

Seminar

Feedback and Dynamics in Biomolecular Circuit Design

Shaunak Sen

Indian Institute of Technology, Delhi

The principles of feedback and dynamics are present in diverse contexts. The challenges, especially for biomolecular circuits, are to identify and model system behaviour, develop frameworks for system design, and to understand system tradeoffs. In this talk, I will present work on refining, adapting, and developing the methods of control and dynamical systems to address these issues, including, a statement of tradeoffs that can constrain the gain, range and threshold of biomolecular amplifiers and switches, and design of biomolecular temperature sensors with diverse fold-changes and sensitivities. These results should help in the design of biomolecular circuits, and may be relevant for the design of complex nonlinear systems as well as to understand the functioning of natural biomolecular circuits.

Wednesday, Jun 15th 2016

4:00 PM (Tea/Coffee at 3:45 PM)

Seminar Hall, TCIS