SAID BUSINESS SCHOOL, University of Oxford

SEMINAR SERIES / MICHAELMAS 2010

Convenors: Felix Reed-Tsochas, Institute for Science, Innovation and Society, Saïd Business School
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Seminar webpage: www.cabdyn.ox.ac.uk/complexity_seminars.asp

Sandwiches and drinks will be provided

Please note: although the seminar programme detailed was correct at time of printing, seminar arrangements are subject to change – for the latest information, please check the seminar webpage.

Tuesday 2nd November

(12.30pm – 2.00pm) James Martin Seminar Room

Dr Tore Opsahl
Imperial College Business School, Imperial College London

'Communication in a Facebook-like community'

ABSTRACT

Networks evolve as a result of the joining and leaving of nodes, and the creating, reinforcing, weakening, and severing of ties. However, most network studies rely on a single or few snapshots of a network. This creates methodological issues, especially when predicting tie creation due to ties' dependency upon each other. One way of overcoming these issues is to simulate the network evolution (e.g., Exponential Random Graph models and SIENA models). We do not follow these lines of research, and focus instead on exploiting a recent surge in continuously-observed datasets (i.e., non-static). Although the network evolution is known, few methods exist to study this type of datasets. In this presentation, I will (1) outline a framework for understanding nodes' choices in who to form ties with in large-scale continuously-observed datasets, and (2) apply it to a Facebook-like dataset to determining effect size of various growth mechanisms (e.g., homophily, focus constraints, reinforcement, reciprocity, triadic closure, and preferential attachment). While some mechanisms are strong and significant when tested independently, they are insignificant or substantially weaker in multivariate analyses. While the results from this framework can be used to predicting future communication or calibrate algorithmic recommender systems, the results also exemplifies that descriptive measures, such as the clustering coefficient, cannot be relied upon for studying mechanisms of tie generation.

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