सूचना पट्ट पर लगाने के लिए
FOR FAVOUR OF NOTICE BOARD

INSTITUTE COLLOQUIUM

(Chemical Sciences)

INDIAN INSTITUTE OF SCIENCE

Prof. K.L. Sebastian

Chairman, Department of Inorganic & Physical Chemistry

will deliver a lecture
on

Through pores and over barriers – dynamics of some biophysical rate processes

Tuesday, November 14, 2006
at 4.00 pm in the Faculty Hall

THE DIRECTOR
will preside

All are cordially invited

Coffee/Tea: 5.00 pm
Venue: Reception Hall

Abstract

Biological long chain molecules are involved in a variety of processes, like going through a pore, forming a loop, getting packaged into a capsid, folding etc. They seem to do this with surprising agility. Motivated by this, we have investigated several dynamical processes involving long chain molecules. The talk will cover some of these processes, which are outlined below.

A long chain molecule, thermally activated to climb over a barrier can be a model for a long chain molecule forced to move through a pore. We have analyzed this process using the simplest model for a long chain molecule (the Rouse model). We find that in the long chain limit, the activation energy is independent of the length of the molecule. Further, we have suggested a kink mechanism to operate in the process. The application of the model to biological translocation, as well as to other recently carried out experiments in vitro will be discussed.

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