

Curriculum Vitae

Name VIJAY KUMAR

Surname KRISHNA MURTHY

Sex Male

Date of birth 24 November 1981

Place of birth Bangalore, India

Citizenship Indian

Marital Status Married

Present Position Graduate Student

Research Advisor Prof. Sriram Ramaswamy

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Academic Qualification Master of Science (2003-2006)
(Thesis title – *Topics in Nonequilibrium Statistical Mechanics :
Sedimenting Suspensions and Active Particles*)
Department of Physics
Indian Institute of Science
Bangalore, India 560012

Bachelor of Science (2001-2003)
M. E. S. College
Bangalore University
Bangalore, India 560003

Research Interests Nonequilibrium Statistical Mechanics, Soft Condensed Matter Physics, Biological Physics, Fundamental problems in Statistical Mechanics, Mesoscopic simulation techniques etc.

- Undergraduate
Research Experience
- Summer Work (2004)
Topics in Nonequilibrium Statistical Mechanics: Fluctuating Vesicular Membranes and Sheared Ising models with Prof. S. Ramaswamy, Department of Physics, Indian Institute of Science, Bangalore.
- Summer Work (2003)
Modelling Active Particle Suspensions with Prof. Y. Hatwalne, Raman Research Institute, Bangalore.
- Summer Work (2003)
Numerical Study of Stochastic Resonance in non-linear classical potentials with Prof. N. Kumar, Raman Research Institute, Bangalore.
- Study Project (2002-2003)
Selected Topics in Equilibrium Statistical Mechanics with Prof. M. Rao, Raman Research Institute, Bangalore.
- Summer Work (2002)
Classical Angular Momentum of Light: A Paradox and its Resolution with Prof. N. Kumar, Raman Research Institute, Bangalore.
- Summer Work (2001)
Spectral Line Broadening in Astrophysical Plasmas with Prof. K. N. Nagendra, Indian Institute of Astrophysics, Bangalore.
- Publications
- A note on the possibility of classical orbital diamagnetism for an unbounded system –the Bohr-van Leeuwen Theorem*, K Vijay Kumar and N. Kumar, arXiv:1004.1937 (2010).
- Is Diamagnetism possible classically?*, N Kumar and K Vijay Kumar, Europhysics News, Vol. **40**, No. 4, 10 (2009).
- Classical Langevin dynamics of a charged particle moving on a sphere and diamagnetism: A surprise*, N Kumar and K Vijay Kumar, EPL, **86**, 17001 (2009).
- Exact solution of a Brownian inchworm model for self-propulsion*, A Baule, K Vijay Kumar and S Ramaswamy, J. Stat. Mech., P11008 (2008).
- Active elastic dimers : Self-propulsion and current reversals*, K Vijay Kumar, S Ramaswamy and M Rao, Phys. Rev. E **77**, 020102(R) (2008).
- Classical Angular Momentum of Light: A Paradox and its resolution*, K Vijay Kumar and N Kumar, Resonance, Vol. **8**, No. 10, 69 (2003).

- Academic Awards
- 2006: DST-ICTP fellowship to attend a workshop in ICTP, Trieste, Italy.
- 2003: Summer Research Fellowship of the Raman Research Institute, Bangalore.
- 2003: Summer Research Fellowship of the Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore.
- 2002: Rajiv Gandhi Science Talent Research Fellowship.
- 2002: Summer Research Fellowship of the Jawaharlal Nehru Center for Advanced Scientific Research, Bangalore.
- Workshops Attended
- July 2009: Boulder Summer School in Condensed Matter and Materials Physics, University of Colorado, Boulder, Colorado, USA.
- March 2009: Heat Conduction in Low-dimensional Systems, International Centre for Theoretical Sciences, Bangalore, India.
- January 2008: The Interface of Life - An International School on Biomembrane Physics, Indian Institute of Technology Madras, Chennai, India.
- February 2007: Workshop on Nonequilibrium Fluctuation theorems, Fireflies Ashram, Kaggalipura post, Bangalore, India.
- December 2006: Third SERC school on Nonlinear Dynamics: Focus on Turbulence and Pattern Formation, Indian Association for the Cultivation of Science, Jadavpur, Calcutta, India.
- August 2006: NCBS-JNCASR-Harvard Symposium on Interdisciplinary Materials Science, Computation and Biology, NCBS-JNCASR, Bangalore, India.
- April 2006: Workshop on Driven States in Soft and Biological Matter, International Centre for Theoretical Physics, Trieste, Italy.
- January 2006: Kumari. L. A. Meera memorial meeting on Nonequilibrium Statistical Physics, Bangalore, India.
- January 2005: EPSRC Life Science Interface Workshop, Indian Institute of Science, Bangalore, India.
- July 2004: 22nd International Conference on Statistical Physics, Indian Institute of Science, Bangalore, India.

Academic References Prof. **Sriram Ramaswamy**,
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