

Hemp, Health, and Happiness: In God We Rust

EIHA

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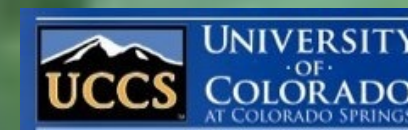
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Cannabis Science (CBIS)



Phoenix Tears
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A Far From Equilibrium Thermodynamic Perspective of Metabolically Generated Free Radicals as the Foundation of Homeostasis

Life, liberty, and the Pursuit of Happiness

Presentation Topics

1. The Physics of Life

flowing energy organizes matter
the emergence of life
oscillations and limit cycles

2. Endocannabinoids: The Great and Powerful Wizard behind the curtain

3. Cannabinoids and Aging

4. Cannabinoids and Cancer

sugar vs fats for energy production
the role of acetyl choline in dysphoria

5. Cannabinoids and Viral Infections (HIV, Kaposi sarcoma)

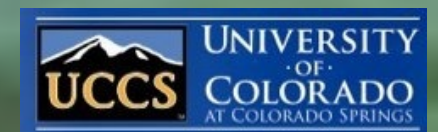
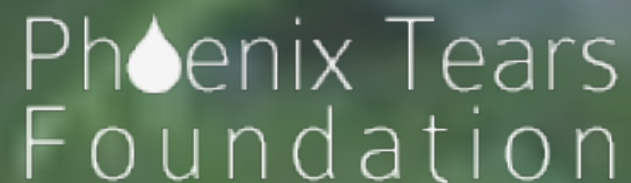
6. Cannabinoids and Society

BLPs and FLPs Racism

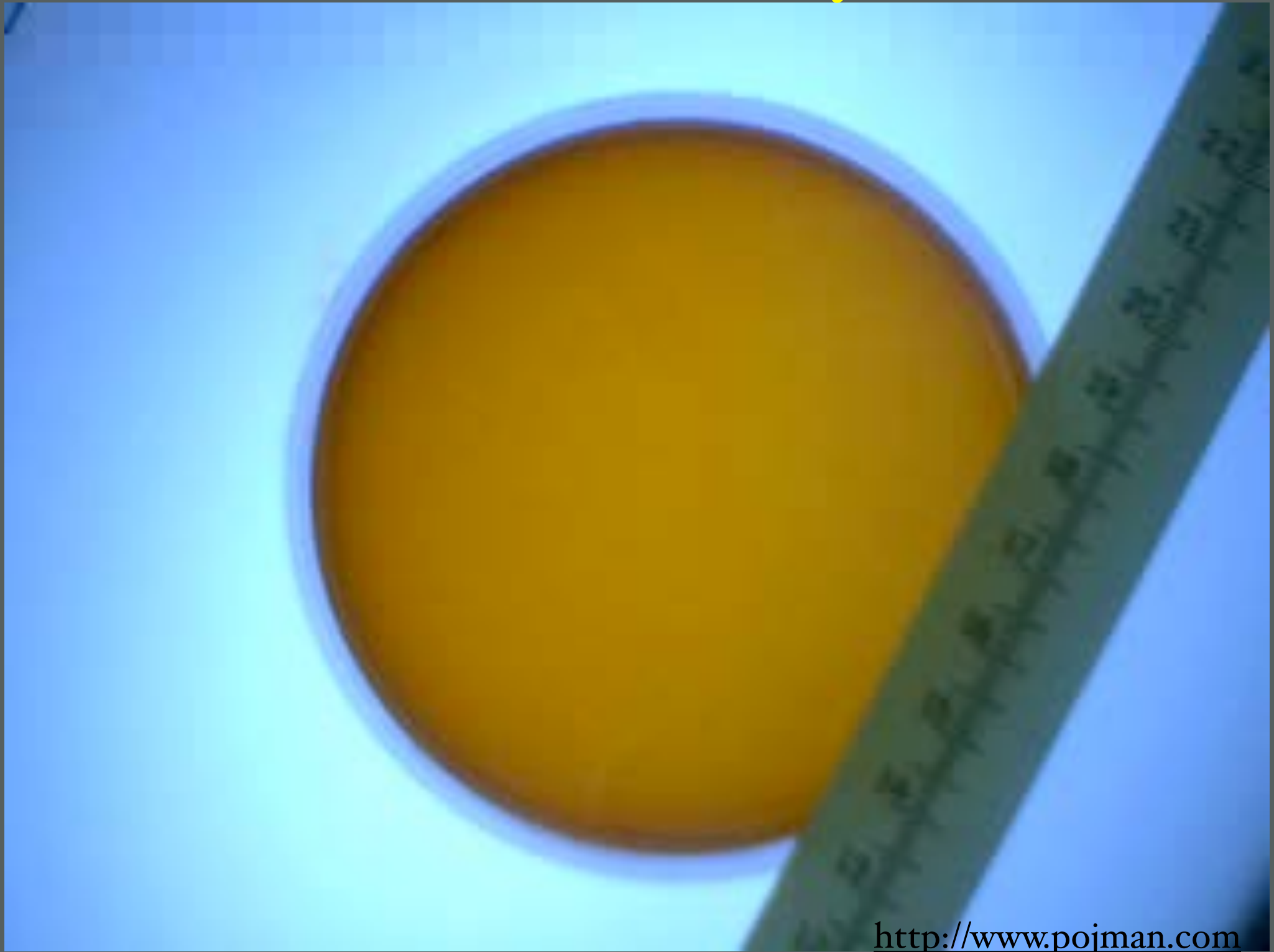
In order to more fully appreciate the vast potential of cannabis-based medicines to positively impact human health, an understanding of the physical basis of life must be considered.

The all pervasive endocannabinoid system is a unique manifestation of evolution driven by the basic principles of far-from-equilibrium thermodynamics.

Flowing energy organizes matter and results in emergent oscillatory behavior (the balance of opposing forces)



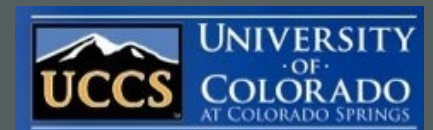
Belousov-Zhabotinsky-Reaction



<http://www.pojman.com>



“Impossible”



Order generated by a chemical gradient

Three Dimensional BZ Reaction



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Evolution selects for adaptability.

As invertebrate complexity increased, a new level of adaptability was required to enable a further increase complexity.

Vertebrates emerged with novel mechanisms of adaptability that were homeostatically regulated by endocannabinoids.

Cannabis is an essential nutrient for modern man because deficiencies in cannabinoid activity lead to premature death

Then endocannabinoid system is the master regulator of all other body systems

Free radicals are the ultimate regulators of adaptability

All change, good or bad, is stress because the system must adjust.

Biochemical flow is optimized when excess free radical production is minimized

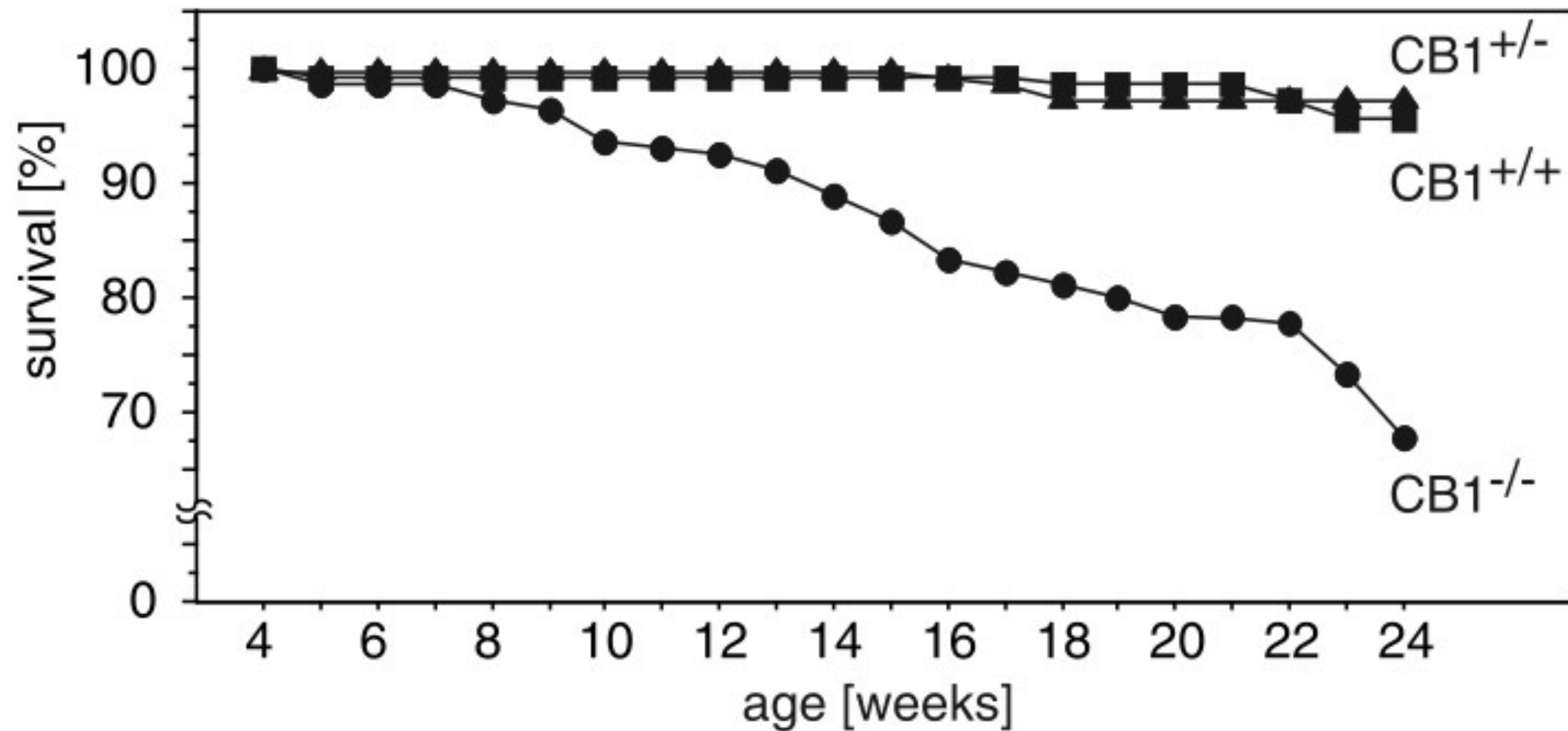
Increased complexity demands efficient energy production

What is Aging?

As an Organism Ages, the System Moves Closer to Equilibrium



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Mortality rate in offspring from heterozygous (CB1^{+/-} , CB1^{+/+}) matings. Note that more than 30% of all CB1 knockout mice under 24 weeks of age die of natural causes. In contrast, less than 5% of the heterozygous and wild-type litter mates die during the same time span. (Zimmer, 1999)

Hemp-Seed Eating Village in China



Holds Oldest, Healthiest People

The fact that our government has outlawed an anti-aging drug that kills cancers is proof of incompetence

I'm 120

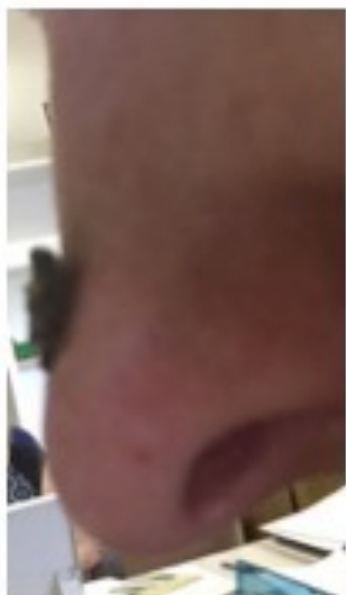


OK



A GREAT-great granny revealed that she has been smoking MARIJUANA every day. Fulla
Nayak ? believed to be the oldest person in the world, she lives in her cow-dung hut in India.

ANNABIS every day. Fulla
drinks strong palm wine in
son, 72, by the Indian Ocean.





Cannabis can control HIV and associated illnesses such as Kaposi sarcoma



Backwards-looking people (BLPs)

Forward-looking people (FLPs)

The “now” is the interface between the past and the future

Open-mindedness depends on replacing old information
with new

Cannabinoids Regulate Open-mindedness

Who in their right mind would make illegal an anti-aging drug, that kills cancer and whose activity is found in mother's milk?

Should mothers who breastfeed be arrested for getting their infants high and for possessing drug paraphernalia?



Give Peace a Chance

