

PhD Open Seminar

Speaker: Soumyabrata Goswami (PhD Advisor: Dr. Sanjit Konar)
Topic of Seminar: Multifunctional Behaviour in 3d and 4f Metal based Magnetically Imperative Coordination Complexes
Date: October 8, 2015
Time: 4.00 PM
Venue: L4, LHC (Bhauri Campus)

Abstract

The study of organic-inorganic hybrid complexes employing coordination chemistry have emerged as one of the most active area of research not only due to their structural diversities but also because of their various functional behaviours like magnetism, catalysis, gas adsorption etc. However, the combination of more than one property in single molecular system i.e. multifunctional coordination complexes is relatively less explored till now. In this thesis work, several 3d and 4f metal based coordination complexes with different dimensionalities have been synthesized and their multifunctional behaviours have been investigated. The complexes exhibit diverse magnetic properties like single molecular magnetism (SMM), magnetic refrigeration, spin-crossover, spin-canting etc. In addition, the molecules show potential applications in heterogeneous catalysis, proton conduction and photoluminescence.¹⁻⁹ In this seminar, synthetic aspects, characterizations, magnetic studies and other functional properties of these complexes will be discussed in detail.

References:

1. **Goswami, S.;** Mondal, A. K.; Konar, S. *Inorg. Chem. Front.*, **2015**, 2, 687-712.
2. **Goswami, S.;** Biswas, S., Konar, S. *Dalton Trans.*, **2015**, 44, 3949-3953.
3. **Goswami, S.;** Mondal, A. K., Konar, S. *J. Chem. Sc. C*, **2015**, 127, 257-264.
4. **Goswami, S.;** Jena, H. S., Konar, S. *Inorg. Chem.*, **2014**, 53, 7071-7073.
5. **Goswami, S.;** Sanda, S., Konar, S. *CrystEngComm*, **2014**, 16, 369-374.
6. **Goswami, S.;** Adhikary, A., Jena, H. S., Biswas, S., Konar, S., *Inorg. Chem.*, **2013**, 52, 12064-12069.
7. **Goswami, S.;** Adhikary, A., Jena, H. S., Konar, S. *Dalton Trans.*, **2013**, 42, 9813-9817.
8. **Goswami, S.;** Biswas, S., Tomar, K., Konar, S. (Manuscript submitted).
9. **Goswami, S.;** Mondal, A. K., Rangaraj, P., Konar, S. (Manuscript submitted)