

Curriculum Vitae: Yujin H Kim

PERSONAL INFORMATION

U.S. Citizen.
Birthdate: September 13, 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 extremal point process of branching Brownian motion in \mathbb{R}^d , with J. Berestycki, E. Lubetzky, B. Mallein, and O. Zeitouni**, submitted ([arXiv](#)).

Publications

2. **The maximum of branching Brownian motion in \mathbb{R}^d , with E. Lubetzky and O. Zeitouni**, *Annals of Applied Probability*, to appear ([arXiv](#)).
3. **Lower tail of the half-space KPZ Equation**, *Stochastic Process. Appl.* 142 (2021) 365-406.
4. **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.
5. **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.
6. **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.
7. **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*, to appear ([arXiv](#)).
8. **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.
9. **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 PRESENTATIONS

- The Extrema of Branching Brownian Motion in \mathbb{R}^d** **2021**
 - *Northeast Probability Seminar*
- The Maximum of Branching Brownian Motion in \mathbb{R}^d**
 - *Stanford Student Probability Seminar* **2021**
 - *MSRI Program Associates' Short Talks* **2021**
- The Lower Tail of the Half-Space KPZ Equation** **2021**
 - *Courant Student Probability Seminar*
- Limiting Distributions of Generalized b -bin Zeckendorf Decompositions** **2018**
 - *AMS Special Session on Discrete Neural Networking 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** **2017**
 - *Maine-Quebec Number Theory Conference* (with Shannon Sweitzer)
- Anomalous Primes and the Elliptic Korselt Criterion** **2017**
 - *Joint Mathematics Meetings Undergraduate Poster Session*
 Outstanding Presentation Winner
 - *INTEGERS Conference 2016* **2016**
 - *Idaho Conference on Undergraduate Research Poster Session* **2016**

ACADEMIC PROGRAMS

- Centre de Recherches Mathématiques.** **Spring 2022**
http://www.crm.umontreal.ca/2022/Systemes22/index_e.php
 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** **2019**
<http://frg.int-prob.org/vipss2019/>
 Participant.
- Michigan Summer School on Random Matrices** **2018**
mcaim.math.lsa.umich.edu/event/2018-summer-school-on-random-matrices/
 Participant.
- SMALL REU at Williams College** **2017**
Research Experience for Undergraduates
 Participant of Steven J. Miller’s “Number Theory and Probability Theory” research group.
- REU CAD at Boise State University** **2016**
Research Experience for Undergraduates
 Participant of Liljana Babinkostova’s “Number Theory, Elliptic Curves, and Cryptography” research group.

OUTREACH AND TEACHING EXPERIENCE

- Courant Graduate Student and Postdoc Seminar** **2021– Present**
 Organizer.

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

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

Foothill Math Tournament **2014 – Present**
Founder, Director
- Founded an annual math tournament at [Foothill High School](#) in hopes of raising math enthusiasm on campus, sponsored by companies such as Wolfram Research, Texas Instruments, and Art of Problem Solving.
- Wrote hundreds of problems, managed advertisement and publicity teams, contacted companies for sponsorships and funding.

Courant Institute of Mathematical Sciences **2022 – Present**
Grader
- MATH-GA.2110 (Linear Algebra I) for Michael Lindsey *Spring 2022*

Mathematics Department, Columbia University **2016 – Present**
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.

Pi Math Contest **2016**
Test Committee
Problem writer for the [Pi Math Contest](#).

Thomas Hart Middle School Mathcounts Program **2013 – 2015**
Volunteer, Head Coach
Head coach for three years of an award-winning middle school Mathcounts program. Created an original curriculum for the program, wrote handouts and problem sets, and taught weekly for three years.

AlphaStar Academy **2015**
Instructor
Taught courses in olympiad-style math for the [AlphaStar Academy math program](#).

Olympiad Math Tutoring **2015 - Present**
Private Tutor

**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, SageMath, L^AT_EX, C++, Java, Python

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