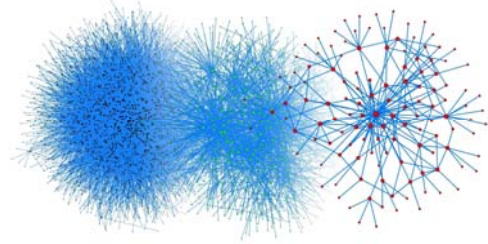


THE JAMES MARTIN
21ST CENTURY SCHOOL
UNIVERSITY OF OXFORD

21ST CENTURY SCHOOL
SEMINAR SERIES

"COMPLEXITY AND SYSTEMIC RISK"



THURSDAY 4 FEBRUARY 2010, 3.30-5PM

Professor Geoffrey West

Distinguished Professor, Santa Fe Institute, New Mexico, USA

"Growth, Innovation, and the Pace of Life from Cells and Ecosystems to Cities and Corporations; Are They Sustainable?"

Summary: Are cities and companies "just" very large organisms? They grow, metabolise, evolve and adapt; however, almost all cities survive, whereas all companies die. A quantitative, predictive, unifying framework for addressing such questions and understanding the generic structure, dynamics and life history of social and biological systems will be developed. It is based on general properties of the networks that sustain such complex systems and is inspired by the simplicity manifested by extraordinary "universal" scaling laws governing almost all characteristics of cities, companies and organisms. Examples discussed will include vascular systems, growth, cancer, aging and mortality, sleep, and evolutionary rates. When extended to cities and companies the theory shows why, in contrast to biology which is dominated by economies of scale, the overall pace of life, including rates of innovation, systematically accelerates. This has dramatic implications for growth, development and sustainability: innovation and wealth creation that fuel cities, corporations and economies, if left unchecked, lead to fatal singularities that potentially sow the seeds for their inevitable collapse.

*The seminar takes place in the Old Indian Institute Building
(corner of Holywell and Catte Streets).*

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