

Visitor, Associates and Students' Programme (VASP)  
presents Webinar Series on  
Statistical Mechanics

26 DEC 2022  
03:00 PM (IST)



### TITLE

Stochastic Resetting

### ABSTRACT

A stochastic process, when interrupted at random epochs and reset to its initial condition, reaches a nonequilibrium stationary state. The approach to the stationary state is accompanied by an unusual 'dynamical phase transition'. Moreover, the mean first-passage time to a fixed target becomes a minimum at an optimal value of the resetting rate. This makes the diffusive search process more efficient. Recent experiments in optical traps have verified some of the theoretical predictions, but also have raised new interesting questions. Stochastic resetting has emerged in recent years as an exciting field of research in nonequilibrium statistical physics. In this talk, I'll give an overview of this rapidly evolving field.

### SPEAKER

**Prof. Satya Majumdar**  
*Laboratoire de Physique Théorique et Modèles Statistiques (LPTMS)*

Prof. Satya Majumdar is a directeur de Recherche in CNRS, working at the laboratoire de physique théorique et modèles statistiques (LPTMS), Université Paris-Sud (Orsay, France). Prof. Majumdar's research interests focus on various problems in equilibrium and nonequilibrium statistical physics with applications in physics, computer science, and biology. He has made important contributions in the field of self-organized criticality, polymers and self-avoiding walks, growth models, persistence and first-passage properties in nonequilibrium systems, Brownian motion/diffusion and their applications, interacting particle systems and stochastic resetting. Prof. Majumdar's work has been recognized by a number of awards including the EPS Statistical and Nonlinear Physics Prize, Gay-Lussac Humboldt Prize, CNRS silver medal and Paul Langevin medal. He is also an adjunct professor at the department of theoretical physics at the Tata Institute of Fundamental Research (TIFR, Bombay, India), International Center for Theoretical Sciences (ICTS, Bangalore, India) and at the department of the physics of complex systems at Weizmann Institute (Rehovot, Israel).

