

Curriculum Vitae

Dr. Poornachandra Sekhar Burada

Assistant Professor
Department of Physics
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Awards and fellowships

Guest scientist fellowship from the Max Planck Institute for the Physics of Complex Systems, Dresden, Germany

Education

10/2008 PhD in Theoretical Physics. University of Augsburg (Germany)
05/2003 M. Sc Physics. Indian Institute of Technology (IIT) Madras (India)
06/2000 B. Sc (Maths, Physics, Chemistry). Andhra University (India)

Research experience

09/2014 - 11/2014 Guest scientist
MPI for the Physics of Complex Systems, Dresden (Germany)
02/2012 - 06/2014 Postdoctoral research
University of Göttingen, Göttingen (Germany)
10/2009 - 01/2012 Guest scientist
MPI for the Physics of Complex Systems, Dresden (Germany)
10/2008 - 09/2009 Postdoctoral research
University of Augsburg, Augsburg (Germany)
04/2005 - 10/2008 Doctoral research
University of Augsburg, Augsburg (Germany)

Research interests

Interested in the areas of Soft-matter Physics, Non-equilibrium Statistical Mechanics, Stochastic Process. In particular, in the following topics :

- Stochastic resonance in confined geometries, shape induced resonance
- Transport in confined geometries, first passage time problems, two-state process
- Active Brownian motion, Escape rate, bifurcation analysis
- Self-propelled (chiral) motion, flow patterns, hydrodynamic interactions

Professional activity

Referee for about 5 papers per year in science journals e.g.

Physical Review Letters, Physical Review E, Chem Phys Chem, Euro Physics Letters, Euro Physics Journal B, Euro Physics Journal-ST, Journal of Chemical Physics, Journal Statistical Physics, Journal of Non-Newtonian Fluid Mechanics Bulletin of Mathematical Biology, Journal of Neural Engineering, Physics Letters A, Modern Physics Letters B, Physica A ,Chemical Physics.

Teaching experience

Summer semester 2015	Statistical Mechanics - I & II, IIT Kharagpur, India
Winter semester 2015	Methods of Molecular Dynamics, IIT Kharagpur, India
Winter semester 2013	Mathematical methods of Physics II Teaching assistant, University of Göttingen, Germany
Winter semester 2006	Quantum Mechanics Teaching assistant, University of Augsburg, Germany
Winter semester 2005	Theoretical Physics - III Teaching assistant, University of Augsburg, Germany

Computational skills

Operating systems	: Linux, Windows, Mac OS X
Languages	: C, Fortran, Python
Softwares	: Mathematica, Gnuplot, Xmgrace

I use Brownian dynamic simulations, NAG Fortran libraries to solve partial differential equations, classical Monte-Carlo simulations, and exact diagonalization methods.