Math 288 - Probability and Statistics Seminar

Prof. Hao Shen
University of Wisconsin-Madison

Stochastic quantization and Yang-Mills

Abstract:
We briefly overview the current developments of rigorous constructions in "stochastic quantization - an active field linking quantum field theory with stochastic PDE. We then focus on stochastic quantization of the Yang-Mills model in 2 and 3 space dimensions. This includes constructing the Langevin dynamic for the formal Yang-Mills measure, defining the state space of gauge orbits, proving gauge equivariance of the dynamic, and making sense of Wilson loop observables in this context. We will also discuss some future directions.

The talk is based on several works mostly joint with A.Chandra, I.Chevyrev, and M.Hairer.

Host: Tianyi Zheng

Thursday, February 25, 2021
11:00 AM
For zoom ID and password email:
bau@ucsd.edu