



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

## **DEPARTMENTAL SEMINAR**

# **Physics of Complex Systems**

**10<sup>th</sup> July, 2026**

**4.00 PM**

**FERMION**

### **SPEAKER**



**Prof. Arnab Das, Professor, IACS**

### **TITLE OF THE TALK**

**Stability of Dynamically Frozen System Beyond Prethermalization: Absence of Resonant Heating in a Clean, Interacting Floquet System**

### **ABSTRACT**

When a classically chaotic system is shaken strongly, its dynamics become turbulent and more chaotic, as it keeps heating up due to the energy transfer from the drive. We showed that the same doesn't necessarily apply to quantum systems. Strong shaking can produce new kinds of conservation laws which are approximate but stable -- a phenomenon known as dynamical freezing. The mechanism behind the phenomenon has remained elusive to straightforward applications of many-body theory and related intuitions. Our recent results from spectral function analysis are in agreement with the numerical results in some cases, while in others, like the absence of resonant heating, their failure indicates the existence of unknown pieces of the puzzle yet to be discovered.

### **HOST FACULTY**

**Prof. Punyabrata Pradhan**  
**DEPT. OF PHYSICS OF COMPLEX SYSTEMS**

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