Workshop #3: QTOF 101: A Guide to Successful Development and Validation
Date: Monday, October 30
Time: 8:00 AM – 12:00 PM
Cost:

MEMBER RATES		
Early Bird Registration June 1 – Aug 31 $150	Late Registration Begins Sept 1 $175	On-site Registration Begins October 11 $200
NON – MEMBER AND DAILY RATES		
Early Bird Registration June 1 – Aug 31 $200	Late Registration Begins Sept 1 $225	On-site Registration Begins October 11 $250

Chairs
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Abstract
In recent years, forensic laboratories have begun transitioning from traditional screening processes (immunoassay, basic/acidic/neutral gas chromatography-mass spectrometry) to high resolution mass spectrometry (HRMS) techniques, due to sensitivity, selectivity, and amenability to routine and novel drugs. The complexities and capabilities of these systems will change the landscape of forensic testing; however, hesitation to reconstruct laboratory processes due to budget, time, comprehension, and casework prioritization may result. In this workshop, instructors with experience in development, validation, and utilization of HRMS in public and private sectors of forensic toxicology will provide insight into this seemingly daunting task. This workshop will first cover basic principles of liquid chromatography-quadrupole-time-of-flight-mass spectrometry (LC-QTOF-MS) as it relates to forensic testing, the transition from traditional screening approaches, and benefits of employing HRMS. Identification of laboratory goals including defining scope, acquiring materials, building libraries, and initiating development will be discussed. Variables such as data acquisition method types, instrumental parameters, and sample preparation techniques will be reviewed to provide a toolbox of information for comprehensive screening development. Creating method validation processes that meet standard and accreditation requirements will be addressed. A few examples of LC-QTOF-MS applications in operating forensic laboratories will be presented to include first-hand experiences using different QTOF vendor platforms (Agilent, Waters, Sciex). The workshop will conclude with a round table discussion to facilitate specific questions and inter laboratory communications.

Learning Objectives

1. After attending this workshop, attendees will have the tools necessary for developing an individualized workflow for introducing HRMS screening to their laboratory, including preliminary preparation, library building, and method development.

2. After attending this workshop, attendees will have an understanding of how to validate an HRMS screening method to meet accreditation criteria.

3. After attending this workshop, attendees will be aware of challenges associated with introducing HRMS screening as encountered by other members of the forensic toxicology community.

Faculty

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Audience Knowledge Level
Basic/Intermediate - suitable for individuals new to the field, requires little prior knowledge to the subject matter; Involves more advanced concepts requiring some technical working knowledge or prior exposure to the subject matter

Workshop Agenda:

Time	Topic	Speaker
8:00 – 8:05 am	Welcome and Agenda	Christina Smith & Kaitlyn Palmquist
8:05 – 8:30 am	HRMS Drug Screening: Basic Theory and Benefits of Making the Transition	Jessica Ayala
8:30 – 9:00 am	"Let's Get it Started" - QTOF	Kayla Ellefsen
9:00 – 9:30 am	QTOF Data Acquisition - What to Know Before You Hit "Go"	Alex Krotulski
9:30 – 10:00 am	Extraction Methods - Choosing "The One".	Helen Chang
10:00 – 10:30 am	Break	
10:30 – 11:00 am	QTOF Method Validation - Standard Requirements, Special Considerations, and Maintaining Sanity	Crystal Arndt
11:00 – 11:30 am	QTOFTalks - Lab experiences with different platforms (Agilent, Waters, Sciex)	Michael Truver, James Hunter Fleming, Christina Smith & Kaitlyn Palmquist
11:30 – 12:00 am	Round Table/Q & A session	All Speakers