
EDUCATION

PhD Mathematics, Courant Institute, New York University

2025 – present

MSE & BS Applied Mathematics and Statistics, BS Computer Science, Johns Hopkins University · GPA 4.0/4.0 2021 – 2025

Coursework: Numerical Linear Algebra, Numerical PDE, Optimization, Machine Learning, Random Matrix Theory, Bayesian Statistics, Statistics, Probability Theory, Algorithms, Data Structures, Time Series Analysis

PUBLICATIONS & PREPRINTS

One-Step Generative Surrogate Models via Block-Triangular Joint Drifting

N. Geissler, S. Jha, R. Baptista, B. Peherstorfer

Submitted to *SIAM Journal on Scientific Computing*, 2026 · [arXiv](#)

First-Order Trajectory Matching: Fast Ensemble Predictions of Chaotic, Turbulent, Stochastic Systems

S. Jha, T. Schorlepp, N. Geissler, J. Berman, B. Peherstorfer

Accepted to *NeurIPS 2026* · [arXiv](#)

Hankel Low-Rank Matrix Approximation for Gravitational-Wave Data Analysis

N. Geissler, V. Stokov, C. Kümmerle, S. Kushnarev, E. Berti

Accepted to *Physical Review D*, 2026 · [arXiv](#)

RESEARCH

Doctoral Researcher, Courant Institute, New York University

January 2026 – present

Advisor: Dr. Benjamin Peherstorfer

- Adapted drifting schemes to build one-step generative surrogates for stochastic PDEs, sampling each time step in one network pass.
- Recast drifting to target the joint law of successive states, bypassing the lack of multiple samples from each conditional transition law.
- Cut energy error 4× and enstrophy error 3× relative to distilled flow matching models on 2D turbulence.

Undergraduate & Master's Researcher, Johns Hopkins University

January 2024 – May 2025

Advisors: Dr. Sergey Kushnarev, Dr. Christian Kümmerle

- Denoised gravitational-wave time series via Hankel matrix embedding and structured low-rank approximation.
- Built a fast implementation of a low-rank denoising algorithm using FFT-based Hankel matrix products.
- Separated overlapping LISA-type wave sources with closely spaced frequencies, nearly matching optimal error scaling on synthetic benchmarks.
- Received a seed grant from the Space@Hopkins initiative.

INDUSTRY EXPERIENCE

Quantitative Trader Intern, TransMarket Group LLC

May – August 2024

US Treasury Basis

Aguadilla, PR

- Market-made US Treasury bonds and on-the-run bond futures.
- Developed an automated market-making algorithm for bond futures in Python; accelerated backtesting and parameter optimization through event-driven data subsampling.
- Proposed two trading strategies to desk based on statistical analysis; both are being further pursued.

Clinical Information Specialist, Merck & Co., Inc.

May 2023 – May 2025

Quantitative Pharmacology and Pharmacometrics, Immune/Oncology

Rahway, NJ

- Developed methods for statistical analysis of Phase 1 clinical trial data in R and MATLAB.
- Expanded existing algorithms to improve accuracy and account for covariates in two primary cancer indications.
- Leveraged novel evaluation techniques to isolate confounding variables in responder populations.

HONORS & AWARDS

- **Outstanding Master's Research:** one of the top master's theses in Applied Mathematics and Statistics at Johns Hopkins.
- **Applied Mathematics and Statistics Achievement Award:** outstanding accomplishment by a senior student at Johns Hopkins.
- **Naddor Prize:** significant achievement in departmental academic and extracurricular activities at Johns Hopkins.

TEACHING

Teaching Assistant, Linear Algebra, Courant Institute, New York University

September 2026 – present

Teaching Assistant, Honors Statistics, Johns Hopkins University

August 2023 – May 2025

Head Teaching Assistant, Honors Discrete Mathematics, Johns Hopkins University

January – May 2022

PROGRAMMING

Software: Python, JAX, MATLAB, R, Java, C++, Git, Slurm