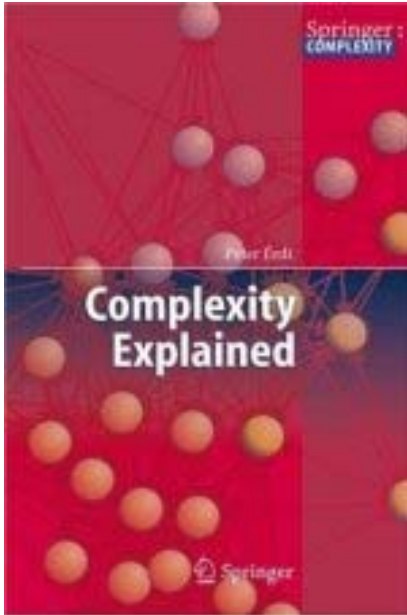


RESEARCH SEMINAR

COMPLEXITY STUDIES: FROM SCHIZOPHRENIA TO POLICY MAKING



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Abstract

Complex systems research is important in understanding the structure, function and dynamics of complex natural and social phenomena. It illuminates how complex collective behavior emerges from the parts of a system, due to the interaction between the system and its environment. Two ongoing research topics will be briefly reviewed.

Modeling Schizophrenia

It has been hypothesized that some schizophrenic phenomena are best understood in terms of abnormal interactions between different brain regions. Combined behavioral and brain imaging data serve the experimental bases of computational studies. Computational models illustrate the neural bases of normal and pathological behavior. Some hints on new therapeutic strategies may be obtained by using dynamical models.

Power-law distribution in budget changes: macroscopic and microscopic modelling strategies

Political scientists have observed that annual budget changes surprisingly deviate from Gaussian distribution and follow long-tail distributions, most likely power-law distribution. Models help to uncover the possible macroscopic and microscopic decision making mechanisms which may generate these distributions.

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