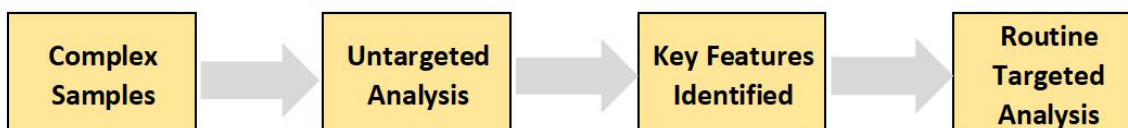


Advanced Analytical Training Course

Complex Sample Multi-Fingerprinting: Untargeted vs Targeted Chemical Analysis



Advanced Laboratory Solutions Consulting, LLC (ALSC) and our Partners at **Medusa Analytical** offer fully customizable advanced analytical courses with lectures, many with optional hands-on training using state-of-the-art analytical systems.

About this Course: The course discusses the potential value in monitoring and combining data from multiple sample dimensions for complex mixture “chemical multi-fingerprinting” (CMF). Historically the analytical tool chosen, and the sample preparation used, focuses a sample analysis on one sample dimension, i.e., analyte class. When an analyst is presented with a complex sample of various analyte classes, use of CMF can help distinguish between sample classifications that were previously difficult to discern.

What You Will Learn: The process of utilizing untargeted analytical strategies to develop routine, targeted analysis procedures for various applications such as beer, bacterial metabolites, flavor origin, bioprocessing, disease diagnosis, prognosis and treatment, and pyrolysis oil.

Who Should Attend:

- Intermediate-level practitioners of chromatography and spectroscopy instruments interested in advanced techniques for analyzing complex samples
- Lab Management concerned with advanced capabilities to address new sample types, production troubleshooting, or correlations in performance issues such as physiological changes resulting in disease or abnormality, or final product performance issues

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Our lecture presentation approach will cover:

- Market outlook and trends
- Overview of current and emerging analytical technologies
- Elaboration of specific techniques and instruments

Course Details:

- What is untargeted vs targeted analysis?
- Sample dimensionality + chemical analysis
- Tools of the trade
 - Headspace – solid phase microextraction – gas chromatography with parallel vacuum ultraviolet spectroscopy and tandem mass spectrometry detection (HS-SPME-GC-VUV/MS)
 - Liquid chromatography – triple quadrupole and quadrupole – time-of-flight mass spectrometry (LC-QQQ-MS and LC-QTOF-MS)
 - On-line supercritical fluid extraction – supercritical fluid chromatography – mass spectrometry (SFE-SFC-MS) with fraction collection capabilities
- Identify features and determine unknowns
- Moving toward integrated CMF

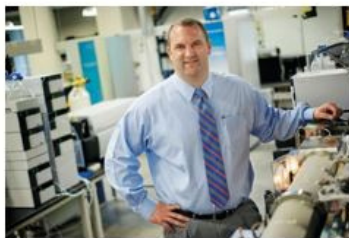
Training Options:

- University of Texas Arlington
- At or Near Client Site

Meet the Medusa Analytical Instructors: Our team of experts have extensive experience in analytical chemistry analysis, forensic chemistry, environmental toxicology and remediation, pharmaceutical chemistry, petroleum and petrochemical chemistries, alternative energy including plastics chemical recycling analysis, and regulatory compliance across various industries.



Zacariah Hildenbrand, Ph.D.



Kevin A. Schug, Ph.D.



Tiffany Liden, Ph.D.

We can customize a training course for you!

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