



WPI

CHEMISTRY & BIOCHEMISTRY



Wednesday, September 30, 2026

12:00 PM

Gateway Park 1002

Curtis Walton

**Director of Automation and Process Optimization
Institute for Protein Innovation**

“Building the Automated Lab: Platforms and People”

Building an automated laboratory requires more than robotic instruments. It requires a flexible architecture that can adapt to changing scientific needs and a workforce equipped to operate, troubleshoot, and improve automated workflows. At the Institute for Protein Innovation (IPI), we are addressing both needs through investments in scalable automation and hands-on training.

IPI's automation platform consists of standardized workcells that function as distributed automation nodes. Common hardware and protocol designs allow workflows to run in parallel and methods to be transferred between systems. This model has increased capacity for antibody discovery and validation more than fourfold, reaching over 200 protein targets annually while improving reproducibility and operational resilience.

To help address the broader skills gap in laboratory automation, IPI developed a hands-on course that introduces students, scientists, and engineers to automated liquid handling and workflow translation. Participants gain experience converting manual protocols into reproducible automated methods, evaluating performance, and troubleshooting workflows. This talk will describe how complementary investments in platforms and people can expand scientific capacity and prepare the workforce for increasingly automated and AI-enabled research environments.

Host: Dr. Robert Dempski

