# TIFR Centre for Interdisciplinary Sciences, Narsingi, Hyderabad 500075

# Seminar

## Crystal Engineering Approach for the Design of Soft Organic Materials


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**Abstract:** Mechanical properties of molecular materials have remained relatively unexplored despite their unique applications in optoelectronics, mechanical actuators, pharmaceuticals and explosives.1 To achieve the high-performance (such as charge transport) in materials it is vital to conserve the orientational order of molecules and bonds in structure. This demands a high crystallinity, efficient self-healing and stress dissipating behavior in materials. Recently we showed that both flexibility and crystallinity can be simultaneously achieved in a reversibly bendable (elastic) organic single crystal.2 The structure-property correlation studies revealed that the mechanically flexible or soft crystals can be rationally designed by controlling noncovalent interactions using the crystal engineering approach. The structure-mechanical property relationship has also allowed us to reason the origin for mechanochromic luminescence in a solid state fluorophore,3 pharmaceutical tabletability of solid-state drugs, etc.4


***Date*: Thursday, March 14th 2013**

***Time*: 11:30AM (Tea/Coffee at 11:15AM)**

***Venue*: Conference Hall, TCIS**

***All are cordially invited***