

# abbvie

# Analytical Seminar

## “Drug Discovery and Development at AbbVie”

Drug discovery and development is a multi-year process that requires a community of scientists working together to efficiently bring therapies to patients in need. Scientists within the Discovery arm of pharmaceutical companies are tasked with identifying disease-specific targets (e.g., often misbehaving proteins), and generating drug candidate leads that can be further tested for safety and efficacy by their colleagues in Drug Development. This collective process can involve hundreds of scientists and take between 10-20 years before patients can benefit from these efforts. In the Protein Mass Spectrometry group within the Drug Discovery division of AbbVie, we use analytical technology to address an array of questions throughout multiple stages of what is termed the drug candidate “pipeline.” Our primary tool is a mass spectrometer, which can be used to identify new drug targets, understand disease biology, measure pharmacodynamic effects of drug candidates, and characterize complex biomolecules, among other opportunities. In short, our analytical team collaborates broadly with scientists across AbbVie to address scientific challenges. In addition, we regularly survey the landscape for technological advancements to bring into our group internally or partner to access opportunities externally. In this presentation, I will touch upon a few examples of how our group has used mass spectrometry to validate novel chemical biology probes, refute a competitor’s drug candidate mechanism of action claims, and discuss challenges with determining the cause of species-specific drug candidate toxicity through proteomics. Finally, I will touch upon my personal interest in the microbiome, glycobiology, and immuno-oncology as new areas of interest for therapeutic pursuit at AbbVie.

**Dr. Melanie Patterson**  
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Thursday, October 6, 2016

**12:00 pm** in 1315 Chemistry