

## Abstract:

The increasing cost, time and complexity of the drug discovery process has given tremendous impetus and opportunity for new delivery technologies to increase the efficacy, safety and patient compliance of existing drugs, as well as realize new indications. These delivery technologies also have potential to minimize the attrition rates in early stage drug discovery-development programs by addressing solubility problems for which most of the drugs even though possess therapeutic activity, are left out. During this one hour lecture, I will try to bring in the basic drug delivery principles and application of the same to drugs as well as drug like compounds.

## Short Biosketch

Prof Kumar and his group aim to harness the full therapeutic potential of existing drug molecules by devising new ways of making them reach and act at the target site in the body. His research addresses diverse areas like women health, cancer, cardiovascular disorders, diabetes and arthritis. Considering the advantages associated with oral delivery, the focus of research is to engineer nanosystems to use this bio-interface that is primarily designed by the body for exchange of material with the environment. Current research with polymeric nanoparticles is targeted towards reducing the toxicity and increasing the efficacy of existing drugs/drug like candidates and establishing utility of potent drugs for alternative indications that are not realized by conventional formulations. He was appointed to Guest Professor/distinguished foreign professor at Seoul National University (South Korea); University of Navarra (Spain) and Shandong University, (China). For his contributions in drug delivery, he has been awarded Science Medal, 2009 (Royal Pharmaceutical Society of Great Britain); Tom Gibson Memorial Award, 2008 from the British Society of Plastic Surgeons & the Royal College of Physicians and Surgeons; Indian National Science Academy (INSA) Medal for Young Scientist, 2007.