

STATISTICS COLLOQUIUM

MONDAY, NOVEMBER 18, 2013

TALK: 4:15 PM — SCIENCE CENTER RM. 705

RECEPTION: 3:50 PM — SCIENCE CENTER, 7TH FLOOR

“Model Selection of Regular Vine Copulas”

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ABSTRACT

Regular vine copulas can describe a wider array of dependency patterns than the multivariate Gaussian copula or the multivariate Student's t copula. This paper presents the first fully Bayesian approach to model selection of regular vine copulas. Our reversible jump Markov chain Monte Carlo algorithm employs a mixture of different proposal distributions to achieve rapid convergence of the sampling chain. Another major contribution to the area of model selection of regular vine copulas is our algorithm's capability to estimate all levels of vine copulas simultaneously. The feasibility of our approach is established in a simulation study that benchmarks against methods suggested in current literature.