

## **Seminar**

### **Diffusion with stochastic resetting**

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We study a simple model of search where the searcher undergoes normal diffusion, but once in a while resets to its initial starting point stochastically with rate  $r$ . The effect of a finite resetting rate  $r$  turns out to be rather drastic. First, the position of the walker approaches a nonequilibrium stationary state at long times. The approach to the stationary state is accompanied by an interesting ‘dynamical’ phase transition. For searching an immobile target, resetting leads to finite mean search time which, as a function of  $r$ , has a minimum at an optimal resetting rate  $r^*$ . This makes the search process efficient. We then consider various generalizations of this simple resetting model: to Levy flights, to multiple walkers and also to spatially extended system such as fluctuating interfaces.

***Thursday, Feb 18<sup>th</sup> 2016***

***4:00 PM (Tea/Coffee at 3:45 PM)***

***Seminar Hall, TCIS***