



The University of Western Ontario

Faculty of Science

Department of Applied Mathematics

APPLIED MATHEMATICS COLLOQUIUM

Date: Wednesday, January 16, 2008

Time: 2:30 pm

Location: Middlesex College Room 204

Cold Denaturation

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Abstract:

Proteins assume a unique three-dimensional structure under physiological conditions. This structure becomes gradually unstable as temperature is raised or lowered. At about 60°C the ordered structure of proteins becomes unstable. This phenomenon is called denaturation and is also observed at low temperatures, around -20°C. While denaturation at high temperature is well understood, the mechanism behind denaturation at low temperature, i.e. cold denaturation, is still controversial. In this talk, I will discuss a microscopic mechanism, that we have recently proposed in the literature (C.L.Dias, M. Karttunen & al,^{★★} Phys. Rev. Lett., in press.), for cold denaturation.