ICTS Postdoc/Graduate Student Seminar Series

Title : The Random First Order Transition Theory of the glass transition – Insights from systems with quenched disorder

Speaker : Saurish Chakrabarty, ICTS-TIFR, Bangalore

Date : Friday, August 5, 2016

Time : 11:15 am

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : The glass transition problem has puzzled many physicists, chemists and engineers for a very long time. When liquids of very different kinds are supercooled, they exhibit slow dynamics and become (non-crystalline) solids at some temperature T_g which depends on the cooling rate and the material being cooled. This temperature goes down with decreasing cooling rate and approaches a value T_K in the limit of slow cooling. I will present an introduction to the phenomenology of the glass transition problem and a few popular theories that try to explain it. I will then introduce the Random First Order Transition (RFOT) theory of the ideal glass transition. With this background, I will present some tests of the RFOT theory based on simulations of supercooled liquids in the presence of random pinning.

Note: This will be an ongoing biweekly seminar series (Fridays, 11:15 am) by the ICTS postdocs and graduate students