

Curriculum Vitae: Yujin H. Kim

PERSONAL INFORMATION

U.S. Citizen.
Birthdate: September 1998 (Oakland, CA)
Email: yujin.kim@courant.nyu.edu
Website: <https://yujinhkim.github.io/>

EDUCATION

Courant Institute, NYU, New York, NY. *August 2019 – Present*
Ph.D, Mathematics.
Advised by Eyal Lubetzky and Ofer Zeitouni.

Columbia University, New York, NY. *August 2015 – May 2019*
Bachelor of Arts, Mathematics (with honors).
Senior thesis advised by Ivan Corwin.

PREPRINTS AND PUBLICATIONS

Preprints

1. **Absolute continuity of Gaussian and non-Gaussian multiplicative chaos measures**, with X. Kriechbaum, submitted ([arXiv](#)).
2. **The shape of the front of multidimensional branching Brownian motion**, with O. Zeitouni, submitted ([arXiv](#)).
3. **KPP traveling waves in the half-space**, with J. Berestycki, C. Graham, and B. Mallein, submitted ([arXiv](#)).

Publications

4. **On level line fluctuations of SOS surfaces above a wall**, with P. Caddeo and E. Lubetzky, Forum of Mathematics, Sigma 12 (2024), e91.
5. **The extremal point process of branching Brownian motion in \mathbb{R}^d** , with J. Berestycki, E. Lubetzky, B. Mallein, and O. Zeitouni, Annals of Probability 52 (2024), no. 3, 955-982.
6. **The maximum of branching Brownian motion in \mathbb{R}^d** , with E. Lubetzky and O. Zeitouni, Annals of Applied Probability 33 (2023), no. 2, 1515–1568.
7. **Lower tail of the half-space KPZ Equation**, Stochastic Processes and their Applications 142 (2021) 365-406.
8. **A refined conjecture for the variance of Gaussian primes across sectors**, with R.C. Chen, J. D. Lichtman, S. J. Miller, A. Shubina, S. Sweitzer, E. Waxman, E. Winsor, and J. Yang, Experimental Mathematics, pages 1–21, 05 2020.
9. **Spectral statistics of non-Hermitian random matrix ensembles**, with R. C. Chen, J. D. Lichtman, S. J. Miller, A. Shubina, and S. Sweitzer, Random Matrices: Theory and Applications, 8(2):1950005, 2019.
10. **Anomalous primes and the elliptic Korselt criterion**, with L. Babinkostova, J.C. Bahr, E. Neyman, and G. K. Taylor, Journal of Number Theory, 201:108–123, 2019.
11. **Lower-order biases in the second moments of Dirichlet coefficients in families of L-functions**, with M. Asada, R. C. Chen, E. Fourakis, A. Kwon, J. D. Lichtman, B. Mackall, S. J. Miller, E. Winsor, K. Winsor, J. Yang, and K. Yang, Experimental Mathematics, 0(0):1–26, 2021.
12. **Limiting distributions in generalized Zeckendorf decompositions**, with G. Carty, A. Gueganic, S. J. Miller, A. Shubina, S. Sweitzer, E. Winsor, and J. Yang, The Fibonacci Quarterly, 57(2):109–125, 2019.
13. **On orders of elliptic curves with fixed j -invariants**, with L. Babinkostova, J.C. Bahr, E. Neyman, and G. K. Taylor, Rose-Hulman Undergraduate Mathematics Journal, 19(1): Article 2, 2019.

SELECTED AWARDS

Junior Fellowship from Institut Mittag-Leffler (Fall 2024): for the program [Random Matrices and Scaling Limits](#).

NSF Graduate Research Fellowship (2019).

John Dash Van Buren Jr. Prize in Mathematics (2019): awarded to one student in the graduating class of Columbia University.

TALKS AND PRESENTATIONS

- Institut Mittag-Leffler, Random Matrices and Scaling Limits, Dec. 2024
- Lehigh University-University of Minnesota Joint Probability Seminar, Nov. 2024.
- Stanford University, Probability Seminar, Sep. 2024.
- CRM-ISM Montreal Probability Seminar, Sep. 2024.
- Seoul National University, Probability Seminar, Jun. 2024.
- University of Chicago, Probability and Statistical Physics Seminar, May 2024.
- University of Pennsylvania/Temple University Probability Seminar, Apr. 2024.
- Los Angeles Probability Forum, Apr. 2024.
- Hong Kong University of Science and Technology, Probability Seminar, Jan. 2024.
- KTH Royal Institute of Technology, Probability Seminar, Dec. 2023.
- Northeast Probability Seminar, Nov. 2023.
- University of Maryland, Probability Seminar, Oct. 2023.
- University of Oxford, Probability Seminar, Jun. 2023.
- Columbia University, Columbia Probability Workshop, May 2023.
- Brin Mathematics Research Center, Workshop on Branching Processes and Reaction-Diffusion Equations, Mar. 2023.
- Northeast Probability Seminar, Nov. 2021.
- SLMath (formerly MSRI), Programs Associates' Short Talks, Sep. 2021.
- Stanford University, Student Probability Seminar, Apr. 2021.
- Joint Mathematics Meetings, AMS Special Session on Discrete Neural Networking, Jan. 2018 (w/ Eric Winsor).
- Joint Mathematics Meetings, Undergraduate Poster Session, Jan. 2018.
- Maine-Quebec Number Theory Conference, Oct. 2017 (w/ Shannon Sweitzer).
- Joint Mathematics Meetings, Undergraduate Poster Session, Jan. 2017.
- INTEGERS Conference, Oct. 2016.

ACADEMIC PROGRAMS

[Institut Mittag-Leffler](#) **Fall 2024**
Awarded a Junior Fellowship to participate in the research program "Random Matrices and Scaling Limits" for the Fall 2024 semester.

[Brin Mathematics Research Center](#) **Summer 2024**
Participant of the summer school "PDE and Randomness." Research presented in the lecture series of Ofer Zeitouni.

[Brin Mathematics Research Center](#) **Spring 2023**
Speaker at the workshop "Branching processes and reaction-diffusion equations."

[Centre de Recherches Mathématiques](#) **Spring 2022**
Participant of the workshop "Branching systems, reaction-diffusion equations, and population models." Research presented in the talk "Limits for multidimensional BBM" by Ofer Zeitouni.

[Simons Laufer Mathematical Sciences Institute \(formerly MSRI\)](#) **Fall 2021**

Program associate at the MSRI for “Universality and Integrability in Random Matrix Theory and Interacting Particle Systems.”

[Virginia Integrable Probability Summer School](#) **Summer 2019**
Participant.

[Michigan Summer School on Random Matrices](#) **Summer 2018**
Participant.

[SMALL REU at Williams College](#) **Summer 2017**
Research Experience for Undergraduates
Participant of Steven J. Miller’s “Number Theory and Probability Theory” research group.

[REU CAD at Boise State University](#) **Summer 2016**
Research Experience for Undergraduates
Participant of Liljana Babinkostova’s “Number Theory, Elliptic Curves, and Cryptography” research group.

TEACHING EXPERIENCE

[Courant Institute of Mathematical Sciences, NYU](#) **2022 – Present**
Recitation Leader

- MATH-GA.1420 (Intro. To Math. Analysis II) for Aaditya Rangan *Spring 2024*
- MATH-UA.0397 (Large Deviations) for Gerard Ben Arous *Fall 2023*
- MATH-UA.0233 (Theory of Probability) for Lai-Sang Young *Spring 2023*
- MATH-UA.0233 (Theory of Probability) for Elizabeth Stepp *Fall 2022*

Grader

- MATH-GA.2110 (Linear Algebra I) for Michael Lindsey *Spring 2022*

[Mathematics Department, Columbia University](#) **2016 – 2019**
Teaching Assistant

- MATH GU4155 (Probability Theory) for Julien Dubedat *Spring 2019*
- MATH GU4042 (Modern Algebra II) for Walter Neumann *Spring 2018*
- MATH GU4042 (Modern Algebra II) for Yihang Zhu *Fall 2017*
- MATH UN2010 (Linear Algebra) for Eric Urban *Spring 2017*
- MATH UN1102 (Calculus II) for Noah Arbesfeld *Fall 2016*

SERVICE AND OUTREACH

[The Boost Program](#) **2024–Present**
Volunteer tutor/mentor for The Boost Program, a nonprofit organization that aims to help underrepresented and underprivileged teens excel in and out of the classroom.

[Courant Student Probability Seminar](#) **2021–Present**
Organizer.

[Courant MS and PhD Mentorship Program](#) **2020–Present**
Volunteer mentor for beginning MS and PhD students at Courant. I assist students in connecting with potential advisors, choosing courses that align with their goals, applying to programs and fellowships, and navigating life in NYC on a limited budget.

[Courant Graduate Student and Postdoc Seminar](#) **2021– 2022**
Organizer.

[MSRI Program Associates’ Seminar](#) **2021**
Organizer.

OTHER

Design: Young Adult Winner of the [Reimagining Brooklyn Bridge](#) design competition

(with Shannon Hui and Kwans Kim), an international design competition by the Van Alen Institute and the New York City Council. Check out our proposal/press coverage [here!](#)

Computer Languages: Mathematica, L^AT_EX, C++, Java, Python

Human Languages: English (native), Korean (basic)