

Utilizing Mathematical Modeling in the Context of Drug Induced Liver Injury

What: Bi-State Colloquium

When: Tuesday, November 27, 4:00pm

Where: Loras College, Hennessy 250

Who: Zackary Kenz

The pharmaceutical industry has increasingly embraced mathematical modeling as a method to predict drug-body interactions. Issues of drug toxicity, drug-drug interactions, and drug efficacy impact the development and approval process and are currently being investigated. To this end, DILIsym[®] is the leading software platform to help inform issues relating to drug-induced liver injury (DILI) by means of mechanistic mathematical modeling. Recent attention has been directed towards uncovering the mechanism(s) responsible for idiosyncratic DILI (iDILI), or rare adverse reactions that develop independent of drug dose, which implicate immune-mediated effects. This talk will give a brief overview of the biological and mathematical sub-models that capture the biochemical processes involved in liver function and then examine an ongoing effort to build a quantitative framework for the systematic analysis of adaptive immune responses as drivers of iDILI.

Zackary Kenz is a Scientist I for DILIsym Service, Inc., a Simulations Plus company.