



Meet Sal Pace, Member of the ICR Governing Board



Mr. Sal Pace

Sal's unique resume has allowed him to build a diverse set of business and political relationships. As the Colorado State House Minority Leader he drafted many of the first cannabis regulations in the world; and he continues to be a nationally recognized cannabis reform leader today. Beyond cannabis, in the state House, Sal focused heavily on environmental issues, passing legislation to create the Fountain Creek Watershed District and to protect Pinon Canon. Sal championed criminal justice reform, while working to create permanent funding for transit and rail in Colorado. In fact, Sal helped lead a fight to raise nearly a quarter billion dollars to save Amtrak's long distance service between Chicago and Los Angeles, which earned him the highest national recognition by Amtrak in 2016.

Following his time at the State House, Sal was elected Pueblo County Commissioner where he guided Pueblo into becoming "The Napa Valley of Cannabis." He also worked to ensure the establishment of the Pueblo County marijuana-funded scholarship fund, which guaranteed that every high school graduate from Pueblo receives a scholarship towards higher education. Sal also worked closely with community leaders to establish the CSU Pueblo Institute of Cannabis Research, which is the first cross disciplinary marijuana research institute in the nation at a degree-awarding university. Prior to serving in public office, Sal was a college instructor and worked as a Congressional staffer and campaign manager for Congressman John Salazar. Sal has a truly unique biography with experience at the Federal, state and local levels

After leaving office, Sal served as a co-chair for Governor Polis's transition team in Colorado. Sal is also an owner of a professional ultimate frisbee franchise beginning play in Colorado in 2022; and he manufactured trademarked Grateful Dead ultimate discs, which he sold for two summers with his family at Dead and Company concerts. When Sal isn't serving as President of Sal Pace & Associates you will likely find the family enjoying some ultimate frisbee, fishing, live music or engaging in a fun community event somewhere in the mountains.

Sal remains busy as a volunteer, serving as the national board chairman for the Marijuana Policy Project. He also serves on the boards of the Front Range Passenger Rail Commission, the Colorado Independent Venues Association, the US Cannabis Council, the Institute of Cannabis Research and HeadCount's Cannabis Voter Project.

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**Carolina Corredor**

Carolina Corredor is a 2021-2022 Visiting Researcher for the Institute of Cannabis Research. She is currently a Ph.D. candidate in Agroecology at the National University in Bogotá, Colombia. She holds a B.S. in Agricultural and Veterinary Microbiology at the Pontifical Javeriana University and an M.S. in microbiology from University of the Andes University in Bogotá, Colombia. Her Masters research assessed the survival of endophytic fungi isolated from garden roses to different commercial pesticides concentrations in an in vitro environment (commercial pesticides against the gray mold “*Botrytis cinerea*” in commercial flowers). From the selected endophytic fungi crude extracts were analyzed as potential biocontrol of the grey mold in commercial roses at the postharvest stage.

Her love for microorganisms and their potential relationships on plant’s biology and agronomy drew her to Agroecology and Cannabis research. Her current research assesses the effects of rhizosphere microorganisms in Cannabis’ growth and their relationship with cannabinoids.

While at the ICR, Carolina is focusing on Cannabis “Hemp varieties” by investigating what kind of microbial communities exist on a cultivar’s rhizosphere (adhering soil particles with the hemp’s roots) and how microbial populations change during plant’s development at the vegetative and flowering cannabis “Hemp” growth stages. Generally, microorganisms are closely related with plants since terrestrial plants colonized the primitive land. Microbial interactions with plants are governed by a crossed chemical communication among plant’s requirements (e.g., chemical signals like different exudates) and their associated microbial communities. These main interactions occur at the soil proximity with the plants’ roots, helping them to assimilate the uptake and availability of nutrients such as nitrogen, phosphorus, potassium, and micronutrients. Other positive factors of plant-microbial interactions with the plant’s requirements are their capacity to counteract the fatal effects of abiotic stresses (water deficiency, high radiation, nutrient deficiency, high concentration of metals and toxic elements, etc.) and biotic stresses (pathogens, plagues, and weeds), their availability to help to extend the plant’s immunity, and finally, their capability to produce and stimulates plant’s hormones which can improve plant’s growth. All these interactions have been extensively studied in other crops plants and thus, further research is needed in Cannabis to address all these possible microbial interactions and outcomes that may help solve problems in the cannabis industry, production, and yield.

In addition to her graduate work, Carolina has over 10+ years of university-level teaching in the biology, mycology, and microbiology. She currently teaches “Production of Medicinal Cannabis: Microorganisms Relevance in Plant’s Growth Development” at the National University in Colombia. After completing her PhD, Carolina hopes to continue in higher education with a focus on both Cannabis research and teaching.

The views and opinions expressed in this article are those of the author and do not necessarily reflect the official policy or position of the ICR or of CSU Pueblo.



Journal of Cannabis Research

The *Journal of Cannabis Research* (JCR) is the official publication of the Institute of Cannabis Research. It is the only broadly multidisciplinary journal of cannabis research, encompassing not only clinical and scientific research, but also research into social, business, economic, legal, environmental, and ethical impacts of cannabis use and the changing legal status of cannabis. To learn more about the aims and scope of the journal as well as submission guidelines, please visit:

[Journal of Cannabis Research](#)

Here are two recently published articles in the JCR that may be of interest:

[Assessing the bioactivity of cannabis extracts in larval zebrafish](#)

[A potential role for cannabichromene in modulating TRP channels during acute respiratory distress syndrome](#)

The Institute of Cannabis Research is now accepting donations to support future cannabis research. You, our friends, colleagues and supporters, have the ability to help us continue to support cutting edge research by donating to the ICR Research Fund. We hope you will consider contributing to this important opportunity to enhance our understanding of the applications and impacts of cannabis. All donations contributed are tax deductible. Please consider a year-end donation. To donate or to get more information please click on the donate button:

Donate Here

Cannabis Research Webinar Series

The Institute of Cannabis Research launched its webinar series last fall and is set to launch the second season of the Webinar Series in partnership with the Lambert Center for the Study of Medicinal Cannabis and Hemp.

November Webinar: The ICR and Lambert Center are pleased to host Dr. Angela Bryan for the webinar on November 11, at 1:00PM MT.



Dr. Angela Bryan

Title: Implications of cannabis for obesity-related processes and behaviors: Anecdotes versus data

Professor Bryan is an internationally renowned social and health psychologist known for her research on HIV/STD prevention, exercise promotion, healthy eating, and most recently, the public health implications of legalized cannabis. She is a Professor and Associate Chair for Faculty Development in the Department of Psychology and Neuroscience at the University of Colorado Boulder where she co-directs the Center for Health and Neuroscience, Genes, and Environment.

Dr. Bryan completed her bachelor's degree in psychology at UCLA, and her Ph.D. in social psychology at Arizona State University and performed postdoctoral research at the Center for HIV/Health Intervention and Promotion in the Department of Psychology at the University of Connecticut. She has published well over 200 peer reviewed articles and has been continuously funded for over 20 years as a PI by various institutes at NIH including NIDA, NIA, NIAAA, NCI, and NINR.

Dr. Bryan has merged her interests in health promotion and the possible harms and benefits of cannabis legalization into the work she will speak on today: the Implications of cannabis for obesity-related processes and behaviors.

[Register Here](#)

December Webinar: The ICR and Lambert Center are pleased to host Dr. Edgar Alfonso Romero-Sandoval for the webinar on December 9th at 1:00PM MT.

Title: The legal cannabis market in the context of pain patients and community factors.



Dr. Edgar Alfonso Romero-Sandoval

Dr. Romero-Sandoval received a medical degree from Centro Universitario de Occidente, Quetzaltenango (Universidad de San Carlos de Guatemala) in 1999 and a Ph.D. degree in Neuroscience from Universidad de Alcalá de Henares, Spain, in 2003. He completed postdoctoral trainings at Wake Forest University, Winston Salem, NC (2003-2006) and Geisel Dartmouth Medical School, Lebanon, NH (2006-2007). Dr. Romero-Sandoval has held academic positions (2007-2012) at Geisel Dartmouth Medical School, and served as Director of Research (2013-2017) at Presbyterian College School of Pharmacy in Clinton, SC. Currently, Dr. Romero-Sandoval is an Associate Professor in Anesthesiology at Wake Forest University School of Medicine. The Romero-Sandoval laboratory explores neuroimmune interactions in surgical and neuropathic pain but also in neuropathies induced by diabetes or chemotherapy. Additionally, Dr. Romero-Sandoval studies the endocannabinoid system and cannabinoids in the context of pain, and more recently his lab studies how the cannabis market in the U.S. is shaped and how this could affect patients that use cannabis as an alternative to current ineffective pain medications. The Romero-Sandoval laboratory uses highly translatable clinical approaches such as nanotechnology for potential cell-directed gene therapies or studies on marketing practices to develop more effective and safer strategies to treat chronic pain.

The link to register will be forthcoming and can be found on our ICR webpage

Upcoming Event:

The inaugural meeting of the Scientific Review Council Meeting for the Cannabis Research and Policy Project (HB 21-1317)

Wednesday, November 17, 2021

8:00 – 11:00am Mountain Time

This meeting is open to the public. Topics for this meeting include committee introductions, committee operations, and introduction and discussion of the scoping review protocol developed by the Colorado School of Public Health project team. More information can be found by visiting on the projects [website](#). Click the link below to register for this event.

[Register Here](#)

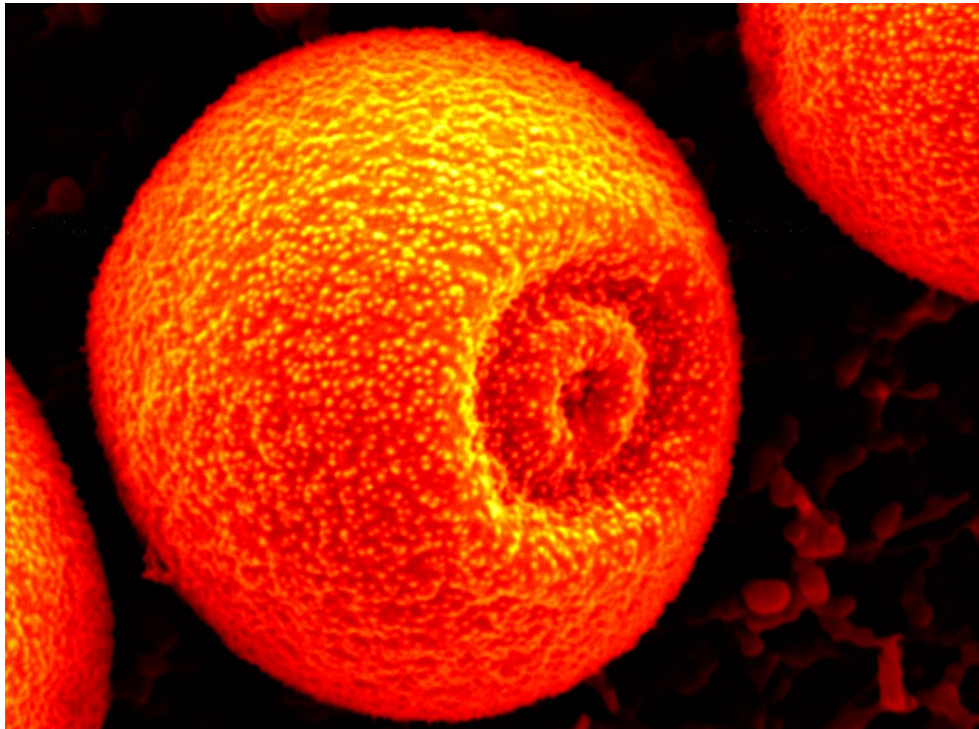


Image courtesy of Dr. Eunsoo Kim (Visiting Scientist - ICR) and Mr. John Hatfield (Instrument Specialist - CSU Pueblo Chemistry Department)

At only 15 μm in diameter this grain of hemp pollen benefits from being imaged using a scanning electron microscope. The color in this image is artificially added after the image is collected.