

Name: Sarika M Bhattacharyya
Division: Polymer Science and Engineering
Email: mb.sarika@ncl.res.in
Phone: 020-2590-3144
Fax: 020-2590-2615



Education and experience

- October 2010- Scientist E1, Polymer Science and Engineering Division, National Chemical Laboratory , Pune, India.
- 2010- DST young scientist fellow.
- (2004-2009) Post doc. at **Indian Institute of Science**, Bangalore, India, collaborating with Prof. Peter G. Wolynes from UCSD , USA
- (2002-2003) Post doc. at LMS , California Institute of Technology, Pasadena, U.S.A. with **Prof Ahmed Zewail** and **Prof Zeng Gang Wang**
- (2000-2002) Post doc. at **Indian Institute of Science**, Bangalore, India.
- (1994-2000) Ph. D (**Indian Institute of Science**, Bangalore, India. Advisor: **Prof. Biman Bagchi**)

Research subjects:

- Soft condensed matter physics and material science

Research Areas

- Dynamics of complex liquids, supercooled liquids, approaching glass transition.
- Study of the interplay between diffusive and activated motion
- Develop an unified theoretical approach to study jamming transition and aging
- Understand the entropy dependence of the transport properties
- Diffusion through porous medium

Selected publications

- Manoj Kumar Nandi, Atreyee Banerjee and **Sarika M Bhattacharyya** “Non-monotonic size dependence of diffusion and levitation effect: A mode-coupling theory analysis.” J. Chem Phys. **138**, 124505 (2013)
- Saroj Kumar Nandi,^{1,*} **Sarika Maitra Bhattacharyya**,^{2,†} and Sriram Ramaswamy¹ “Mode-coupling glass transition in a fluid confined by a periodic potential” Phy. Rev. E **84**, 061501 (2011)
- **Sarika Maitra Bhattacharyya**, Biman Bagchi, Peter G. Wolynes, “Facilitation, Complexity Growth, Mode Coupling and Activated Dynamics in Supercooled Liquids”. **Proc. National Acad. Sciences United States Am.** **105**, 16077–16082 (2008).
- Sneha Elizabeth Abraham, **Sarika Maitra Bhattacharyya**, Biman Bagchi, “Energy Landscape, Antiplasticization, and Polydispersity Induced Crossover of Heterogeneity in Supercooled Polydisperse Liquids”. **Phy. Rev. Lett.** **100**, 167801 (2008).
- **Sarika M. Bhattacharyya**, Zhen-Gang Wang, Ahmed H. Zewail “Dynamics of Water near a Protein Surface” J. Phys. Chem. B., **106**, 6617 (2003).