Curriculum Vitae: Yujin H Kim (updated March 22, 2023)

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 critical KPP traveling wave in the half-space**, *with J. Berestycki, C. Graham, B. Mallein*, in preparation.

2. **The extremal point process of branching Brownian motion in $\mathbb{R}^d$**, *with J. Berestycki, E. Lubetzky, B. Mallein, and O. Zeitouni*, submitted (arXiv).

Publications

3. **The maximum of branching Brownian motion in $\mathbb{R}^d$**, *with E. Lubetzky and O. Zeitouni*, Annals of Applied Probability, to appear (arXiv).

4. **Lower tail of the half-space KPZ Equation**, Stochastic Process. Appl. 142 (2021) 365-406.

5. **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.

6. **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.

7. **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.

8. **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.

9. **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.

10. **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.

Joint Mathematics Meetings Outstanding Presentation (2017, 2018).

TALKS AND PRESENTA-TIONS	**The F-KPP Equation in the Half-Plane**	**2023**

TALKS AND PRESENTA-TIONS

The F-KPP Equation in the Half-Plane   **2023**
- *Brin MRC Workshop: Branching Processes and Reaction-Diffusion Equations* (in lieu of J. Berestcyki)

The Extrema of Branching Brownian Motion in $\mathbb{R}^d$ **2021**
- *Northeast Probability Seminar*

The Maximum of Branching Brownian Motion in $\mathbb{R}^d$
- *MSRI Program Associates' Short Talks*   **2021**
- *Stanford Student Probability Seminar*   **2021**

The Lower Tail of the Half-Space KPZ Equtaion
- *Courant Student Probability Seminar*   **2021**

Limiting Distributions of Generalized b-bin Zeckendorf Decompositions
- *AMS Special Session on Discrete Neural Networking*   **2018**
at the Joint Mathematics Meetings (with Eric Winsor)
- *Joint Mathematics Meetings Undergraduate Poster Session*   **2018**
Outstanding Presentation Winner

Variance of Gaussian Primes Across Sectors and the Hecke L-Function Ratios Conjecture
- *Maine-Quebec Number Theory Conference* (with Shannon Sweitzer)   **2017**

Anomalous Primes and the Elliptic Korselt Criterion
- *Joint Mathematics Meetings, undergraduate poster session*   **2017**
Outstanding Presentation Winner
- *INTEGERS Conference 2016*   **2016**
- *Idaho Conference on Undergraduate Research, poster session*   **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.

Mathematical Sciences Research Institute (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**

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/Grader
- MATH-UA.0233 (Theory of Probability) for Lai-Sang Young   *Spring 2023*
- MATH-UA.0233 (Theory of Probability) for Elizabeth Stepp   *Fall 2022*
- 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*

Referee   **2017 - Present**
Electronic Journal of Probability, Journal of Number Theory.

Foothill Math Tournament   **2014 – 2019**
Founder, Director
- 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**
Test Committee
Problem writer for the Pi Math Contest.

AlphaStar Academy   **2015**
Instructor
Taught courses in olympiad-style math for the AlphaStar Academy math program.

Thomas Hart Middle School Mathcounts Program   **2013 – 2015**
Volunteer, Head Coach
Head coach of a middle school Mathcounts program. Created an original curriculum, wrote handouts and problem sets, and lectured weekly.

OTHER INTERESTS

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), French (basic), Korean (basic)