Seminar

Institute for Plasma Research

Title : Magnetic Field Controlled Delivery of Drugs Being Adsorbed Onto Porus Nano-Structures

Speaker: Dr. Subrata Pradhan
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Date : 25th July 2018 (Wednesday)

Time : 03.30 PM

Venue : Seminar Hall, IPR

Abstract :

A complete drug delivery system, starting from drug nano-carrier to an efficient system towards drug activation in a localized volume of human body exploiting nanotechnologies has been a dream since last few decades. It needs multidisciplinary approaches and cannot be universally extended to all types of drugs. A collaborative research is currently ongoing towards exploiting porous Iron Oxide (Fe3O4) nano structures as a vehicle for transport of drugs and then getting them adsorbed onto their porous surface. Thereafter, with AC and DC magnetic field combinations, a controlled release of the adsorbed drug is being tried out in a prototype simulating set-up where methyl blue had been used as a surrogate drug. In this ongoing research, we will further study the drug delivery dynamics with the relative field orientations and magnitude. The talk shall discuss some of the preliminary proof-of-principle aspects of our research followed by the future research plans on improved magnetic methods.