

***UNIVERSITY OF RHODE ISLAND***

***Department of Chemistry***

***SEMINAR***

***Room 234 Pastore Hall***

***2:00 P.M, Wednesday, November 25, 2015***

***Monica McGuire***

***University of Rhode Island***

***Kingston, RI***

***“Nanosuspension – A Formulation  
Approach in Drug Delivery”***

***Host***

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## Nanosuspension – A Formulation Approach in Drug Delivery

Approximately 40% or more of the new chemical entities being generated through drug discovery are poorly water-soluble and traditional strategies in overcoming these solubility issues are limited in what they can do for solubility enhancement. The preparation of a nanosuspension is a formulation approach that has key advantages in drug delivery of poorly water-soluble drugs. Nanosuspensions can be prepared by various methods such as precipitation, media milling, or homogenizing. The current research demonstrates that reducing the drug particle size to a nano range (less than 1 micron), increases the drugs dissolution rate and improves its bioavailability. It has also been demonstrated that, in some instances, a nanosuspension formulation increases a drug's efficacy and decreases drug toxicity when compared to the marketed formulation. In this presentation I will be discussing nanosuspension preparation and characterization techniques and the critical components that are required for making a successful nanosuspension. In addition, I will be presenting on research that demonstrates an increase in anticancer activity when a drug is formulated as a nanosuspension.