2-Day Live Virtual Symposium

Confidence in Your Cannabis: Exploring New Horizons

Day 1
Wednesday, Feb 15, 2023
9am EST – 2:45 pm EST

Day 2
Thursday, Feb 16, 2023
8:30am EST – 4:30pm EST

Event Overview

As the cannabis industry matures its focus is shifting to long term sustainability and providing an increased level of consumer product safety. Efficient workflows in both laboratory design and analysis platforms are required to ensure sustainable business models. As the legal cannabis industry continues to evolve, new tools and techniques are being utilized to keep pace with the demand for increased product quality and safety. Innovative approaches to meeting these demands will be presented.

Key Learning Objectives

1. Strategies for increasing laboratory efficiency and productivity
2. Novel techniques for cannabis analysis
3. Maintaining regulatory compliance and ensuring consumer product safety

REGISTER NOW

Sponsored By:

Agilent

LAKE SUPERIOR STATE UNIVERSITY

Presented By:

LCGC

cannabis science and technology

Day One – Wednesday, February 15, 2023 Agenda

Session 1: Optimizing Laboratory Workflows

9:00 am EST	**Opening Remarks by LSSU President, Dr. Rod Hanley**
9:00 am - 10:00 am EST	**Keynote Lecture on Potency Inflation (Q&A Session: 15 minutes)** *Julie Kowalski; JA Kowalski Science Support* Potency inflation continues to plague the cannabis testing industry. Consumer and economic pressures largely influence this issue but have scientific and regulatory factors contributed? Reexamining the current landscape will highlight technical impossibilities and cart before the horse thinking.
10:00 am - 10:30 am EST	**Considerations for Cannabis Lab Layout (Q&A Session: 5 minutes)** *Heather Reece; Agilent* The purchase of analytical testing instrumentation is just one, albeit large, part of starting up a cannabis testing laboratory. It is in a lab's best interest to understand the additional logistical and regulatory requirements from the beginning to avoid unnecessary expenses later. This presentation aims to share some markets insights for lab design to help you avoid – or fix – common logistical pitfalls.
10:30 am - 11:00 am EST	**Chemical Residues in Cannabis: microExtracts and Action Limits (Q&A Session: 5 minutes)** *Vernon LaLone; Cambium Analytica* The talk will present on a microextraction methodology for chemical residue assessment of raw materials (i.e., cannabis inflorescence) to be used in manufacturing of concentrates and/or distillates and demonstrate the value and use-cases of the technology to the cannabis industry. A discussion of the status quo and potential future regulatory frameworks (e.g., CRA, CCC, FDA/USP, etc.) surrounding action limits of botanical extracts/concentrates will follow. This pre-screening platform provides tremendous value for cannabis processors operating in states where chemical residue action limits are equivalent for cannabis inflorescence and concentrates (e.g., Michigan) in contrast to states where action limits are enforced only on raw plant material used to manufacture concentrates (e.g., Massachusetts).
11:00 am - 11:15 am EST	**Break**

REGISTER NOW

Sponsored By:

Agilent

LAKE SUPERIOR STATE UNIVERSITY

Presented By:

LCGC

cannabis science and technology

Day One - Wednesday, February 15, 2023 Agenda

Session 2: New Strategies to Solve Old Problems

11:15 am - 11:45 am EST	**LCMS for Potency (Q&A Session: 5 minutes)** *Jean-Francois Roy; Agilent* Although other techniques are sometimes used, liquid chromatography (LC) has been the technique of choice to perform cannabinoid potency testing. Coupled to ultraviolet (UV) detection, LC-UV combines easy set-up and usage with low maintenance and sufficient sensitivity for most cannabis and hemp products. However, a few shortcomings have been reported for potency work performed with LC-UV, namely lack of reproducibility across matrices and lack of sensitivity for low-level cannabinoids. Mass spectrometry (MS) has also been employed for potency. LC-MS is sometimes perceived as a high-end technique that can only be used by highly trained chemists. This talk will discuss how LC-MS can routinely be used by lab analysts for potency work, and how it can address the shortcomings of LC-UV.
11:45 am - 12:15 pm EST	**LC-TOF for Cannabinoid Fingerprinting (Q&A Session: 5 minutes)** *Mark Zierdin; Lake Superior State University* There are over 100 known phytocannabinoids, many of which have very similar molecular weights. This presents challenges for both separation and quantitation. Use of high resolution mass spectrometer instruments can help elucidate new structures and classify variety metabolic fingerprints.
12:15 pm - 12:45 pm EST	**Break**

Session 3: Screening Methods for Adulteration of Cannabis Products

12:45 pm - 1:15 pm EST	**LDIR for Cannabis Microplastics (Q&A Session: 5 minutes)** *Ben Southwell; Lake Superior State University* Identification of contaminants in cannabis is a critical workflow for maintaining consumer confidence in products brought to market. While microplastics have garnered attention in other products, limited research has focused on the cannabis industry. An overview of microplastics and the use of Laser Directed Infrared Microscopy (LDIR) for their identification will be presented.

REGISTER NOW

Sponsored By:

Agilent

LAKE SUPERIOR STATE UNIVERSITY

Presented By:

LCGC

cannabis science and technology

Day One – Wednesday, February 15, 2023 Agenda

1:15 pm - 1:45 pm EST	**Using SEM for Foreign Matter Identification (Q&A Session: 5 minutes)** *David Edwards; JEOL, and Hanna Clause, Lake Superior State University* There continues to be an increased consumer and regulatory focus on ensuring ensure cannabis is free of contaminants. The definition of what constitutes a physical contaminant however, continues to evolve. Scanning Electron microscopy (SEM) is a tool that is just beginning to be utilized in the cannabis induction for contaminant localization and identification. An overview on the use of SEM in cannabis analysis and some of the challenges it is able to address will be presented.
1:45 pm - 2:15 pm EST	**Heavy Metals Contamination of Rolling Papers (Q&A Session: 5 minutes)** *Derek Wright; Lake Superior State University* While Cannabis is consumed in many forms, smoking with rolling papers, wraps, and cones continues to be among the common ways to consume Cannabis. In most jurisdictions, the metal content of these papers is unregulated, or regulated only for pre-rolls. Prior work has documented elevated concentrations of the "Big 4" elements in some papers resulting in compliance failure in pre-rolls, but more comprehensive data on metals has thus far not been readily available to the Cannabis industry or regulators. New research documenting the abundance of 26 elements in rolling papers will be presented, and the implications for consumer product safety and future regulatory compliance will be discussed.
2:15 pm - 2:45 pm EST	**Ask the Experts - Open Forum Q&A (Breakout Room for each session)**
2:45 pm EST	**Audience Raffle and Closing Remarks**

REGISTER NOW

Sponsored By:

Agilent

LAKE SUPERIOR STATE UNIVERSITY

Presented By:

LCGC

cannabis science and technology

Day Two - Thursday, February 16, 2023 Agenda

Session 1: Growing Paradigms in Regulatory Compliance

8:30 am - 9:30 am EST	**Keynote Lecture on How Lab Design, Workflow Optimization can Impact Accreditation and Regulatory Requirements (Q&A Session: 15 minutes)** *Kate Evans; Longboard Scientific Consulting* Start-up cannabis testing laboratories projects require significant investment in time and financials. Getting the laboratory design that works for all the required testing is often overlooked and correcting later while in production is not always possible. Discussion of workflows and required documentation to satisfy ISO 17025-2017 and examples of how regulatory requirements may be impacted will be presented as real working examples of what can go wrong and how to potentially prevent costly mistakes.
9:30 am -10:00 am EST	**Laboratory Compliance for Cannabis Testing (Q&A Session: 5 minutes)** *Matt Abrahms; Agilent* Cannabis is a new and popular industry with potential for exponential growth over the coming decade. As the industry continues to mature, regulations surrounding its quality are expected to become more stringent. To help laboratories prepare, this presentation will discuss two important compliance principles - Data Integrity and Instrument Qualification. Both principals ensure that laboratory generated data are defensible, and both are requirements of ISO 17025, state cannabis regulations, and current Good Manufacturing Practices (cGMP).
10:00 am - 10:30 am EST	**EU Pharmacopeia (Q&A Session: 5 minutes)** *Jean-Francois Roy; Agilent* The cannabis market is expanding at a rapid pace across the globe. While cannabis testing was mainly a local and regional affair in its infancy, the industry is now morphing into a multi-state, national and even international business in which laboratories navigate through multiple different regulations. This is particularly true for pesticide testing, where lists of regulated pesticides, as well as each individual action limit, will vary from one geography to the next. This presentation will use the case of the European Pharmacopeia (EP) regulated pesticide list as an example of strategies that can be employed when expanding (and adapting) the scope of existing pesticide testing methods.
10:30 am - 11:00 am EST	**Ask the Experts - Open Forum Q&A**
11:00 am - 12:00 pm EST	**Audience Raffle and Break**

REGISTER NOW

Sponsored By:

Agilent

LAKE SUPERIOR STATE UNIVERSITY

Presented By:

LCGC

cannabis science and technology

Day Two - Thursday, February 16, 2023 Agenda

Session 2: Certificate-Based Agilent Workshop

12:00 pm - 4:00 pm EST	**Certificate-Based Agilent Tools for Everyday Data Analysis...and for When Things Go Wrong Workshop** *Julie Kowalski; JA Kowalski Science Support, and Kate Evans; Longboard Scientific Consulting* Cannabis testing involves examining and reviewing a lot of data and different types of data. Strategies to do this are not often part of formal education and scientists often develop these skills over time. This workshop will introduce a few important tools, including calibration model evaluation and response factors, that not only help with everyday review but that become critical when investigating issues.

Workshop Agenda (Includes Live Software Demo)

12:00 pm - 12:20 pm EST	**Introduction, Inspiration and Overview**
12:20 pm - 12:40 pm EST	**Building a Curve – More than R^2 (Part 1)**
12:40 pm - 12:50 pm EST	**Live polling questions**
12:50 pm - 1:15 pm EST	**Building a Curve – More than R^2 (Part 2)**
1:15 pm -1:30 pm EST	**Live polling questions**
5-minute break	
1:35 pm - 2:30 pm EST	**The Indispensable Response Factor**
2:30 pm - 2:40 pm EST	**Live polling questions**
5-minute break	
2:45 pm - 4:00 pm EST	**Something Went Wrong - Now What?** 2 to 3 scenarios depending on time. Each scenario will be about 20 minutes of setup/ explanation followed by poll questions.

REGISTER NOW

Sponsored By:

Agilent

LAKE SUPERIOR STATE UNIVERSITY

Presented By:

LCGC

cannabis science and technology

Day Two - Thursday, February 16, 2023 Agenda

General schedule

Scenario 1:	**Setup/explanation ~20 minutes** **Poll questions/discussion – 5 minutes**
Scenario 2:	**Setup/explanation ~20 minutes** **Poll questions/discussion – 5 minutes**
Scenario 3:	**Setup/explanation ~20 minutes** **Poll questions/discussion – 5 minutes**
4:00 pm - 4:30 pm EST	**Q&A with Julie Kowalski and Kate Evans**
4:30 pm EST	**Closing Remarks by Agilent, LSSU, and LCGC**

Scenarios based on real life experiences will be presented. We will present the problem and provide relevant information and data. For example, CCV samples tested throughout a sample batch start to fail for one analyte only or a handful of analytes in QC samples 10 times higher than expected. We will work through investigating the data using the tools we introduced earlier like residuals and response factors. In some cases, we will find the exact issue and in others cases the investigation will reveal the best troubleshooting avenues.

REGISTER NOW

Sponsored By:

Agilent

LAKE SUPERIOR STATE UNIVERSITY

Presented By:

LCGC

cannabis science and technology