



# Unpacking the Black Box: Defining and Utilizing Chromatographic Separations and Spectroscopy

## An IMS Industrial Affiliates Program Short Course

### About Your Instructors



Dr. Curtis Guild

**B.S. Chemistry, Keene State College,  
Ph.D. Inorganic Chemistry,  
Univ. of Connecticut**

At Keene State, Curt was a research participant in synthetic, analytical, and inorganic laboratories. He was a three year orientation leader for STEM programs as well as a tutor in Chemistry & Physics, and head tutor for the Aspire Center, a TRIO program. For this work, Curt was the Chemistry Department faculty award in 2011.

Dr. Guild received his Ph.D in Inorganic Chemistry from the University of Connecticut in 2017, where his research focused on nanomaterials and in situ studies of various systems for materials, energy and environmental applications. During this time, he focused on spectroscopy and chromatography as techniques for study of a wide variety of systems. Afterwards, he spent a year in industry as a process development engineer in fiber optics manufacturing before returning to UConn to



Dr. Nicholas Eddy

**B.Sc./M.Sc. Indiana University of  
Pennsylvania,  
Ph.D. University of Connecticut**

Nicholas started his career at IUP as an organic chemist with aspirations as a biochemist, separating small molecules by chromatography and analyzing them with NMR. He studied chemical biology at UConn under the direction of Gabriel Fenteany making biologically active compounds for the study of cell migration.

During his doctoral work, he has utilized various chromatography and spectroscopic techniques for analysis of compounds. After a year postdoctoral work in 2013 at Purdue University with Arun Ghosh, Nicholas returned to UConn in 2014 as temporary teaching faculty lecturing on general and organic chemistry while aiding researchers in both liquid and solid state NMR. In May 2018, Nicholas joined IMS as the GPC and NMR lab manager.

### About the Course

The goal of this two-day short course is to familiarize participants with separation and analytical techniques, including chromatography (GC/LC), mass spectrometry (MS), vibrational (IR/Raman) and magnetic resonance (NMR/EPR) spectroscopy. Participants will be introduced to quantitative and qualitative methods for analyses of complex systems, and learn the strengths and weaknesses of individual techniques. Understanding the complimentary nature of the discussed methods will allow the participant to appreciate and interpret spectroscopic data when applied to critical applications. The course subject matter will range from basic introductions and overviews to the complimentary nature of these methods and design of experiments to leverage the strengths and limitations of these techniques.

### Course Highlights:

- Separations and Detectors: Choosing Relevant Techniques
- Defining and Utilizing Analytical Systems
- Quantitative And Qualitative Methods
- Complimentary Techniques: Pairing Analyses for Complex Questions

### Who Should Attend

This course is intended for engineers, directors, and researchers who would be utilizing these methods for investigations of materials.

### Registration

Coming Soon!

### Further Information

Questions regarding the course should be directed to Rhonda Ward 860-486- 5874 (voice), 860.486.4745 (fax) or rhonda.ward@uconn.edu.