Curriculum Vitae: Yujin H. Kim (updated Jun. 2024)

PERSONAL INFORMATION

U.S. Citizen.
Birthdate: September 1998 (Oakland, CA)
Email: yujin.kim@courant.nyu.edu

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. **The shape of the front of multidimensional branching Brownian motion**, *with O. Zeitouni*, submitted (arXiv).
2. **KPP traveling waves in the half-space**, *with J. Berestycki, C. Graham, and B. Mallein*, submitted (arXiv).

Publications

3. **On level line fluctuations of SOS surfaces above a wall**, *with P. Caddeo and E. Lubetzky*, Forum of Mathematics, Sigma, to appear (arXiv).
4. **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(3), 955-982.
5. **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.
6. **Lower tail of the half-space KPZ Equation**, Stochastic Process. Appl. 142 (2021) 365-406.
7. **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.
8. **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.
9. **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.
10. **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.
11. **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.
12. **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

NSF Graduate Research Fellowship (2019-2024).

Henry M. MacCracken Fellowship (2019-2024): full PhD support at New York University for five years.

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

TALKS AND PRESENTATIONS

- 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

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

Centre de Recherches Mathématiques **Spring 2022**
Participant in 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 (SLMath, 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.

OUTREACH AND TEACHING EXPERIENCE

Courant Student Probability Seminar **2021–Present**
Organizer

Courant Graduate Student and Postdoc Seminar **2021– 2022**
Organizer.

MSRI Program Associates' Seminar **2021**
Organizer.

Courant Institute of Mathematical Sciences **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*

Courant Institute of Mathematical Sciences **2022 – Present**
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*

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, LaTeX, C++, Java, Python
Human Languages: English (native), Korean (basic)