Oberseminar Mathematische Stochastik

Mittwoch, 13. Juli 2016, 17:00 Uhr, **N 1**

Christian Döbler, *Luxembourg*

Normal and non-normal approximation of degenerate U-statistics

Abstract:
We provide bounds on the Wasserstein distance between the distribution of a (standardized) degenerate, not necessarily symmetric U-statistic of independent random variables and the standard normal distribution. One main consequence of these bounds is a complete quantitative counterpart to a theorem by P. de Jong which states that, under a certain negligibility condition, a sequence of such U-statistics satisfies a CLT whenever the sequence of fourth moments converges to 3. We will also discuss approximation by a centered Gamma distribution and a generalization to the multivariate case of vectors of such U-statistics. If time allows, then we may also address the classical case of symmetric U-statistics.