



MICHAELMAS TERM 2009

Saïd Business School, University of Oxford

SEMINAR SERIES

Convenors: Felix Reed-Tsochas, Institute for Science, Innovation and Society, Saïd Business School
Eduardo López, 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.

Tuesday 17th November 16:00 – 17:30

E P Abraham Lecture Theatre , Green Templeton College

Prof Nicholas Christakis

Department of Health Care Policy, Harvard Medical School

‘Genetic Basis for Social Network Structure and Social Aspects of Social Network Function ’

ABSTRACT

How and why do various phenomena -- such as obesity, happiness, altruism, or voting -- spread from person to person in complex networks? We have developed various data sets to support our investigations, including a longitudinally resolved network of 12,067 people assessed repeatedly from 1971 to the present; each node in this network has an average of 11 ties to friends, siblings, spouses, offspring, coworkers, and neighbors. We observe discernible clusters of individuals with various traits in the network, and we document that these clusters are not solely due to selective formation of social ties between nodes. Rather, processes of social and emotional and cognitive contagion are also apparent within the network. In other work, we have examined the genetic basis for social network formation and have developed a novel model for the social processes involved (the "attract and introduce" model). Very recent experimental work, involving random assignment of individuals to groups playing public goods games, shows that altruism can spread in networks. Our findings on the genetic origin of social networks and on the diversity of pro-social phenomena that spread within them may help explain why humans form networks and live their lives embedded in such complex structures. Moreover, and more specifically, the recognition of the role of network effects on individual health lays a foundation for public health by providing a rationale for the claim that health is not just an individual, but also a collective, phenomenon.

<http://christakis.med.harvard.edu/>
<http://www.connectedthebook.com/>

For further information contact info.cabdyn@sbs.ox.ac.uk

Seminar webpage: http://sbs-xnet.sbs.ox.ac.uk/complexity/complexity_seminars.asp

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