25 (2022).

28. **Minkowski content of Brownian cut points**, Nina Holden, Greg Lawler, Xinyi Li and Xin Sun. *Ann. Inst. Henri Poincaré Probab. Stat.*, Vol. 58, No. 1, 455-488 (2022).

29. **Permutons, meanders, and SLE-decorated Liouville quantum gravity**, Jacopo Borga, Ewain Gwynne, and Xin Sun. *ArXiv e-prints*, 2022.

30. **Liouville dynamical percolation**, Christophe Garban, Nina Holden, Avelio Sepúlveda and Xin Sun. *Probab. Theory Relat. Fields* (2021).

31. **Joint scaling limit of site percolation on random triangulations in the metric and peanosphere sense**, Ewain Gwynne, Nina Holden and Xin Sun. *Electronic Journal of Probability*, Vol. 26, 1-58, (2021).

32. **Volume of metric balls in Liouville quantum gravity**, Morris Ang, Hugo Falconet and Xin Sun. *Electronic Journal of Probability*, 25 (2020), no. 169, 1-50.

33. **Scaling limit of large triangulations of polygons**, Marie Albenque, Nina Holden and Xin Sun. *Electronic Journal of Probability*, 25 (2020), no. 135, 1-43.

34. **Weak LQG metrics and Liouville first passage percolation**, Julien Dubédat, Hugo Falconet, Ewain Gwynne, Joshua Pfeffer and Xin Sun. *Probab. Theory Relat. Fields*, Vol. 178, 369–436 (2020).

35. **A mating-of-trees approach for graph distances in random planar maps**, Ewain Gwynne, Nina Holden and Xin Sun. *Probab. Theory Relat. Fields*, Vol. 177, 1043–1102 (2020).

36. **Induced graphs of uniform spanning forests**, Russell Lyons, Yuval Peres, and Xin Sun. *Ann. Inst. Henri Poincaré Probab. Stat.*, Vol. 56, No. 4, 2732-2744 (2020).

37. **Occupation measure of random walks and wired spanning forests in balls of Cayley graphs**, Russell Lyons, Yuval Peres, Xin Sun and Tianyi Zheng. *Annales de la Faculté des Sciences de Toulouse*, (2020) no. 1, pp. 97-109.

38. **Four-dimensional loop-erased random walk**, Gregory Lawler, Xin Sun and Wei Wu. *Annals of Probability*, Vol. 47, No. 6, 3866-3910 (2019).

39. **A distance exponent for Liouville quantum gravity**, Ewain Gwynne, Nina Holden and Xin Sun. *Probab. Theory Relat. Fields*, Vol. 173, 931-997 (2019).

40. **Scaling limits for the critical Fortuin-Kasteleyn model on a random planar map I: cone times**, Ewain Gwynne, Cheng Mao and Xin Sun. *Ann. Inst. Henri Poincaré Probab. Stat.*, Vol. 55, No. 1, 1-60 (2019).

41. **Random planar geometry through the lens of uniform spanning tree**, Xin Sun. *Bernoulli News*, Vol. 26, No. 2, 10-13 (2019).

42. **Almost sure multifractal spectrum of SLE**, Ewain Gwynne, Jason Miller and Xin Sun. *Duke Math. J.*, Vol. 167, No. 6, 1099-1237 (2018).

43. **SLE as a mating of trees in Euclidean geometry**, Nina Holden and Xin Sun. *Commun. Math. Phys.*, 364, 171-201 (2018).

44. **Negative moments for Gaussian multiplicative chaos on fractal sets**, Christophe Garban, Nina Holden, Avelio Sepúlveda and Xin Sun. *Electronic Communications in Probability*, 23 (2018), no. 100, 1-10.

45. **Brownian motion correlation in the peanosphere for $\kappa > 8$**, Ewain Gwynne, Nina Holden, Jason Miller and Xin Sun. *Ann. Inst. Henri Poincaré Probab. Stat.*, Vol. 53, No. 4, 1866-1889 (2017).

46. **Two perspectives of the unit area quantum sphere and their equivalence**, Juhan Aru, Yichao Huang and Xin Sun. *Commun. Math. Phys.*, 356, 261-283 (2017).

47. **Deep Learning with Coherent Nanophotonic Circuits**, Yichen Shen, Nicholas C. Harris, Scott Skirlo, Mihika Prabhu, Tom Baehr-Jones, Micheal Hochberg, Xin Sun, Shijie Zhao, Hugo Larochelle, Dirk Englund and Marin Soljačić. *Nature Photonics.* Vol. 11, Issue 7, 441-446 (2017).

48. **Scaling limits for the critical Fortuin-Kasteleyn model on a random planar map II: local estimates and empty reduced word exponent**, Ewain Gwynne and Xin Sun. *Electronic Journal of Probability*, 22 (2017), no. 45, 1-56.

49. **Fractional Gaussian field: a survey**, Asad Lodhia, Scott Sheffield, Xin Sun and Samuel Watson. *Probability Surveys*, Vol. 13 (2016), 1-56.

50. **Sandpiles and unicycles on random planar maps**, David Wilson and Xin Sun. *Electronic Communications in Probability*, 21 (2016), no. 57, 1-12.

51. **On fluctuations for random band Toeplitz matrices**, Yiting Li and Xin Sun. *Random Matrices: Theory and Applications*, Vol. 4, No.2 (2015).

52. **Scaling limits for the critical Fortuin-Kasteleyn model on a random planar map III: finite volume case**, Ewain Gwynne and Xin Sun. *ArXiv e-prints*, 2015.

53. **Ergodicity of the Airy line ensemble**, Ivan Corwin and Xin Sun. *Electronic Communications in Probability*, 19 (2014), no. 49, 1-11.

54. **Uniform spanning forest and the bi-Laplacian Gaussian field**, Xin Sun and Wei Wu. *ArXiv e-prints*, 2013.

55. **Fluctuations of eigenvalues for random Toeplitz and related matrices**, Dangzheng Liu, Xin Sun and Zhengdong Wang. *Electronic Journal of Probability*, 17 (2012), no. 95, 1-22.

56. **A note on eigenvalues of random block Toeplitz matrices with slowly growing bandwidth**, Yiting Li, Dangzheng Liu, Xin Sun and Zhengdong Wang. *Statistics and Probability Letters*, 08/2011; 81 (12).

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