

Curriculum Vitae: Yujin H. Kim (updated Mar. 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.

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. **On level line fluctuations of SOS surfaces above a wall**, with *P. Caddeo* and *E. Lubetzky*, submitted ([arXiv](#)).
3. **KPP traveling waves in the half-space**, with *J. Berestycki*, *C. Graham*, and *B. Mallein*, submitted ([arXiv](#)).

Publications

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*, to appear ([arXiv](#)).
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

- 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
	<i>Research Experience for Undergraduates</i>	
	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
	<i>Recitation Leader</i>	
	- MATH-GA.1420 (Intro. To Math Analysis II) for Aaditya Rangan	<i>Spring 2024</i>
	- MATH-UA.0397 (Large Deviations) for Gerard Ben Arous	<i>Fall 2023</i>
	- MATH-UA.0233 (Theory of Probability) for Lai-Sang Young	<i>Spring 2023</i>
	- MATH-UA.0233 (Theory of Probability) for Elizabeth Stepp	<i>Fall 2022</i>
	Courant Institute of Mathematical Sciences	2022 – Present
	<i>Grader</i>	
	- MATH-GA.2110 (Linear Algebra I) for Michael Lindsey	<i>Spring 2022</i>
	Mathematics Department, Columbia University	2016 – 2019
	<i>Teaching Assistant</i>	
	- MATH GU4155 (Probability Theory) for Julien Dubedat	<i>Spring 2019</i>
	- MATH GU4042 (Modern Algebra II) for Walter Neumann	<i>Spring 2018</i>
	- MATH GU4042 (Modern Algebra II) for Yihang Zhu	<i>Fall 2017</i>
	- MATH UN2010 (Linear Algebra) for Eric Urban	<i>Spring 2017</i>
	- MATH UN1102 (Calculus II) for Noah Arbesfeld	<i>Fall 2016</i>
	Foothill Math Tournament	2014 – 2019
	<i>Founder, Director</i>	
	- Founded an annual math tournament at Foothill High School in hopes of raising math enthusiasm on campus.	
	- Wrote problems, managed advertisement and publicity teams, and secured sponsorships from Wolfram Research, Texas Instruments, and Art of Problem Solving.	
	Pi Math Contest	2016
	<i>Test Committee</i>	
	Problem writer for the Pi Math Contest .	
	AlphaStar Academy	2015
	<i>Instructor</i>	
	Taught courses in olympiad-style math for the AlphaStar Academy math program .	
	Thomas Hart Middle School Mathcounts Program	2013 – 2015
	<i>Volunteer, Head Coach</i>	
	Head coach of a middle school Mathcounts program. Created an original curriculum, wrote handouts and problem sets, and lectured weekly.	
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)