

Education

PhD in Mathematics *Courant Institute, New York University* **2020-2025**
Advisor: Michael O'Neil
Thesis: Fast transform methods for Gaussian random fields

BS in Computational and Applied Mathematics *University of Chicago* **2015-2019**
Advisor: Mihai Anitescu
Thesis: Nonstationary Gaussian process approximations of piecewise analytic computer codes

Research

Peter O'Donnell Jr. Postdoctoral Fellow *Oden Institute, UT Austin* **2025-present**
Advisors: Per-Gunnar Martinsson, Joe Kileel

CSGF Practicum *Lawrence Berkeley National Laboratory* **2023**
Advisors: Xiaoye Sherry Li, Yang Liu

Predoctoral Researcher *Argonne National Laboratory* **2019-2020**
Advisor: Mihai Anitescu

Publications

Christopher J. Geoga, **Beckman, Paul G.**. "Nonparametric spectral density estimation from irregularly sampled data." arXiv preprint arXiv: 2503.00492 (2025).

Beckman, Paul G., Michael O'Neil. "A Nonuniform Fast Hankel Transform." arXiv preprint arXiv: 2411.03029 (2024).

Beckman, Paul G., Christopher J. Geoga. "Fast Adaptive Fourier Integration for Spectral Densities of Gaussian Processes." *Statistics and Computing* 34, no. 6 (2024): 217.

Beckman, Paul G., Christopher J. Geoga, Michael L. Stein, and Mihai Anitescu. "Scalable Computations for Nonstationary Gaussian Processes." *Statistics and Computing* 33, no. 4 (2023): 84.

Williams-Young, David B., **Paul G. Beckman**, and Chao Yang. "A Shift Selection Strategy for Parallel Shift-Invert Spectrum Slicing in Symmetric Self-Consistent Eigenvalue Computation." *ACM Transactions on Mathematical Software (TOMS)* 46, no. 4 (2020): 1-31.

Awards

Moses A. Greenfield Research Prize *Courant Institute* **2024**

Computational Science Graduate Fellowship *Department of Energy* **2020**

Presentations

SIAM	<i>Computational Science and Engineering (Minisymposium co-organizer)</i>	2025
Talk: "Fast adaptive Fourier integration of spectral densities"		
Princeton University	<i>PACM IDeAS Seminar</i>	2025
Talk: "A nonuniform fast Hankel transform"		
SIAM	<i>Uncertainty Quantification</i>	2024
Talk: "Fast adaptive Fourier integration of spectral densities"		
Poster: "Butterfly-accelerated Gaussian random fields on manifolds"		
ICIAM	<i>International Congress on Industrial and Applied Mathematics</i>	2023
Talk: "Boundary integral methods for computing covariances in inverse source problems"		
SIAM	<i>Mathematics of Data Science (Minisymposium co-organizer)</i>	2022
Talk: "Fast algorithms for elliptic PDEs with Gaussian boundary noise"		

Teaching

Mathematic Statistics	<i>Teaching Assistant</i>	Spring 2024
New York University MATH-UA.2340		
Statistics	<i>Teaching Assistant</i>	Fall 2021
New York University MATH-GA.2962		
Computational Statistics	<i>Teaching Assistant</i>	Spring 2021
New York University MATH-GA.2080		

Software

Primary developer	FastHankelTransform.jl, SpectralKernels.jl
Contributor	FastGaussQuadrature.jl, chunkIE

Outreach and Service

Petey Greene Program	<i>Volunteer Tutor</i>	2020-
Math and science instructor and tutor for currently and formerly incarcerated students		
Courant Institute	<i>DEI Reading Group</i>	2020-2024
Co-founded a department group reading articles on progress towards more accessible math higher education		
Courant Institute	<i>Department Climate Survey</i>	2020-2022
Co-designed, administered, and reviewed a survey on Courant Institute PhD student experience		