Limit theorems for random tessellations

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Abstract:
Random tessellations are an active topic of current research in stochastic geometric, which is a field on the borderline between probability theory and geometry. In my talk I will first introduce the so-called STIT tessellations, which arise as outcome of a space-time random cell-division process. This model has been invented in 2005 and has become one of the standard models, besides the hyperplane and Voronoi tessellation. In the main part, I will focus on the asymptotic geometric properties of STIT tessellations, in particular, asymptotic second-oder properties as well as central and non-central limit theorems for certain natural functionals will be discussed.