



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

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## **Seminar**

**Optoelectronic applications of colloidal quantum  
dots (QDs)**

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**Abstract:** My presentation will highlight optoelectronic applications of colloidal quantum dots (QDs). Colloidal QDs are chemically synthesizing nanocrystal semiconductors which shows tunable band gap with particle size. In addition to that QDs shows very high internal quantum yield. These two unique properties make QDs a novel material for optoelectronics application. In recent years, many colloidal QD-based optoelectronic devices, and device concepts have been proposed and studied. In this presentation, different class of QDs-device will be discussed. Special emphasis is placed on new optoelectronic device concepts that incorporate 'giant shell' QDS materials. Not only the extensions of traditional devices, such as photo detectors, light-emitting diodes (LED) and solar cells, but also new devices concepts like a single photon emitter is possible. My presentation will focus a number of such novel QD-based devices and device concepts.

***Date: Thursday, February 07<sup>th</sup> 2013***

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

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

***All are cordially invited***