

# BIOHACKERS

MAGAZINE

EXCLUSIVE INTERVIEW  
With Holistic Nutrition Expert,

# MELANIE AVALON

Podcast Host, Actor, Author  
& Wine Specialist

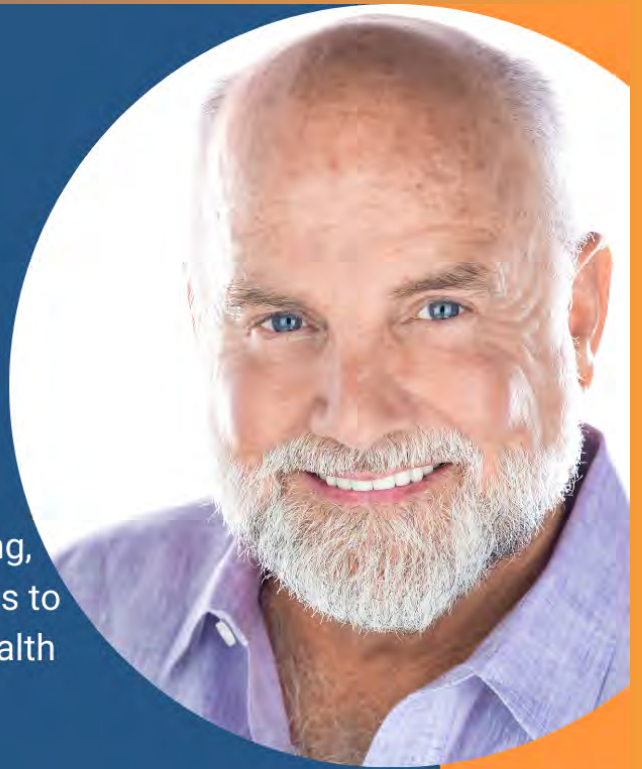
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## *Our Categories*

- Our categories bring you quality content in a clear, swift order, based off pure simplicity and experience.
- Outer – This branch contains concise and ‘to the point’ articles that just touch the surface of what biohacking is as a subject while relating to everyday life and how biohacking fits in.
- Inner - This category takes a deeper and more scientific approach to biohacking. These articles focus on a more scientific and analytical theme of biohacking, breaking down more of the whys and hows behind it all.
- Core – Within this sphere lie many specific and perhaps relatively new biohacking articles, all backed by science and studies, many of which are written by experts in their relative field. These articles bring it all back to the big WHY behind biohacking while connecting it to all the facts.

A hand is shown in silhouette, holding a glowing, wireframe brain. The background is a sunset with a sun low on the horizon. A network of white dots and lines is overlaid on the scene, suggesting a digital or neural network. The text "MESSAGES FROM OUR BIOHACKING TEAM" is written in large, white, bold, sans-serif capital letters across the lower half of the image.

# MESSAGES FROM OUR BIOHACKING TEAM

# A LETTER FROM THE EDITOR

The world and the human share a special bond together. The world is a place full of vibrant life, unpredictable events, and a sort of beautiful, self-sustaining chaos. The Human being's journey on this Earth is one that is corporeal yet also deeply spiritual. The world presents so many things into our lives that often we forget that we are more than just what invokes responses from our physical senses. What separates man from every other creature is his ability to think rationally. What man lacks in survival endowments such as long claws, fur, etc., man makes up for in his ability to know. Man can think and know that he thinks. Man can eat and know that he eats. Man can speak and know that he speaks. The human being is able to conquer and have dominion over the creatures and the world itself, because of this unique ability to know rationally. There are many different areas where the human being shows this separation of pure intellect. One would be his tool-

making ability, or homo-faber. It is true that some monkeys can make tools, but it is only man that makes these tools not just as an extension of their bodily reach, but as a direct fruition of their thoughts. Community, Language, Science, Arts, Religion, Death, and Culture are all elements that show man's rationality, his intellect. The intellect exists in the soul of man and animates the body through the influence on man's freewill. Too often we focus on the superficial parts of ourselves and get lost in the mainstream's constant influential assault about how we should be physically. While of course we are composed of body, we must remember that it is the soul that also makes up our life, and its health must also be taken under consideration in everything we do. We can define a human being as a rational animal, a compositum of both body and soul. Its soul is the subsistent element, and its powers involve the knowing intellect and the will to do good. With freewill aiming toward good,

and knowledge aiming towards the truth, the human being works towards becoming more beautiful in the sense of intentionality, of culture. Biohacking in its deepest sense must look beyond the temporal world of physiological and temporal matter and adhere to the health and the growth of the human soul. We are all on this Earth together and as biohackers, we have the mission of increasing our knowledge every single day to feed not only our bodies and brains, but most importantly our souls. When one chooses to take the time to explore such questions as who they are and how they act, and where they are going, and what is their purpose, they increase their value as a person through this continual development. Their soul becomes more of a master over their temporal body and they can live life with perhaps more peace and happiness because of their continual growth and development of their soul, which acts through their body.

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## ABOUT DALLAS MCCLAIN



Born in the USA, Dallas is a passionate reader of personal development books and a tennis enthusiast. He is the Chief Financial Officer and Editor of Biohackers Update Magazine and the co-founder. He holds a bachelor's degree in Biological Sciences, as well as a TEFL level 5 certificate in teaching English. He is currently living in Orlando, Florida with his wife and daughter where he enjoys writing, sports, and nature hikes in his free time. Dallas can best be reached at his email: [dallas.biohackersupdate.com@gmail.com](mailto:dallas.biohackersupdate.com@gmail.com)



# A MESSAGE FROM COO JEAN FALLACARA

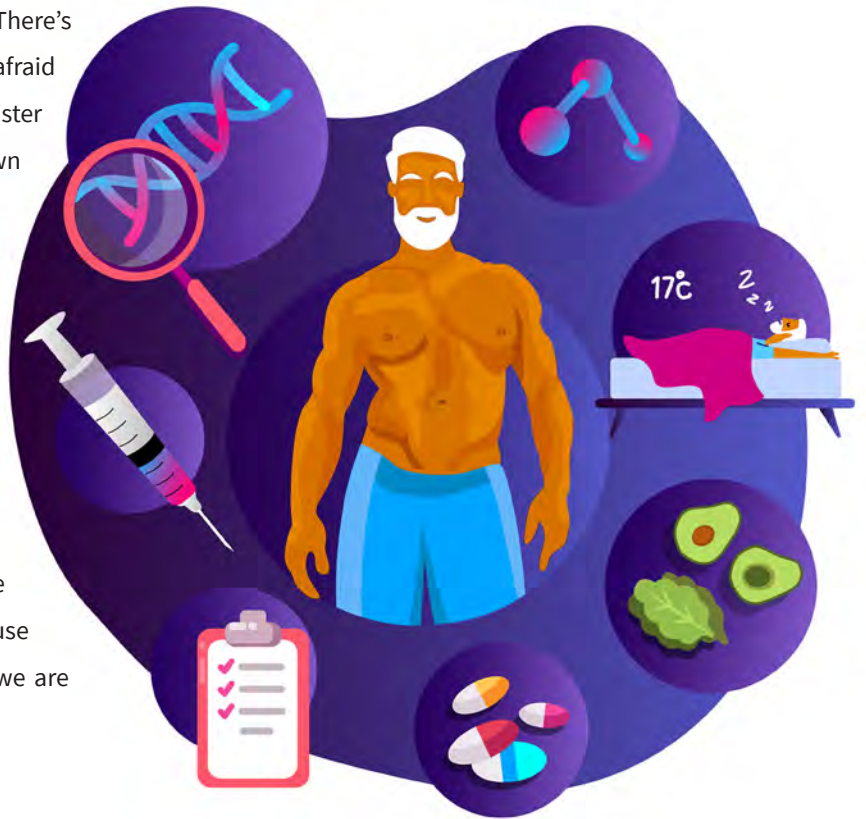
Change is something that we either face head on or run in the opposite direction from. There's something about us humans and being afraid of what we don't know. We seem to not fully register the number of things in the world that are unknown to us, those forces around us that are constantly changing in an uncomfortable nonlinear notion.

I want to personally remind our Biohacking Community that change is not only possible, but it is inevitable, just like water flowing from the spring or snow falling in the winter.

There is still always something to learn and there will always be just a little bit more to learn because humankind in itself is an ongoing change, and we are roped too tight into it to escape.

These are all the reasons our magazine exists!

--[Jean Fallacara](#)



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## ABOUT JEAN FALLACARA

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Born in France, Jean is an athlete, entrepreneur, scientist, public speaker and an Art collector. He is the founder and CEO of Cyborggainz, the Managing Director at inTEST Corporation and the COO of Biohackers Update Magazine. He is also the author of "Neuroscience Calisthenics: Hijack your Body Clock." Jean holds a bachelor's degree in biochemistry, a master's degree

in immunology and genetics, and an engineering degree in biotechnology. He has also studied neurosciences and brain functionalities, and law and finances. He is currently living in Montreal, Quebec with his family where he uses his 20+ years of experience as a business executive.

Website: [cyborggainz.com](http://cyborggainz.com)

***“We are all connected;  
To each other,  
biologically. To the  
earth, chemically. To  
the rest of the universe  
atomically.”***

***— Neil DeGrasse Tyson***





# HYDRATION: WHAT'S UP WITH YOUR WATER?!

**We can survive for weeks without food, but only days without water!**

Similar to the surface of our planet, our body is composed of around 70% water. The more important factor to note however, is not the volume of water in our body. When it comes to water the cliché statement “quality over quantity,” is more relevant than most of us ever realize or even consider.

With so many options on the market for filtration, how do you begin to choose a system or bottled solution that not only suits your personal needs, but is not going

to poison you in the process?

Toxins are ubiquitous in the environment today - there are over 80,000 environmental chemicals in circulation, many of which, labeled appropriately as emerging GenX chemicals, have only been identified recently.

Where do these toxins end up one may ask? Where else, but in the water. Not just the oceans, but freshwater lakes, rivers and streams, affecting mountain water, groundwater and wells alike. No matter if it's municipal tap, plagued by population

growth stressing aging infrastructure and leaching lead pipes or the expensive and yet still unregulated bottled alternatives that are laden with endocrine disrupting microplastics, the question is the same...

**Can we trust what's in the water?**

Remember the old adage, “the straw that broke the camel's back” or “death by 1,000 cuts,” those statements apply well here. It's not acute toxicity from any one single toxin that is wreaking havoc on



the population; it's thousands. It is said that the concentration makes the poison, but what's really safe and acceptable? It's tough to decipher as not only do contaminants vary per region, but the reactions they cause in each exposed individual are just as varied.

**One thing is clear, we cannot live without drinking water.**

So what options do we have to ensure we are consuming water from a fresh, pure, hydrating source?

Here we evaluate a couple of not so widely recognized options to optimally serve our health and hydration demands as well as those of our planet...without breaking the bank.

**It's important to recognize that water molecules are conductive particles through which energy flows. Water can be imprinted; it holds a memory. The information is shared on a cellular level with every living plant and animal.**

Water provides not only hydration, but detoxification. Nature structures water naturally as it flows over mineral dense rocks charging every molecule with life giving energy.

In the last decade the rise of alkaline water has been nothing short of sensational. However, the hydration and detoxification benefits that we get from drinking high pH water does not

come from the alkalization as it's been emphatically touted by brand affiliates. Rather the contrary, consumption of water with concentrations exceeding 9.5pH for an extended duration have actually been linked to the body leaching minerals from the skeletal system and even worse, dehydration from electrolyte imbalances. With bone density being a significant indicator in longevity, depriving yourself of vital minerals from drinking alkaline water is certainly not a biohack. Neither is the \$4000-6000 price tag branded machines incur. If this does not dissuade you from buying this over-hyped, overpriced H2O let me at least give you a hack that most don't know about. You can purchase one of these machines, unbranded, directly from

the manufacturer, for a mere \$350 plus international shipping.

**If you still want to know the best way to alkalize your body the absolute best source is...you guessed it, found in nature. Local, fresh picked, pesticide-free, real whole fruits and vegetables.**

If you want to know why it's not hype, it is the additional hydrogen atom added during the electrolysis process that gives alkaline water its therapeutic effects. It is well documented in scientific literature and published clinical research data that H3O2, also known as "structured water," penetrates cell walls and hydrates more efficiently than uncharged or "dead" water.



The caveat here is to purify first!

Do you know what's lurking in drinking water?

Everything from heavy metals and pesticides to prescription drug residues and micro plastics, even radioactive contaminants can be immersed in your water. Not to mention the legally allowable limits continue to be raised to suit the failures of municipalities to stay compliant. It's seriously frightening.

### **And with so many filtration options available how do you choose?**

The most widely available cheap pitcher filters are just that...cheap! They remove foul odors and improve taste, but do little to remove carcinogenic microparticles. One exception to recently enter this market

space is Clearly Filtered.

Next up are whole house systems. Reverse osmosis systems are not only bulky and expensive, but they produce a significant amount of waste runoff in the process of removing impurities that acidify waterways. Additionally, once stripped of everything, the water must be synthetically re-mineralized. A better choice is a ProOne home system.

Finally, for my travel loving, health conscious consumers that prefer counter-top, gravity filtration systems - Please realize that the majority of carbon block filters are manufactured in China or India. Though they may know a thing or two about terrible water quality, the same applies for their product quality. In personal research in the marketplace

most companies are selling carbon filters derived from coal carbon, you know that filthy polluting stuff dug out of the ground and worse bone-char. You read correctly, ground up animal bones burnt down to elemental carbon that filters water deemed safe and clean to drink. While this is scientifically accurate, with the lab reports to prove it, the knowledge of this fact just makes the idea of consuming this water simply repulsive. For your best bet for an all plant and mineral based NSF rated filter made in England, check out BluePureUSA.

When it comes to something as essential to life as water, give your body the best clean, purified and electrified nourishment it deserves.

Happy hydrating!!

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[https://cfpub.epa.gov/si/si\\_public\\_record\\_report.cfm?Lab=NCER&dirEntryId=249538](https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NCER&dirEntryId=249538)

<https://www.globalcitizen.org/en/content/weirdest-ways-to-clean-your-water/>

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## **ABOUT ALYSSA AND MIKE**

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Alyssa Blue is a former aerospace engineer who found the human body more fascinating than rockets after enduring her own health challenges more than a decade ago. She is an FDN-P, certified Pilates and group fitness instructor and co-founder of WHOLEistic Lyfe with Michael McPherson. Mike has an innate gift of medical intuition. Utilizing an array of quantum healing modalities, he has assisted people

across the globe realign with their true potential. As fitness, nutrition, hydration and stress mitigation experts, their shared mission is to help educate and empower as many people as possible on a path of self healing; beginning with the power of the mind to influence, balance and optimize regeneration in the physical body.

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# DAVE ASPREY'S #1 BIOHACK FOR HAIR:

AMERICA'S  
#1 HAIR BIOHACKER,  
ALAN J. BAUMAN, MD



## CAN YOU BIOHACK BALDNESS?

Absolutely, according to Dave Asprey, the "Father of Biohacking" and founder of Bulletproof.

When Asprey decided to biohack his own thinning hair, he turned to the best hair restoration surgeon on the planet, Alan J Bauman, MD. Like Asprey, Dr. Bauman believes in do-it-yourself biology through biohacking and the benefits of bulletproofing your hair.

Dr. Bauman is keenly interested in the latest biohacking techniques to live a longer, healthier life and look your best. If you are, too, it's time to schedule a consult, either in-person at our 12,000 square-foot "Hair Hospital" in Boca Raton, FL or virtually – from the comfort of your home or office.



In case you're wondering, Dave chose an FUE (follicular unit extraction) hair transplant procedure and used the Bauman Turbo LaserCap® as part of his treatment regimen. His results, shown here, speak for themselves.

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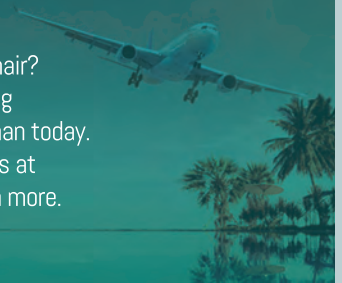
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# TOP 5 NOOTROPICS FOR YOUR MIND AND BODY

**W**hy is consuming nootropics so important for your well-being? Researchers have found how beneficial nootropics are for the brain, energy, focus, mental clarity, and reducing anxiety. They have also discovered how nootropics consumption improved the immune system and mood. Among the best nootropics that I recommend are Ashwagandha, Ginkgo Biloba, Rhodiola Rosea, and Lion's Mane.

What are nootropics? The word "nootropics" is derived from the Greek 'noos', meaning 'mind', and 'tropē', meaning 'turning' (Corneliu E. Giurgea). Natural supplements have the power to boost the body and mind without causing side effects or long-term health risks. The purpose of taking them is to promote motivation, creativity, and intelligence. In addition to boosting productivity, nootropics can also make you smarter and less stressed, according to holistic health practitioner, Shari Aut. According to Chris D'Adamo, PhD.

at the University of Maryland, nootropics can help improve mental sharpness and reduce mental fatigue.

Why choose natural nootropics? - Because they are natural brain boosters, helping to improve memory recall, retention, and accuracy. The Ginkgo Biloba, for example, works by reducing viscosity in the blood, thereby opening up the capillaries in the brain. As a result, they can open up the blood vessels in the brain, which allows more oxygen and nutrients to enter. Nootropics support growth, maintenance, and proliferation of brain cells.

What can nootropics do?

**Your ability to focus on daily tasks can be noticeably improved by nootropics. They allow you to recall more information easily and over a longer period of time without feeling tired or exhausted.**

In addition, they may be effective in preventing cognitive diseases.

What are the benefits of taking Ashwagandha? It is both a modern nootropic and a plant native to India used in Ayurvedic medicine for enhancing cognition, reducing stress, and increasing mood. This plant also may extend lifespan, increase libido, and promote healing.

Studies have shown that Ginkgo Biloba relieves dementia symptoms, reduces depression symptoms, increases blood flow, and improves eye health by reducing slow-vision-loss by aging. It's considered a Chinese medicine that effectively reduces the possibility of strokes.

Nootropic Rhodiola Rosea is also a well-known remedy for fatigue and burnout. It is known for its anti-fatigue effect, antidepressant effects, and anxiety-relieving abilities. Rhodiola is a herb native to the Arctic regions of Europe and Asia, and it is effective in fighting fatigue. A study comparing Rhodiola to Zoloft revealed that Rhodiola was more easily tolerated without any side effects.

How does Lion's mane improve your cognitive function? A mushroom known for centuries in Chinese medicine, Lion's mane has been used for its ability to improve cognitive function and reduce anxiety. It is a neuroprotective that stimulates the production of nerve growth factor (NGF).

**“The word “nootropics” is derived from the Greek ‘noos’, meaning ‘mind’, and ‘tropē’, meaning ‘turning’”**

Physicians of ancient times used lion's mane mushrooms to treat neurodegenerative diseases.

What's Gotu kola? Gotu kola is the “herb of longevity,” according to Ayurvedic medicine. It helps boost brain power, promote skin glowing, and support liver health, in addition to enhancing nerve function, which protects against Alzheimer's. According to a study conducted on mice in 2012, gotu kola reduced behavioral abnormalities in Alzheimer's mice. The antioxidant properties of Gotu Kola protect brain cells from

toxicity. This nootropic lowers anxiety levels as well. A 2001 study found that Gotu kola can reduce fluid retention and circulation problems.

From my own experience with nootropics, since I have been taking them I have never felt fatigued, and I have more focus when performing daily tasks. Furthermore, nootropics help to prevent cognitive disorders by nourishing the brain. Researching about these nootropics before I started taking them and making sure there were no side effects was a great way to prepare myself and my routine. Before taking any supplement, talk to your doctor if you have liver disease, diabetes, high cholesterol, or if you are currently taking sleep or anxiety medications.

**These nootropics are recommended for taking as follows:**

120 mg Ginkgo Biloba (2x per day).

300 mg Ashwagandha (2x per day).

600 mg Gotu Kola (2x per day).

500 to 300 mg (per day).

*Reference: Cronkleton, E. (2018, September 18). Gotu Kola: 10 benefits, side effects, and more. Healthline. Retrieved November 9, 2021, from <https://www.healthline.com/health/gotu-kola-benefits>*





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## ABOUT VANESSA SANTILLANA

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Vanessa was born in Mexico, but has more of a Colombian background. In 2014, she earned a scholarship at Florida International University in Miami and studied Mass Communication. However, her interest has always been more about the wellness industry. After noticing the extreme improvement in health from altering her environment to a healthier space, as well as exercising and watching her nutrition more, she became even more enthralled by the industry. After finishing college Vanessa moved to Australia where she experienced respiratory allergies that didn't allow her to sleep and left her with a lack of energy. After doing a lot of

research she bought an air and water purifier, eliminating all the chemicals of her environment using organic products.

She soon felt a positive change and the respiratory allergies disappeared.

Vanessa has dreamed of doing a project to help people thrive in their well-being and after experiencing how the quality of the environment affects her sleep cycle, energy, health and vitality, she has now chosen to focus on creating healthier environments and raising awareness about wellness spaces all over the world.

Website: [www.xenses.com.au](http://www.xenses.com.au)

# BIOHACKING YOUR SKINCARE ROUTINE



Since the beginning of time, a peculiar behavior has been observed in human nature; a desire, an obsession even, to remain as youthful as possible. This ideology dates back thousands of years ago. It's safe to say ever since we've existed, we've dreamt of remaining at the peak of life, with skin as smooth and wrinkle-less as possible. Go back in time with these ten ways to biohack your skincare routine! Thanks to advanced technology and even natural remedies, there are a multitude of ways you can upgrade your skincare

game to make it appear as though you've reversed your biological clock.

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## 1. Sunscreen

First and foremost, the most crucial tip for eternal youth is to protect. Without sunscreen, you're pretty much rendering all other anti-aging products you may apply on your skin useless as the biggest enemy to wrinkle-free skin is that gorgeous tan you've been dreaming of getting on your vacation.

**Though the FDA states that a minimum of SPF 15 must be applied daily, dermatologists worldwide support broader cast protection of SPF 30. And yes, that means it must be used every day, not just when you're by the ocean.**



The depletion of the ozone layer has dramatically increased our risk of self-damage, meaning we need to protect our skin now more than ever. Risks of skipping these crucial steps include skin cancer, discoloration, premature wrinkles, and everything we spend hundreds of dollars to avoid. It turns out our greatest nemesis isn't fragrance or cheap facial products, but the sun itself.

---

## 2. Vitamin C

One ingredient on the rise that you may have noticed in several skincare products is Vitamin C in some of its multiple forms. This ingredient is possibly the gold of skincare: this powerhouse antioxidant indeed does it all, from boosting collagen production to protecting skin cells from free radicals and even repairing dry skin. However, though it may protect skin from UV rays, it is not a replacement for sunscreen and should not be used as such. Vitamin C is best applied in the morning before heavier creams and serums.

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## 3. Hyaluronic Acid

Perhaps the best-known skin care product in the industry, hyaluronic acid, got its superstar reputation for good reason. It is used as a humectant, most effective when applied straight after washing the face while the skin is still moist as it retains and penetrates the skin. Surprisingly, it can hold 1000 times its weight in water and therefore is the perfect way to keep your skin glistening and hydrated all day long. A bonus to this ingredient is that it pretty much works with every other element and doesn't conflict with many, making it a piece of cake to add to your skincare routine.



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#### 4. Exfoliation

The term is loosely tossed around in the skincare community, and though it can be extremely harmful if misused, it can boost your skin game and give you a brighter, healthier complexion after just one use. A common misconception is that to exfoliate your skin, you should use an actual scrub such as salt, sugar, or microbeads. However, this method was proven to be too abrasive for the delicate facial skin, and dermatologists recommend a chemical exfoliation instead of an AHA or BHA such as glycolic acid or lactic acid, which is an exceptional choice for more sensitive skin that is more prone to irritation. Though the term “chemical” may sound a bit scary, it is much more gentle and effective at giving you that glowing from within youthful look than a physical exfoliator and doesn’t have the adverse effects of the harsh abrasion facial scrubs cause. These kinds of skincare products often lead to more bad than good by creating micro-tears in your skin. However, exfoliation is crucial for an A-list skincare routine, and to give yourself the best treatment (you deserve it), opt for a chemical exfoliator that best corresponds to your skin type.

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#### 5. Green Tea

Green tea works wonders for your skin from the inside out by calming irritation, fighting acne, and achieving a brighter complexion. It contains a high level of vitamin C and other antioxidants, which deliver anti-aging properties. **High-quality tea such as matcha is the most effective at keeping your skin looking young and fresh while staying hydrated. Recent studies have shown it may also be beneficial at fighting off sun damage!** Unlike the other products on this list, green tea is not a topical way to biohack your skin (though it does have its benefits used directly on the face as well.)

In conclusion, there are many ways to keep your skin looking at its top naturally and healthily. **Remember, beauty comes from the inside and shines out. As long as you keep yourself healthy and your gut happy, your skin should remain youthful for as long as possible.** There is no age limit or requirement to start biohacking your body clock, and that includes skincare.

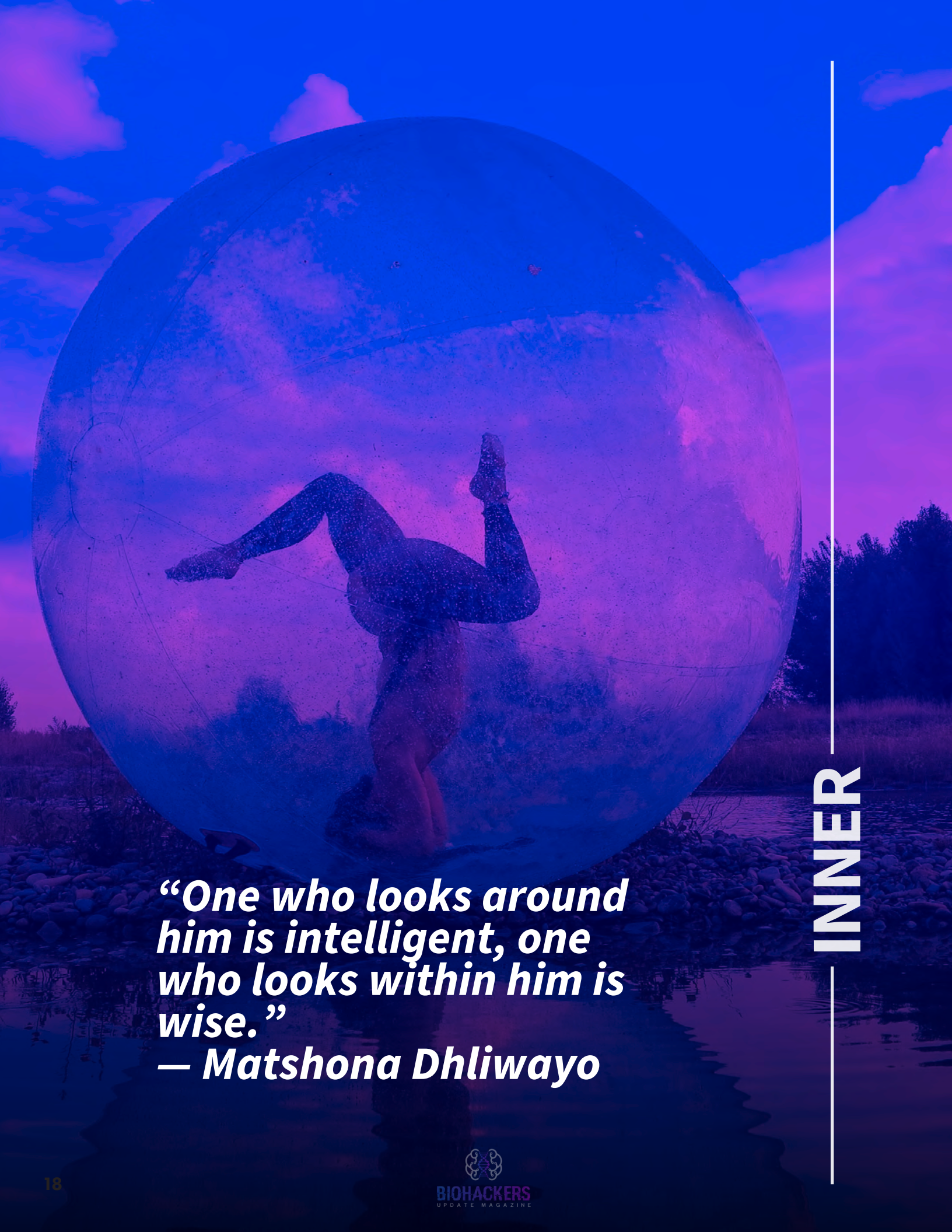
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### ABOUT NOEE MATHILDA SPIEGEL

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Noee Mathilda Spiedel is a published reporter, in charge of research. She writes or reviews most articles and reports on information.



INNER

***“One who looks around  
him is intelligent, one  
who looks within him is  
wise.”***

***— Matshona Dhliwayo***



## CELL REGENERATION - WHAT YOU DIDN'T KNOW

**W**ithin the next year, 95% of the cells in your body will die and be replaced. In just 365 days, your body rebuilds itself into something better (or worse), depending on how well you treat it.

You could re-build your body on processed junk foods, cakes, pies and pastries and frozen dinners or canned and boxed foods – OR – you could re-build your body with fresh, whole fruit and vegetables, nuts and seeds, legumes and pseudo-grains like kamut and quinoa. If you really wish you feel your optimal best, you'd opt for the latter and provide your body with what it needs, instead of with foods that don't truly nourish the body.

**It is also important to note that fresh fruit and vegetables will improve cell regeneration and infuse the body with beneficial vitamins, minerals and antioxidants, all of which help us live longer, happier lives. The Standard American Diet will simply dig you an early grave, and we all know that isn't much fun.**

### Brain – 1 year

Brain cells typically last an entire lifetime, although there is a process called neurogenesis, which has been documented in 3 areas of the cerebral cortex, whereby new nerve cells are created. For almost a century, scientists have believed that human (and other primate) brains do not regenerate or

add new neurons after maturation, however in recent years, scientists have slowly been discovering that neurons do in fact regenerate, and new neurons can be added after maturity.

#### Liver – 6 weeks

The liver does one thing incredibly well: regenerate itself. In fact, the liver has the best rate of regeneration than any other organ in the human body. If a chunk of the liver is removed, then it will quickly regrow back to normal size, and not beyond that. In just 6 weeks the liver completely rebuilds itself! This isn't surprising, however, given how many toxins it processes in a lifetime. If the liver didn't rebuild itself every 6 weeks, we probably wouldn't be living very long lives.

#### DNA – 2 months

With our bodies constantly being bombarded with free radicals, the DNA undergoes significant damage. Fortunately, for us, our DNA has the ability to repair itself and it takes a little over 2 months to do so. Eating a wide variety of high-antioxidant foods like broccoli, berries, and reishi mushrooms will improve DNA repair (along with enzyme-rich raw foods, and herbs like cat's claw, which has been found to provide our DNA with super-rebuilding activity).

#### Stomach Lining – 5 days

The stomach lining can heal, if given the chance, but you better not be taking any sort of prescription drugs. It takes just 5 days for the epithelial-cell lining of the stomach to completely rebuild itself. This is no surprise given their rough life of breaking down food. The average age of cells originating from the main body of the stomach is around 16 years.

#### Skin – 1 month

The surface layer of the skin (epidermis) is recycled every 2-4 weeks (around 1 month). The skin is one of the most regenerable areas of the body, and thankfully so, given how much it is exposed to every day. The ability of the skin to heal (even after major damage), occurs because of stem cells that



are present in the dermis of the skin as well as cells in the stratum basal of the epidermis, both of which help generate new tissue.

#### Blood – 4 months

Red blood cells live for about 4 months, whereas white blood cells live on average more than a year. The body is constantly making new blood, especially for women who menstruate once a month (or those who have undergone injury or donated blood). As they travel through the circulatory system, red blood cells become old and battered, and are discarded to the liver, where they are stripped of iron to be used for healthy red blood cells, before the remaining old red blood cell is destroyed in the spleen.

#### Bones – 3 months

Your body rebuilds new bone cells in as little as over 3 months! The entire human skeleton, however, is thought to be replaced every 10 years or so in adults. Your bones, in fact, are constantly changing. Cells called osteoclasts break down old bone so that osteoblasts can replace it with new bone tissue

(bone remodeling). This constant bone remodeling replaces old bone tissue with new tissue over the course of around 2-3 months. That's also usually the time it takes for a broken bone to repair itself (or at least that's how long it took my broken leg to get better!).

### Lungs – 2-3 weeks

The lung cells are constantly renewing themselves, and for good reason, too. Because the lungs are constantly taking in and filtering pollution, chemicals, and other stuff that lingers in the air, they require a fast cell turn-over rate. The

alveoli of the lungs (where exchange of oxygen and gases takes place) have a steady regeneration state that takes over a year. However, the cells on the lung's surface renew every 2-3 weeks.

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## ABOUT BRAIN J ROSE

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I know firsthand what it's like to live a fast-paced, high-stress life. I spent twenty years as a Stockbroker and Military Police Officer, serving the country overseas and at the Atlanta Summer Olympics. For years, I felt over-stimulated, unfocused, and completely depleted of energy. I had lost my vitality and sense of self-care in pursuit of success. Unknowingly to me, my body and mind were trying to tell me that enough was enough.

Neural enhancement changed my life.

My search for increased vitality led me to Nootropics. With its benefits for cognition and brain function, Nootropics helped enhance my ability to absorb and retain material,

which played a massive role in helping me achieve a goals that seemed unreachable in the past. As a Biohacker, I completely submerged myself in neural enhancement, receiving training in a Neuro Performance Program with Vitanya Brain Performance, and completing Vipassana, a 10-day Silent Meditation Retreat. These experiences trained my brain to change its frequency from Alpha to Beta and taught me how to move energy within my body to benefit my mind.

I created a company that could help others begin their neural enhancement journey to realize their biggest dreams. Built on the foundation of a passion for personal wellness and success, KIYA Longevity was born.

We work to help others find non-prescription alternatives to enhance their lives and re-evaluate what it means to live a vitality life. Welcome to the beginning of your life-changing journey. Together, we can unlock your full potential.

Brain J Rose,

Founder & CEO of [KIYA Longevity](#)

CAGE Certified

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[biohackersunited.com/](http://biohackersunited.com/)

# BIOHACKERS TO EX LONG



# HACKS TO EXTEND LIFE SPAN

## Can fasting slow down the process of aging?

**H**ave you ever wondered if you could pause your life in your mid-twenties? Have you ever dreamt of slowing down your body's aging process and living for longer? Is there any real factual and scientific possibility behind these wishes? Maybe it could all be possible simply by eating a lot less...

There are several certain constants within a human's life. We are born, we live, and we die. Part of the simple process includes the concept of aging, an intrinsic and fundamental feature of life that has fascinated humanity for hundreds of years. This topic has cropped up many a time on screen and within literature throughout history and remains a popular sci-fi tool to this day, especially within hit TV shows such as Doctor Who. However, on

paper, the process of aging is a relatively simple one. **As we grow older, certain stem cells within our bodies lose the ability to regenerate, thus leaving us open to attack from nasty infections, diseases, and other conditions.** One example of this that we would like to focus on is the human intestinal stem cells, which, once they lose the ability to regenerate, find it far harder to recover from gastrointestinal infections and other intestinal issues.

Research from a group of MIT biologists has now revealed that you can reverse these effects of aging on the intestine with a simple 24-hour fast. By observing the effects of fasting on groups of both old and young mice, the MIT team found that stem cells have the ability to regenerate in these conditions. While in a state of fasting,

the cells within the mice subjects started to break down fatty acids rather than glucose, which in turn boosted stem cell regeneration. Not only this, but the MIT team then discovered that they could achieve the same effects with the addition of a molecule that mimics the effects of Peroxisome proliferators activated receptors (PPARs), a breakthrough that could benefit older humans when it comes to recovering from intestinal infections or even chemotherapy.

Senior Author on the MIT paper, David Sebatini, explained: “This study provided evidence that fasting induces a metabolic switch in the intestinal stem cells, from utilizing carbohydrates to burning fat. Interestingly, switching these cells to fatty acid oxidation enhanced their function significantly. Pharmacological targeting of this pathway may provide a therapeutic opportunity to improve tissue homeostasis in age-associated pathologies.”

Further studies into the mice and the effects of fasting found that the state of fasting doubled the regenerative abilities of the intestinal stem cells, as explained by Lead Author on the paper, Maria Mihaylova.

She said: “It was obvious that fasting had this really immense effect on the ability of intestinal crypts to form more organoids, which is stem-cell-driven. This was something that we saw in both the young mice and the aged mice, and we really wanted

to understand the molecular mechanisms driving this.”

The idea of fasting slowing the process of aging is not limited to this MIT study either, as research out of the Kyoto University and the Okinawa Institute of Science and Technology Graduate University has reinforced the concept.

In this study, four human subjects were asked to fast for 34 and then 58 hours to see what effect it would have on the body and the aging process. Although the results were gathered from this small pool of data, they were incredible, revealing that 44 substances increased in the human body through the process of fasting. Not only this, but many of these substances are known to decrease when a person ages, yet they increased by a factor of between 1.5 and 60 during the experiment. These metabolites, such as leucine, isoleucine, and ophthalmic acid, increasing during fasting seems to suggest that the act may indeed help people to live longer.

Technician and first author of the paper on this research, Dr. Takayuki Teruya said: “These are very important metabolites for maintenance of muscle and antioxidant activity, respectively. This result suggests the possibility of a rejuvenating effect by fasting, which was not known until now.

“Recent aging studies have shown that caloric restriction and fasting have a prolonging effect on lifespan in model animals, but the detailed mechanism has remained a mystery. It might





be possible to verify the anti-aging effect from various viewpoints by developing exercise programs or drugs capable of causing the metabolic reaction similar to fasting.

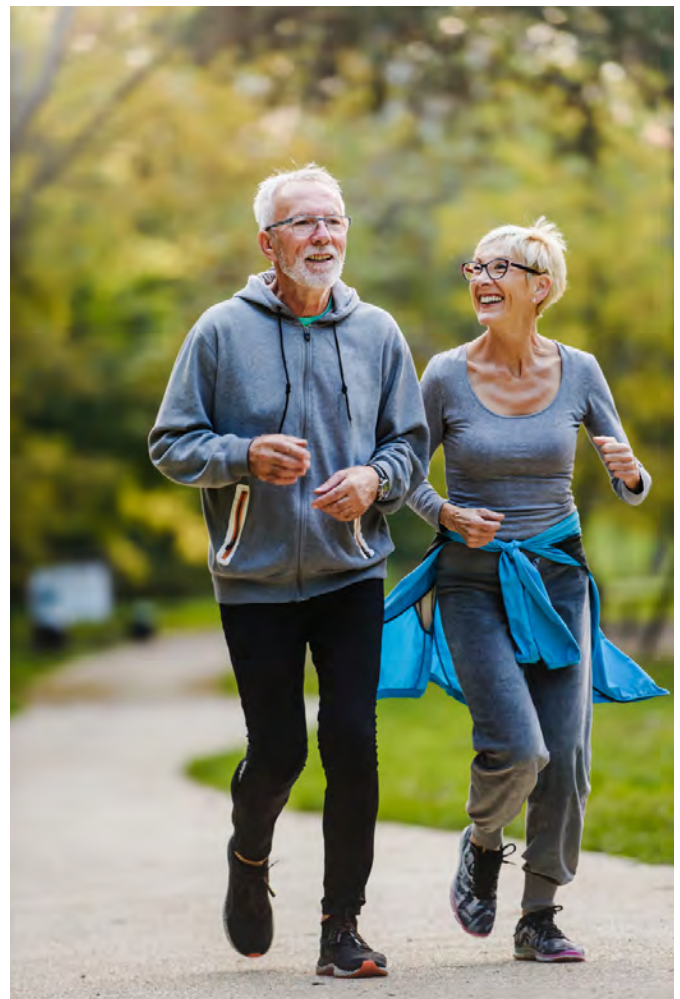
“People are interested in whether human beings can enjoy the effects of prevention of metabolic diseases and prolonging life span by fasting or caloric restriction, as with model animals. Understanding the metabolic changes caused by fasting is expected to give us wisdom for maintaining health.”

While these findings are extremely interesting and are potentially ground-breaking when it comes to delaying aging effects, they do not look at data over a full life cycle. It would not be possible to conduct such an experiment using humans, but researchers from Harvard T.H Chan School of Public Health found a way around this by using *C. elegans*. These are nematode worms that live just a matter of two weeks, allowing the scientists to literally observe and record their entire life span.

The mitochondrial networks within cells usually switch between fused and fragmented. However, the study found that by restricting the diets of these worms or mimicking such an act through AMPK, the mitochondria remained fused into a state of youth. This also increased the lifespan of the worms in general. So, in short, you may be able to literally pause and extend your lifespan through the simple practice of fasting, or by using proteins that mimic the same results.

The lead author, Heather Weir, said: “Low-energy conditions such as dietary restriction and intermittent fasting have previously been shown to promote healthy aging. Understanding why this is the case is a crucial step toward being able to harness the benefits therapeutically. Our findings open new avenues in the search for therapeutic strategies that will reduce our likelihood of developing age-related diseases as we get older.

“Although previous work has shown how intermittent fasting can slow aging, we are only beginning to understand the underlying biology. Our work shows how crucial the plasticity of mitochondria networks is for the benefits of fasting. If we lock mitochondria in one state, we completely



block the effects of fasting or dietary restriction on longevity.”

So, there we have it. Three separate studies looking at three different ways in which fasting can help to reduce the process of aging. While the research is still in its infancy, could we one day reach a stage in which this is a legitimate option in order to extend life and remain youthful?

Only time will tell.

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### **Can fecal transplants from younger donors be the solution to aging?**

Humanity has been searching for the secret behind the concept of aging since the dawn of time. The so-called fountain of youth has proved to be an elusive dream thus far, but could we have been throwing away the very solution for hundreds of years. Some studies have now suggested that human waste



may contain the ability to increase lifespan. One person's trash is literally another person's treasure!

When it comes to living longer, many people would assume that a breakthrough would come via the latest technological marvel or scientific gadget, however, one very real solution may have been under our noses this whole time. In fact, humans have been actively avoiding this secret for as long as time. We are of course talking about human waste. It turns out that our toilet bowls may have been the Petri dishes for an aging breakthrough all this time and we didn't even know it. But how could feces possibly help you to live for longer?

Perhaps the most exciting piece of research into the theory comes in the form of a study conducted by the Max Planck Institute for Biology of Aging. As the name suggests, these researchers and scientists are at the very foreground of global aging research, and a group led by Dario Valenzano has come up with some particularly nose-flaring results!

Valenzano and his team used a batch of killifish to experiment on as part of the study as they have a lifespan of just a few months. This allowed the team to study the full life cycle of the fish to ensure that they fully captured the extent of the transplant's effectiveness. The results gathered from these experiments go a long way to suggesting that microbiome microbes living within the body of both humans, killifish, and other animals, may have a big say in how we age through the years.

The experiment was a simple one on paper. The team took a batch of middle-aged (nine weeks) killifish and killed the microbes within their guts by using antibiotics. They then took a batch of young killifish (six weeks) and collected their feces before adding it to the tanks containing the middle-aged fish. Like humans, killifish do not actively eat feces, but by simply sharing the same tank microbes from the waste found their way into the older fishes' sterile guts.

The corresponding results were astounding! Those killifish that ingested the fecal microbes belonging to younger fish had an increased lifespan by an impressive 37% on average. To put that into perspective, that would be like a human who normally would live until they were 80 living until nearly 110.

To ensure that the results were age-dependent, the scientists also introduced the middle-aged feces into the guts of the younger fish, but there was no recorded change in lifespan. So, in short, by adding fecal matter from a young fish into the sterile gut of an older one, there was a significant increase in the latter's life span. The power of poo!

Despite achieving such amazing results, Valenzano and his team do not yet know exactly why this happens. One possible idea is that, over time, the immune system within the middle-aged fish had allowed harmful bacteria to overpower beneficial ones. However, after the fecal transplant, the harmful bacteria build-up was removed.

Of course, there is one major flaw in the work led by Valenzano, these results have only been found within the bodies of one kind of fish, not human beings. However, a similar study in Canada looked at how mice react to a similar experiment, meaning that we could see human trials very soon. This would not be the first talk of poo power in human science either, as other studies and trials have found that fecal transplants can be used to help treat infections, malnutrition, obesity, and more.

The Canadian study dives deeper into the world of the gastrointestinal tract and the microbiome within the body. This tract and the microbiome within are said to be one of the most affected by the aging process in humans, meaning that it could also contain the secret to extended life.

**The gastrointestinal tract is made up of hundreds of types of bacteria, viruses, protozoa, fungi, and more, all of which contribute to a person's health, bodily functions, brain functions, immune response, etc.**

As we get older, changes in the composition of gut microbes have been found to lead to illness, frailty, a loss of immunity, and more. While it is largely unknown as to why these changes occur within human guts, it is likely down to a mixture of diets, genetics, early life events, and the gut immune system.



Whatever the case, the simple fact is that humans become more vulnerable to illnesses within the gut the older they are.

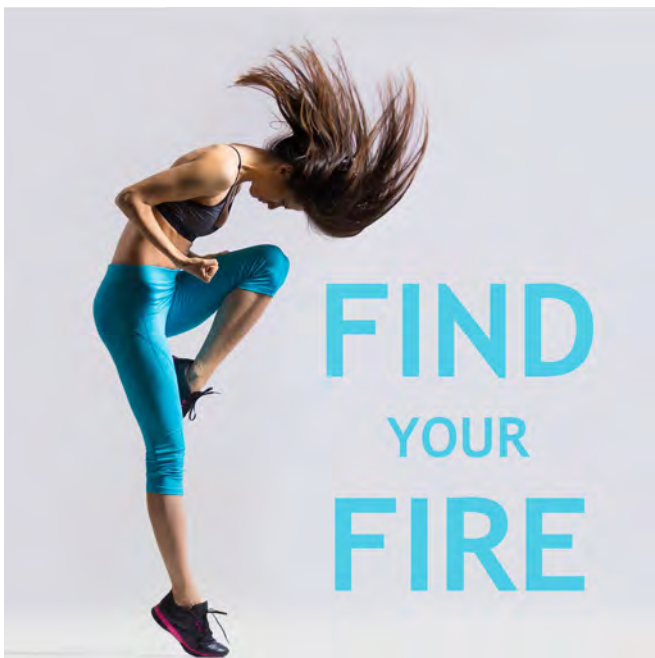
This new study builds on the idea raised by Valenzano and his team, supporting the simple solution of fecal transplants, however crude they may sound. In the experiment on mice, this came down to something called Peyer's patches. These are essentially lymphatic tissue masses in the small intestine, and they play an important role in preventing harmful bacteria and maintaining a healthy immune system. Within these Peyer's patches, we can find germinal centers, which have been found to become dysfunctional as a person ages, thus affecting their immune responses. In short, this area of the Peyer's patch declines with age and leaves the body more open to attack from harmful bacteria. However, the Canadian study may have found a solution.

When it comes to mice, these germinal centers can be treated by fecal transplants from youngsters. They found that this defective reaction over time could be boosted by fecal matter from younger mice, thus again implying that the aging process is not as irreversible as we once thought. It will surely not be long before we see human trials in this area, as the initial animal studies are simply too promising to ignore. Scientists have already declared such fecal transplants in humans to be safe, so there are few things holding back such research from taking places, apart from relatively unknown long-term effects.

There has already been a success in using fecal transplants to treat diarrhea based infections, with the cure rate being over 90%. Some scientists are now arguing that super donors may exist, essentially hinting at certain people providing stool samples that are far more likely to have a positive influence on the gut. When you think about other illnesses associated with a change in gut bacteria, such as Alzheimer's, some forms of cancer, asthma, allergies, heart diseases, and more, it certainly seems a worthwhile area of research.

Senior author of *Frontiers in Cellular and Infection Microbiology*, Dr. Justin O'Sullivan, has shed some light on the subject. He said: "The last two decades have seen a growing list of medical conditions associated with changes in the microbiome -- bacteria, viruses, and fungi, especially in the gut. "In fact, we know already that changes to the gut microbiome can contribute to disease, based on studies in germ-free mice as well as clinical improvement in human patients following restoration of the gut microbiome by transplanting stool from a healthy donor.

"The pattern of success in these trials demonstrates the existence of 'super-donors'. We see transplants from super-donors achieve clinical remission rates of perhaps double the remaining average. Our hope is that if we can discover how this happens, then we can improve the success of fecal transplantation and even trial it for new microbiome-associated



conditions like Alzheimer's, multiple sclerosis and asthma."

Could we soon see fecal transplants enter the mainstream for combating aging? In short, quite possibly!

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### **Can vampire-like blood transplants be a legitimate elixir of youth for humans?**

We have all read about vampires in books and watched them on the big screen. In fact, vampires have been one of the staple horror figures for years now, with little kids still turning to them as go-to outfits on Halloween. One of the most chilling features of these characters is their tendency to suck blood from their victims to maintain their health, strength, and youth. This seems like a horror-devised straight from the imagination of the brilliant Bram Stoker, but could it carry scientific merit? Could blood transfers from younger humans increase a person's life span? Was old Count Dracula right all this time?

The idea that blood infusions being able to reverse some of the negative effects of aging has been around for several years now, but three recent papers have thrown a whole lot of scientific weight behind the argument.

**These three published papers have shown that blood from younger donors can reverse the aging effects in areas such as memory, muscle strength, sense of smell, and endurance, as well as cognitive function declines in conditions like Alzheimer's and heart problems.**

First up, a study headed up by Saul Villeda (University of California) and Tony Wyss-Coray (Stanford), reinforces the argument that young blood can stimulate brain stem cell growth, as well as new neurons. During the same study, the scientists also reversed the experiment by proving young mice with the blood from older creatures, recording the complete opposite effects. This is yet another indication that the secret to aging may lie in our blood.

So, how did they do it? The scientists involved connected the circulatory systems of old and young mice physically by stitching



their abdominal cavities together during surgery. They also conducted the same procedure between two sets of older mice to compare the results. In this case, the elderly mice were 18 months old and the young mice were three months old. They also injected the older mice with blood plasma from young mice eight times over the course of three weeks. The teams then simply had to record the results over time to see whether the older mice attached to their younger counterparts would see any benefits, and they were not left disappointed.

Over the study period, the older mice attached to younger ones saw a greater number of new connections between brain nerve cells than those attached to other old mice. At the end of the three-week period, the mice were run through some tests to see how their memory had been affected, with the treated mice performing better in the maze experiments. These older mice that had been treated with young blood and plasma also remembered where the chamber associated with a shock was located.

Professor of Neurology at Harvard and the director of the Genetics and Aging Research Unit at Massachusetts General Hospital, Rudolph Tanzi said:

“The changes are astounding in terms of rejuvenating the mice both in the periphery of the body and in the brain. I’m kind of blown away, really, by the results.”

“When I first heard this story from Tony Wyss-Coray, I thought it was absolutely amazing. I thought it was too good to be true, but now you have to believe it’s real.”

The next study, conducted by a team at Harvard, found that connecting young/old mice by their circulatory systems, or injecting the old with signalling protein from the young, had a positive effect on muscles. In short, the experiment strengthened and rejuvenated the aged muscle in older mice, with stem cells being repaired, grip strength improving, and ability to run on treadmills increased. In this study, the protein used was GDF11.

Finally, the third paper, also by a team at Harvard, found that a similar



experiment also had a positive effect on the older perception in aged mice. The introduction of the younger blood led to improved circulation and new nerve cells, thus improving the sense of smell that usually deteriorates through age. The improved circulation was also observed in the brain, which could explain the improved memory functions observed in the first study.

So, despite vampires being straight out of the world of fiction, it turns out that their blood-sucking hobby to stay young may be entirely scientific. While there is yet to be a widespread application for the effects found in these three studies, scientists have taken the first step in the quest to find the elixir of life. Dracula himself would be proud! Or perhaps he is...



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**BIOHACKERS**  
UPDATE YOURSELF

# FeelZing

## FAQ

### Q: Is it safe to use FeelZing Energy Patch?

Thync takes safety seriously, so, before innovating the FeelZing Energy Patch, we have studied 30,000 peer-reviewed works that confirm the safety and effectiveness of electric stimulation. FeelZing works by sending electrical impulses through your skin right to your peripheral nervous system. There are many neurostimulation devices that target your brain directly and have proved their excellent safety profile. Doctors have even been implanting electrodes with constant electrical activity into bodies to treat Parkinson's, epilepsy, pain, and other disorders for over 20 years. So we can confidently say that our device is safe to use.

### Q: How long does it usually take to feel the benefits of FeelZing's stimulation?

Thanks to the principle of action of neurostimulation, users can feel the effects immediately after the FeelZing Energy Patch gets to work. The stimulation itself takes seven minutes. Then, the device stops sending electric pulses. The effect lasts for up to four hours.

### Q: Is it possible and safe to use FeelZing while drinking coffee or energy drinks?

Caffeine intake is not forbidden if you are using FeelZing. It is completely safe to combine these two products. Some users even use FeelZing as a supplement to their caffeine intake. Although, a lot of our customers report that they consume caffeine way less on the days they use FeelZing Energy Patches.

### Q: Do the levels of FeelZing's stimulation required vary from person to person?

Everyone tolerates different maximal intensity when it comes to neurostimulation. Therefore, Thync developed two optimal levels of the FeelZing Energy Patch intensity, Original and Extra.

Customers should choose the strength which is more comfortable for them. People with sensitive skin are better off with the Original strength. On the other hand, individuals with no skin sensitivity issues will benefit from buying the Extra strength patch. The greater the intensity level – the greater the effect. Just keep your skin sensitivity in mind.

### Q: Will all customers experience a response?

The outcomes will vary, depending on several factors. When it comes to caffeine intake, for instance, roughly ten percent of the population is hypersensitive to it, so their response to the maximum safe dose per day is rather strong. As for the devices that function similarly to FeelZing, rather high response rates of about 80 percent of the population were reported.

In the case of FeelZing, a response will be a moderate to a strong boost in energy, focus, and productivity. After examining the FeelZing Energy Patch, Thync reported a response rate of roughly 84 percent. That is the portion of our users who stated that they felt a quick increase in energy. Unlike many other stimulating tools, FeelZing is affordable and simple-to-use, meaning there is a low opportunity cost for low-responders.

### Q: What is the recommended age for using FeelZing?

A user should be at least 18 to start using the FeelZing Energy Patch. This minimum age was proposed by the company's lead scientist, Dr. Jonathan Charlesworth, based on multiple studies on non-invasive neurostimulation.





# CORE

***The turning point in the process of growing up is when you discover the core of strength within you that survives all hurt.***  
**- Max Lerner**





# MELANIE AVALON

EXCLUSIVE INTERVIEW

*Holistic Nutrition Expert, Podcast Host, Actor, Author & Wine Specialist*

**Dallas:**

Hello everyone. This is Dallas McClain again with Biohackers Update Magazine. I'm here with a very special guest today. Her name is Melanie Avalon. She's an actress and writer, a member of the Mensa International and she holds a certification in holistic nutrition. She's qualified as a wine specialist by the Wine Spirit Education Trust, and she currently lives and works in Atlanta, Georgia, and Los Angeles, California, while biohacking her way to greater health. Melanie. Welcome.

**Melanie:**

*Thank you Dallas. Thank you so much for having me. It is quite an honor.*

**Dallas:**

Well, it's definitely our pleasure. We've seen what you've been doing and we're very interested to learn more and I'm sure our audience is very interested to learn more about you and your history with biohacking. So thanks again for coming on the show. I know it's busy out there, so we appreciate it.

**Melanie:**

*I am super excited to jump in. It's all the things I love and what the audience I presume loves, so it should be fun.*

# MELANIE'S MISSION

## **Dallas:**

Cool. Well, let's dive right in. So we know a little bit about your background. It's kind of all over the place, but at the same time, specifically centered on a mission of health. So I wanted to ask a little bit about that. Why do you do what you do? And as the secondary question to that, what is your ultimate mission in life?

## **Melanie:**

*Good, deep, big question. So the start of my journey - I feel like it's a very similar story and that a lot of people in the health and wellness and biohacking world kind of end up here because we were faced with our own health challenges. When you're faced with some sort of health issue that you're trying to address, you can become a little bit relentless and try and find answers. And often the things that actually work at least in my experience are lifestyle changes, dietary changes, and a lot of the techniques and tools and supplements and technology of the whole biohacking sphere. So for me my journey first started in the dietary world.*

## **Melanie:**

*I was always trying to lose weight and it wasn't until I tried a low carb diet and then a whole foods - based paleo diet that I realized the profound effect that food has on our entire constitution, not just our weight. And so that kind of set up my brain to have a paradigm that was really receptive to having agency in your own health. And then I was faced with various health conditions. So I graduated college, I moved into an apartment and started experiencing the vague term of chronic fatigue. I just felt like my energy wasn't my own and something wasn't quite right. And when I actually moved out of that apartment, two years later, I realized that it had black mold all in the apartment and also that the oven was leaking carbon monoxide every night. So that could have played a factor.*

## **Melanie:**

*And then on top of that, while I was living in that apartment, I got food poisoning and my digestion was never quite the same since then. So I became really relentless in trying to find things that could make me feel better. And I feel like the word 'biohacking' was right at the beginning at that time. It's funny because I got really obsessed with all these different things that are super common in the biohacking world today. So things like, red light therapy and blue light blocking glasses and just a myriad of stuff that today is obviously biohacking. And so I kind of just had a moment. It was probably when I was trying to decide the title for my second podcast, which is the Melanie Avalon Biohacking Podcast. And I was like, oh, okay. I guess what I'm doing is biohacking.*

## **Melanie:**

*But what I really found with all of that is was not only that what I had experienced before, my diet has a profound effect on my experience with the world and my digestive issues and my health and my energy, but also that all of these modalities, like I mentioned, that are super common in the biohacking sphere, really have a profound effect on my experience of the world, on my stress, on my vitality. So, it's all the things, like I said, the red light therapy, the blue light blocking glasses. I do cryotherapy every day. You and I were talking before this about deuterium depleted water, which is my new obsession.*

***“But I've really found that if I honor self-care, in a biohacking way, that's so important for my performance and anything. I'm talking about me with this, but I feel like these principles can really apply to everybody because we live in a stressed-out over-caffeinated world where it's kind of a badge of honor to not take care of yourself.”***

**Melanie:**

*It's seen as a good thing to not sleep and just drink coffee and go, go, go. But really, I think self-care is so important for building a foundation and a body that can be a vessel for you to perform and do what you want to do in the world. I've been doing research and self-experimentation and find the things that really, really affect me and upgrade my life. And then I just want to share it with everybody because I try these things or I learn information and it's so life-changing for me that I just want everybody to know about it. Really my goal is to empower people and if they have health conditions and they want to reclaim vitality or if they're feeling fine and they just want to upgrade at their highest, or perform at their highest level. I just want everybody to know that they have the agency to take charge of their own health and they don't have to fall prey to diagnoses that they can always change. They can always feel better. There's a lot of ways to go about that. And also that it's very individual. So what works for one person might not work for another. And that's why I just have the shows to share all the information that I can so people can find what works for them.*

**Dallas:**

Yeah. Well said. I really want to touch on what you said at one part where you were talking about people, not necessarily focusing on self care, because you're so right. It's applauded in our society to be the overworked dad or the overworked mom, and just let yourself go almost at the expense of giving yourself so much to the world. But when we take care of ourselves and we take care of our health, we're really just doing the world more of a service because we can give our talents more to the world, more sustainably, right? So that's a really important take. I think that a lot of people can benefit from and be reminded of that. Thank you for sharing that, Melanie. I had a couple of follow up questions just because you do so much in the world. You're talking about sharing. You have a website, you wrote a book, "What, When Wine",

you have a podcast where you have hundreds of episodes. So you're spending so much time on yourself, but also sharing so much with the community. This seems like a lot of projects, a lot of projects going on and maybe you have more hectic days than others, but how do you remain balanced? How do you remain centered when you're going about all of these different projects?

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## BALANCING WITH SELF-CARE

**Melanie:**

*Well, first of all, I'm so glad you said that. You just encapsulated basically my entire view on the situation. I've really struggled with this personally because I do want to give, give, give to the world and it can be hard because that can be really draining. If you don't take care of yourself and then you feel like it's selfish in a way to honor the things that you have to do to actually show up. So it's a hard thing for me to grasp because I don't want to be selfish. And I want to give everything I can, but like you said, really the way that you can give the utmost of everything to everybody is if you are taking care of yourself.*

**Melanie:**

*On to the question. Great question. So for me, one of the biggest things is sleep. So I identify sort of as a resident insomniac. I always thought that I was an insomniac, but then I had Dr. Michael Bruce on the show and he wrote "The Power Of When", and he has these different chronotypes and sleep prototypes. And one of them is the dolphin, the insomniac. And I am that; I took the quiz it's official. So I've been trying to hack my sleep for a long time.*

**Melanie:**

*And I'm happy to say that when implementing everything, I actually sleep. I tend to sleep about nine hours; I know that's a*

*“And when I say hack my sleep, I don’t mean perform better on less sleep. I mean, hack my sleep so that I actually sleep. So for me, in order to do everything I’m doing, I have to honor my eating and my sleeping schedule. I put in place very intense rules that work for me that honor that sleep.”*



*lot in our modern society, but I really have to get that and put in the tools to do that. So that mean having my basically my set bedtime and wake up time and then doing all of the things to support that. So at night I wear blue light blocking glasses. I light up my apartment and only use red light therapy devices at night to light it up. And if you look at my apartment from the outside, it looks scary. It looks like the red light district, but that’s okay. I use a chilly pad, a cooling mattress, a sleep mask. I used to have an EMF blocking canopy, but I’m on the fence about if I had it installed properly.*

**Melanie:**

*I turn off wifi. I have a wind down routine that I really have to do every night. I’m a late night person so I tend to work pretty late, but then, once I go into wind down mode, I turn off social media, no more social media. I wind down with a glass of wine. I have my dinner. I keep the light exposure all the way that I like it. And then I go to bed. The phone is in airplane road. So I really have to honor that schedule. It makes me feel like I wish that I was the type that could just not sleep and perform, but I know that I have to.*

**Melanie:**

*So I really honor that. And then during the day I do intermittent fasting. I’ve been doing it over a decade now probably. That really works for me for performing because I do a one meal-a-day pattern. I only eat at night. So during the day I don’t have to worry at all about eating. I don’t get energy lulls from digestion. Basically I can just work all day until I go to bed or until I eat dinner. And then the third thing with all that is the mindset surrounding all of it and the stress reduction tools. That’s where I think it’s really important just to have a positive outlook on life. I’ve always been a glass half full type of person through everything. But I think focusing on gratitude and kindness and breathing is important. I’ve had Wim Hoff on the show and that was an amazing episode on just the power of the breath.*



**Melanie:**

*But then also using all the bio-hacking techniques to tackle stress. I historically have had periods of pretty intense anxiety. And I found that a lot of the tools like in the biohacking world have really helped with that. So things like my Apollo Neuro device, which is a sound wave therapy device or different meditation devices. I use CBD oil, that really helps. So I think just really honoring my sleep, my diet and my mindset is key for me to show up and do all these things. And just one last note I'll make is that*

***“I am so grateful for is everything I'm doing. So producing the two shows and having written the book and I'm starting a supplement line now, but everything I'm doing, I love doing so all of my work, just in a way, it gives me energy.”***

*I think that's also really important. So finding the work that makes you feel alive can have a huge effect on whether you're drained by your daily work or you're enlightened by it.*

**Dallas:**

Oh, for sure. You almost see it as you're a servant, you're just serving the community rather than just being a slave or a worker to work. So I think that's a good way to look at it. You definitely have to be a glass half full person in today's world., because if you're not something's going to sneak up on you'll just feel done. So props to you on that. Talking about your wind down routine, I know you got into some specifics about what you do when winding down, like wearing blue light blocker glasses and preparing yourself with certain time restraints on what you can do when, but along with winding down, there's also a point where we kind of have to wind ourselves up after we wake up. So can you take me through

your wake up routine and how you get yourself mentally prepared to take on all the projects that face you when you start your day?

## THE MORNING ROUTINE MAKES THE DAY

**Melanie:**

*Sure. So I am not a huge coffee person. I love coffee, but being the insomniac that I am, if I have just a little bit of too much coffee, it has a huge effect on me and I might not be able to sleep. I actually, so my wake up routine, I wake up, I have my mattress cooling mattress set up so that it actually goes off, right when I'm waking up, basically. So if I sleep past that, I can tell because it gets a little bit hot. But I wake up, you know, take a shower, coffee wise - I know it sounds crazy, but I will have like a spoonful of coffee, like of liquid coffee. I feel like it's just a little amount. That kind of gets my pep in my step and it's kind of embarrassing, but since I eat my big dinner every single night I load the dishwasher the night before.*

**Melanie:**

*So I look forward to this every morning and it sounds silly, but I like put on weights and I play music and I unload the dishwasher and clean up the kitchen. So I start the day with a lot of movement. I've replaced all of my bowls and things like that, with cast iron - because then you're carrying around really heavy bowls. I'm a fan of picking up heavy things and adding functional movement to your life. So all of my dishware is very, very heavy, so that helps for the workout aspect of it. I interviewed Katie Hess, who makes flower essences and actually those have had a profound effect on my sense of wellbeing.*

**Melanie:**

*So I started with doing flower essences. I use them throughout the day. I start with bright light. I have a bright, really white light, so I like to get exposure to that. I actually do turn on my red light during the day. I have it as ambient lighting as well because it actually makes me feel really good. Then I jump into my work, which I love. So that includes prepping shows, recording podcasts, emails. That's how I get going. And then I have habits that I do throughout the day, but that's the morning.*

**Dallas:**

Yeah, that's a great walk through. Thank you for that. It's sounds like you're trying to turn a lot of different appliances into weights, which is a good secondary effect for sure. I can only imagine how much your hairbrush must weigh, you know, just to get the extra workout.

**Melanie:**

*Oh that's a good idea!*

**Dallas:**

You just got to make sure you're not too tired or the hairbrush might take some hairs out. Wow, that's a really cool routine though.

**Melanie:**

*Oh, I left out one key piece. I wear an Oura ring. I check it actually in the morning is because I put the Oura ring into airplane mode at night. In the morning I sync it to the phone and it tells me how I slept and how my stress is, and how my HRV is, and if I need to really tackle the day or if I need to rest. So that's a key piece.*

**Dallas:**

Oh, for sure. Yeah. I know a lot of biohackers use that and if you haven't used it yet, I suggest it to those listening just because it's just mind boggling with everything that happens when you're

sleeping. So, I wanted to talk a little bit about some of the projects you've completed and done and what has led you here to share this wealth of knowledge with the community. You wrote a book called "What, When Wine" and the title is super intriguing. I think because wine, as many will be accustomed to saying, is something that relaxes you and has antioxidants and stuff. And it's all good in moderation, but I want to get your take from it because like anything good, it can be abused, but how can you use this routine that you described in this book to help your healthy lifestyle?

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## WHY WHINE, WHEN YOU CAN HAVE WINE

**Melanie:**

*Yeah, so I love the wine topic because I'm definitely a huge wine fan. I wouldn't say I've been drinking it forever, but it's always been like a part of my family, you know, nice dinners and wine. And so I feel like a taking a healthier approach to it, like treating it like a ritual or an art or something that enhances life. And when I was writing the book, "What, When Wine", which I originally self published, and then I signed with my agent, who's amazing, and released it in stores, I did want to do a whole section of the book on wine because I think that alcohol in general, is what's hotly debated that's for sure. Some people say it's toxic in any amount. Some people say the longest-lived populations drink alcohol.*

**Melanie:**

*There's a lot of studies on it and there's two parts about it. One, I think there's a debate about whether or not it plays a role in a healthy lifestyle. I personally think that the studies seem to show that moderate alcohol intake, is pretty much linked to longevity and a lot of health benefits. And I think it definitely has a place as long as you're using it as something to enhance your life, not filling up a hole in your life. I love*

**Melanie Avalon**

**Gin Stephens**



**the Intermittent Fasting  
PODCAST**

*wine in particular, not just alcohol, even though studies do seem to show benefits just to alcohol in general, but wine in particular has all of these Xenohormetic effects and antioxidants and polyphenols. And I really think there's a lot there that can really enhance our health, assuming it is clean wine, which I get nervous about.*

**Melanie:**

*You mentioned wine, which is often full of pesticides and additives and mold and high sugar, high alcohol. So really sourcing clean, low sugar, low alcohol, toxin-free organic wine is really important. The second part which I talked about in the book is I think a lot of people think when they*

*need to lose weight, that alcohol has got to be the first thing to go. And I try to dismantle that myth in the book and to my audience when it comes up on my shows. So I'm all about getting the max benefits and everything, regardless of what your goals are. So I definitely like having my nightly wine for sure.*

***“We're all different; some people keep alcohol in and can't lose weight until they cut out the alcohol. But what's really interesting is just from a pure, biological level, we can't store alcohol as fat. So if you're gaining weight with***

**alcohol, you're not actually gaining weight from the alcohol, it's confounding factors. So I think there's definitely a smart way to maintain weight or even lose weight while having wine in your life."**

**Dallas:**

Very nice. I'm sure a lot of people do. Talking a little bit about the other two subject lines there. "What", and "When", I think this kind of focuses a little bit more on intermittent fasting or when to start routines and what to do when, so can you tell me a little bit more about intermittent fasting and your routine and why it might not work for some other people and why it might be perfect for some of the people?

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## INTERMITTENT FASTING - THE INS & OUTS

**Melanie:**

*Sure. Yeah. So the "What" and the "When", the "What" is referring to like a whole foods-based diet ; paleo in a way, but whatever works for you personally and yes "When" is intermittent fasting. So I have two shows, the intermittent fasting podcast and the Melanie Avalon biohacking podcast. So with the Intermittent fasting podcast, I'm so grateful, but the timing of that was amazing because I started it with my co-host Gin Stephens. She's a New York times bestseller. And we started right when, intermittent fasting was sort of becoming more popular. Like when we first started it, if you said 'intermittent fasting', to like a random person on the street, a lot of people didn't really know what it was, but now you can mostly say, "I'm intermittent fasting", and people tend to know what it is, which is very thrilling to me.*

*Basically intermittent fasting is a pattern of eating where you restrict the hours that you eat each day, rather than the amount of food you eat. It's also called time restricted. Basically it's eating in time windows, rather than constantly throughout the day and the benefits of it can really be profound because when you go into the fasted state, which again, this is context dependent and it depends on the individual, but typically around about 12 hours or so after your last meal, your body starts switching over to a more fat burning-type state. So people often fast daily with intermittent fasting for 16, up to about even 24 hours. The deeper you go into that you ramp up fat burning, you might enter ketosis, which is when you're generating ketones, which are an alternative source of fuel for the brain in particular.*

**Melanie:**

*That's the whole ketogenic state that people often hear about which it's linked to, or it can provide brain clarity and energy and a lot of anti-inflammatory benefits. Then also something people talk about a lot, which is autophagy. So that's where you're not taking in protein, so your body actually goes in and recycles old proteins throughout your body to basically clean up shop and also to recycle them to the proteins that it needs. So it's kind of like a cellular cleanse. There's so many benefits to this and I'm all about people finding the window that works for them. So having that IF podcast show, it's a listener Q and A show. We just answer listener's questions. So we get asked all the time about people trying to find right window that works for them.*

**Melanie:**

*And so when I was writing the book, I was really just trying to create a guide and a resource and a tool for people to find the window that works for them. And I think different things definitely work for different people. Some people are more grazers anyway. So, some people like eating little bits, like little amounts all throughout the day. And so for them, they probably would be more suited to a longer eating window so*





that they're not eating one bolus of food at once. Other people, like me, do really well with like a really hardy meal and not snacking. So I do a one-meal-a day-type approach. So the different approaches work for different people and then also the timing. Some people identify as like breakfast eaters and they're hungrier in the morning.

**Melanie:**

Some people are more like evening eaters like me and they rather would eat in the evening. And I think that's really important to consider. There's a lot of debate out there about: is early eating better than late night eating? And I actually just did a deep, deep dive into the research. It's going to be a blog post on my blog. I've been working on it for months trying to read literally every study I can find comparing early to late eating.

***“And the takeaway that I’ve found is that the thing that you stick to is probably the thing that’s going to work best. So if you think it’s better to quote, eat early, if it’s more sustainable for you and you can stick to fasting by eating later, I think that’s probably better.”***

**Melanie:**

As for the second part of your question, who does it work for? Who does it not work for? I do think most people can benefit from some sort of intermittent fasting pattern. The problem comes in and this can happen for women as well, is that if you over restrict too much in all capacities, then fasting can become definitely too much of a stressor. So intermittent fasting to me does not equal restriction, but it can if you make it that way. And that comes down to basically what you're eating in your eating window. So if people are fasting and they're

*restricting when they're eating, then that's not going to be a good combination and it can create too much stress on the body and create hormonal problems. So think it's really important if people are fasting that they're making sure when they're eating that they're getting all of their nutrients, they're getting all the calories that they need so that they can really sustain that fasting lifestyle.*

**Dallas:**

I completely agree. I think that's really important to say, because I think unfortunately, some people get lost in these fastings or these fads, and they don't necessarily think about things that they actually do need to do on top of these. For example, we could ask about supplementation, if you're doing a certain type of diet, maybe you want to think about certain nootropics or supplements relating to you specifically, Melanie, do you take anything that you would recommend to users who are, or who are not following intermittent fasting?

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## IDEAL SUPPLEMENTS TO MATCH OUR REALITY

**Melanie:**

*Sure. Yeah. So I'm haunted by this question for a few reasons. One, in my dream ideal world, we would get all of the nutrition that we need from food but I think unfortunately with the state of our modern agriculture and food system and nutrient depleted soils, that's just not always possible and with all the stressors that we're having on top of that. So I think when it comes to nutrition, there are some gaps that most people probably are deficient in. And then on top of that, if you do individual testing, you might find that you're deficient in some certain nutrients that you might benefit from supplementing. So, I think for example, a lot of people*

*are deficient in magnesium. I think most people can probably benefit from some sort of magnesium supplement. A lot of people are deficient in vitamin D.*

**Melanie:**

*So getting your vitamin D levels tested and then raising that either naturally through sunlight or, if I can be controversial during the winter, I will even do super short UVB tanning bed sessions. We're talking like two or three minutes with the UVB beds only, which nicely enough is the cheaper beds. You can also use vitamin D supplementation. So I think a lot of people can benefit from that as well. I think definitely, especially a lot of women struggle with iron issues. So testing your iron, and if that is an issue addressing that. I historically have had anemia to the point of like needing blood transfusions. So if people struggle with their iron levels, the thing I found that has helped me the most has been grass fed spleen has really been the first thing to help me with that.*

**Melanie:**

*As far as like nootropics and performance enhancement and things like that, there's a lot of debate out there about NR versus NMN. So basically supporting your NAD levels. I'm overwhelmed by it. I bring on a lot of guests on the show and a lot of them who are very savvy in this world and every single time I asked them NR or in NMN, I get different answers. So that said, I do supplement with both of those. Sometimes I do one, sometimes I do the other, sometimes I do both.*

**Melanie:**

*My favorite supplement and it's actually the supplement that I've been taking for years now. And it's the one I'm making as my first supplement for my own supplement line. - A quick tangent about that, and it actually relates to everything that I'm saying. Definitely make sure when you're taking your supplements that you look at the source and the company, because the supplement industry is so sketchy. Especially*

now that I'm making my own, I'm just realizing how much it's not regulated and how much people companies can really just be vague about labels and not be transparent. So I think it's really important to take brands that you really trust. But circling back, so the first one I'm making is Serrapeptase. And I've been taking that, like I said for years. It was actually my co-host on the IF podcast who is not a big supplement fan, that was taking it at well. When we first met, we were both taking Serrapeptase.

**Melanie:**

And we were like, what are the odds? Because it's such an obscure supplement. Basically it's a proteolytic enzyme. It was originally created by the Japanese silk worm.

**“And when you take Serrapeptase in the fasted state, it goes into your bloodstream and it breaks down problematic protein build-ups. So it selectively breaks down things that your body might be reacting to. So if you have allergies or inflammation, it can help that. I started taking it for my allergies and it clears up my sinuses, like none other.”**

My co-host was taking it because it breaks down fibroids and she got rid of her fibroids with that. It's been shown in studies to reduce cholesterol and triglycerides and break down amyloid plaque. It's basically kind of like how fasting is, it can do so much good for your body on so many levels.

**Melanie:**

So I love Serrapeptase and I can't wait to have my own because now that I've been doing all the research and know all the brands, I don't even feel comfortable taking the brands I had been taking. But then beyond that, I haven't hardcore-supplemented. I have in the past, and have tried a

lot of different new topics, but right now, I just feel really good where I'm at with everything that I don't really feel the need to try anymore. I do love CBD oil though. I use that every single night and it's had a massive effect. I do think people respond differently to CBD. So if you resonate, if it resonates with your body, finding the dose that works for you can be really important, but I do love that as well.

**Dallas:**

Awesome. That's a good list of things to keep in mind, for sure. I remember the Serrapeptase one that you shared with us in our last issue, and that was a really intriguing article. That's something I had never heard of that can do so much. So I encourage everyone to look into that for sure. If I can go dive behind the scenes a little bit here, and hopefully this isn't too intrusive of a question, but you're starting your own supplement line. Can I ask you, why? Is it because of the obscurity of the current supplement industry or is it because you feel like you just want to take on this mission of getting your own brand out there and doing everything yourself while having a little bit more control? What is your reasons behind that?

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## IF YOU CAN'T TAKE THEM, MAKE THEM

**Melanie:**

Yeah, so it's funny because I feel like I always thought I wouldn't start a supplement line, not because I don't want to or I don't think it's valuable, just because I feel like there's this whole vibe around supplements that you're trying to sell people things. And the last thing I want to do is sell people things. I'm all about telling and sharing, not selling. So I think I was always a little bit hesitant to create a supplement line for that reason. So it's just my own perception of the stigma that comes with it. I get asked by listeners all the time about my recommended

Serrapeptase and so it was kind of just on the back burner in my head that maybe someday I can make my own and then I could just feel really confident about it.

**Melanie:**

I didn't want to take on the entire project on my own. I mean, knowing like what you can handle and what you can't, I just didn't think that I had it in me to figure all of that out. So I just thought that it would come to me if it was meant to be. And then this amazing company that makes supplements came, reached out to me because they wanted to partner for promotion and I started talking with them and I realized that I was on the same page with them as far as like transparency and health and biohacking. Then we just really connected and we thought we should just do a supplement.

**Melanie:**

And I thought, well, I've been wanting to make this Serrapeptase for a long time, so we decided to do it. And like I said, I was suspicious before that, about the supplement industry, but now actually formulating my first supplement, I've realized more and more just how crazy it is. For example, because I'm making a Serrapeptase supplement, I wanted to make one without fillers and without additives, and I

thought there were different brands on the market doing that. But what we found is that there are so many loopholes where you don't have to disclose information. So I realized these supplements, with all these ingredients that I thought I was taking, actually weren't. So now I have a mission with this.

***I really honestly want to make some of the supplements that I'm currently taking myself. I want to make my own version because I want to know a hundred percent what I'm putting in my body. And I want to know that it's the best form that it can be, and I want to feel really good about it.***

And then I also want to have that as a resource for listeners and the audience. When people are asking me for sources for their supplements, I can say, here it is, and I can promise you that, because I formulated it, I made it, I know where it's coming from. So now I feel like I just need to do this. It's like a service to the world.

**Dallas:**

That's a courageous mission for sure. When you look at industries and just in general, the ones that are particularly established, the rules that they set are in place for as long as they want them to be, until someone, you know, maybe a certain someone like you comes along and says, look, we need to do this. We need to do this because this is serving, not just me, but serving the community. So that's a very cool mission. Talking a little bit about the pandemic and how it's affected you and your business and everything, and how it's affected the world in general - What can you tell the world from your experience with this pandemic and what you've done and what you've been able to do and what the pandemic has done to you as well? What can you relay about your experience that can help give hope to the pandemic stricken world?



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# PANDEMIC WOES & BLESSINGS

**Melanie:**

*Yeah, that's a great question and obviously very timely. I don't take it lightly. I know that there are terrible things that have happened. You know, the hospital situations, the deaths, the loss of loved ones, the stress, like there's a lot of very intense things that are happening and I don't take it lightly. All of that said, from my personal experience, I actually feel very grateful, for a few reasons. One is that, I'm a very introverted person. I wonder because there are people who are more introverted and people who are more extroverted, and I do wonder about the effect on people's mental health, based on whatever foundation that is. So I'm a very introverted person. So for me it was almost like a sigh of relief that I didn't feel like I had to fear missing out or that you have to go out all the time where, you put yourself out there, like being this high performer going out.*

**Melanie:**

*I finally got to take a moment to just rest and feel good about that. And I do think this has been a really nice step back for a lot of people. So for the introverts, like me, it's a moment to not have that almost guilt in a way about being out there more. But then for people who are more extroverted, I think it's a nice way to step back and take a moment of peace. And it definitely forged all of us to take a step and pause. As far as the job and all of that, I actually had a job. I'm so grateful that this was my problem. It's the opposite of what most people, a lot of people experienced, because a lot of people, lost jobs and that was their source of income.*

**Melanie:**

*And I think for all people where that happened, I am so empathetic and I really hope people can re-frame it and*

*take it as a time to find what is working for them and what isn't working for them. The ironic thing about my situation is prior to the pandemic, I had a serving job, so I always had a serving job. I think for me it was a safety net. I always felt that as long as I was clocking in somewhere, then it's okay, I'm safe. I can always clock in, I can always clock out. I'd been wanting to not have that job and really put all of my energy into my own creative endeavors and my own self-employed life.*

**Melanie:**

*So I'm speaking to all the self-employed people out there, but I was honestly terrified. I was like, I can't, I can't quit my serving job because that's my safety net. So I lost the serving job with the pandemic. And honestly, if that hadn't happened, I don't know, I might have never quit by serving job. I think I would have kept it as my safety net, like I said, so it really caused me to like evaluate what's important and face my fears about security and safety and financial support and really just go all in with pursuing my passion. So now I'm a hundred percent self-employed with all the projects. I will not be going back to serving, which I'm grateful that I'm at this place now where I can make that decision. The takeaway I think I can share with everybody is just that it was definitely a shift, a major shift in our daily lifestyle.*

**Melanie:**

***“It disrupted our routine, disrupted what we thought was making us safe and what we thought was making us happy. And it really made us reevaluate our lives and take a step back and ask what do we want from life? What do we want going forward?”***

*And people say that they want things to go back to the way things were before the pandemic, but I really hope and pray that we can come out of this having learned what we've learned and be better for it on the other side. So I hope*

*people can find what there is to be grateful for in it and grow stronger from it.*

**Dallas:**

Very well said. Yeah, I totally agree. I hope we don't go back to the world that was before, because in a way the pandemic has taught us new ways to live, new ways to be healthy, you know? So thank you for sharing that experience and that advice for everyone out there. I know that we can all take some value from it. Melanie, I have to say it's been an absolute pleasure. I know I've learned a lot. I'm sure our listeners and readers have learned a lot. And I really hope we can do this again sometime.

**Melanie:**

*Yes. Thank you, Dallas. This has been such an honor. I'm so grateful for what you guys are doing and spreading because I think the mission of biohacking is really giving agency and motivation and hope and change to people. So what you guys are doing with the magazine is incredible. I applaud you. I'm just so honored to be here. So a hundred percent, I'd love to talk to you again in the future.*

**Dallas:**

Thank you for saying all that. And I would encourage everyone to go check out your website, [Melanieavalon.com](http://Melanieavalon.com) and also your book, "What When and Wine." And you have many podcasts that are also accessible. I'll let you share those if you'd like with the listeners and readers.

**Melanie:**

*Sure. So [Melanieavalon.com](http://Melanieavalon.com) is the website. "What, When and Wine" is the book, the intermittent fasting podcast and the Melanie Avalon biohacking podcasts are the shows. I also have an app called food sense guide, if you struggle with food sensitivities or digestive issues. And then that new supplement line is to be called AvalonX, like Avalon X. So that should be available soon-ish. I'm pretty excited.*

**Dallas:**

*Great, I'm excited to see a lot of those things come to fruition, especially the supplement line. So you'll have to keep me updated on that.*

**Melanie:**

*Yes! I'll send you a bottle.*

**Dallas:**

That'd be fantastic. Thank you. Well it's been a great learning show and I know that everyone will definitely get some sense of value from this recording and this article. So Melanie, thank you again and thank you to all the listeners and readers out there. And we'll talk again soon.

**Melanie:**

*Thanks Dallas. You too. Have a beautiful rest of your day.*





# BREAKTHROUGH BIO NANO TECHNOLOGY IN THE US MARKET

- JULIA SMILA  
12/15/2021

**W**hat if I told you the next big thing hitting the biotechnological market was actually so small you'd hardly ever think about it? What if these small elements, when applied correctly, had the most effective impact on human's health since Dr. Semmelweis?

I am scaling to the US market an innovative nano bio technology, Bio Micro Elements, which have high bio-availability and can be delivered in the form of liquid supplements. Scientists in Europe have been validating the process of obtaining compounds with food acids, "nano carboxylates," coming from non-organic chemistry to biochemistry. Bio-organic elements are already exactly what the cell eats; they are bioavailable. The compounds correspond to the microelements, which are found in nature. We have products with elements such as Ce, Cu, Co, Cr, Fe, Ge, Mg, Mn, Mo, Ni, Se, Ti, V, Zn.

Our mission-driven scientific team has been doing research for the last twelve years and, having spent millions of dollars, the results are really impressive. Over this time, our lead doctor consulted more than 12,000 patients who used our products while he tracked their results.

During the last 10 years I was taking part in the research as a patient, using our supplements with different microelements for myself and performing lab tests with the lead doctor. It was actually the start of my biohacking journey and I was able to fix a lot of dysfunctions within my body. After long term collaboration with the lead doctor and scientists, I now understand the technology and product well and I am excited to share it with others. Considering this and my experience in the US venture capital market, particularly in the BioTech, HealthTech and Wellness industry, I feel privileged to be the person to present and develop this biotechnology in the US market.

# Description of the technology.

**1st stage** - The process begins with the preparation of an aqueous colloidal solution of micronutrient nanoparticles using electro-impulse nanotechnology. This technology is based on a new physical phenomenon of energy self-concentration in local microvolumes of a conductor, located in an elastic cavitating medium, that is in an electrical circuit with discharge gaps.

An important feature of nanotechnology is the possibility of obtaining nanoparticles both in an amorphous and crystalline state with a negative surface electric charge, which is formed due to the electron emission that occurs during electropulse dispersion. Such nanoparticles are characterized by very high activity levels.

**2nd Stage** - This involves the production of nano carboxylates due to the direct interaction of nanoparticles with food carboxylic acid. Since other substances are not included in reagents, nanoparticles fully participate in the chemical reaction of salt formation, creating a product of high chemical purity without (important!) reactive nanoparticles.

The important thing is that the end product has no nanoparticles. Nanoparticles are dangerous materials, because depending on their size, they behave differently. So we used nanoparticles as the raw materials to derive items from them. Each element has a unique formula of the compound, and it doesn't work unless there is some unique formula.

We develop different frequencies and different powers of electricity to obtain each compound. In the early days, we only had silver citrate. Then we developed 45 micro elements, which are found in the human body. So we were able to develop three to four new micro elements per year.

The same bioavailability of elements as Mother Nature produces.

As of today, we have produced and clinically tested



compounds which correspond one-to-one to the compounds of Ce, Cu, Co, Cr, Fe, Ge, Mg, Mn, Mo, Ni, Se, Ti, V, Zn as found in nature.

Now magnesium citrate or iron citrate produced is not a miracle, but some other compounds which we were able to obtain, you cannot find in the list of chemical elements of the United States or Europe. So they are not existing according to official modern science. We also have iodine citrate. Iodine is not a metal but we were able to obtain it. Reed Davis, as a clinician, you definitely can imagine the benefits of iodine citrate and how it could create Miracles for clients. It's a different level of power. And actually, it's like an active element. Additionally we even made a serum citrate.

Our team traveled all around the world and presented this to other scientists. We opened Google and said, "Now, we will show you something which Google doesn't know". And if we put some of our formulas in Google there is nothing found. According to the official record, it does not exist and we say, "We can produce these elements on Industrial scale."

For example seafood contains zinc and we produce the same bioavailable formula, but we do it on an industrial scale at our two factories.





**If we eat non-organic elements, none of our cells thank us for it. Our micro elements have such high bio-availability as elements in natural products, which is crucial. They are now in food acids and taken as a liquid, not a powder.**

We are celebrating because all the doctors we work with were searching for news such as this because they can use our bioavailable elements as something really powerful to help patients restructure their enzyme processors. The cell doesn't flow with poisonous elements, artificial stuff, as the elements are not bioavailable if they do not reach the core, and do not participate in the adjusting process in the cell.

I would like to emphasize that these elements should not be considered Homeopathy because they are actual atoms, very far from any kind of acute toxicity, or any other medicines because of bioavailability. So, because it is so bioavailable, you only need it in small quantities. So when we work with the big agricultural companies they tend to say, "What? Like a few grams of active compounds per one hectare, ha what is that?"

And then we just do math. We calculate how many items we have in our own formula, and how many cells are in the field for the plant. And so basically, our agricultural formula is one hundred thousand atoms for every cell. So it's essentially more than enough. If you give more, you will actually kill the cells in the field. So it's much closer to mathematics rather than homeopathy.

Because of this technology's impact on the health industry, I am aiming to work this technology into the best, most established routines geared towards health. The right routine, begins with understanding your own body, and then establishing the correct methodology in part with the best technology to only grow in mind, body, and spirit.

I am proud to be a founder of the BiohackingCongress, the community for meeting, exchanging opinions, and gaining exclusive skills between renowned scientists, doctors, biohackers. One of the BiohackingCongress partners is FDN, Functional Diagnostic Nutrition, and founder FDN, Reed

Davis is one of our speakers. As I know from the FDN course, the main cause for many dysfunctions is metabolic chaos. Reed describes below the iconic FDN methodology - Why the elements and their availability are so important to maintain the vital reserve - while giving some examples from FDN's practice and mentioning supplements FDN health coaches recommend for their patients.

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## About the FDN approach and methodology - Reed Davis

Functional Diagnostic Nutrition® is a methodology and way of thinking about the body that does not resemble Western or Allopathic Medicine. We are not interested in medical diagnosis but are very interested in identifying “healing opportunities” that can be discovered by using functional lab work. Rather than providing a medical diagnosis and treating the symptoms or managing the disease process, we find out what is out of balance or dysfunctional, and teach our clients what they need to do to take control over their health

using a lab-guided diet, rest, exercise, stress-reduction and supplement program. In other words, we know that lifestyle-based health problems can only be solved using lifestyle-based protocols.

**There are several uses for supplements, not the least of which is the substitution for nutrients that are no longer present in modern food. “Soils depletion” has rendered much of our food supply devoid of many nutrients necessary for full function and health in humans.** Supplements can also be used to support certain functions in the body such as digestion, detoxification, hormone metabolism and many other areas of concern. In some cases, supplements can be used to stimulate functions such as the immune system.

All supplements should be free of chemicals such as insecticides, pesticides, herbicides and so on. Further they must be derived from all-natural ingredients, nothing artificial. They must also be made in a way that maintains high level bio-availability. We are very excited to learn about Julia's Bio Micro Elements research and production of highly bioavailable supplements. In an ever-changing marketplace we are always on the lookout for the most sincere people doing such important work.





Julia Smila, Co-Founder Unicorn Lab, consultancy company supporting inventors in BioTech, HealthTech, and Wellness industries. Organizer of BiohackingCongress, the international platform dedicated to furthering the advancement of Biohacking, HealthOptimization, Longevity; the community for meeting, exchanging opinions, and gaining exclusive skills between renowned scientists, doctors, biohackers, nutritionists, dietitians, fitness explorers, life expectancy researchers. Julia has been working in the Venture Capital Industry for more than 5 years, she is experienced in the impact investments in healthtech companies working to promote longevity and healthspan. Julia is passionate about Biohacking, she has been practicing it for herself for more than 10 years.

#### [Biohacking Congress Website](#)

Reed Davis, HHP, CNT, FDN, CMTA, FOUNDER OF FDN, FUNCTIONAL DIAGNOSTIC NUTRITION®. Reed Davis, Board Certified Holistic Health Practitioner (HHP) and Certified Nutritional Therapist (CNT), is an expert in functional lab testing and holistic lifestyle medicine. He is the Founder of Functional Diagnostic Nutrition® (FDN) and the FDN Certification Course with over 3,000 graduates in 50 countries. Reed served as the Health Director at a Wellness Center in Southern California for over 10 years and with over 10,000 clients is known as one of the most experienced clinicians in the world. Reed serves on the Advisory Board of the American Natural Wellness Coaches Board and the American Association of Natural Wellness Coaches. He lives in the US and when not teaching the FDN Certification Course and helping his graduates build their private practices, he is usually found gardening or riding motorcycles. The FDN Certification course is a self-paced course for wellness professionals providing in-depth training to work with clients on a whole new level. FDN gives students the functional lab training, data-driven protocols AND access to functional lab testing to confidently solve client's health issues and grow a thriving referral-based business globally.

#### [FDN Website](#)

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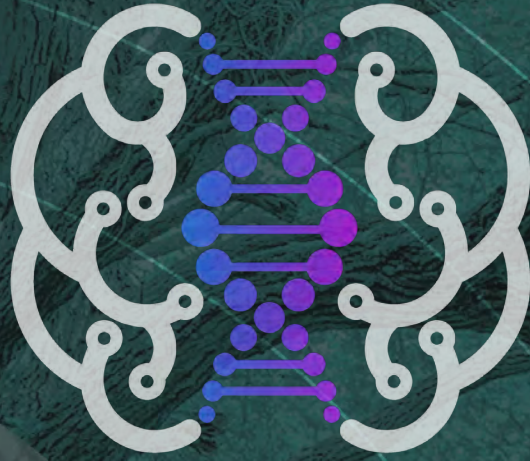
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