

Einladung zur Vortragsreihe aus Finanz- und Versicherungsmathematik

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Some New Copulas for Risk Modelling

The idea of using copulas to describe the dependence of financial risk factors or insurance loss types has enjoyed a lot of attention in recent years. Data of this kind mostly show strong evidence against a Gaussian distribution and copulas provide useful tools for talking about dependence in a non-Gaussian context and formulating ideas such as that of "dependence in the tail".

In this talk we survey the current state of knowledge in risk modelling using copulas. We comment on the families that seem most useful in the market and credit risk contexts and describe some useful new models. In particular we look at copulas that arise in multivariate normal mixture models and provide extensions to the popular t copula; we also look at copulas arising in the theory of multivariate extremes. Examples illustrating the use of these new copulas will be given.

Alexander McNeil is Assistant Professor of Mathematics at the Swiss Federal Institute of Technology (ETH) in Zurich. He has a BSc in mathematics from Imperial College, London and a PhD in mathematical statistics from Cambridge University, which he completed in 1993. Since joining ETH in 1996 he has concentrated on developing statistical methodology for integrated financial risk management. His particular interests include extreme value theory (EVT), risk theory, financial time series analysis and the modelling of correlated risks. He has published papers in leading statistics, econometrics, finance and insurance mathematics journals and is a regular speaker at international risk management conferences.

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