Hilary Term 2008

CABDyN SEMINAR SERIES
Saïd Business School, University of Oxford

Convenors:

Felix Reed-Tsochas, *James Martin Institute*, *Saïd Business School*

Jukka-Pekka Onnela, *Physics Department & Saïd Business School*

Our meetings intend to provide a forum for rigorous research (in a broad range of disciplines) focusing on complex adaptive systems, using methods and techniques such as agent-based modelling and complex network analysis. Since potential areas of application for such approaches can be located across the social, natural and engineering sciences, our aim is to involve participants from a wide range of departments in Oxford. We welcome talks which focus on particular areas of application and associated technical issues, but also encourage contributions which address more fundamental conceptual or mathematical problems. The CABDyN Seminar Series is one of the activities of the CABDyN Research Cluster (http://sbs-xnet.sbs.ox.ac.uk/complexity/).

Tuesday 5th February, 12.30 – 2.00 pm

Seminar Room B, Saïd Business School

Dr Zoltan Eisler

Equity Arbitrage Capital Fund Management, Paris

Fluctuation scaling: Taylor's law and beyond

ABSTRACT

Complex systems consist of many interacting elements which participate in some dynamical process. The activity of various elements is often different and the fluctuation in the activity of an element grows monotonically with the average activity. This relationship is often given by a power law, where the exponent is predominantly in the range [1/2, 1]. This power law has been observed in a very wide range of disciplines, ranging from population dynamics through the Internet to the stock market and it is often treated under the names Taylor's law or fluctuation scaling. One can describe the phenomenon by a mean-field framework based on sums of random variables. In this context the emergence of fluctuation scaling is equivalent to some corresponding limit theorems. In certain physical systems fluctuation scaling can be related to finite size scaling.

Sandwiches and drinks will be provided

For further information contact info.cabdyn@sbs.ox.ac.uk
Seminar webpage: http://sbs-xnet.sbs.ox.ac.uk/complexity/complexity_seminars.asp