Probability Seminar

Organizer: Christian Gromoll & Tai Melcher

Monday, 2:00–3:00pm, Kerchof 326

Oct 4 **Nate Eldredge**, Cornell

Hypoelliptic diffusions and heat kernels on Lie groups

Hypoelliptic diffusions are an interesting class of stochastic processes where, in spite of having a degenerate elliptic generator, the process is still able to wander throughout its state space. Many familiar facts about elliptic partial differential operators such as the Laplacian have analogues in the hypoelliptic setting. In this talk, I will discuss some of the basic ideas connected with hypoelliptic diffusions, including some notions of sub-Riemannian geometry, as well as some results regarding heat kernel estimates on a specific class of Lie groups.