

2018 Continuing Education Symposium



Medical Cannabis Symposium

Saturday, April 14, 2018, 8:30 am – 11:30 pm

Old Town Buffet

860 Saw Mill Run Blvd. Pittsburgh, PA 15226

- 8:30 Registration and Opening Remarks
- 9:00 **Analytical Instruments Utilized in Cannabis Testing**
Bob Clifford, Ph.D. - General Manager, Shimadzu Scientific Instruments, Inc.
- 9:45 **A Voyage into the Captivating Realm of Cannabis Science and its Regulation**
Jason Lupoi, Ph.D. - Consulting Scientist and Analytical Chemist, RJ Lee Group
- 10:30 Break
- 10:40 **A Day in the Life of a Medical Cannabis Sample**
Kelly Greenland, Ph.D. – Chief Scientific Officer, Keystone State Testing
- 11:30 Luncheon and Discussion

OPEN TO THE PUBLIC

Please register by Wednesday **April 11, 2018**

Registration Fee: \$10 - Lunch & Parking Included

Please make check payable to SSP and mail the Registration Form below to:

Amy Bovino, SSP Continuing Education

300 Penn Center Blvd

Pittsburgh, PA 15235



Medical Cannabis Continuing Education, April 14, 2018

REGISTRATION FORM

Name: _____ Affiliation: _____

Mailing Address: _____

Email: _____ Phone: _____

_____ I am attending the luncheon.

2018 Continuing Education Symposium



Speakers



Bob Clifford, Ph.D. Shimadzu

Analytical Instruments Utilized in Cannabis Testing

Biography: Dr. Bob Clifford received his Bachelor's degree from Glassboro State College, now Rowan University in New Jersey, his Master's degree from Villanova in Pennsylvania, and his Ph.D. from George Washington University in Washington, DC. He has published and presented over 125 papers in the fields of food, pharmaceutical, environmental, energy, geology, material science, photonics, and cannabis. However, his true love is in food. His first chemistry job was as a summer intern at Campbell Soup Company where he was hired as a full-time employee. After he went back to graduate school he took another job as intern at the FDA where he was also hired as a full-time employee. After graduating with his Ph.D., he left the FDA for Shimadzu where he has worked for the last 26 years. Bob was recently promoted from Marketing Manager of Food & Consumer Products including cannabis to General Manager of Marketing.

Abstract: Before we consume foods or prescription medicine there are government agencies protecting the population from harmful contaminants and ensuring the dosing on the labels are accurate. The same should be true for medical cannabis, especially since many patients may have immunocompromised systems. The protection comes in the form of analytical instruments utilized for cannabis testing. People need to know what the concentrations are for the various cannabinoids since each cannabinoid may have a different medical benefit. Terpenes have a synergistic effect with the cannabinoids from a medical standpoint. Wouldn't it great if cannabis came with a label of cannabinoid and terpene concentrations like that of food labels. This is possible with analytical instruments like HPLC and headspace GCMS for testing cannabinoids and terpenes, respectively. Analytical instrument testing is also for compounds not listed on the label like harmful contaminants of pesticides, residual solvents, heavy metals, mycotoxins, and pathogens. Other instruments such as LC-MS/MS, GC-MS/MS, and ICP-MS can be used to prevent exposure to these toxic compounds.



Jason Lupoi, Ph.D. RJ Lee Group
***A Voyage into the Captivating Realm
of Cannabis Science and its
Regulation***

Biography: Dr. Lupoi graduated summa cum laude from LaRoche College in Pittsburgh, Pennsylvania, with a B.S. in Chemistry, prior to earning a Ph.D from Iowa State University. There, Dr. Lupoi began evaluating plants with analytical tools such as spectroscopy, research that continued for two postdoctoral appointments for the University of Queensland/Lawrence Berkeley National Lab and the National Renewable Energy Lab. Before coming to RJ Lee Group (RJLG), Dr. Lupoi led research projects focused on modeling chemical properties from large data sets. These models were designed using spectroscopy coupled with analytical methods like chromatography, enabling high-throughput techniques for rapidly screening plant chemistry, including cannabis. At RJLG, Dr. Lupoi serves as a technical expert, auditor, and consultant for the WSLCB and laboratories in Nevada. Dr. Lupoi has authored several peer-reviewed publications, has been an associate editor for *Frontiers in Biotechnology and Bioengineering*, and has reviewed manuscripts for several biofuel and analytical chemistry journals.

Abstract: The cannabis industry as a whole is under considerable scrutiny. Finger-pointing and blame regarding inaccurate product labels run rampant. Media outlets have often faulted the skill of the laboratories, a circumstance that leaves everyone feeling confused, distraught, and outright swindled. More recently, several entities, such as ASTM International, have embarked on forging paths to standardize cannabis analytical testing. Some individuals have suggested that we look to relevant, standardized methods from parallel industries such as pharmaceuticals, agriculture, or food and beverage. Regardless of which procedures are nominated and implemented uniformly by states having legalized cannabis, this undertaking will take time...it cannot happen overnight. In the meantime, it is the responsibility of each member of the cannabis industry, regardless of business sector, to take on their share of the obligation in making sure that commercial products are safe for consumption, or that ancillary goods have been deemed scientifically valid by experts in the subject matter.

Cannabis is an extremely complex and fascinating medicinal plant. There are many sources of variance that can contribute to the final numbers placed on a product's label. These can include natural variation, horticultural differences, and diversity in the analytical methods used to evaluate plant and product chemistry. RJ Lee Group (RJLG) is committed to helping labs combat the latter source of variation, such that the data provided to their customers, and ultimately the public, is bulletproof. RJLG is the auditing body for the Washington State Liquor and Cannabis Board, and also provides consultation to labs in Nevada. Our pedigree translates well to the cannabis industry, as we have habitually provided expertise in evaluating vital public health and safety concerns. Some cannabis labs have shown questionable scientific integrity. Our mission is to eradicate bad science and provide assistance and expertise to facilities who strive to hone their skill and enhance the science of this developing industry. Until every patient can rest assured that the products they use in battling any number of ailments has been cultivated, processed, and analytically appraised with integrity, no one benefits.



Kelly Greenland, Ph.D. Keystone State Testing
***A Day in the Life of a Medical
Cannabis Sample***

Biography: On September 21, 2017, The Pennsylvania Department of Health approved Dr. Kelly Greenland to be the first female owner-operator of a Medical Marijuana analytical testing laboratory. Dr. Greenland is a Pennsylvania native, with family ties dating back to the revolution. She is a product of the State College Area School District and alumnus of Lock Haven University of Pennsylvania with a doctorate from City College Of New York. Dr. Greenland's background is in experimental bio-physics, and she has had an extensive research career using much of the equipment and techniques necessary in the MMJ Field. Additionally, she has been instrumental in Keystone State Testing receiving ISO17025 accreditation through A2LA.

Abstract: Your morning starts off the same as so many before, the light slowly overtakes the dark and you bask in the warmth absorbing energy to allow you to produce medically beneficial cannabinoids and terpenes. Then suddenly, you're dead. Someone has cut your stem separating you from your roots which provided nutrients and water. You're moved to hang upside down in a cool dry room where all that moisture you had consumed slowly leaves your body. After a week, your leaves and flowers are methodically stripped from your stems and ground to a rough mix. The mix is divided into 10-pound divisions and someone dressed in a goofy suit comes and takes small scoops and puts them in sealed containers and whisks them away. Your consciousness can still connect with the samples and you recognize as they're locked away in a container until they're at some sterile location far away. This is their story.