



The SIU Cannabis Science Center Welcomes You!

FACILITY TOURS

SIU students and faculty visit AerosourceH.

In October, students and faculty of SIU visited two AerosourceH facilities in both Illinois and Kentucky. Students learned about cultivation, horticulture, processing, and operations of the lab where AerosourceH produces Nano CBD and Micro CBD, topicals, and more.



Above, students pose for a group photo with Dr. Dale Buck Hales and Dr. Jose Leme, and samples of CBG flower. This is a new product being offered by AerosourceH, grown in their aeroponic chambers. The company is leading the way in the CBD industry by producing Nano and Micro CBD from high-quality hemp grown in Kentucky and Illinois. Their website explains, “Nano CBD is an emulsion of purified water, long chain triglycerides, emulsifiers, and CBD.

While an emulsion simply refers to a mixture of oil and water, our Nano CBD is made using our proprietary process that uses sound waves to break the particle size of the CBD oil below 100 nanometers for faster absorption and increased bioavailability. This type of product is known as a nanoemulsion, and is used in diverse areas such as drug delivery, food, cosmetics, pharmaceuticals, and material synthesis”. See their gummies, below.

We produce our Nano CBD in 2.5% (25 mg/mL) and 5% (50 mg/mL) concentrations, with a particle size of less than 100 nanometers. These concentrations, coupled with the higher bioavailability of the small particle size, are appropriate for many CBD users. However, some people do prefer an even more potent option to allow a higher amount of CBD per usage.



This may also allow the consumer to get the most cost-effective form of CBD by having the highest concentration per drop. See Nano products, below.



AerosourceH explains their Micro CBD as, “a 10% emulsion in purified water, produced using the same technology as our Nano CBD. Because of the higher concentration of CBD in the formula, the finished particle size is somewhat larger than that of our Nano CBD, but is below 200 nanometers. As the particle size gets smaller, the bioavailability increases. Micro CBD therefore has a bioavailability advantage over oil-based or other non-emulsified forms.



Newsletter Design, Katherine Accettura



FACULTY FEATURE

JOSE LEME



Photo above, by Dr. Jose Leme.

We are excited to welcome **Dr. Jose Franco Da Chuhna Leme Filho** as one of SIU's newest tenure-track hires for Fall 2021. These new faculty were selected through national and international searches and represent the very best in their respective disciplines. Dr. Leme is faculty in the School of Agricultural Sciences and also the School of Biological Sciences. He achieved his PhD from Virginia Polytechnic Institute and

State University. Jose's research expertise encompasses cannabis biology and cropping systems. The field of research on cannabis is very broad and multifaceted, therefore he is also in intensive collaboration with other faculty members and students to ensure that his program is tracking the most updated scientific discoveries. He is working to strengthen research and teaching collaborations with the School of Medicine and the Cannabis Science Center by evaluating the use

of cannabinoids, terpenes, and other secondary metabolites. Since cannabis is technically new as a commercialized crop in Illinois, there is an open field to be explored by both schools he is appointed in, including Agricultural Sciences and Biological Sciences. Knowledge regarding cannabis water use, fertilization, disease/pest control, controlled environment cultivation and cannabinoid extraction are outdated due to the previous legal status. The trends in agriculture such as precision ag, and plant biostimulants are very applicable to cannabis as well. Cannabis relevance will only continue to increase given

the substantial interest of the general public. He firmly believes there are numerous benefits that we will discover as more research is conducted on cannabis.



Often, Dr. Leme and his students can be found working in their outdoor hemp fields, collecting data, and researching the many effects of southern Illinois' hot and humid growing seasons on local hemp fields.



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Dr. Leme and his students pose for a photo, left, with their Fall 2021 hemp harvest, which offered great insight in his first year of research at SIU. In such a short time, Dr. Leme has taken an active role in becoming one of the new faces of the Cannabis Science Center. He takes pride and great commitment in reaching students through various social media channels including TikTok, Facebook, Instagram, and his personal website, www.DrLeme.com. Follow his pages for updates on the revolutionary work he is doing with SIU and learn more about his approaches.

His use of inspiring, educational videos and photography engages people of all backgrounds to pursue an interest in cannabis, and is aiming to grow the SIU Cannabis Science Center in coming years.

During one of his latest Controlled Environment Ag class, Dr. Leme challenged his students to set up an indoor portable growth chamber, which was donated to the SIU Cannabis Science program by AerosourceH, giving students real life experiences, learning practical tasks that address science and technology.

Dr. Leme is serving as a PhD committee member for Bryan Foster, photo bottom right, a second year doctoral student in the Plant Biology program at SIU. Foster works closely with Dr. David Gibson to conduct research pertaining to feral hemp (*Cannabis sativa*) varieties in the Midwest. Foster explains, “My research is broken down into three parts:

- 1). A field study using GIS tools to identify the population demography of feral hemp within Illinois to determine what factors (biotic and abiotic) contribute to its success;
- 2). Weed emergence trials to determine whether or not hemp may be a good cover crop and what varieties (feral & industrial) would be a good fit for southern Illinois climate; and
- 3). Competition experiments looking at the effects of interspecies competition on the THC, CBD and fiber production within feral and industrial varieties of hemp. Not a lot is known about this species of plant and factors pertaining to its cultivation, so I am hoping my research is not only useful for the scientific community but to potential growers as well”.

[Learn more about the Cannabis Science Center on our website,](#)



Photo above, by SIU.



Photo above, by Dr. Leme



Photo above, by Bryan Foster



ALUMNI FEATURE

MEGAN ARCHER



Photo above, by Marijuana Venture.

She loves the excitement of the cannabis industry and even the challenge of hitting a “chaotic, ever-moving target”.



Megan Archer graduated from Southern Illinois University Carbondale with a Bachelor’s in Chemistry, and a Master’s in Environmental Toxicology and Chemistry. Using her interests in chemistry and cannabis, she utilized her degree earned from SIU to elevate the medical and recreational cannabis industries during their rise in early years. She brought her extraction lab into fruition by complying to vigorous state

standards while continuing to stay competitive in a very fast-paced and fierce industry in Illinois, her home state. Archer, was featured in another recent article by Marijuana Venture, photo above, which details Archer’s thoughts on working in the state of Illinois. Also detailed in the article was her past career at Fluresh, a Michigan Medical Cannabis Cultivator, where she held a position as director of processing, “overseeing both extraction and infused products for the

company, including both the Fluresh and the newly launched Carbon product lines. They are made with live and cured rosins, as well as soft-gels and a drink enhancer, with gummies and pastilles on the way”, some of which are shown on the next page. “She loves the excitement of the cannabis industry and even the challenge of hitting a “chaotic, ever-moving target,” and says it is fun working to build a new industry, particularly as a woman in a male-



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Photo above, by Fluresh

dominated field. “What I love about the cannabis industry in general is it’s helping people, even if it’s being used as a recreational product,” she says. After graduating from SIU, prior to Fluresh, Megan got an introduction to our local state cannabis industry as Lab Director of an extraction lab at a Medical Cannabis Cultivator in southern Illinois. photo right, shows Megan in that lab, holding Women & Weed Magazine, in which an article featured her experiences as a woman in the cannabis industry.

Her most recent endeavour led Megan into a position as Regional Director of Extraction for Ascend Wellness Holdings, where she will be overseeing extraction labs in various states across the midwest and northeast. The company is, “a vertically integrated cannabis cultivator, processor and dispensary operator with assets in Illinois, Massachusetts, Michigan, New Jersey and Ohio. The company is looking to build a world class team that will help carry out their mission to shape the future of cannabis as a leading healthcare solution”.



Photo above, by Katherine Accettura