SCMS Seminar

DEGENERACY, COMPLEXITY, AND ROBUSTNESS OF BIO-SYSTEMS

Speaker: Prof. Yingfei Yi

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Time: 15:00 p.m.-16:00 p.m., Friday, March 3rd, 2017
Venue: Room 2201, East Guanghua Tower (Main), Fudan University

Abstract:

There has been recent emphasis on degeneracy as a feature of structural complexity due to the empirical observations of degenerate properties in known complex systems. The notion of degeneracy was first introduced for neural system as the ability of elements that are structurally different to perform the same function. Degeneracy is known to have close ties with structural complexity and robustness of a neural system. It is already observed for neural systems that high degeneracy not only yields high robustness, but also it is accompanied by an increase in the system complexity. In this talk, we will introduce the notions of degeneracy and structural complexity for a biosystem modeled by a differential equation. We will also discuss their connections with the robustness of the system.

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