Barrett Brister

Curriculum Vitae

Education

2020–2022 **Certification conc. Data Science Career Track**, *Springboard*.

2015–2020 **Ph.D. Mathematics conc. Bioinformatics**, *Georgia State University*, Atlanta, GA, Advisor: Igor Belykh.

2012–2016 **M.S. Mathematics, conc. Scientific Computing**, *Georgia State University*, Atlanta, GA.

2000–2003 **B.S. Industrial and Systems Engineering**, *Georgia Institute of Technology*, Atlanta, GA.

Experience

2024–present **Lecturer**, *Texas State University*, San Marcos, TX.

2014–2020, 2024 **Tutor**, *Applerouth Tutoring Services*, Atlanta, GA.

2022–2023 **Statistician**, *Centers for Disease Control and Prevention*, Atlanta, GA.

2020–2022 **Laboratory Data Manager III**, *Cherokee Federal*, Atlanta, GA.

2019–2020 **Intern**, *Centers for Disease Control and Prevention*, Atlanta, GA.

2013–2020 **Graduate Teaching Assistant**, *Georgia State University*, Atlanta, GA.

Technical Skills

Scientific Computing: Python, R, MATLAB, SQL

Publications

2024 J. Goodwin, H. Kuiper, **B. Brister**, and H. Vesper, "Impact of internal standard selection on measurement results for long chain fatty acids in blood," Journal of Mass Spectrometry and Advances in the Clinical lab 33 (2024): 22-30.

2020 **B. Brister**, V. Belykh, and I. Belykh, "When three is a crowd: Chaos from Kuramoto network clusters with inertia," Physical Review E, DOI: 10.1103/PhysRevE.101.062206 (2020).

2019 **B. Brister**, V. Belykh, and I. Belykh, "Multistable cluster rhythms in networks of coupled rotators," Proceedings of the 9th International conference "Physics and Control" (PhysCon 2019), Innopolis, Russia, September 2019, IPACS Press, pp. 1-5.

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2016 I. Belykh, **B. Brister**, and V. Belykh, "Bistability of patterns of synchrony in Kuramoto oscillators with inertia," Chaos, Vol. 26, 094822 (2016).

Presentations

2021 **B. Brister**, A. Uehara, P. Cook, A. Retchless, and S. Tong, "Developing the SARS-CoV-2 Mutation Plotter," Data Visualization Day 2021, Centers for Disease Control and Prevention, Atlanta, GA, October 6, 2021. Demonstration.

2021 A. Lopez, R. English, **B. Brister**, D. Cox, H. Getachew, B. Emery, S. Rogers, S. Kidd, and J. Routh, "Comparison of Confirmed Cases of Acute Flaccid Myelitis during Peak (2018) and Non-Peak (2019-2020) Years in the United States," Council of State and Territorial Epidemiologists, Atlanta, GA.

2019 R. Krylov, K. Daley, **B. Brister**, C. Epstein, M. Dhamala, and I. Belykh, "Functional network reconstruction and analysis of epileptic seizures," 2019 Brains & Behavior Summer Research Symposium, Georgia State University, Atlanta, GA, August 7, 2019. Poster.

2019 **B. Brister** and I. Belykh, "Kuramoto oscillator models as a paradigm for neuronal synchronization," 2019 Brains & Behavior retreat, Georgia State University, Atlanta, GA, May 24, 2019. Retreat talk.

2019 **B. Brister**, V. Belykh, and I. Belykh, "When three is a crowd: Chaos from clusters in networks of phase oscillators with inertia," SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 21, 2019. Invited minisymposium talk.

2018 **B. Brister**, V. Belykh, and I. Belykh, "Multistability of synchronized clusters in networks of phase oscillators," Frontiers of Mathematical Biology, University of Central Florida, Orlando, FL, May 2, 2018. Poster.

2018 **B. Brister**, V. Belykh, and I. Belykh, "Multistability of synchronized clusters in networks of phase oscillators," Department Retreat, GSU Department of Mathematics, Atlanta, GA, April 5, 2018. Poster.

2018 **B. Brister**, V. Belykh, and I. Belykh, "Multistable clusters and chimeras in networks of phase oscillators," Georgia Scientific Computing Symposium, Georgia State University, Atlanta, GA, February 24, 2018. Poster.

2016 **B. Brister**, V. Belykh, and I. Belykh, "Bistability of patterns of synchrony in Kuramoto oscillators with inertia," IEEE International Workshop on Complex Systems and Networks, Georgia State University, Atlanta, GA, November 13–14, 2016. Poster.

Teaching Experience

Spring 2026 Math 2328: Elementary Statistics. Primary Instructor

Spring 2026 Math 3305: Introduction to Probability and Statistics. Primary Instructor

Summer 2025 Math 1315: College Algebra. Primary Instructor

Spring 2025 Math 1316: Survey of Contemporary Math. Primary Instructor

Spring 2025 Math 2328: Elementary Statistics. Primary Instructor

Fall 2024	Math 1316: Survey of Contemporary Math. Primary Instructor
Fall 2024	Math 2328: Elementary Statistics. Primary Instructor
Spring 2020	Math 1113: PreCalculus. Primary Instructor
Fall 2019	Math 1111: College Algebra. Primary Instructor
Fall 2018	Math 1101: Intro to Mathematical Modeling. Primary Instructor
Fall 2017	Math 1101: Intro to Mathematical Modeling. Primary Instructor
Summer 2017	Math 1070: Elementary Statistics. Primary Instructor
Spring 2017	Math 2211: Calculus of One Variable I. Teaching Assistant
Fall 2016	Math 2212: Calculus of One Variable II. Teaching Assistant
Fall 2016	Math 2211: Calculus of One Variable I. Teaching Assistant
Spring 2016	Math 1113: PreCalculus. Primary Instructor
Spring 2016	Math 1111: College Algebra. Primary Instructor
Spring 2015	Math 1113: PreCalculus. Primary Instructor
Fall 2014	Math 1113: PreCalculus. Primary Instructor
Summer 2014	Math 3090/7090: Algebraic Concepts. Primary Instructor
Spring 2014	Math 0099: Intermediate Algebra. Primary Instructor
Fall 2013	Math 1113: PreCalculus. Primary Instructor
Summer 2013	Math 1113: PreCalculus. Primary Instructor
Spring 2013	Math 1113: PreCalculus. Primary Instructor

Awards and Scholarships

2019 **Travel Award** from the Society for Industrial and Applied Mathematics for attending the SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 18-23, 2019. ($650).

Grant Participation and Support

2017-2020 Brains and Behavior Fellow, GSU.

Service

2016 Volunteer for the 2016 Mathematics Graduate Lecture Series, Georgia State University.

Research Interests

Machine Learning
Complex Networks
Electric Power Systems
Data Analysis
Transportation Systems
Social Network Analysis

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