FREDERI VIENS, Michigan State University
Applications of the analysis on Wiener space

Tools from the analysis on Wiener space, including Wiener chaos calculus and the Malliavin calculus, were promoted historically to help develop the theory of stochastic analysis and its applications to other parts of probability and analysis. They are becoming increasingly helpful as sharp tools for the quantitative analysis of asymptotic questions. We will present a brief introduction to these tools, how they are helping redefine and expand Stein's method for normal approximations, and how they can have important practical implications in mathematical statistics. Parts of this talk are based on joint works with Luis A. Barboza, Khalifa es-Sebaiy, and Léo Neufcourt.