UNIVERSITÄT SALZBURG

SALZBURG MATHEMATICS COLLOQUIUM
Winter 2016/2017

Günter Last (Karlsruhe)

„Intrinsic volumes of the Boolean model: mean values, variances and beyond“

October 20, 2016

Abstract:
The Boolean model based on a stationary Poisson process of convex bodies is a fundamental benchmark model of stochastic geometry and continuum percolation. Its restriction to a convex observation window is a finite union of convex bodies and can hence be analyzed via intrinsic volumes, such as volume, surface area and Euler characteristic.
In the first part of this talk we shall give a short proof of classical mean value formulae based on the principal kinematic formula and a perturbation formula for Poisson processes. Then we discuss existence and structure of asymptotic covariances for a growing observation window, not only for the intrinsic volumes but for more general translation invariant additive functionals (valuations). Finally we present central limit theorems including Berry-Esseen bounds.
Parts of this talk are based on joint work with Daniel Hug (Karlsruhe) and Matthias Schulte (Bern).

Thursday, **15:00-15:45**
Hörsaal 414, 1. Stock

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