

CBC SEMINAR ANNOUNCEMENT

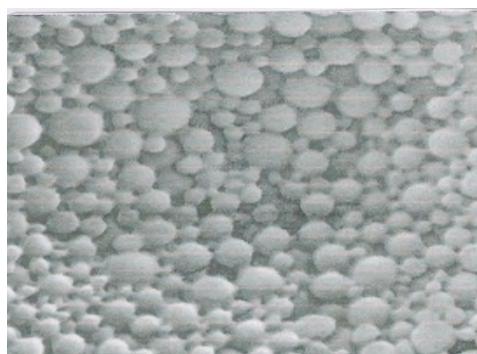


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Controlled Drug Delivery with Biodegradable Nanoparticles- Paradigm Shift in Therapeutics

The delivery of drug molecule to the affected site is as important as discovery of new molecules for the treatment of diseases. Drug can ideally exhibit its pharmacological activity only at the specific site to which the drug is delivered by a carrier. A range of drug delivery systems (DDS) and drug targeting systems have been developed to minimize drug degradation and loss, to prevent harmful side effects and to increase drug bioavailability and the fraction of the drug accumulated in the required zone. Controlled drug delivery occurs when a polymer, natural or synthetic, is judiciously combined with a drug in such a way that it is released from the carrier in a pre-designed manner. The purpose behind controlling the drug delivery is to achieve more effective therapies while eliminating the potential for both under and overdosing. DDS has benefitted tens of millions of patients by relieving suffering and prolonging life in which the therapeutic efficacy of the drug has been improved.

The synthesis of biodegradable diblock, triblock and multi block copolymers and the encapsulation of drug molecules (anti TB and anti cancer) in the polymeric nanoparticles and their characterization by spectral, microscopic and thermal studies as well as their drug uptake and release behavior will be discussed. The encapsulation of both hydrophobic and hydrophilic drugs in the same polymer matrix as well as the minimization of drug-drug interaction on storage will be highlighted. The application of metal nanoparticles in controlled drug delivery will also be presented.



SEM image of PLGA nps loaded with Rifampicin

Date: 12th September 2019 (Thursday)
Time: 11.00am to 12.30pm
Venue: SPMS Graduate and Research
Conference Room
Host: Associate Professor Roderick Bates