

# Finance Research Seminar

## “Expected shortfall and portfolio management in contagious markets”

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Thursday, November 8<sup>th</sup>, 2018 – 2:00 pm – 3:30 pm

### **Abstract:**

We study the impact of market contagion on portfolio management. To model possible recurrence in the arrival of extreme events, we equip classic Poisson jumps with long memory via past-weighted randomization of the likelihood of their occurrences (Hawkes processes). Within this framework, we tackle the problem of optimal portfolio selection in terms of Expected Shortfall (ES). We use the generalized method of moments to estimate the model on three US stock indexes, representing three major sectors of the US economy. The moment conditions of the model are computed efficiently in closed form applying a novel technique. Given parameter estimates, we maximize, at a monthly frequency in the period 2001-2016, the expected return subject to a constraint on ES of a portfolio consisting of the three US sector indexes. We find that the weights of the optimal portfolio are significantly adjusted when the level of contagion is high. Finally, we perform an extensive out-of-sample back-test and find that the Hawkes jump-diffusion model outperforms two traditional models that are commonly implemented.

- **Paris: Room P305**, Promenade building
- **Lille: Visio Room E220**, 7 rue Solférino