SUNGWON AHN

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EDUCATION

Ph.D. in Mathematics

Purdue University, West Lafayette, IN   Aug, 2016

- Thesis: Oscillation of Quenched Slowdown Asymptotics of Random Walks in Random Environment
- Adviser: Jonathan Peterson

M.S. Mathematics Specialized in Computational Finance

Purdue University, West Lafayette, IN   Aug, 2016

B.S. Mathematics/Actuarial Science/Finance

Drake University, Des Moines, IA   Dec, 2007

Received ASA(Associate of Society of Actuaries)   Jun 2018

RESEARCH INTEREST

Probability Theory and Discrete Stochastic Process - Random Walk in Random Environment, Interacting Particle Systems.

EMPLOYMENT

Associate Professor   Aug 2022-Current

Roosevelt University, Chicago, IL

Assistant Professor   Aug 2016-Aug 2022

Roosevelt University, Chicago, IL

Teaching Assistant   Aug 2009-Aug 2016

Purdue University, West Lafayette, IN

Defined Benefit Analyst   May 2006-Aug 2007

Principal Financial Group, Des Moines, IA

PUBLICATION

1. Sungwon Ahn and Fang Yang. "Modeling flood risk impact on real estate portfolios," In: *Risk Management and Insurance Review*, American Risk and Insurance Association, vol. 28(3), pages 448-470 (2025) DOI: 10.1111/rmir.70019

2. S. Ahn, J. Richey, L. Reeves, M. Junge, H. Lyu, and D. Sivakoff. "Diffusion-limited annihilating-coalescing systems", In: *Electronic Journal of Probability*, 30, 1-20. (2025) arXiv:2305.19333

3. Sungwon Ahn and Fang Yang. "Integrating Real-World Data into Actuarial Science Teaching: Examples and Challenges". In: *PRIMUS*, 1–18. https://doi.org/10.1080/10511970.2024.2414448 (2024)

4. Sungwon Ahn and Jonathon Peterson. "Optimal rates of Convergence for quenched central limit theorem rates of one dimensional random walk in random environments", In: *Markov Processes Relat. Fields* 28, 215-243 (2022) arXiv:2001.11522

5. Sungwon Ahn. "Teaching through COVID-19: Undergraduate calculus project on the number of COVID-19 cases". In: *Science Education and Civic Engagement: An International Journal*, Vol 12 Issue 2, 58-59 (2020)

6. Sungwon Ahn and Jonathon Peterson. "Quenched central limit theorem rates of convergence for one dimensional random walks in random environments". In: *Bernoulli Journal*, 25(2), 1386–1411 (2019) arXiv:1704.03020

7. Sungwon Ahn and Jonathon Peterson. "Oscillations of quenched slowdown asymptotic for ballistic one dimensional random walk in a random environment". In: *Electronic Journal of Probability*, 21, no. 16, 1–27. (2016) arXiv:1509.00445

WORKING PAPER

1. Moderate deviations and related problems for the Stable Saussage. (with H. Park), *in progress*

GRANTS

· Spencer Education Foundation Inc ($1000)	Nov, 2024
Risk Management and Insurance Teaching Cases (ARIA-RITS)	
· SOA Education Institution Grant ($5000)	Sep, 2018

PRESENTATION

· Actuarial Teaching Conference, Nashville	Jul, 2024
Integrating Real-World Data into Actuarial Science Capstone and Case Study Projects: Examples, Benefits, and Challenges	
· Mathematics Colloquium, Roosevelt University	Mar, 2024
Regression and Time Series Case Study Projects with Industry Partner: Examples, Benefits, and Challenges	
· Mathematics Colloquium, Roosevelt University	Oct, 2023
Mass Transport Principle and Interacting Particle System	
· Mathematics Colloquium, Roosevelt University	Oct, 2021
Title: Optimal Convergence Rate of Central Limit Theorem in One dimensional Random Walk in Random Environment	
· Mathematics Colloquium, Roosevelt University	Mar, 2018
Title: Quenched central limit theorem rates of convergence for one dimensional random walks in random environments	
· Pie Day Talk, Roosevelt University	Mar, 2017
· Mathematics Colloquium, Roosevelt University	Sep, 2016
· Probability Seminar, Purdue University	Sep, 2015
· Graduate Research Day, Purdue University	Nov, 2015

Invited Talk

· AMS Sectional Meeting special session on "Special Session on Actuarial Mathematics and Actuarial Education",	
Tulane University, New Orleans, LA, USA	Oct. 2025
Title: Modeling Flood Risk Impact on Real Estate Portfolio	
· Probability Colloquium, Nazarbayev University, Kazakhstan	Dec. 2019
Title: Random Walks in Random Environment on Z	

· Actuarial Seminar, West Virginia University, USA   Mar. 2019
  Title: Student Projects on Predictive Analytics

· AMS Sectional Meeting special session on "Effective Behavior in Random Environments",
  Northestern University, MA, USA   Apr, 2018
  Title: Quenched central limit theorem rates of convergence for one dimensional random walks in random environments

· Actuarial Seminar, SUNY New Paltz, USA   Nov. 2017
  Title: Essential Skills for Growing Role of Actuary

  Contribution Paper Talk
· Joint Mathematics Meeting, San Diego   Jan, 2018
  Title: Quenched central limit theorem rates of convergence for one dimensional random walks in random environments

SERVICE ACTIVITIES TO THE FIELD OF STUDY

Journal review	Mathematical Review (2019-Current)
Journals refereed	Brazilian Journal of Probability and Statistics
	Electronic Communications in Probability
Co-organizer	Joint Mathematics Meeting, San Diego (Jan 2018)
	Panel: Assessing and Addressing Diverse Mathematical Background

ATTENDED WORKSHOPS AND CONFERENCES

· Park City Mathematics Institute (PCMI) Undergraduate Faculty Program   Summer 2025
· Actuarial Research Conference   Summer 2023
· MAA Open Math SIMIODE Workshop   Summer 2022
· Mathematical Research Communities (Topic: Stochastic Spatial Models)   June 2019
· Inquiry Based Learning Workshop, Depaul University, IL   Jul, 2018
· MAA Mathfest   August 2017, 2018, 2021
· Actuarial Teaching Conference   Summer 2017, 2022, 2024
· Seminar on Stochastic Processes, University of Virginia, NC   Mar, 2017
· Illinois Section of the MAA Annual Meeting   Spring 2017, 2021
· Science Education for New Civic Engagement (Cencer) Summer Institute,   2016
· Summer School in Probability, Northwestern University, IL   Jul 2016
· Midwest Probability Colloquium, Nortwestern University, IL   2014, 2015, 2016

PROFESSIONAL ORGANIZATION

Member	American Mathematical Sciety
	Mathematical Association of America
	Project NExT (Blue '17)

COURSES TAUGHT AT ROOSEVELT

Developmental Mathematics (Math 95/96), Spring/Fall 17, Spring 18

Quantitative Literacy (Math 110), Fall 21

Calculus I (Math 231), Fall 18-24

Calculus II (Math 232), Spring/Fall 20-25

Regression & Time Series (Math 349/449), Fall 17-24

Actuarial Mathematics I (Math 369), Spring 18

Numerical Analysis(Math 430), Fall 16, 18

ANOVA & Experimental Design (Math 457), Fall 17, 19

Actuarial Science Seminar: Exam P (Math 480-P), Spring 17, 19, 23, 25

Actuarial Science Seminar: Exam FM (Math 480-FM), Spring 17-19, 22, 24

Linear Algebra (Math 246), Fall 19

Loss Model (Math 376), Spring 19

Mathematical Statistics (Math/ACSC 348), Spring 21

Topic: Applied Predictive Modeling (Math 489), Spring 18

Independent Study: Partial Differential Equation (Math495), Spring 19

CONTRIBUTION TO THE UNIVERSITY AND COMMUNITY

Department Service

· Course advisor of undergraduate actuarial science students	Spring 2017-Present
· Advisor of Math/Actuarial Science Club	Fall 2018-Present
· Co-organizer of Actuarial Science Career Fair	Fall 2016-Present
· Member of Undergraduate Council	Spring 2024-Present

College Service Service

· Member of University Senate	Fall 2019-Spring 2022
· Member of Undergraduate Council	Spring 2020-Spring 2022