

David Pittman

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Research Interests

My research interests lie broadly in the area of stochastic processes. I have done some research in the theory of Markov chains using Matrix-Analytic Methods, particularly using the Random-Product Technique developed by Patrick Buckingham and Brian Fralix. Most recently, I have studied Pólya urn processes (introducing a generalized notation of the Triangular Urn process developed by Chen and Mahmoud) and Generalized Pólya processes (developing multivariate extensions and finding their Laplace functionals with a surprisingly elementary method).

Education

- **Doctor of Philosophy** May 2027
Mathematical Sciences
School of Mathematical and Statistical Sciences
Clemson University (Advisor: Brian Fralix)
Clemson, South Carolina, United States of America
- **Bachelor's Degree** December 2021
Mathematics
College of Arts and Science, Division of Mathematical Sciences
Bob Jones University
Greenville, South Carolina, United States of America

Publications

- Submitted/Under Revision
 - Pittman, D. and Fralix B.
“A Fresh Look at Calculating the Stationary Distribution of a Markov Chain, with Applications.” Under revision.
- To be Submitted
 - Pittman, D., Fralix B., and Kharoufey J.
“Multivariate Generalized Polya Processes and Related Models,” joint work with Brian Fralix. To be submitted.
 - Pittman, D. and Fralix B.
“On the time-dependent behavior of various types of continuous-time Polya-like random walks”. To be submitted.

Research Presentations

All talks listed were given by D. Pittman

- Invited Talks
 - Pittman, D. and Fralix B.
“A New Look at the Pólya Urn Process”
Joint Mathematics Meetings 2027, Chicago, January 12-15
 - Pittman, D. and Fralix B.
“Calculating the Stationary Distribution of a Markov Chain by Decomposing its Set of Global Balance Equations”
Joint Mathematics Meetings 2025, Seattle, January 8-11
- Contributed Talks
 - Pittman, D. and Fralix, B.
“A Fresh Look at Calculating the Stationary Distribution of a Markov Chain, with Applications”
22nd INFORMS Applied Probability Society Conference 2025, Atlanta, June 30 - July 3

Teaching Experience

Graduate Instructor of Record at Clemson University

- MATH 1080 - “Calculus of One Variable II” (Spring 2026, Fall 2026)
- MATH 1060 - “Calculus of One Variable I” (Fall 2025)
- MATH 1030 - “Elementary Functions” (Fall 2023, Fall 2024)

Graduate Teaching Assistant at Clemson University

- MATH 1981 - “College Algebra Lab” (Summer 2022, Summer 2023)
- STAT 2301 - “Statistical Methods I Lab” (Spring 2022)

Service

- Served at the Clemson University Math-In, an all-day meeting for undergraduate students to come and prepare for final exams in most math classes (Spring 2026, Fall 2026)
- Served as a speaker at the Bob Jones University Mathematical Sciences Symposium (Spring 2026, Fall 2026)
- Served as a panelist on Bob Jones University Mathematical Sciences Symposium panels (Fall 2023, Spring 2025, Fall 2025)
- Served as a speaker on the Clemson University Graduate Student Seminar (Fall 2024, Fall 2025, Fall 2026)
- Served as a tutor in Algebra and Pre-Calculus for several high school students at Bob Jones University
- Led unofficial study groups for Calculus I through III as an undergraduate at Bob Jones University