ERIN BECKMAN

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WEBSITE beckmanerin.wixsite.com/math

RESEARCH INTERESTS Interacting Particle Systems, Probability, Branching Processes, Partial Differential Equations, Stochastic Processes, Mathematical Biology

EDUCATION

Duke University *2013-2019*

Ph.D. in Mathematics
Advisor: James Nolen
Dissertation: Asymptotic behavior of certain branching processes

The University of Texas at Austin *2008-2012*

B.S. in Mathematics
B.S. in Chemistry
Undergraduate Thesis: Equilibrium and Non-Equilibrium Molecular Absorption: A study of the Ising model and the infinite parking limit problem
Undergraduate Advisors: John Stanton and Lorenzo Sadun

APPOINTMENTS

Concordia University *Sept. 2019-Present*

Postdoctoral Fellow, Dept. of Mathematics and Statistics

Lone Star Community College *Jan. 2013-May 2013*

Adjunct Faculty, Developmental Math

PUBLICATIONS

Chase-escape with death on trees

Erin Beckman, Keisha Cook, Nicole Eikmeier, Sarai Hernandez-Torres, Matthew Junge
Submitted 2020

The frog model on trees with drift

Erin Beckman, Natalie Frank, Yufeng Jiang*, Matthew Junge, Si Tang
Electronic Communications in Probability, Vol. 24 (paper no. 26): 1-10, 2019

Asymptotic behavior of the Brownian frog model

Erin Beckman, Emily Dinan, Rick Durrett, Ran Huo, Matthew Junge
Electronic Journal of Probability, Vol. 23 (paper no. 104): 1-19, 2018

Block size in Geometric(p)-biased permutations

Irina Cristali*, Vinit Ranjan*, Jake Steinberg*, Erin Beckman, Rick Durrett, Matthew Junge, James Nolen
Electronic Communications in Probability, Vol. 23 (paper no. 80): 1-10, 2018

TALKS

CRM Probability Seminar *September 2019*

Montreal, QC

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* denotes undergraduate co-author

SUMIRFAS *July 2019*
College Station, TX

JMM Contributed Talk in MAA Probability and Statistics Session *January 2019*
Baltimore, MD

Duke Graduate-faculty Seminar *November 2018*
Durham, NC

Duke Probability Seminar *October 2017*
Durham, NC

Triangle Area Graduate Mathematics Conference *April 2017*
Durham, NC

Duke Graduate-faculty Seminar *April 2016*
Durham, NC

North Carolina State Univ., SAMSI IMSM Workshop *July 2015*
Raleigh, NC

MBI at Ohio State Univ., Summer Graduate Workshop *July 2014*
Columbus, OH

TEACHING AND MENTORING

COURSES TAUGHT - INSTRUCTOR OF RECORD

Linear Algebra and Probability, McGill University *Fall 2020*
Calculus II, McGill University *Winter 2020*
Calculus II, Duke University *Spring 2019*
Intro Calculus II with Applications, Duke University *Fall 2015, 2017, 2018*
Elementary Probability, Duke University *Fall 2016*
Pre-Algebra, Lone Star Community College *Spring 2013*
Introductory Algebra, Lone Star Community College *Spring 2013*

COURSES TAUGHT - LAB INSTRUCTOR

Lab Calculus and Functions II, Duke University *Fall 2014*

RESEARCH MENTORING

Cégep Supervision Program *Winter 2020*

Developed and mentored two Cégep research projects. Each student summarized and presented their work at the end of the semester.

Projects mentored:

- Yehia Sabaa (Vanier)
  Proj. Title: Using Markov chains to generate a simply normal number
  - report published in Varnier SIGMA Science Journal
- Philippe Tsoy (Vanier)
  Proj. Title: Code Breaking with Markov Chains

Summer Workshop in Mathematics Instructor *Summer 2019*

Taught a six-lecture minicourse on Markov Chains and designed and mentored four projects for high school women during the nine-day workshop.

Projects mentored:

- Code Breaking
- Modeling Epidemics
- Random Walks and Random Motion
- Markov Chains in Biology

DOmath Undergraduate Research *Summer 2017*

Co-mentored three Duke undergraduate students during a two month summer research project. The project resulted in the paper *Block size in Geometric(p)-biased permutations*.

Mathbio RTG Undergraduate Summer Workshop *Summer 2014, 2015, 2017*

For three summers, I developed research project ideas and mentored undergraduate students during a 9 day workshop at Duke.

Project Mentored:

- Andrea Carmack (Salisbury University) *Summer 2017*
  Proj. Title: Effects of Random Mutation in Cancer
- Chindu Mohanakumar (University of Florida) *Summer 2015*
  and Ruby Kim (Pomona College)
  Proj. Title: Modeling Central Sleep Apnea and SIDS
- Demara Austin (St. Mary's College of MD) *Summer 2014*
  Proj. Title: Pharmacology: Using Symmetric Groups to Study Racemic Mixture Drugs

Projects Co-mentored:

- Allison Granger (Allegheny College) *Summer 2017*
  Proj. Title: Mathematically Modeling Ovulation
- Shakuan Frankson (Howard University) *Summer 2017*
  Proj. Title: Type II Diabetes

TEACHING CERTIFICATE

Certificate in College Teaching *Spring 2019*

Duke University
Requirements satisfied:

- Topics and Careers in Higher Education (GS 770) *Fall 2017*
- Peer Review Teaching Triangles program *Fall 2017*
- Teaching College Mathematics (Math 771S) *Fall 2013*

WORKSHOP PARTICIPATION

MSRI Graduate Summer School *July 2017*

Cortona, Italy

SAMSI Industrial Math/Stat Modeling Workshop *July 2015*
North Carolina State University

MBI-CAMBAM-NIMBioS Summer Graduate Program *July 2014*
Mathematical Biosciences Institute, Ohio State University

SERVICE

JMM MRC Special Session Organizer *January 2020*

AWARDS

L.P. Smith Award for Teaching Excellence, Duke University *2017-2018*

PROFESSIONAL MEMBERSHIPS

Society for Industrial and Applied Mathematics
American Mathematical Society
Institute of Mathematical Statistics