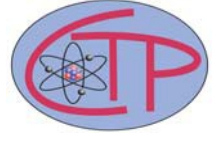




NEW YORK CITY COLLEGE OF TECHNOLOGY
Physics Department
Center for Theoretical Physics



Simple Statistical Mechanical Model of Transport Receptor Binding in the Nuclear Pore Complex

Presented by:

Professor Rob Coalson

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**Thursday, April 11 at 12:00 PM
Namm, Room 823**

Abstract

Nuclear Pore Complexes (NPCs) are large protein nano-pores that insert into the nuclear membrane of eukaryote cells and control transport of RNA and proteins into and out of the nucleus. The complexity of these biological systems motivates study of a model system, namely a polymer brush (tethered polymer chains) with nanoparticles that can infiltrate the brush and change its morphology. This statistical mechanics problem is analyzed via both theoretical methods and numerical simulations. Good agreement between theory and simulation is found, and direct connection to experiments on a bio-mimetic analog of the NPC is established.

Light refreshments will be served.