



INSTITUTE SEMINAR

Friday, 11 July 2014

4:00 p.m.

Fermion

Speaker:

Dr. Moloy Sarkar

*Assistant Professor, School of Chemical Sciences
National Institute of Science Education and Research
IOP campus, Bhubaneswar*

Title:

**Understanding the Behavior of Molecules and Materials through
Electron Donor Acceptor (EDA) Systems**

Abstract:

Electron donor acceptor (EDA) systems have gathered considerable attention from scientific community for a quite some time mainly because of the fact that charge separation forms the basis of numerous chemical and biological transformations. In particular, fluorescent EDA molecules have widely been exploited by virtue of the fact that they emit from intra molecular charge transfer (ICT) state. Since an ICT state is highly sensitive to the polarity of the medium, the fluorescence originating from such state is expected to depend on surrounding environment. Thus fluorescence response of such molecules may be used to obtain information on the media surrounding a molecule. Similarly, fluorescent EDA systems can also be exploited to obtain information about intermolecular interaction among molecules and/or

fragment of molecules. This talk will focus on our group's recent research activities on these aspects. The first part of the talk will discuss the dynamical behavior of mono and dicationic room temperature ionic liquids. Particularly, studies on solute and solvent dynamics in these media will be discussed.

The second part of the talk will discuss how the recognition of cations and anions can be achieved by exploiting the charge transfer character of the fluorescent EDA system. Finally, in the third part, the role of intermolecular interaction towards the aggregation behaviour of fluorescent EDA systems will be highlighted.
