

Name: Dr Shantu Saikia

1. **Designation:** Associate Professor

2. **Qualification:** M.Sc., PhD

3. **Research Completed:** Thesis title: "Noise Assisted Phenomenon in Physical Systems".

4. **University from which research completed:** NEHU, Shillong

5. **Topic of Research:**

a) Thesis – Noise Assisted Phenomenon in Physical Systems

b) UGC Minor Research Project – Ratchet effect and Stochastic Resonance in underdamped inhomogeneous system (Year of completion – 2015)

6. **Research Interest :** Non Linear Dynamics, Stochastic processes, Condensed Matter Physics

7. **PUBLICATIONS:**

- a. 'Ratchet effect in an underdamped periodic potential and its characterisation', Shantu Saikia, Physica A, 468, 219 (2016).
- b. 'The role of damping on Stochastic Resonance in a periodic potential', Shantu Saikia, Physica A, 416, 411 (2014).
- c. 'Particle dynamics in a symmetrically driven underdamped inhomogeneous periodic potential system', D. Kharkongor, Shantu Saikia, A. M. Jayannavar, W. L. Reenbohn and M. C. Mahato, AIP Conference Proceedings 1832(1):110023 (2017).
- d. 'Stochastic Resonance in Periodic Potentials', Shantu Saikia, A. M. Jayannavar and M. C. Mahato, Phys. Rev. E 83, 061121 (2011).
- e. 'Dispersionless motion in a periodically rocked Periodic Potential', Shantu Saikia and M. C. Mahato, Phys. Rev. E, 80, 082102 (2009).
- f. 'Deterministic inhomogeneous inertia ratchets', Shantu Saikia and M. C. Mahato, Physica A, 389, 4052 (2010).
- g. 'Dispersionless motion and ratchet effect in a square-wave-driven inertial periodic potential system', Shantu Saikia and M. C. Mahato, Jour. of Phys. Cond. Mat., 21, 175409 (2009).
- h. 'Stochastic resonance and heat fluctuations in a driven double-well system', Mamata Sahoo, Shantu Saikia, Mangal C. Mahato, A.M. Jayannavar, Physica A 387 (2008) 6284–6292.
- i. 'Work fluctuations and stochastic resonance', Shantu Saikia, Ratnadeep Roy, A.M. Jayannavar, Physics Letters A 369 (2007) 367–371.
- j. 'Motional dispersions and ratchet effect in inertial systems', W. L. Reenbohn, S. Saikia, R. Roy and M. C. Mahato, Pramana Jour. Of Phys. 71- 2 (2008) 297 – 306.
- k. 'Particle dynamics and Ratchet effect in an underdamped periodic potential', S. Saikia, Proceedings of the 10th Biennial PANE Conference, Excel India Publishers 2017.

8. **Conferences and Seminars attended:**

- i. Faculty Development programme organised by IQAC on Research Capability Enhancement on 23/08/14

- ii. DBT-Sponsored Workshop on Research Based Pedagogical Tool for Teachers of Undergraduate Colleges organised by IISER Pune from 10-12 Of March 2016
- iii. PANE Biennial National Conference at SAC from 10-12 Nov. 2016