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## Working Group on Statistical Learning Seminar

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**Riccardo Rastelli (University College Dublin)**

will speak on

**Systemic risk in the Austrian interbank network**

Mon 21st October 2019 at 12:00PM

Location: Seminar Room SCN 1.25

Recent research on systemic risk has shed light on the crucial role played by network heterogeneity in the propagation of financial shocks. However, it is not immediately clear how one can measure or predict the level of heterogeneity in an observed financial network. In this talk, I will propose a new statistical model for weighted networks that evolve over time. The model is specifically designed to represent the different behaviours of financial institutions; that is, whether they are more inclined to distribute edge weights equally among partners, or if they rather concentrate their commitment towards a limited number of other institutions. Crucially, a Markov property is introduced to capture time dependencies and to make the measures comparable across time. I will illustrate an application to an original dataset of Austrian interbank exposures. The temporal span ranges from the beginning of 2008 to 2012; hence, it encompasses the onset and development of the recent financial crises. The analysis highlights an overall increasing trend for network heterogeneity, whereby core banks have a tendency to distribute their market exposures more equally across their partners.

This talk is part of the **Working Group on Statistical Learning** series. For more, see <https://maths.ucd.ie/seminars>