

# ***Dr. Somnath Bhattacharya***

**Assistant Professor in Physics (WBES)**

**Barasat govt. College, 10, K.N.C. Road, Kolkata-700 124.**

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## **Academics:**

**Bachelor of Science** in Physics, University of Calcutta (1998)

**Master of Science** in Physics, University of Calcutta, India (2000)

**Post-MSc Associateship** in Physical Science,  
Saha Institute of Nuclear Physics, India (2001)

**Doctor of Philosophy** in Theoretical Physics,  
University of Calcutta, India (2008).

**CSIR-JRF NET** in Physics (2001)

## **Teaching:**

- a) Instructor of Advanced Experiments for B.Tech students in Indian Institute of Technology, Mumbai (2006-07)
- b) Under-graduate Honours and General level in Physics (2007-till date)
- c) Post-graduate level in Physics (2010-till date)
- d) UGC sponsored NET-Coaching Centre, Darjeeling Govt. College.(2008-2010)
- e) UGC sponsored Remedial-Coaching Centre, Basirhat College. (2011-2012).

## **Awards:**

- 1. **Gold Medal** for best paper presentation in ICAMMP-2002 (ICTP sponsored Conf.) (2003)
- 2. **Book-award** for quality-performance in the 7th Workshop on Nonlinear Dynamics and Earthquake Prediction, (AS-ICTP), Trieste, Italy, (2003)
- 3. **Reference letter** from Prof. D. A. Rees, Head, International Judges committee of ICAMMP 2002 & ICAMMP 2004, Mech. Engg. ,University of Bath, UK for best performance and overall quality during ICAMMP 2002 & ICAMMP 2004, Sylhet, Bangladesh

## **Research:**

- (a) Investigation on low temperature conduction, Non-Debye type current relaxation, Electrical Hysteresis, Noise etc. of disordered soft condensed matter systems. ( A Semi-classical Statistical Mechanics approach: known as Random Resistor cum Tunneling Network (RRTN) Percolation model). Extracting information for non-ergodic systems and its implication of observable.

- (b) Persistence study on Rouse polymer.
- (c) Special interest on nonlinear oscillation and evolution of chaotic dynamics.
- (d) Computational study on the cosmological parameters in a model with non-minimal coupling.  
(Recent involvement with Prof. P. Mukherjee and Mr. A. Singha Roy).

**UGC Minor Research Project:** Early stage dynamics of nonlinear systems and its effect on related properties. (File No. PSW-162/14-15(ERO)).

### **Noted Publications:**

**Somnath Bhattacharya** and Asok K Sen, Two early-stage inverse Power-law dynamics in nonlinear complex systems far from equilibrium, Europhysics Letters, 71(5), 797 (2005)

**Somnath Bhattacharya**, Dibyendu Das and Satya N. Majumdar, Persistence of a Rouse polymer chain under transverse shear flow, Physical Review E, 75, 061122 (2007)

3. **Somnath Bhattacharya**, Physics beyond conventional limit (Review article based on an invited talk), published in a state-level journal "Science and Society" (2008).

4. M.S. Rahaman, M. Yolmo, **Somnath Bhattacharya** and M. Gurung, Effect of Aestivation on protein content of Blood of the pestiferous land snail *Achatina fulica*, J. Int. Acad,(2009)

5. **Somnath Bhattacharya**, Bernoulli's Principle: Is manufactured improvisations, Acad. J. Aureole, 5(1), 28 (2014)

**Member of PG Board of study:** Physics PG Board, Barasat Govt. College. (2010-14)

### **M.Sc. Dissertation Guidance:**

1. "Enthalpy: Importance in Relativistic Thermodynamics"-Abu Sufian Mondal(APC College)-Aug,2013
2. "Relativistic Statistical Mechanics and Black Body Radiation"-Sk. Nasibul Haque(APC College)-Aug 2013
3. "A Numerical Study on Oscillation: Scopes and Difficulties"-Sukhendu Jana(Barasat Govt. College)-June, 2014
4. "Ingradients of Chaotic System: A nonlinear oscillation approach"-Subhankar Roy(Barasat Govt. College)-June, 2015
5. "A Study of mathematical models: Route to Chaos"-Santu Dey(Barasat Govt. College)-June, 2015
6. "A Study Of Realistic Projectile Motions"-Diganta chakraborty(Barasat Govt. College)-June, 2015