

## **Seminar**

### **Fitness landscapes of antibiotic resistance evolution**

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I will present an empirically motivated model of antibiotic concentration-dependent bacterial fitness landscapes that is useful in understanding the dynamics of antibiotic resistance evolution. The landscape topography changes strongly when the concentration is changed, but the model shows the remarkable property that all fitness maxima remain accessible from the wild type at all concentrations. I will also show how the structure of these landscapes leads to adaptation occurring in two distinct phases, with resistance evolving mostly in the first phase. The study shows how high levels of resistance can evolve quite easily even on highly rugged landscapes.

***Tuesday, Feb 6<sup>th</sup> 2024***

***16:00 Hrs (Tea / Coffee 15:45 Hrs)***

***Auditorium, TIFR-H***