

MAR16-2015-000319

Abstract for an Invited Paper
for the MAR16 Meeting of
the American Physical Society

Fluctuating Thermodynamics for Biological Processes¹

SIHYUN HAM, Sookmyung Women's University

Because biomolecular processes are largely under thermodynamic control, dynamic extension of thermodynamics is necessary to uncover the mechanisms and driving factors of fluctuating processes. The fluctuating thermodynamics technology presented in this talk offers a practical means for the thermodynamic characterization of conformational dynamics in biomolecules. The use of fluctuating thermodynamics has the potential to provide a comprehensive picture of fluctuating phenomena in diverse biological processes. Through the application of fluctuating thermodynamics, we provide a thermodynamic perspective on the misfolding and aggregation of the various proteins associated with human diseases. In this talk, I will present the detailed concepts and applications of the fluctuating thermodynamics technology for elucidating biological processes.

¹This work was supported by Samsung Science and Technology Foundation under project number SSTF-BA1401-13.