

# Baojun Wu

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## Research Interests

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Liouville conformal field theory (LCFT); Liouville quantum gravity (LQG); Schramm-Loewner evolution (SLE); Statistical physics; Mathematical physics.

## Employment

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Boya Postdoctoral Researcher, BICMR, Peking University

2023.10–present

## Research Visits

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Institut des Hautes Études Scientifiques (IHÉS)

Visiting student, Jan–Feb 2023

Institute for Advanced Study (IAS)

Visiting student, Sep–Dec 2022

## Education

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Ph.D. in Mathematics, Université Aix–Marseille

2020–2023

Advisor: Rémi Rhodes

M.Sc. in Probability, Université Paris–Saclay

2019–2020

Advisor: Vincent Vargas

Normalien, École normale supérieure (Ulm)

2017–2020

B.Sc. in Mathematics, Taishan College, Shandong University

2014–2018

## Publications and Preprints

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- G. Baverez, **B. Wu**. *Irreducibility of Virasoro representations in Liouville CFT*, (to appear in Annals of Probability), [arXiv:2312.07344](https://arxiv.org/abs/2312.07344), 2023.
- C. Guillarmou, R. Rhodes, **B. Wu**. *Conformal Bootstrap for surfaces with boundary in Liouville CFT. Part 1: Segal axioms* ( To appear in Transactions of AMS), [arXiv:2408.13133](https://arxiv.org/abs/2408.13133), 2024.
- M. Ang, G. Cai, X. Sun, **B. Wu**. *Integrability of Conformal Loop Ensemble: Imaginary DOZZ Formula and Beyond* (Submitted to JAMS, in revision), [arXiv:2107.01788](https://arxiv.org/abs/2107.01788), 2024.
- T. Liu, S. Ming, X. Sun, **B. Wu**, T. Yang. *Turaev–Viro invariant from the modular double of  $U_q\mathfrak{sl}(2; \mathbb{R})$*  (preprint), [arXiv:2508.05120](https://arxiv.org/abs/2508.05120), 2025.
- G. Cai, H. Liu, **B. Wu**, Z. Zhuang. *Three-point connectivity constant for  $q$ -state Potts spin clusters* (submitted), [arXiv:2510.05850](https://arxiv.org/abs/2510.05850), 2025.

- H. Liu, **B. Wu**, Z. Zhuang. *Mixing rate exponent of planar Fortuin–Kasteleyn percolation* (submitted), [arXiv:2502.09950](https://arxiv.org/abs/2502.09950), 2025.
- M. Ang, G. Cai, X. Sun, **B. Wu**. *SLE Loop Measure and Liouville Quantum Gravity* (submitted), [arXiv:2409.16547](https://arxiv.org/abs/2409.16547), 2024.
- G. Baverez, **B. Wu**. *Higher equations of motion at level 2 in Liouville CFT* (Probability and Mathematical Physics, Revision Submitted), [arXiv:2312.13900](https://arxiv.org/abs/2312.13900), 2023.
- **B. Wu**. *Conformal Bootstrap on the Annulus in Liouville CFT* (Communications in Mathematical Physics, Revision Submitted), [arXiv:2203.11830](https://arxiv.org/abs/2203.11830), 2022.

## Selected Talks

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- *CFT: Algebraic, Topological and Probabilistic approaches in Conformal Field Theory*, Institut Pascal (Sep 2025).  
Talk: “Turaev–Viro invariant from the modular double of  $U_q(\mathfrak{sl}(2; \mathbb{R}))$ .”
- *Intersections of Topological Recursion, Conformal Field Theory and Random Geometry*, SwissMAP Research Station, Les Diablerets (Aug 2025).  
Talk: “Proof of the Delfino–Viti conjecture.”
- *Probabilistic methods in quantum field theory*, Hausdorff Center for Mathematics, University of Bonn (May 2025).  
Talk: “Integrability of Conformal Loop Ensemble: Imaginary DOZZ Formula and Beyond.”
- *Probability in Conformal Field Theory*, Bernoulli Center (EPFL) (Apr 2024).  
Talk: “Proof of the Delfino–Viti conjecture.”
- *1st NYUSH–Peking–Westlake Joint Conference on Probability*, Hangzhou (Mar 2024).  
Talk: “Irreducibility of Liouville theory.”
- *Random Geometry and Statistical Physics*, University of Pennsylvania (Oct 2022).  
Talk: “Conformal loop ensemble and matrix model.”