Probability Seminar

Organizer: Christian Gromoll & Tai Melcher

Monday, 2:00–3:00pm, Kerchof 326

Sep 27 **Masha Gordina**, U Connecticut

Gaussian type analysis on infinite-dimensional Heisenberg groups

Infinite-dimensional Heisenberg groups and algebras come up in a number of applications motivated by physics, including Kac-Moody algebras. At the same time they proved a nice toy model for a number of questions in analysis over infinite-dimensional curved spaces. The Heisenberg groups in question are modeled on an abstract Wiener space. Then a group Brownian motion is defined, and its properties are studied in connection with the geometry of this group. The main results include quasi-invariance of the heat kernel measure, log Sobolev inequality (following a bound on the Ricci curvature), and the Taylor isomorphism to the corresponding Fock space. The latter is a version of the Ito-Wiener expansion in the non-commutative setting. This is a joint work with B.Driver.