Debarati Chatterjee

Ph. D. : Indian Institute of Sience, Bangalore Assistant Professor, Chemistry https://sites.google.com/site/chdebarati/





Research Interests

- Soft Condensed matter Systtems
- Theoretical Biophysics
- Equilibrium and Non-Equilibrium Statistical Mechanics
- Structure and Dynamics of Macromolecules

Brief Summary of Research

My research includes the theoretical study of various stochastic processes in biology. I have suggested some theoretical models for dynamics and reactivity of macromolecules present in a cell at the molecular level, using the simple tools of equilibrium and non-equilibrium statistical mechanics. Currently I have a Ph. D. student at IITPkd and three masters studnets have submitted their thesis under my guidance as a part of their M.Sc. Program.

Awards and Fellowships

- Alexander von Humboldt fellowship for post-doctoral researchers (April 2014- August, 2015).
- Dr. J. C. Ghosh Medal, Indian Institute of Science (IISc.), Bangalore, India (2012) for the best Ph. D. Thesis in Physical Chemistry.



Recent Publications

1. Scaling Laws of Bottle-Brush Polymers in Dilute Solutions

Chatterjee, D.* and Vilgis, T.A.Macromolecular Theory and Simulations 25 (6) 518 (2016). 2. <u>pH dependent protein stability: A quantitative approach based on Kramer's barrier escape</u>; Chatterjee, D., Chemical Physics Letters 618 94 (2015).

3. <u>Subdiffusion as a model of transport through the nuclear pore complex,</u>"

Chatterjee, D. and Cherayil, B.J.The Journal of Chemical Physics 135 155101 (2011).