UNIVERSITÄT SALZBURG

SALZBURG MATHEMATICS COLLOQUIUM
Winter 2015/2016

Matthias Reitzner (Osnabrück)

„Poisson meets Voronoi: random reconstruction of sets“

November 12, 2015

Abstract: Let *X* be a set of random points, chosen according to a Poisson point process, and *A* a Borel set in the *d*-dimensional Euclidean space. We denote by *v(A)* the set of those points which are closer to the random points of *X* contained in *A* than to all the other points of *X*. We call *v(A)* the Poisson-Voronoi approximation of *A*. In this talk we investigate the volume of the Poisson-Voronoi approximation and the symmetric difference to *A* for Borel sets *A* with ‚nice boundaries‘. For convex sets *A* some of the results can be improved. An essential tool for the more recent investigations is the Wiener-Itô chaos expansion of the Poisson-Voronoi approximation, which will be introduced.

Thursday, **15:15-16:00**
Hörsaal 414, 1. Stock

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