

SCMS Seminar



APPLICATION OF SELF-ORGANIZED CRITICALITY THEORY IN BRAIN DYNAMICS ANALYSIS AND SIMULATION

Speaker: Dr. Ningning Ma

SCMS

Time: 9:00 - 9:30, Friday, June 2, 2017

Venue: Room 2213, East Guanghua Tower (Main), Fudan University

Abstract: Criticality can be used as a signature of healthy neural systems.

The avalanche activity in brains of schizophrenia patients shows significant deviation from power law distribution, tending to have a bump at the tail of the avalanche size distribution. Meanwhile, the schizophrenia patients exhibit reduced mean synchronization and synchronization entropy. A hybrid brain model which combines DTI structural and a simple dynamical rule shows that the mean synchronization could have a local maximum at the critical points, if the symmetrical structure of the brain is considered.