conferenceseries.com

10th International Conference on Nanomedicine and Nanotechnology in Health Care

July 25-27, 2016 Bangkok, Thailand

Multifunctional inorganic nanoparticles (Synthesis and biological applications)

Rakesh Kumar Sharma^a [°]University of Delhi, India

Nanomedicine in simple words is the medical application of nanotechnology and concerns monitoring, repair, construction and control of human biological systems using engineered nanoscale materials. It is an interdisciplinary research field and involves chemistry, physics, biology, engineering and medicine and has great potential for early and accurate detection, diagnosis and treatment of various deadly diseases like cancer. It overcomes many of the difficulties experienced by normal medical approaches in the treatment of various disorders. Now a days there is growing interest for the synthesis of nanoscale materials with a confined shape and controlled size under normal conditions and there are many approaches available for the synthesis of these particles. Reverse micelles (or Water-in-oil microemulsion) provides an interesting synthesis approaches as it enables the synthesis of encapsulated nanoparticles with controlled size distributions. Inorganic nanoparticles, whose structures exhibits significantly novel and improved chemical, physical and biological properties have elicited much interest. In my presentation I will discuss the synthesis (mainly using reverse micellar approach) and some potential applications of inorganic nanoparticles (like gold, silica, Gadolinium oxide etc.) in therapeutics. I will discuss how the activity and stability of biomolecules like enzymes can be controlled by direct encapsulation in the cavity of these inert, non-biodegradable and bio-compatible nanoparticles. I will also show how these nanoparticles serve different purposes simultaneously.

Biography

Rakesh Kumar Sharma, Currently Assistant Professor in Department of Chemistry, University of Delhi, India has completed his PhD at the age of 31years from the same University. He has published about 25 papers in reputed journals and delivered oral and invited talks in many conferences. Three students have already got their PhD under him and four more are registered at present.

sharmark101@yahoo.com

Notes: