Introduction to the Exponential Longevity Summit

This is Dr. Tonks. Welcome everybody to another episode of the Exponential Longevity Summit. I'm your host, Dr. Jeffrey Gladden, and we're discussing, as always, leveraging AI to outlive disease and live young for a lifetime.

And today I'm honored to have with me Dr. Jingzong Xie. You can tell from his name that he did not grow up in the U. S., but Europe and China, I believe.

He can tells us about that. he's a PhD, however, and a founder and CEO and chief scientific officer of a great company that we use called Jinfinity. And he'll tell us a little bit about his history, but they're in, in a, the mix really with a test that we use all the time for all of our clients to really kind of help us assess where they are in the aging process.

So with that as an introduction, Jingzhang Guo, welcome to the show. It's my pleasure to be with you, Jeff. Yeah, great to see you again. So tell the audience a little bit about, you know, how you got started in this and kind of what you've developed.

I have been an academic scientist for over 40 years. My research has always been about discovery and the implementation of biomarkers. that can help us identify individuals who are at risk of developing diseases in the future.

My earlier years focused on childhood disease, especially type 1 diabetes.

From Type 1 Diabetes to Systems Biology

Yeah, type one. Okay. Yeah, type one, which is autoimmune disease, primarily in children. But when you study diabetes, you really have to pay attention to the whole body system because diabetic complications involve, almost every single organ.

That's right. It's just like disease for sure. So gradually I really got interested in discovering solutions to optimize human health, not just one particular disease or one pretty good organ at a time.

And I think you will agree with me that unfortunately in the current medical system, doctors are over-specialized. Yeah, that's right. We over specialize.

Great doctors for the organs or tissues they specialize in, but very often forget about the very basics that are important to the patient. Over time, I became very interested in systems biology, which is a scientific discipline that uses all the information available to us to improve health, to take care of patients.

So this is a really important concept, if you're listening to this, this concept of systems biology. So really what he's saying is he started out looking at childhood diseases, type 1 diabetes, which was an autoimmune disease, and realized that it has so many systemic impacts.

He started to think about health in general. And then the idea is that, you know, as specialists, we get so kind of narrow minded. I would argue that on one hand, We're too specialized and on the other hand, we're not specialized enough.

We don't know enough about the field that we think we know something about, and yet we also don t know about enough the general substrate in which all of this is happening, right?

So we are kind of handicapped on both ends of it, I would say. But the interesting thing is that when you start to

think about biology as a system, as opposed to a particular organ or even a single cellular organism, to me, it's a little bit more like a rainforest is kind of the analogy I like to use.

If you've ever been in a rain forest, the first time I went to rain forests in Costa Rica, I was blown away. I knew it would be wet and I know there'd be trees, but it's like, oh my gosh, there was life on top of life, on, top, of, life.

It's so interesting to understand that that complex ecosystem. has a delicate balance, and that's kind of how the body is. It's a very complex ecosystem.

it's not just an isolated organ or an isolate cell or isolated disease. And so really trying to understand what are the underlying substrates that really nourish, if you will, the entire ecosystem?

That's really kind what we're talking about here. I think this is a very good energy.

Hallmarks of Aging Across Biological Levels

And so, uh, I see many people are familiar with, the whole Microsoft agent, initially there were nine Walmart, recently it's expanded to 12, but I have been thinking about this problem for a while.

I actually came up with 30 different, whole, Microsoft agents. in the age management medicine meeting just a few days ago. And you can put this 30 whole marks of aging into six major categories.

It goes from the molecular level and all the way from DNA to RNA to epigenetics to DNA, to proteins and metabolites. Then you have to look at the cellular level, how the cells function.

And you also have to think about how cells communicate with each other, close by or also remotely through secreted proteins like cytokines, chemokine and many other hormones and so on.

Then you also have to look at the tissue level and how the tissues function, how their organs function. And for the next two categories, you have this thing about how our body interacts with the microbiome and to bacterial viruses are a major part of our bodies.

and finally, what most, no one really thinks about is how are body interact with to the external environment. So really what he's talking about here is kind of looking at these hallmarks of aging and kind building them from the ground up, right?

From the molecular level inside a cell, to then how cells communicate with each other, then the tissue level, what's happening at a tissue organism level, and then the symbiotic nature of our human cells with the bacterial cells that populate us.

And then how we basically engage with outside environment. So there are basically hallmarks of aging that occur at all those different levels. There were initially nine, then it went to 12, 13, 14. I think we're up to 16 that we are working with.

You can go to 30, but the idea is that a hallmark of ageing is actually characterized as both a phenotypic expression of aging. In other words, it's kind of like you can have a genetic predisposition for a nose, right?

But the phenotype expression for that is what your nose look like, so you have the fenotypeic expression to be aging, but then you also have to fact that these expressions of ageing are actually accelerating aging simultaneously.

So there's an interplay between the expression and the acceleration of agent. That's how those hallmarks seem to work. So he's in the middle of kind of looking at all of those.

So with that vantage point, what have you developed? So we have developed a number of longevity biomarkers

and these biomarks cover about eight major categories that are important to the aging process or anti-aging medicine.

So my whole career focuses on identifying the root causes of major diseases more recently, particularly for age-related diseases. These root causes, some of them are commonly known and many people are talking about them.

That includes, for example, inflammation. And everyone's talking inflammation, I don't need to spend the time on it.

Longevity Biomarkers and Oxidative Stress

Everyone's talk about sugar glucose control, glycation, but there are a few that are very important. and fewer people talk about it. The first one that I want to emphasize is oxidative stress.

Oxidative Stress is extremely important, especially for Americans. We live in the US, so I think if you compare oxidatives stress level in Americans versus Europeans and same genetic pool.

Let's just look at Caucasians. 80% of Americans have high oxidative stress. 10 to 20% of Europeans. If you look at all ethnic groups, it's almost the same.

In America, we live in an environment, where we have the lifestyle that really induces high oxidative stress. That's right. Oxidative Stress, Mitochondria dysfunction, these are major areas that I believe Doctors needed to pay much more attention.

You know, I have lots of data in various disease conditions or just in so-called healthy aging individuals. So it's extremely important that people, including doctors, are not paying enough attention in my opinion.

Yeah, I agree with that. I think, you know, we talk about inflammation, right? As inflammation as being accelerant of aging. Well, why is inflammation so bad?

Well inflammation is bad because it basically increases oxidative stress in the cell, that's really why it's a bad actor. And then we basically have lifestyle choices, whether it was lack of exercise, sedentary lifestyle, poor dietary choices process foods.

You know, too much sugar, carbs, whatever it is, all these things accelerate that inflammation, which then accelerates that oxidative stress. So they're all linked together.

And a lot of those things are controlled by lifestyle choices, Which is maybe why Europeans are healthier. They're out walking in the Alps and doing things and hiking and whatever else.

Right. But I mean, Americans eat so much ultra processed food, so Europeans, I think they have a much better choice. And I lived in France for four and a half years, and most Europeans have much Health care, lifestyle, food choices, and exercise.

We need to educate the American population much, much better. I'm actually dedicating a lot of my time to work with doctors and work the consumers to tell them about the importance of the choices they make.

That's right. So you've developed a test that actually goes through and measures some things that we don't have really any other way to measure. You're measuring things like intracellular NAD levels.

Your measuring, uh, things, like Clotho, your measuring certain inflammatory cytokines that are associated with aging. And you're also measuring and things related to the ability of the body to handle oxidative stress and damage.

And you're also measuring a marker that looks at oxidative damage to the DNA. And cellular senescence. Right. You have a, um, marker in there that's actually giving us a sense.

It's not a perfect marker. Even I've talked about this. This is not perfect, but it does give us the sense of what the senesis cell burden is in the body.

That's super helpful to actually get a chance for that. Yeah. So. Yeah, we have, you know, the number of unique biomarkers that not too many people are able to measure.

That's great. You know nothing, no biomarks is perfect. Very few biomarts are perfect, that's right. It's a work in progress. I think the biomart we are now measuring to provide very important information and they are actionable.

You can use them to identify deficiencies and more importantly, you can you use to monitor the success or negative success for the various therapies that people are engaged in.

That's very Yes. Let me give the audience just an example. We were on a call today with a client of ours out of Florida. we're here in Texas, but people, as you know, fly in to work with us and he's 35. He works in construction.

he has two young kids. And he was noticing that he just didn't feel as good as he used to, right? So you say, well, it's only 35, I mean, he is not really impacted by aging at 35 But in actual fact, he came over here, we did some testing.

We uncovered quite a few things for him that were opportunities. And one of the things was we looked at your aging SOS panel with him earlier today, and his intracellular NAD levels were actually quite low, which was interesting, right?

So if he doesn't have NID, He lacks the ability to do DNA repair, he lacks ability make energy efficiently in the mitochondria. He also had a higher level of beta-galactosidase in senescent cells than we would have anticipated in a 35-year-old, which was interesting to see.

Clotho, NAD, and Personalized Testing

He also had more oxidative stress and he had a very low Clotho level. Clotho is a really important protein because Clothe is made in the kidneys, to some extent I think in liver and the brain, but it has a lot to do with brain health, vascular health and kidney health.

and you want to have high Clotho levels. So we looked at his genetics. We measured the genetics of Clotho for all of our clients also. And he has the perfect configuration for Cloto.

Only 25% of the population are heterozygous for this, at this gene. It turns out the people that have a T and a G, they're heterazygus, right? They actually have the capacity to make the most Clopho.

Now here he is with the best genetic configuration, and yeah, just Clothe levels are very low, Right? Yeah. I'm going to tell you some, some very new data that I've not told anyone yet.

So you're the person to hear on it. I think Closer is a protein that's very responsive to your health condition. What we have seen is. very deficient levels of cortisol in cancer patients.

Very high proportion of cancer patient have deficiente, uh, cortisol. We also see cortisol deficiency in individuals who, um, had, who's recovering from COVID.

COVID? Okay. And that is remarkable. Let us, for myself, my cortisol level was pretty decent. Not, not the highest. I'm 62. I expected it to be very, very high, but it was in the middle of the optimum range.

And gradually now I'm building the back again. I mean, there are ways to get closer levels up again, it's not easy, and it can be done. You basically have to deal with the health conditions and make it healthy again and the calcium level will gradually recover.

We do have some supplements that can help with this process, but it's not perfect yet. Yeah. Well, there are, just Clotho is spelled K-L-O-T-H-0, Clotho.

If you're listening to this or you want to look it up, it's KLOTHO. And it is a really fascinating protein. It's kind of like telomeres get shortened by COVID also, right?

They can kind re-lengthen, so these infectious diseases or these challenges that we face in life can have major impacts on health markers like clothotelomere length, things like that.

But it is possible to build them back. One of the things that we understand is that resveratrol, right, a particular form of resvertrol called pisciadresverotrol which has a very high absorption rate can actually help to re-lengthen clotho.

At least that's what the data is suggesting. The other thing that is interesting about it, is clotho levels are shortened by resistance training or lessened by resistant training and actually increased with cardiovascular training.

So we have a lot of our clients doing a lotta cardio, right? We want them to build muscle and they all build muscles too, but cardio really is great for building clothe though.

Even in people that have underlying kidney disease, we can build clotho if we them doing cardio. So if you've found other things that improve clotho. There are a number of ways that can build a causal.

And so you want to reduce inflammation. Again, inflammation is involved and actually causal controls the inflammatory pathways. So it's very important to get a closer network up to reducing inflammation and oxidative stress can reduce the causal levels as well.

Well, these are kind of a network. You cannot associate all these important root causes one from another. So basically the bottom line is you want to do a comprehensive test to figure out what are the issues and you have to tackle them in a holistic way.

I'm preaching nine words now. Nine words. The first one is called a TAO. TAO comes from Taoism. Sometimes in English it's called a Tao, sometimes it is called Tao.

Tao stands for test, act and optimize. Okay. I love that. So, so you want to test to come up with actionable solutions and want you to act in a precise way and personalized way.

And then after interventions, you will want retest and to optimize. It's an iterative process that you repeat again and again, and what your program is doing, right?

So in addition to Tao, I have eight P words. And the first one that I talk about quite a bit is proactive. Proactive, okay. So you really want to start as early as possible, but it's never too early and never to late to end.

My eight year old daughter has started her longevity program. Right. And my four year-old is getting started as well. Okay. That's great. Unfortunately, about 25% of young children, for example, are deficient in NAD level.

If you don't have optimal NADA, everything else is messed up, I can tell you. So my eight-year-old daughter is suboptimal for NAD. So we're supplementing her with NADA supplement and vitamins, obviously, and you have the supplement.

You know, one thing that I really don't understand is that we supplement the infants for vitamin D and then for toddlers, we do nothing. We do do right.

Exactly.

TAO and the 8 P's of Longevity

70-80% of Americans are deficient in vitamin D. You can pay $5 a month to get your NAD optimized. Why 70 to 80% Americans still deficiente in Vitamin D in such a rich country?

It's all about information, education. That's why I always come back to education, not just education to the general public, but also education for the doctors.

We have to start with the doctor. we have started by educating them about the optimal levels of various parameters. And I mean, there's a huge debate and even just, I've always taken vitamin D as an example.

I think it was the. greater than 12.5, we are okay. This gentleman we saw today was low in vitamin D, right? I'm not surprising. Also low on vitamin K2.

He lives in Florida, he works outside, came in very low and vitamin d. So if you're listening to this and you think, yeah, well I am out in the sun, I get sunshine, and I play golf, play tennis.

Think again, because really it's interesting. You don't convert sunlight into vitamin B the way you did when you were 16. And so. You really need to have your vitamin D levels up around, you know, well over 50, maybe 70. You know we tested tens of thousands of people for vitamin.

We only found one person who has an optimal vitamin levels and who is not taking a vitamin B supplement. There you go. Okay. One person out of tens thousands.

Maybe somebody listening to this feels like they're the lucky one, but that's like winning the lottery of sorts. So what's your second P word? My second word is predictive, preventive, precision, parallel, which means holistic, prioritization, and the final one is persistence.

Yeah. I talked about the first one proactive and I talk about another one persistent because these two words are primarily actions or will of the patients.

That's right. You know, we take care of. If they don't have the will to do the right thing, forget about it. It's not going to work. Yeah, I got two other repeat words for you.

One is preemptive. Pre-emptivity is kind of a proactive seminar. I thought about pre-emptive as well. It's the thought process of getting away from reactive, and then you can think about proactive, which is great, but being preemptive means that you're really out there hunting for it.

Okay. Right. I'll tell you the other word. Okay. So then the, the word is purpose. Purpose. Yeah. Right. Because if people don't have a sense of purpose about why they're doing this, right.

Nobody's going to do it. And so, because it does take time, attention and resources to make it happen. I would add purpose, I'd add preemptive. You added two more.

So we'll increase it from eight to 10. That's great. You know, the other words are tools that you as the doctor and me as a scientist, we can provide it to the patients.

We can do it precisely, in a personalized way. But I think I believe we have the tools now to extend both health spend and life spend big time. It's the forefront.

And, but we got to educate the public. So they take the actions, they must take appropriate actions and work with the professionals if they want to achieve the outcomes.

I'm encouraged. I think more and more people are actually starting to think that this is possible. What's interesting is I had the occasion to interact with a couple of physicians that are in traditional practice just in the last week over a few situations.

Education, Adoption, and the Aging SOS Panel

And what was interesting to me was that when I brought up to them things like peptides and regenerative medicine and looking at things, they no longer looked at me like I was, you know, coming from planet Pluto.

It was like, oh yeah, we've heard about that. Right. We've hurt about. And, yeah. That's interesting. So I think my point is that I, think consciousness.

Not only amongst the people that are, you know, very enthusiastic about this area of longevity and health optimization, but even across the general populace and even into the medical community that's still tied up in the traditional systems, they're starting to actually kind of come around to this in a way.

And I find that very encouraging really. I totally agree with you. Actually I have the privilege to work with many doctors who are in more traditional medicine disciplines.

and they want to, uh, get into longevity and aging medicine. I talked to many of them, I helped many for them to set up their new practice. You know, like I'm primarily an educator in my career, right?

So, um, really enjoy working with doctors who are trying to get it into this, you know longevity in regenerative medicine discipline. And anyone they are listening to.

conversation and reach out and I'm happy to do whatever I can to help you. Exactly. So the name of your test is the aging SOS panel of people are trying to find it and it's GINfinity.

It's spelled. J-I-N-F-i-n- i-t-y. Genfinity, almost like infinity with a J in front of it, right? So, and it's the aging SOS panel. If you're interested, just sort of track that down and see what your clothe levels are, see which are your abilities to handle oxidative stresses or your NID levels for that matter.

So Jingjong, thanks so much for being with us today. I think it is always fascinating to talk with you. Interesting information about clothos, sort variability with chronic inflammation, acute inflammation and things like that.

So I appreciate you sharing that, yeah. Yeah, I really enjoyed the conversation and as always, thank you very much. My pleasure. All right, thanks so much!

Thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health. Each day is a new opportunity to make choices that empower your well-being.

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