

---

## **Seminar**

### **Thin film, surface science and device physics**

**Karthik V. Raman**

**TCIS, TIFR - Hyderabad**

The constant scaling down of electronic device dimensions, by half in every 18 months (called the Moore's law), has today reached a state of bottleneck. In the nanometer regime, the de-Broglie wavelength of electrons becomes comparable to the device dimensions and as a result, the quantum mechanical picture starts dominating the device response.

Importantly, the intrinsic spin state of the electrons play a very vital role which has led to the development of the field of Spintronics. In this talk, I shall present an overview of this field and finally focus on some of the recent activities in the sub-field of organic spintronics. Emphasis is given to understand the properties of thin films and the role of interfaces in engineering device functionalities with the objective to develop new classes of device architectures for memory, sensing and computing.

***Thursday, Apr 9<sup>th</sup> 2015***

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

***Seminar Hall, TCIS***