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FAKULTÄT
FÜR MATHEMATIK, INFORMATIK
UND NATURWISSENSCHAFTEN
Fachbereich Mathematik

Kolloquium über Mathematische Statistik und Stochastische Prozesse

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Technische Universität Hamburg

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From Stein's Method to Stochastic Geometry

Stein's method is a powerful technique to prove central limit theorems along with quantitative error bounds. In this talk, Stein's method is applied to problems from stochastic geometry. For underlying Poisson or binomial point processes so called stabilising functionals are considered. These can be represented as sums of score functions of the underlying points, where the contribution of a point only depends on the point process within a random neighbourhood. Quantitative univariate and multivariate central limit theorems for stabilising functionals are presented. Some examples of stabilising functionals such as statistics of k-nearest neighbour graphs, Voronoi set approximation or random polytopes are studied.

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Hinweis: Im WiSe 2020/2021 wird das Kolloquium online via BigBlueButton durchgeführt. Anmeldungen bitte über die genannte Kontaktperson.