



Scientific Webinar Invitation

Cannabis Excellence Day

18 May 2022

PROGRAMME

WEDNESDAY 18/5/2022

Greek time 12.50	CET time 11.50	Welcome-Introduction Mr. Chris Kontogiannis/General Manager Hellamco S.A. Mr. Yiannis Mouroutis-Prionistis/Chemist-Cannabis & Hemp Business Unit Manager	HELLAMCO SCIENTIFIC EQUIPMENT
13.00	12.00	Title: Rapid Sample Preparation for Analysis of Cannabinoids, Pesticides and Heavy Metals in Cannabis Presenters: Messers. Axel Schoener/Director of Distributor Sales, EMEA and Sout Maxim Diel/ International Technical Specialist	CEM thern Asia
13.40	12.40	Title: Solutions to ensure the quality and safety of cannabis PART I Presenter: Mr. Rainer Turek/Regional Business Development Manager LC Systems	Waters THE SCIENCE OF WHAT'S POSSIBLE.
14.20	13.20	Title: Solutions to ensure the quality and safety of cannabis PART II Presenter: Mr. Rainer Turek/Regional Business Development Manager LC Systems	Waters THE SCIENCE OF WHAT'S POSSIBLE.
15.00	14.00	Title: The effect of light spectrum on cannabis morphology and cannabinoid content Presenter: Ms. Stiina Kotiranta/Research Manager	VALOYA
15.40	14.40	Title: Cannabis & Hemp Oil Purification with short path evaporators Presenters: Messers. Raphael Wagensonner/Project & Sales Engineer Klaus Besendorfer/ Project & Sales Engineer	VIA
16.20	15.20	Title: Thar Process: Efficient, sustainable and compliant technologies for the commercial scale production of pharmaceutical grade cannabinoids Presenter: Dr. Nikolas Xynos/Global R&D - EMEA Training Expert	Sustainable Trust
17.00	16.00	Title: Conviron Growth & Dry Rooms: Precision to Profits Presenters: Messers. Travis Routhier/Commercial Sales Manager, North America Sarvesh Ramlochun/Account Manager-Global Production Of Michael Hofmann/Director & Owner — Hofmann Consulting (Former Vice President of Cultivation at BZAM)	Clients
17.40	16.40	Title: HIGHER EFFICIENCY=HIGHER REVENUE: How to maximize post-harvest success in a GMP environment Presenter: Ms. Amanda James/Director of Strategy & Business Development	MOBIUS TRIMMER
18.20	17.20	Closing the Cannabis Excellence Day Mr. Chris Kontogiannis/General Manager Hellamco S.A. Mr. Yiannis Mouroutis-Prionistis/Chemist-Cannabis & Hemp Business Unit Manager	HELLAMCO® SCIENTIFIC EQUIPMENT



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ABSTRACTS

WEDNESDAY 18/5/2022

Greek time 13.00

CET time

12.00 Title: Rapid Sample Preparation for Analysis of Cannabinoids,

Pesticides and Heavy Metals in Cannabis

Presenters: Messers. Axel Schoener/Director of Distributor Sales, EMEA and Southern Asia

Maxim Diel/ International Technical Specialist

Due to the complex nature of the cannabis plant, a complete and reliable analysis can be difficult to achieve. The first step to any analysis is to ensure a complete extraction or digestion. In this presentation, you will learn techniques and tools for fast, efficient, and reproducible extraction and digestion of cannabis and cannabis infused samples. These simple processes can be done in under 30 minutes for fast and reliable results. The extraction of cannabinoids and pesticides as well as microwave digestion of mixed samples including flower, edibles, lotions, extracts, and oils will be addressed. CEM is dedicated to providing guidance for sample preparation for analysis of constituents and contaminants in cannabis and cannabis containing products to labs worldwide.

13.40

12.40 Title: Solutions to ensure the quality and safety of cannabis PART I

Waters Presenter: Mr. Rainer Turek/Regional Business Development Manager LC Systems

During this presentation you will learn about solutions provided by Waters for the chromatographic analysis of quality (bioactive substances) and safety (contaminants) parameters for cannabis. You will learn about our instruments as well as sample preparation for this challenging matrix – cannabis.

14.20

Presenter: Mr. Rainer Turek/Regional Business Development Manager LC Systems

13.20 Title: Solutions to ensure the quality and safety of cannabis PART II

Waters

During this presentation you will learn about solutions provided by Waters for the chromatographic analysis of quality (bioactive substances) and safety (contaminants) parameters for cannabis. You will learn about our instruments as well as sample preparation for this challenging matrix – cannabis.

15.00

14.00 Title: The effect of light spectrum on cannabis morphology and cannabinoid content

VALOYA

Presenter: Ms. Stiina Kotiranta/Research Manager

The effect of light spectrum on cannabis morphology and cannabinoid content

In this webinar you will learn about the latest research on lighting for cannabis. The presentation contains data from multiple experiments conducted together with some of the top European universities. Results shared will help growers better understand how light affects cannabis and drives its growth. Light, more than any other growth factor, affects the plant performance. Plant height, flower yield, cannabinoid, and terpene concentrations, etc. are all controllable with a good light spectrum and a balanced, tested light recipe.

Valoya, the research driven LED manufacturer has conducted 600+ plant trials on 300+ plant species / varieties in the past 13 years. This data is used to develop high quality LED luminaires and to ensure that growers get accurate light recipes for their crops.

The cannabis trials by Valoya began in 2014 in collaboration with CREA CI, an Italian research institute led by Dr. Gianpaolo Grassi, one of world's leading cannabis researchers. Some of this data has been published in academic journals, in addition to about 100 published scientific studies with Valoya lights thus far.

The webinar will be hosted by Ms. Stiina Kotiranta, Valoya's Research Manager with extensive experience in plant biology research.

15.40

14.40 Title: Cannabis & Hemp Oil Purification with short path evaporators Presenters: Messers. Raphael Wagensonner/Project & Sales Engineer Klaus Besendorfer/ Project & Sales Engineer

Cannabis and hemp oil purification with short path evaporators Hellamco and VTA setup a cooperation to sell special distillation equipment for the purification of cannabis and hemp extracts into the Greek, Cyprian and North Macedonian markets. The main advantage of VTA's technology compared to conventional distillation is the very low vacuum, down to 0.001 mbar. The low vacuum is necessary to distill cannabis and hemp oil at lower tem-

peratures, avoiding thermal damage. The webinar gives an overview of the distillation equipment like the short path evaporator, the degasser, the cold trap and the wiper system. VTA will explain how to operate, clean and maintain a lab unit for the purification of cannabis and hemp oil.

16.20

15.20 Title: Thar Process: Efficient, sustainable and compliant technologies for the commercial scale production of pharmaceutical grade cannabinoids Presenter: Dr. Nikolas Xynos/Global R&D - EMEA Training Expert

Thar Process

1. Thar historical Development

Thar Technologies Inc. was established in 1990 based on the pre-existence of Suprex Corp. and eventually was split into four entities. Thar Instruments Inc. was sold to Waters Corp. in 2009, while Thar Process Inc. spun off in 2012. Thar has always pioneered R&D and commercial applications in the supercritical fluid technologies. Nowadays, Thar Process has two major revenue streams, equipment manufacturing and R&D/Toll processing, always focused on supercritical fluid (SF)-based processes and technologies. 2. Who we are & What we do

Thar designs, manufactures and sells advanced supercritical CO2 ex-

ment).

traction (SFE) and chromatography (SFC) systems ranging from pilot to commercial scale. These systems are optimally designed and fully compliant with food and pharma regulation (HACCP/cGMP). In this context, we are supplying state-of-the art extraction systems with features like separate terpene collection, co-solvent and very high-pressure -up to 600 bars operating pressure- as a standard. We offer throughputs from 30Kg to 4 tons daily (2x9L to 2x1650L). We are also the manufacturers of the largest and only actually industrial SFC systems equipped with DAC columns ranging from 10 to 60cm diameter and with co-solvent capabilities up to 30% for wide range of applications, also allowing for efficient CO2 recycling, automated control and more. We also design and build custom-made systems for supercritical fluid countercurrent ex-



traction, particle design, subcritical water extraction etc. (https://www.tharprocess.com/equip-

years we have developed many new applications for food & pharma, in both extraction and purification. A few of the major application fields that we have focused at a large commercial scale were: 1) Cannabinoid extraction and purification/remediation by utilizing both SFE and SFC, 2) Polyunsaturated fatty acids (e.g. omega-3) and astaxanthin extraction from algae and microalgae through SFE, 3) Synthetic lipid purification for mRNA vaccine production through SFC, 4) Medicinal plants extraction for active ingredient recovery, 5) Chiral separations of active pharmaceutical ingredients (APIs) and many more (https://www.tharprocess.com/processing-services). 3. The pathway ahead for pharmaceutical cannabinoids with Thar

Thar also operates a cGMP toll processing and contract R&D facility in the US. In the last ten

Today the cannabis industry in Europe is rapidly evolving to a special subsidiary of the pharma-

ceutical industry, by incorporating the corresponding strict quality standards (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7098857). Compliance with EU-GMP regulation is a must, while the profit margins differ from what it used to be. In parallel, most sophisticated products are the tendency, requiring high purity APIs. Finally, environmental concerns and related regulations provide limitations and greener approaches are required in production. Thar Process was prepared for these evolutions and is ready to serve this industry in the best possible way, based on three main pillars: Efficiency, Sustainability and Compliance.

17.00

Presenters: Messers. Travis Routhier/Commercial Sales Manager, North America

16.00 Title: Conviron Growth & Dry Rooms: Precision to Profits

CONVIRON

MOBIUS

Sarvesh Ramlochun/Account Manager-Global Production Clients Michael Hofmann/Director & Owner — Hofmann Consulting (Former Vice President of Cultivation at BZAM) In this webinar session, join Conviron, global leaders in growth chambers, in an introduction to

precision growing and drying. Understand how reliable plant-centric chambers result in a profitable operation from the perspective of Michael Hofmann, an experienced Conviron & Argus Controls user.

17.40

16.40 Title: HIGHER EFFICIENCY=HIGHER REVENUE: How to maximize post-harvest success in a GMP environment

Presenter: Ms. Amanda James/Director of Strategy & Business Development

OPTIMIZING SYSTEM FEEDING & RESULTS STAFFING RECOMMENDATIONS **CLEANING VALIDATION & GMP**

PROCESSING ROOM LAYOUT AND DESIGN PRODUCT HANDLING AND FLOW

- Wash bay sizing, layout and equipment
- Development of cleaning SOPs
- Preventative maintenance OVERVIEW OF MOBIUS PROCESSING EQUIPMENT
- **MBX Bucker**
- M108S Trimmer M9 Sorter
- M210 Mill **Mobius Conveyors**