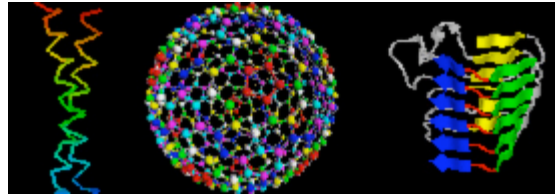


MIT
Department of Mathematics
& The Theory of
Computation Group
At CSAIL



Bioinformatics Seminar

Speaker: Andre Levchenko, Johns Hopkins University ***

Title: Oscillations in signal transduction: functional or accidental?

Date: Monday, 25 October 2004

Time & Location:

Refreshments: 11 am in the Theory of Computation Lab at MIT's Building 32, Stata Center Room G-575

Talk: 11:30 am the Theory of Computation Lab at MIT's Building 32, Stata Center, Room G-575

URL: <http://www-math.mit.edu/compbiosem/>

Abstract:

Recently, a number of signal transduction pathways have been shown to exhibit oscillatory behavior. However, as in many other biological oscillations, there is a chance the instability is just a by-product of adaptive behavior. Here, using the examples of the NF-kappaB and MAPK pathways in two different biological systems, I will demonstrate that the oscillatory response is essential for such essential cell functions as precise coordination of gene expression and cell morphology regulation. I will describe in detail the development of computational models of these two pathways as well as experimentally validated model predictions within the context of biological function.

***: Support for the invitation of this speaker is generously provided by [SERONO Reproductive Biology Institute in Boston \(SRBI\)](#), with special thanks to Dr. Jadwiga Bienkowska.

The seminar is co-hosted by Professor Peter Clote of Boston College's Biology and Computer Science Departments and MIT Professor of Applied Math Bonnie Berger. Professor Berger is also affiliated with CSAIL & HST.

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