

SEMINAR

December 12, 2014 at **10:30am**

Sidney Smith Hall, Room 1083

Refreshments will be served at 10:15am

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**Estimation of correlations in portfolio credit risk models based on
noisy security prices**

Portfolio credit risk models are very often constructed with correlation matrices serving as a proxy for interrelations in the creditworthiness of each company. Besides the size of the matrix, estimation of correlation is also complicated by the fact that defaults are rare and credit-sensitive securities such as stocks, bonds or credit default swaps (CDS), are noisy.

Therefore, we present in this talk an estimation approach based on credit-sensitive instruments that is both statistically consistent and highly parallelizable. A simulation study shows that the method is reliable and has better statistical properties when benchmarked against other correlation estimators. In an empirical study based upon CDS premiums and stock prices of 225 firms of the CDX North American indices, we analyze the correlations computed with numerous approaches. We find that equity correlation, one popular method to infer credit correlation in practice, shows downward bias when compared with correlations computed with the proposed method.