Postdoctoral Research Vision

My postdoctoral research vision advances stochastic modeling, matrix analysis, and large■scale scientific computing to address modern challenges in climate modeling, finance, biology, and engineering. I aim to develop rigorous and computationally efficient methods for multiscale systems where deterministic models alone fail to capture uncertainty.

Research directions include: (1) scalable solvers for stochastic differential equations; (2) stability■preserving algorithms for large, sparse matrices; (3) GPU■accelerated scientific computing; and (4) application■driven modeling in turbulence, renewable energy, epidemiology, and financial risk.

My long■term goal is to establish a research program bridging applied mathematics, computation, and data■driven modeling to solve emerging scientific and engineering challenges.