

David Geffen
School of Medicine

UCLA Health
Cannabis Research Initiative

Jeffrey Chen, MD/MBA
Founder, Executive Director

Outline

1. A brief history of cannabis
2. What's in our body?
3. What's in cannabis?
4. Fighting Big Pharma

500 million
years ago

“...endocannabinoid system activity may have therapeutic potential in almost *all diseases affecting humans....*”

-2014 study, Laboratory of Physiological Sciences, U.S. National Institutes of Health

~3000 years ago





ANTON GLOBAL INITIATIVE
LATIN AMERICA
An Initiative of the Clinton Foundation

AMERICA
WITH JORGE RAMOS

EXPLAINER IN CHIEF
FORMER PRESIDENT CLINTON ON MARIJUANA LEGALIZATION



© Fusion TV

POWDERED EXTRACT

No. 28

CANNABIS

(Cannabis sativa)

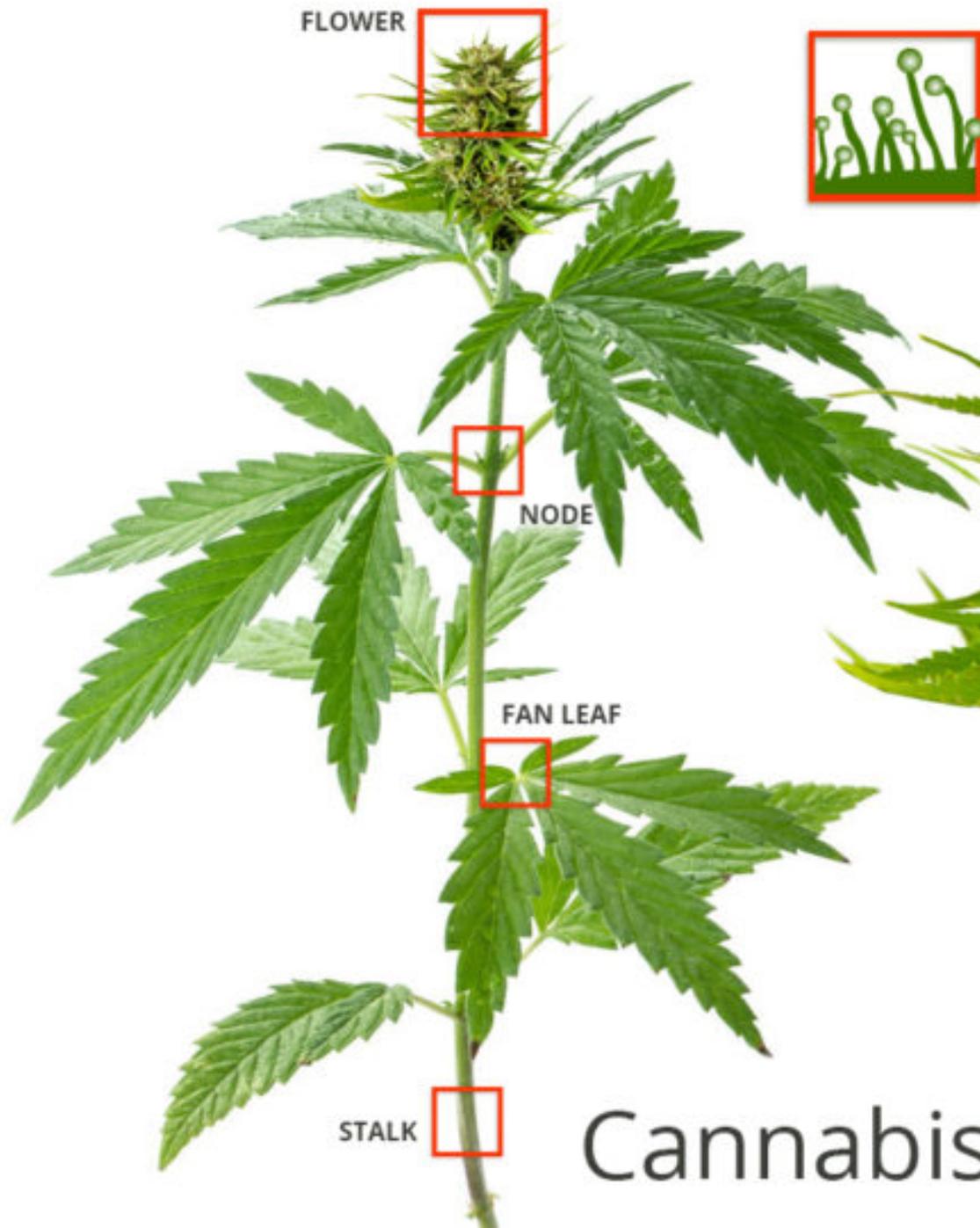
PHYSIOLOGICALLY TESTED

Dose—1/2 to 4 grains (0.0325 to 0.26 Gm)

Lilly

1072-87034

**WHAT'S IN THE
PLANT?**



CANNABINOIDS



THC

“High”

Addictive

Motor impairment

Hunger

CBD

No “High”

Anti Addictive

No Motor impairment

No Hunger

THC & CBD

Anti-pain

Anti-oxidant

Anti-anxiety

Anti-inflammatory

Anti-seizure

Anti-cancer

Neuroprotective

& more...

TERPENES

LINALOOL



ANESTHETIC

ANTI-CONVULSANT

ANALGESIC

ANTI-ANXIETY

also found in
lavender



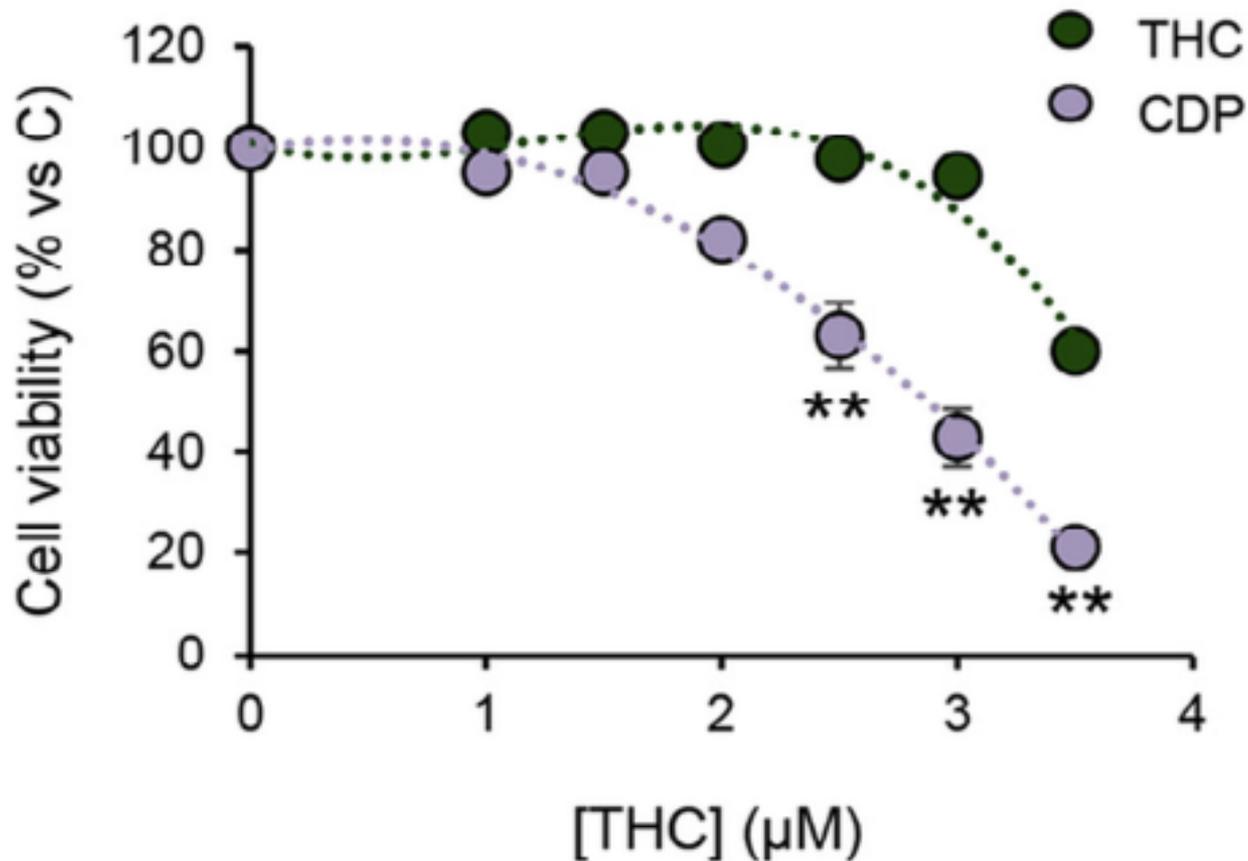
CANNABIS VS CANNABINOID?

“entourage effect”

”full spectrum”

“whole plant”

ANTI-TUMOR: THC VS CANNABIS



Appraising the “entourage effect”: Antitumor action of a pure cannabinoid versus a botanical drug preparation in preclinical models of breast cancer (Blasco-Benito S, et al. 2018)

HARMS VS BENEFITS



The National Academies Of Sciences Engineering Medicine. The Health Effects Of Cannabis And Cannabinoids: The Current State Of Evidence And Recommendations For Research. The National Academies Press. 2017

ARTHRITIS
ANOREXIA
ALZHEIMER'S
ANXIETY
AUTOIMMUNE
AGING
& MORE...

STRATEGIC PRIORITIES

History's 1st human studies
using natural cannabis to:

1. Treat opioid addiction
2. Improve cancer outcomes
3. Prevent Alzheimer's



THE OPIOID EPIDEMIC

A Generation in Crisis



H&HN
HOSPITALS & HEALTH NETWORKS[®]

“Cannabis can treat pain...reduce need for opioids...ease opioid withdrawal...heal the addict's brain.”

- 2018, Dr. Sanjay Gupta, CNN Chief Medical Correspondent





**\$20 MILLION
(IN HISTORY)**

X

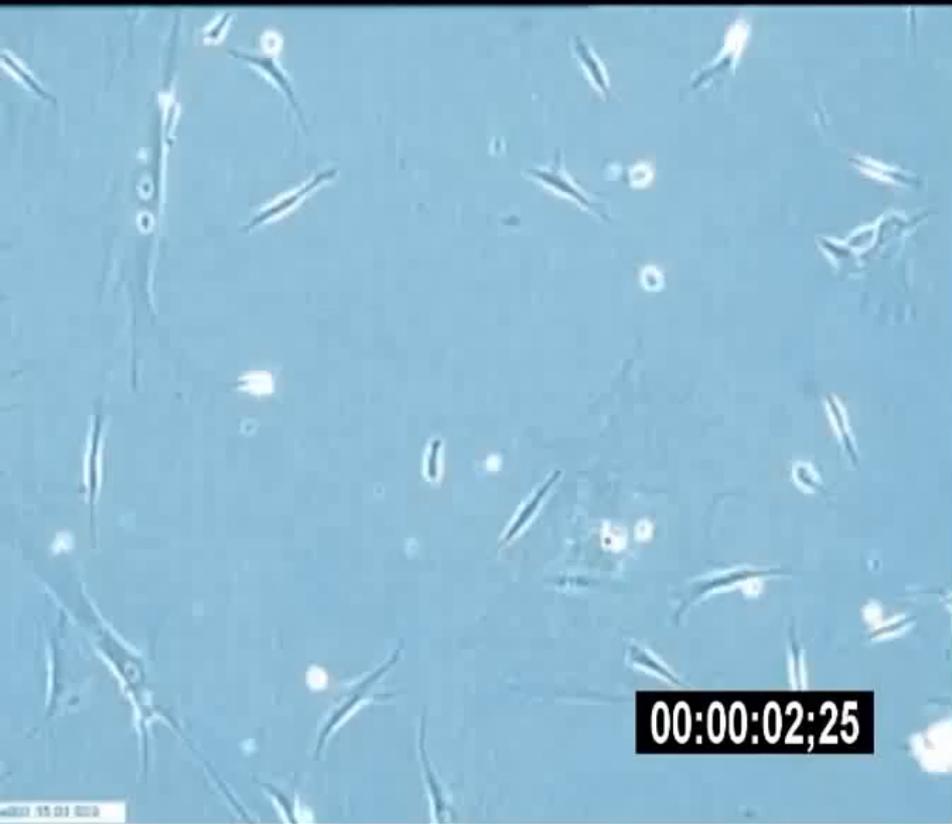
100,000%

**\$20
BILLION
(A YEAR)**





© fedjaevskaja. 2009



*“Anti-neoplastic activity of
cannabinoids”*

Medical College Of Virginia

1975



(12) **United States Patent**
Hampson et al.

(10) **Patent No.:** **US 6,630,507 B1**
(45) **Date of Patent:** **Oct. 7, 2003**

(54) **CANNABINOIDS AS ANTIOXIDANTS AND NEUROPROTECTANTS**

(75) Inventors: **Aidan J. Hampson**, Irvine, CA (US);
Julius Axelrod, Rockville, MD (US);
Maurizio Grimaldi, Bethesda, MD (US)

(73) Assignee: **The United States of America** as represented by the **Department of Health and Human Services**, Washington, DC (US)

OTHER PUBLICATIONS

Windholz et al., *The Merck Index*, Tenth Edition (1983) p. 241, abstract No. 1723.*

Mechoulam et al., "A Total Synthesis of d1- Δ^1 -Tetrahydrocannabinol, the Active Constituent of Hashish¹," *Journal of the American Chemical Society*, 87:14:3273-3275 (1965).

Mechoulam et al., "Chemical Basis of Hashish Activity," *Science*, 18:611-612 (1970).

Ottersen et al., "The Crystal and Molecular Structure of Cannabidiol," *Acta Chem. Scand. B* 31, 9:807-812 (1977).

Cuba et al. "Chronic Administration of Cannabidiol to

"...useful in the treatment of age-related, inflammatory and autoimmune diseases... Alzheimer's disease, Parkinson's disease"

PROBLEM



SCHEDULE 1

SCHEDULE 2





EPIDIOLEX



\$36,000/year

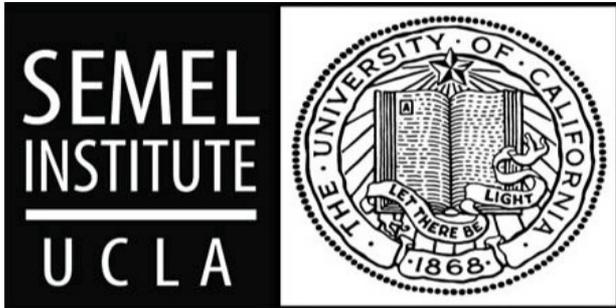
FDA banned any other CBD

US = PHARMA'S CASH COW

US = \$500B/YR SALES

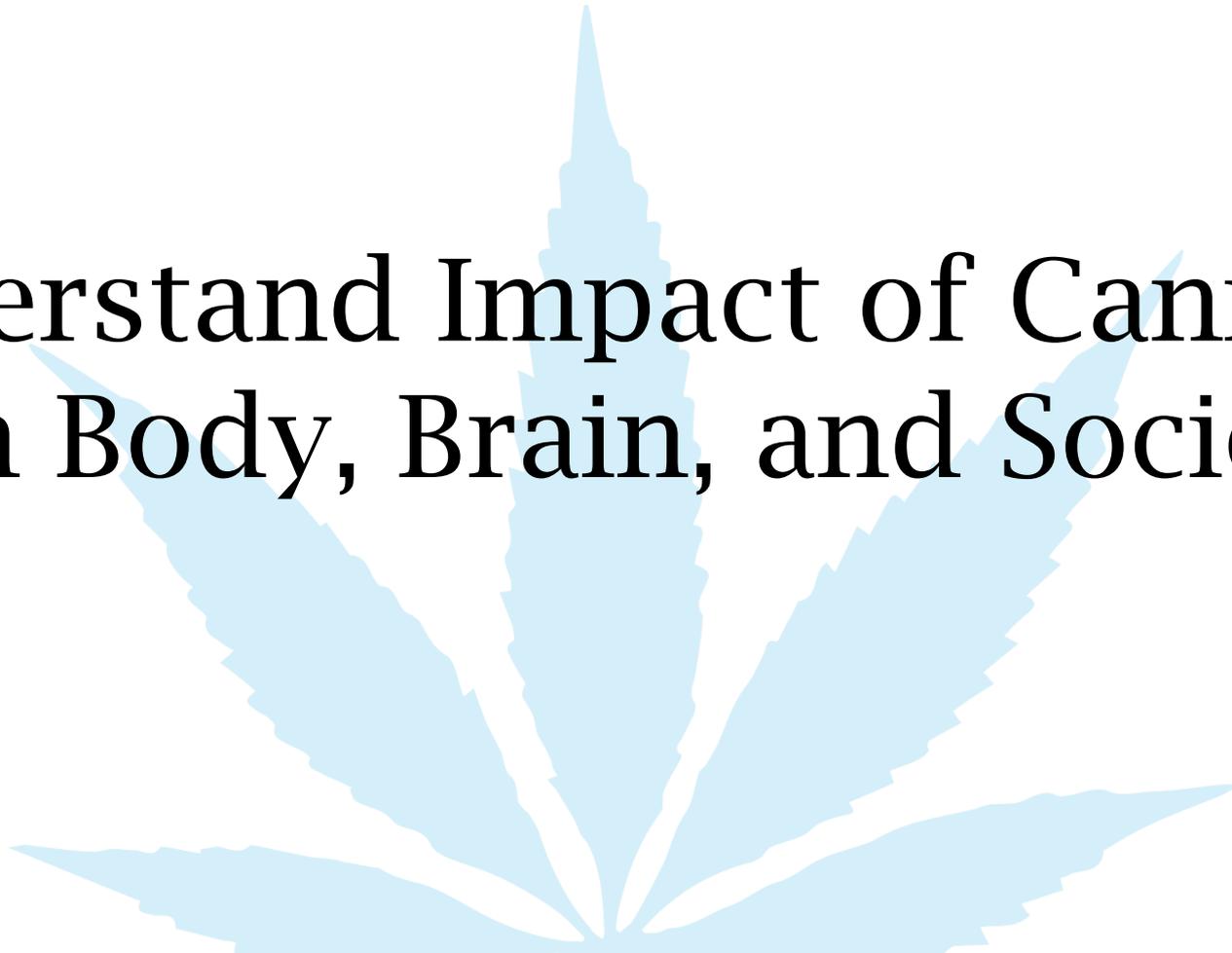
US = 50% GLOBAL SALES

URGENT NEED
NONPROFIT RESEARCH
NATURAL CANNABIS
KEEP PUBLIC RESOURCE



UCLA Health
Cannabis Research Initiative

Understand Impact of Cannabis
on Body, Brain, and Society



Program Breakdown

- 41 FACULTY
- 18 DEPARTMENTS
- 8 SCHOOLS



STUDENTS

UCLA College

– Cannaclub

UCLA Anderson School of Management

– Cannabis Business Association

UCLA School of Law

– Cannabis Law Society

EDUCATION



cannaclub.ucla • Follow
Humanities Building UCLA



nolabelfestival amazing



31w 1 like Reply



ohgeesyseattle cool post



31w 1 like Reply



mbostarr Looks like the coolest club at ucla



30w 1 like Reply

— View replies (1)



azurecbd 💎💎💎 ...



27w Reply



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uclahealth "Korean families were illegally importing cannabis oil for their children with a rare form of pediatric epilepsy," says Dr. Jeffrey Chen, director of the UCLA Cannabis Research Initiative. "So some pharmacy students from Ewha Womans University in Seoul, South Korea, reached out wanting to learn about medical cannabis. We arranged for the students to attend lectures at UCLA, visit a cultivation facility and visit a dispensary. California now has the largest legal cannabis



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Mashable





The Evolving Science and Policy of Cannabis: What Health Professionals Need to Know

[Up to 4 credits free CME available]



Eloisa Gonzalez, MD, MPH

Gary Tsai, MD, FAPA, FASAM

Jeff Chen, MD, MBA

Sarah Guerry, MD

September-October 2018



As a result of shifting attitudes and policies, the marketplace for cannabis is rapidly evolving in Los Angeles County, including widespread advertising and availability of cannabis products. In contrast, there remains a lack of information on the health implications of cannabis use, in large part, due to federal research restrictions. As cannabis use increases in the county (see "[LA Health: Recent Trends in Adult Use of Marijuana](#)"), it is important that health care providers screen for cannabis use and prepare to have informed discussions with their patients. This article is designed to educate health care providers on the most clinically relevant cannabis issues and covers the following topics:

- [Terminology](#)
- [Legal Status](#)
- [Medical and Legal Considerations](#)
- [Pharmacology](#)
- [Drug Interactions](#)
- [Health Effects: Summary of the Evidence](#)
- [Asking Patients About Cannabis Use](#)
- [Educating Patients Regarding Responsible Use and Risks](#)
- [Conclusions](#)

PATIENT CARE

UCLA CANNABIS CONSULTATION

Dr. Keith Heinzerling, MD



RESEARCH

Dr. Ziva Cooper, PhD
Research Director
UCLA Cannabis Research Initiative





Eraka Bath – “Cannabis Use and Mental Health Disorders in Judicially Involved Youth”

Eraka Bath, M.D., is board certified in child and adolescent, adult and forensic psychiatry. Click [here](#) to read more about Erika Bath and her research.



Alison Burggren – “Effects Of Heavy Adolescent Cannabis Use On Brain Morphology In Aging”

Dr. Burggren received her Ph.D. in Neuroscience from UCLA and is an Associate Professor in the Department of Psychiatry and Biobehavioral Sciences. Click [here](#) to read more about Alison Burggren and her research.



Dara Ghahremani – “Craving Regulation in Heavy Adolescent Cannabis Users: Brain, Behavior, and Interventions”

Dara G. Ghahremani, Ph.D. is an Associate Researcher in the UCLA Department of Psychiatry & Biobehavioral Sciences and Semel Institute for Neuroscience and Human Behavior. Click [here](#) to read more about Dara Ghahremani and his research.



Christine Ghrella – “Physical and Mental Health Characteristics of Primary Care Patients Who Use Cannabis.”

Christine E. Grella, Ph.D., is Professor-in-Residence in the Department of Psychiatry and Biobehavioral Sciences at the University of California, Los Angeles and Co-Director of the Integrated Substance Abuse Programs (ISAP). Click [here](#) to read more about Christine Grella and her research.



Brett Hollenbeck – “Behavior of Consumers and Companies in the Legal Cannabis Market”

Brett Hollenbeck received his PhD in Economics from the University of Texas at Austin, and is an Assistant Professor of Marketing at the UCLA Anderson School of Management. Click [here](#) to read more about Brett Hollenbeck and his research.



Shaun Hussain – “Phase-2 Clinical Trial Of Synthetic Cannabidiol For Treatment-Resistant Infantile Spasms”

Dr. Hussain is assistant professor of pediatrics, director of the UCLA Infantile Spasms Program, and is the inaugural recipient of the Elsie and Isaac Fogelman endowed chair in pediatric neurology. Click [here](#) to read more about Shaun Hussain and his research.



Edythe London - “Targeting Maladaptive Responding To Negative Affect In Adolescent Cannabis Users”

Dr. London obtained her Ph.D. in Pharmacology from the University of Maryland and completed her postdoctoral training at Johns Hopkins School of Medicine. Click [here](#) to read more about Edythe London and her research.



Maureen McMahon - “Ajulemic Acid For Joint Pain Due To Systemic Lupus Erythematosus”

Dr. Maureen McMahon is rheumatologist, Assistant Professor of Medicine at the David Geffen School of Medicine at UCLA, and Site Director of the UCLA Lupus Clinical Trials Network. Click [here](#) to read more about Maureen McMahon and her research.



Larissa Mooney – “Assessing Functional Outcomes Associated with Reductions in Cannabis Use”

Dr. Larissa Mooney is a board certified addiction psychiatrist and Associate Clinical Professor of Psychiatry at UCLA. Click [here](#) to read more about Larissa Mooney and her research.



Michael Roth – “Marijuana Smoke Promotes Dysfunctional Macrophage Responses To HIV And Pneumonia”

Michael D. Roth, M.D., is a Professor and Vice Chair within the UCLA Department of Medicine, Division of Pulmonary and Critical Care, and a member of the Interdepartmental Program in Molecular Toxicology. Click [here](#) to read more about Michael Roth and his research.



Igor Spigelman – “Peripherally Restricted Novel Cannabinoids For The Treatment Of Chronic Pain”

Dr. Spigelman received his M.Sc and PhD from the University of British Columbia, and is a Professor in the UCLA School of Dentistry. Click [here](#) to read more about Igor Spigelman and his research.



Kate Taylor – “Targeting Maladaptive Responding To Negative Affect In Adolescent Cannabis Users”

Dr. Kate Wolitzky-Taylor is a licensed clinical psychologist and Assistant Clinical Professor in the Department of Psychiatry and Biobehavioral Sciences, with a primary affiliation as a Principal Investigator at the Integrated Substance Abuse Programs (ISAP). Click [here](#) to read more about Kate Taylor and her research.



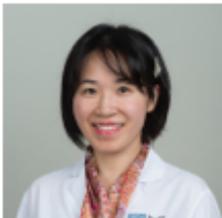
Lillian Gelberg - "Disparities in Rates & Impact of Tobacco and Marijuana in UCLA Primary Care"

Dr. Gelberg is a family physician, health services researcher, and professor in UCLA's Department of Family Medicine and Fielding School of Public Health and the VA Greater Los Angeles Healthcare System. Click [here](#) to read more about Lillian Gelberg and her research.



Edythe London - "Cannabidiol as Adjunctive Treatment for Opioid Use Disorder"

Dr. London is a Professor-in-Residence in the Departments of Psychiatry and Biobehavioral Sciences and Molecular and Medical Pharmacology. Click [here](#) to read more about Edythe London and her research.



Francy Shu - "A Randomized, Double-blind, Placebo-controlled, Crossover Study to Evaluate the Analgesic Efficacy, Tolerability, and Safety of Topical Cannabidiol in Patients with Small Somatic Fiber Neuropathy"

Dr Shu is an Assistant Professor in the Division of Neuromuscular Medicine, Department of Neurology.



Joyce Wu – “Placebo-Controlled Trial Of Cannabidiol For Tuberous Sclerosis Complex”

Dr. Wu graduated with her M.D. from NYU School of Medicine, and is a board certified Pediatric Neurologist specializing in pediatric epilepsy, and is a Professor in the Division of Pediatric Neurology. Click [here](#) to read more about Joyce Wu and her research.



Ian Holloway - "Tobacco and Cannabis Product Use Among Subgroups of Sexual and Gender Minority (SGM) Emerging Adults"

Ian W. Holloway, PhD, LCSW, MPH is a licensed clinical social worker and an associate professor of social welfare in the UCLA Luskin School of Public Affairs. Click [here](#) to read more about Ian Holloway and his research.

URGENT NEED
NONPROFIT RESEARCH
NATURAL CANNABIS
KEEP PUBLIC RESOURCE

CORE OPERATIONS

- Personnel & office
- Supporting >15 UCLA faculty with their cannabis research projects
- Education
- Patient Care
- Student support
- Cannabis inhalation laboratory
- DEA Schedule 1 License
- DEA Storage facilities

\$500,000 Annual Operating Budget

FUNDING SOURCES TO STUDY BENEFITS OF NATURAL CANNABIS

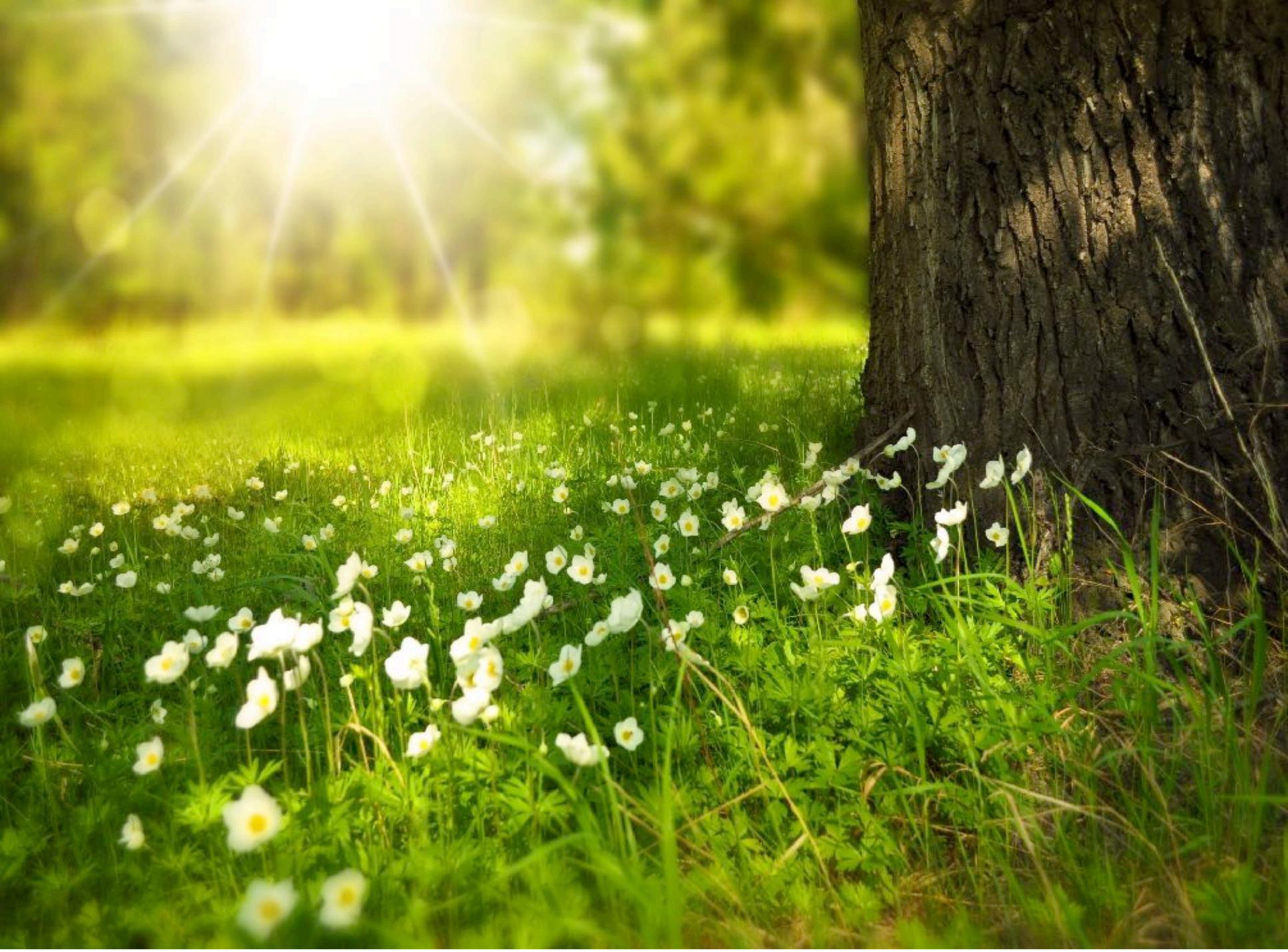
1. Federal government
 2. Big Pharma
 3. U.S. cannabis companies
 4. Gifts (Individuals & Foundations)
- 

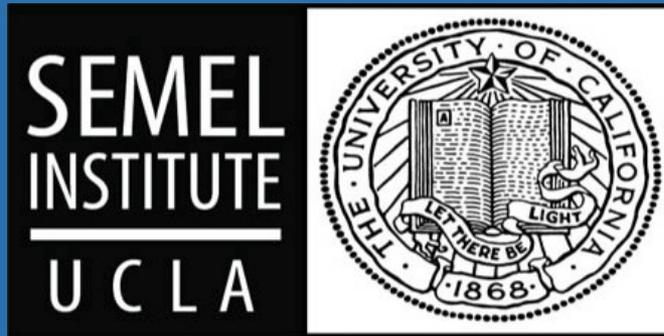
STRATEGIC PRIORITIES

History's 1st human studies
using natural cannabis to:

1. Treat opioid addiction
2. Improve cancer outcomes
3. Prevent Alzheimer's

COST: \$1-2 Million/Study





David Geffen
School of Medicine

UCLA Health
Cannabis Research Initiative

Jeffrey Chen, MD/MBA
Founder, Executive Director
jmchen@mednet.ucla.edu