PURDUE UNIVERSITY | Department of Industrial and Physical Pharmacy

Industrial & Physical Pharmacy Seminar

IPPH 69600

Monday, April 3, 2023
3:30PM in RHPH 164

"Exploring the Failure Mechanisms for High Drug Load Amorphous Solid Dispersions"

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First Seminar

Abstract:

While amorphous solid dispersions (ASDs) are a useful technique to combat low solubility of compounds, formulations are often limited by the maximum amount of drug that can be released. With low drug loading formulations, the high polymer content needed to ensure release creates a high pill burden on patients, leading to lower compliance. To combat this problem, formulations with higher drug loading are targeted, but often have poor dissolution. Literature suggests that interactions between the drug and polymer as well as drugs with high glass transition temperatures can have a negative effect on ASD dissolution, but the mechanisms of failure are not fully understood. In this study, model compounds are selected to investigate the impact of high glass transition temperature drugs and strong drug polymer interactions on poorly releasing ASDs.