



**TIFR Centre for Interdisciplinary Sciences,
Narsingi, Hyderabad 500075**

Seminar

**Self-assembly of Functional Molecules:
Supramolecular gels, Vesicular Chemosensors and
pH-responsive Materials**

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Nature utilizes self-assembly of small building blocks to construct complex super structures that are essential to living systems. A variety of non-covalent interactions such as H-bonding, hydrophobic interactions, π - π stacking, electrostatic interactions, vander Waals interactions etc., are utilized for this purpose. Taking a cue from nature, self-assembly has evolved as an important tool in the recent years to design artificial nano-structures with programmable functionalities. In this talk I will discuss how the self-assembly of properly designed molecular building blocks can lead to the formation of a wide variety of materials with intriguing properties. The examples will include supra-molecular gels based on aromatic molecules and bile acid derivatives with interesting thermal, mechanical and optical properties, a special class of vesicular chemosensors which detect biological analytes at physiological pH in aqueous media and also 'smart' materials whose properties can be modulated by applying an external stimulus such as pH.

Tuesday, Jan 21st 2014

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

Seminar Hall, TCIS