

Faculty Profile



Name: Dr SUMITA DATTA

Designation: Associate Professor

Teaching Areas: Quantum Mechanics, Statistical Physics, Numerical Methods

Research Interests: Computational Condensed Matter Physics, Quantum Many Body Problems, Bose Einstein Condensation, Physics of Graphene and Nonlinear Dynamics, Markov Chain Monte Carlo, Basic Stochastic Processes, Quantum Monte Carlo Simulations (Variational and Diffusion)

Education:

- Ph D in Physics -The University of Texas at Arlington, USA, 1996
- M. Sc in Physics- Indian Institute of Technology, Kharagpur, 1987
- B.Sc (Honours in Physics)– Scottish Church College, Kolkata, 1983

Professional Experience (20 years)

1. July 2016-Present, Associate Professor, IFHE, Hyderabad
2. Dec 2010-July 2016, Research Scientist, Indian Association for the Cultivation of Science
3. Sep 2010- Nov 2010, Reader, Department of Physics, Pondicherry University
4. Aug 2002- Aug 2010, Academic faculty of Physics, SN. Bose National Centre for Basic Sciences Kolkata, India
5. Oct 1997- July 2002 Research Associate, Indian Association for the Cultivation of Science
6. June 1997-Sep 1997 Visiting Scientist, Indian Space Research Organization, Bangalore
7. Jan 1996-May 1997, Postdoctoral Fellow, The University of Texas at Arlington, USA
8. Sep 1992-Dec 1995, Graduate Research Assistant, The University of Texas at Arlington, USA
9. Sep 1989- Aug 1992 Graduate Teaching Assistant, The University of Texas at Arlington, USA,

Research / Selected Publications:

1. A path integral Monte Carlo study of Anderson Localization in cold gases in presence of disorder S Datta, Int J Comput Methods 13(6) 1650032, 2016
2. The lowest order relativistic corrections of hydrogen molecule – Sumita Datta, S. A Alexander and R. L. Coldwell- Int J Q Chem ,112,731-739, Feb 2012
3. Lowest Order Relativistic Corrections of Helium Computed Using Monte Carlo Methods , S. A. Alexander, S Datta and R.L. Coldwell, Phys Rev A. 81,032519, 2010
4. Calculations of Lyapunov exponent using an equivalent Stochastic system, S Datta and J. K. Bhattacharjee, J Phys A (Lett) 34, # 44, 2001
5. Feynman-Kac path integral calculations with high quality trial wave functions, S Datta, J L Fry N. G. Fazleev, S. A. Alexander & R. L. Coldwell, Phys. Rev A 61 030502 2000 (Rapid Communication)