

Hyunchul (Hunter) Park

Curriculum Vitae

SUNY New Paltz
Department of Mathematics
Faculty Office Building S1, 1 Hawk Drive
New Paltz, NY 12561
✉ parkh@newpaltz.edu
🌐 <https://sites.google.com/view/hpark/home>

Employment

- Associate Professor**, *SUNY New Paltz*, 2022–present.
Assistant Professor, *SUNY New Paltz*, 2016–2022.
Visiting Assistant Professor, *College of William and Mary*, 2013–2016.

Education

- Ph.D. in Mathematics**, *University of Illinois at Urbana-Champaign*, 2013, Advisor: Renming Song.
M.S. in Mathematics, *Yonsei University*, 2006, Advisor: Hyoung June Ko.
B.S. in Mathematics, *Yonsei University*, 2003.

Publications

- Spectral heat content on a class of fractal sets for subordinate killed Brownian motions**,
with Yimin Xiao, **Accepted to *Mathematische Nachrichten***, (2022).
- Large-time and small-time behaviors of the spectral heat content for time-changed stable processes**,
with Kei Kobayashi, **Accepted to *Electronic Communications in Probability***, (2022).
- Spectral heat content for time-changed killed Brownian motions**,
with Kei Kobayashi, **Accepted to *Journal of Theoretical Probability***, (2022).
- Spectral heat content for α -stable processes in $C^{1,1}$ open sets**, with Renming Song,
Electronic Journal of Probability, Vol. 27, paper no. 22, 1–19, (2022).
- Higher order terms of spectral heat content for killed subordinate and subordinate killed Brownian motions related to symmetric α -stable processes in \mathbb{R}** ,
Potential Analysis, 57, 283–303, (2022).
- Uniform dimension results for the inverse images of symmetric Lévy processes**,
with Yimin Xiao and Xiaochuan Yang,
Journal of Theoretical Probability, Volume 33, 2213–2232, (2020).
- Small time asymptotics of spectral heat contents for subordinate killed Brownian motions related to isotropic α -stable processes**, with Renming Song,
Bulletin of London Mathematical Society, Volume 51, Issue 2, 371–384, (2019).
- Spectral heat content for Lévy processes**, with Tomasz Grzywny and Renming Song,

Mathematische Nachrichten, Volume 292, Issue 4, 805–825, (2019).

Fatou theorem for subordinate Brownian motions with Gaussian components on $C^{1,1}$ open sets,

Illinois Journal of Mathematics, Volume 60, Number 3-4, 761–790, (2016).

Trace estimates for relativistic stable processes, with Renming Song,

Potential Analysis, 41-(4), 1273–1291, (2014).

Sharp estimates on the Green functions of perturbations of subordinate Brownian motions in bounded κ -fat open sets, with Panki Kim and Renming Song,

Potential Analysis, 38-(1), 319–344, (2013).

Teaching

SUNY New Paltz

Fall 2022 **Applied Mathematics I, Applied Probability and Statistics (2 Sections).**

Spring 2022 **Applied Probability and Statistics (2 Sections), Markov Chains, Seminar Talk Experience.**

Fall 2021 **Linear Algebra, Probability and Statistics, Real Analysis (Measure Theory).**

Spring 2021 **Applied Probability and Statistics (2 sections), Probability and Statistics, Independent Study; Measure Theory.**

Fall 2020 **Data Science with R, Applied Probability and Statistics (2 sections), Seminar Talk Experience.**

Spring 2020 **Mathematical Statistics, ODE (2 sections).**

Fall 2019 **Real Analysis, Complex Analysis.**

Spring 2019 **Foundations of Analysis, Intermediate Analysis, Probability and Statistics, Independent Study; Markov Chains.**

Fall 2018 **Foundations of Analysis, Applied Mathematics 1, Probability and Statistics.**

Spring 2018 **Calculus 2, Probability and Statistics, Probability Theory for Actuaries.**

Fall 2017 **ODE (2 sections), Actuarial Mathematics.**

Spring 2017 **Calculus 3, Engineering Statistics (2 sections), Research in Mathematics; Actuarial Study for P exam.**

Fall 2016 **Probability and Statistics, Engineering Statistics.**

College of William and Mary

2013-2016 **Taught undergraduate calculus sequences, linear algebra, probability, statistics, complex analysis, and measure theory (3:2 teaching load per year).**

University of Illinois at Urbana-Champaign

2006-2013 **Taught various undergraduate courses (mostly for calculus sequences) every semester including serving for a head TA for two semesters and teaching a large business calculus course (150 students) .**

Yonsei University

2003-2006 Taught various undergraduate calculus courses including serving for a calculus head TA (over 20 sections with more than 1000 students).

Undergraduate Research Experience

SUNY New Paltz

Spring 2021 Independent Study on Measure Theory (with Kieran Cavanagh), [Poster](#).

Spring 2019 Independent Study on Discrete Time Markov Chains using *Python* (with Conor O’Riordan), [Poster](#).

Spring 2017 Research in Mathematics about actuarial studies (P exam) with undergraduate students.

Awards and Fellowships

SUNY New Paltz

April 2022 Individual Development Award, UUP SUNY New Paltz (\$1500).

January 2022 AMS Grants for PUI Faculty Travel to JMM (\$2100), Postponed due to COVID-19.

2019-2021 Research and Creative Projects Awards for 2019-2020 and 2020-2021, SUNY New Paltz, \$1350 for 2019-2020 and \$650 for 2020-2021.

2019, 2021 AYURE (Academic Year Undergraduate Research Experience).

2018-2020 Discretionary Salary Awards, Awarded for 2018, 2019, and 2020 academic years.

2016 Startup Grant.

College of William and Mary

2013-2016 Professional Development Funds, \$2,000 per academic year.

University of Illinois at Urbana-Champaign

Jan 2013 Department Travel Funding for Joint Mathematics Meetings in San Diego, CA.

2011-2013 List of teachers ranked as excellent, UIUC, Fall 2011, Summer 2012, Spring 2013.

May 2009 Graduate Teacher Certificate.

Summer 2008 Research Experience for Graduate Students Grants, supervised by Professor Renming Song.

Yonsei University

2004-2006 Brain Korea 21 scholarship.

Academic Talks

- June '22 **Probability Seminar.**
Incheon National University, South Korea
- June '22 **Probability Seminar.**
Korea University, South Korea
- June '22 **Analysis Seminar, Lectures on Brownian Motions and Stochastic Calculus,**
[Lecture Note.](#)
Yonsei University, South Korea
- May '22 **Probability Seminar, [Slide.](#)**
Seoul National University, South Korea
- July '21 **Bernoulli-IMS 10th World Congress in Probability and Statistics ([Slide,](#)
[Talk](#)).**
- February '21 **Probability Seminar.**
Auburn University, AL
- August '20 **Bernoulli-IMS One World Symposium 2020 ([Slide,](#) [Talk](#)).**
- October '19 **Probability Seminar.**
UIUC, IL
- May '19 **Analysis Seminar.**
Yonsei University, South Korea
- May '19 **Probability Seminar.**
Korea University, South Korea
- May '19 **Probability Seminar.**
Seoul National University, South Korea
- April '19 **Probability Seminar.**
UIUC, IL
- Nov '18 **17th Northeast Probability Seminary 2018.**
New York University, NY
- June '18 **Lectures for graduate students.**
Yonsei University, South Korea
- March '18 **Probability Seminar.**
Michigan State University, MI
- Feb '18 **Analysis and Probability Seminar.**
University of Connecticut, CT
- Oct '17 **Probability Seminar.**
University of Delaware, DE
- Sep '17 **Probability Seminar.**
UIUC, IL
- June '17 **Colloquium talk.**
Incheon National University, South Korea
- June '17 **Colloquium talk.**
Yonsei University, South Korea

- May '17 **Probability Seminar.**
Seoul National University, South Korea
- May '17 **Probability Seminars (three talks).**
Korea Institute for Advanced Study, South Korea
- March '17 **Math & Cookies.**
SUNY New Paltz, NY
- Feb '17 **Analysis Seminar.**
Binghamton University, NY
- Feb '17 **Undergraduate Math Club Talks.**
Binghamton University, NY
- Nov '16 **Math & Cookies.**
SUNY New Paltz, NY
- June '16 **3rd Conference on Nonlocal Operators and Partial Differential Equations.**
Będlewo Poland
- March '16 **Seminar on Stochastic Processes.**
University of Maryland, College Park, MD
- April '15 **Colloquium Talk.**
American University, Washington, D.C.
- Jan '15 **AMS Special session on Heavy Tailed Probability Distributions and Their Applications.**
San Antonio, TX
- March '14 **Seminar on Stochastic Processes.**
UC San Diego, CA
- March '14 **Probability Seminar.**
UIUC, IL
- Jan '14 **AMS Special session on Heavy Tailed Probability Distributions and Their Applications.**
Baltimore, MD
- Oct '13 **Probability Seminar.**
UIUC, IL
- Sep '13 **Colloquium Talk.**
College of William and Mary, VA
- July '13 **36th Conference on Stochastic Processes and Their Applications.**
University of Colorado Boulder, CO
- Feb '13 **Probability Seminar.**
UIUC, IL
- Jan '13 **Joint Mathematics Meeting.**
San Diego, CA
- June '11 **Analysis Seminar (two talks).**
Yonsei University, South Korea
- March '11 **Seminar on Stochastic Processes.**
UC Irvine, CA

July '10 **6th Cornell Probability Summer School.**
Cornell University, NY

April '10 **Graduate Student Probability Seminar.**
UIUC, IL

Sep '09 **Graduate Student Probability Seminar.**
UIUC, IL

Referee Services

Referee for:

Bulletin of London Mathematical Society, Journal of Geometric Analysis, Journal of Mathematical Analysis, Association for Women in Mathematics, Statistics and Probability Letters.

AMS Reviewer for:

Journal of Theoretical Probability, Michigan Mathematical Journal, Osaka Journal of Mathematics, Stochastic Processes and their Applications.

Selected Professional Services

SUNY New Paltz

Fall 2021 **Interviewer for Finalists for NYSMPS (New York State Master Teacher Program).**

Summer 2021 **Lectures for NYSMTP (New York State Master Teacher Program).**

2020-2022 **Representative on the Scholarships & Awards committee.**

2019-2021 **Department RTP (Reappointment, Tenure & Promotion) Committee.**

2018 **Serve on a search committee for two tenure-track positions in mathematics.**

Fall 2018- **Organizer for Math and Cookies (undergraduate research talk series).**

Fall 2016 **Mentor for undergraduate mathematics contests (Putnam Competition).**

College of William and Mary

Fall 2014 **Mentor for undergraduate mathematics contests (Virginia Tech Regional Mathematics Contest and Putnam Competition).**

University of Illinois at Urbana-Champaign

Fall 2009 **Organizer for Graduate Student Probability Seminar, UIUC.**

Professional Certificates

August 2017 **Exam FM for the Society of Actuaries and the Casualty Actuarial Society.**

January 2017 **Exam P for the Society of Actuaries and the Casualty Actuarial Society.**

Last updated: July 27, 2022

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