

BioSyM Seminar Series 2018

Drug Particle Engineering using Microfluidic Emulsion Crystallisation

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Time : 12 pm to 1 pm

Venue : Level 5, Perseverance Room



Abstract

In the pharmaceutical industry, crystallisation is an important unit operation which allows facile purification and solidification of drug substances. Drug crystal attributes such as shape and size crucially impact the *in vivo* performance of the drug, in terms of bioavailability and therapeutic efficacy. Traditionally, drug substances crystallised in batch vessels lead to poor and coarse control over crucial crystal attributes, which tremendously impacts the number of subsequent processing steps required to arrive at the final drug product. In this seminar, we discuss how to overcome these challenges via the usage of microfluidics-based crystallisation techniques for directly producing monodisperse spherical drug or drug-composite microparticles with improved flowability, processability and more importantly, with tunable properties (crystal size, structure and composition). The formulations and processes discussed will provide valuable insights into the design and versatility of emulsion crystallisation for drug(-composite) microparticle design and product manufacturing.

Short Biography

Eunice joined SMART-BioSyM in 2018 as a Research Associate under Prof. Patrick Doyle. She obtained her doctoral degree in Chemical Engineering at the National University of Singapore, under the mentorship of Prof. Saif A. Khan in 2018. Her research interests are in material formulations applied to the pharmaceutical or foods industry using microfluidics.