



**S N BOSE NATIONAL CENTRE
FOR BASIC SCIENCES**
Block JD, Sector III, Salt Lake, Kolkata 700 106

DEPARTMENTAL SEMINAR

Physics of Complex Systems

28th November, 2024

4.00 PM

ONLINE / FERMION

SPEAKER



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TITLE OF THE TALK

Restarting can expedite target search

ABSTRACT

Stochastic resetting has recently become a subject of immense interest. Most of the theoretical studies so far focused on instantaneous resetting at a constant rate which can be a major impediment to practical realisation or experimental verification in the field. This is because in the real world, taking a particle from one place to another requires finite time and also the resetting rate would be time dependent. In this talk I will discuss possible generalisations of the existing theory by incorporating time dependent rate in the instantaneous resetting problem and also by considering non-instantaneous resetting. I will demonstrate how different features of a brownian particle, such as non-equilibrium stationary state, relaxation to it and search efficiency get affected by these generalisations.

References:

1. A. Pal, AK, M. Evans, J. Phys A: Mathematical and Theoretical, 49, 22, (2016).
2. D Gupta, C A Plata, AK, A Pal, J. Phys. A: Math. Theor. 54 025003, (2021)
3. D Gupta, A Pal, AK, J. Stat. Mech. (2021) 043202
4. A Biswas, AK, A Pal, Physical Review E 110 (4), L042101, (2024).
5. A Biswas, A Dubey, AK, A Pal, arXiv:2406.08975

HOST FACULTY

**Dr. Urna Basu, Associate Professor
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