# Christian Serio

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| CONTACT INFORMATION | Department of Mathematics<br>450 Jane Stanford Way<br>Building 380, 381D<br>Stanford, CA 94305 | cdserio@stanford.edu |

WEBSITE    https://cdserio.github.io

**MATHEMATICAL INTERESTS**

Probability theory and mathematical/statistical physics: scaling limits, universality, Gibbs measures, line ensembles, random polymers, spin systems.

**EDUCATION**

**Stanford University** (2021–present)

PhD Candidate in Mathematics
Advisor: Amir Dembo

**Columbia University** (2017–2021)

BA in Mathematics with Honors, summa cum laude, Phi Beta Kappa

**PUBLICATIONS AND PREPRINTS**

- ❑ "The half-space KPZ line ensemble and its scaling limit," with S. Das. Under review at *Probab. Theory Relat. Fields.*
- ❑ "Scaling limit and tail bounds for a random walk model of SOS level lines," with M. Hegde and Y. H. Kim. Under review at *Forum Math. Sigma.*
- ❑ "Convergence to stationary measures for the half-space log-gamma polymer," with S. Das. *J. Funct. Anal.* 289(4): 110982 (2025).
- ❑ "Uniform convergence of Dyson Ferrari–Spohn diffusions to the Airy line ensemble," with E. Dimitrov. *Ann. Inst. H. Poincaré Probab. Statist.* 61(1): 385-402 (2025).
- ❑ "Scaling limit for line ensembles of random walks with geometric area tilts." *Electron. J. Probab.* 28: 1-14 (2023).
- ❑ "Tightness of discrete Gibbsian line ensembles." *Stoch. Process. Their Appl.* 159: 225-285 (2023).
- ❑ "Tightness of Bernoulli Gibbsian line ensembles," with E. Dimitrov, X. Fang, L. Fesser, C. Teitler, A. Wang, and W. Zhu. November 2021. *Electron. J. Probab.* 26: 1-93 (2021).

**INVITED TALKS**

- ❑ Joint Mathematics Meeting, Special Session on Random Tilings, Random Permutations, and Particle Systems, Washington, DC, January 2026.
- ❑ Los Angeles Probability Forum, November 2025.
- ❑ University of Chicago, Probability Seminar, October 2025.
- ❑ Columbia University, Probability Seminar, October 2025.
- ❑ University of Utah, Stochastics Seminar, March 2025.
- ❑ Stanford University, Probability Seminar, October 2023.
- ❑ Columbia University, Columbia Probability Workshop, May 2023.

**FELLOWSHIPS AND AWARDS**

- ❑ ARCS Scholar Award, Northern California Chapter of the ARCS Foundation. 2024–2026.
- ❑ John Dash Van Buren Jr. Prize in Mathematics, Columbia College, April 2021. Awarded to one student for an outstanding senior thesis, "Tightness of discrete Gibbsian line ensembles."

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| | ❏ Van Amringe Mathematical Prize, Columbia Mathematics Department, May 2020. Awarded to the student deemed most proficient in their class in designated mathematical subjects. |
| ACADEMIC PROGRAMS | ❏ Advances in Probability Theory and Interacting Particle Systems. Harvard University (Aug 26-28, 2024). Participant. |
| | ❏ Virginia Integrable Probability Summer School. University of Virginia (Jul 8-19, 2024). Participant. |
| | ❏ Universality & Integrability in KPZ. Columbia University (Mar 11-15, 2024). Participant. |
| | ❏ Seminar on Stochastic Processes. University of Arizona (Mar 8-11, 2023). Poster presenter. |
| | ❏ Random Media & Large Deviations. Courant Institute (Oct 21-24, 2022). Participant. |
| | ❏ University of Michigan Summer School on Random Matrices (Jun 13-24, 2022). Participant. |
| | ❏ Columbia University Mathematics REU, Summer 2020. Participant in Evgeni Dimitrov's "Asymptotics of Bernoulli Gibbsian line ensembles" research group. |
| | ❏ Columbia University Mathematics REU, Summer 2019. Participant in Kyle Hayden's "Surgery on knots and exotic phenomena in 3- and 4-manifolds" research group. |
| TEACHING EXPERIENCE | ❏ TA at Stanford, MATH 63DM: Modern Mathematics Discrete Methods, Spring 2024, 2025 |
| | ❏ CA at Stanford, MATH 151: Intro to Probability Theory, Winter 2024 |
| | ❏ TA at Stanford, MATH 53: Ordinary Differential Equations, Winter 2023 |
| | ❏ CA at Stanford, MATH 136: Stochastic Processes, Fall 2022 |
| | ❏ CA at Stanford, MATH 158: Basic Probability and Stochastic Processes with Engineering Applications, Spring 2022 |
| | ❏ CA at Stanford, MATH 19: Calculus I, Fall 2021 |
| | ❏ TA at Columbia, MATH UN1201: Calculus III, Summer 2020 |
| | ❏ TA at Columbia, MATH GU4061–4062: Intro to Modern Analysis I & II, Spring 2019–Spring 2021 |
| SERVICE | ❏ Referee for *Probability Theory and Related Fields*, 2025. |
| | ❏ Referee for *Annals of Probability*, 2024. |
| | ❏ Referee for *Forum of Mathematics: Sigma*, 2024. |
| | ❏ Referee for *Probability and Mathematical Physics*, 2024. |
| | ❏ Organizer for Stanford Student Probability Seminar, Fall 2022–Spring 2024. |
| | ❏ Columbia University Mathematics REU, Summer 2021. Graduate student mentor for Carsten Chong's "Hurst index estimation under measurement errors" undergraduate research group. |
| REFERENCES | **Amir Dembo**, Professor, Mathematics Department, Stanford University, adembo@stanford.edu. |
| | **Ivan Corwin**, Professor, Mathematics Department, Columbia University, ic2354@columbia.edu. |
| | **Evgeni Dimitrov**, Assistant Professor, Mathematics Department, University of Southern California, edimitro@usc.edu. |
| | **Alan Hammond**, Professor, Mathematics Department, University of California, Berke- |

ley, `alanmh@stat.berkeley.edu`.

**Amol Aggarwal**, Professor, Mathematics Department, Stanford University, `agga@stanford.edu`.