

Seminar

Institute for Plasma Research

Title : Magnetic nanostructures: nano scale properties and recent applications

Speaker: Dr. Umesh Gaur

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Date : 14th September 2018 (Friday)

Time : 3.30 PM

Venue : Committee Room 3, (New Building), IPR

Abstract :

The advancements in the field of magnetic materials and their practical uses in daily and industrial life have been shaping the human life. This talk reviews different classes of magnetic materials, their properties on nanoscale and their applications, with an emphasis on multifunctional applications i.e multiferroic and magnetic supercapacitors applications, where magnetic materials can bring the most spectacular benefits to society. In past few years, magnetoelectric tuning in ferroelectric materials is one of the hot topics aiming at the development of new-generation low-power spintronics and microelectronics. However, a reversible magnetoelectric effect with specific device operation is yet to be come. Hybrid supercapacitors may tune the magnetism which involves electrostatic and electrochemical doping. In view of recent research, focus is on hybrid magnetic supercapacitors and suitable magnetic materials (bulk As well as nanocrystalline) for the formation of these supercapacitors. The talk concludes with promises for the future of magnetic materials at nano scale and technologies as important as ever for humanity.
