

"First do no harm is a classical principle of medical ethics. Complement: Doing nothing is harming people."

The famous longevity scientist Brian Kennedy during the International Longevity Summit of Dublin, August 2023

This month's theme: Recent Longevity Conferences

Introduction

During the past last weeks, many conferences have been organized concerning longevity. The [Longevity+DeSci Summit in New York](#), August 10 and 11, the [Longevity Summit in Dublin, August 17-20](#), the [International Longevity Summit in Johannesburg](#) August 23 and 24, the [Aging Research & Drug Discovery meeting ARDD](#) in Copenhagen, August 28 - September 1 and the [Raadfest](#) in California, September 5 - September 8.

Thousands of people assisted on the sites and online. Here, we will give short feedback about each conference and then general comments about what was discussed during the conferences.



One goal: longevity for all, many points of view

Hosts and sponsors are increasingly diverse in the longevity field. The increasing diversity of people within the field of longevity is useful and is also more gender equilibrated than in the past, especially among young scientists. Some offer grants and funds, others search for it. Some sell something, and most want to share their knowledge.

The longevity+Desci Summit NYC was organized by Lifespan.io, the biggest "activist" organization for longevity. One of the key aspects was the promotion of a decentralized way of medical research (Desci for "Decentralized science"). The [goal of decentralized science](#) (DeSci) is "to increase scientific funding, free knowledge from silos, and cut out profit-motivated intermediaries, such as publisher conglomerates that lock scientific data behind paywalls."

The Longevity Summit in Dublin is the biggest conference of the Longevity Escape Velocity Foundation, the organization recently created by Aubrey de Grey. During 4 days, scientists, but also specialists of aging, representatives of longevity companies and organizations promoting medical progress met.

The International Longevity Summit in Johannesburg was a big conference, the first of its kind in the youngest continent. It was organized by Afro-Longevity and the Transdisciplinary Agora For Future Discussions (TAFFD).

The Aging Research & Drug Discovery meeting (ARDD) was organized in Copenhagen by a great scientist and host Scheibye-Knudsen. The conference lasted for 5 days, each day with speeches the whole day and even the evening. It is the best imaginable place for the confrontation of new ideas, discoveries, and hypotheses concerning the mysteries of aging.

The RAAD festival aims for a "Revolution Against Aging and Death. It is a place where scientists come, but also less "serious" people and where there is the biggest will and enthusiasm for radical longevity.

Main themes approached during the conferences

Biomarkers

There were many significant discussions about "biomarkers of age." They are molecular or physiological indicators used to assess an individual's aging process. They provide valuable insights into a person's overall health status and can be used to study the effects of aging on various aspects of biology, health, and longevity. During these conferences, numerous researchers presented their biomarkers, including glycan biomarkers, the nuclear envelope, and microbiota. These can be used to determine your biological age and are to find ways to slow it down. In the longevity field, there is a growing discourse surrounding all biomarkers and there has arguably been a certain trendiness surrounding them, possibly due to their commercial appeal to the public.

Foods that promote a healthier, longer life

Some talks revealed the potential of a healthy alimentation to promote a healthier and longer life. Natural senolytics foods have shown potential in reducing senescent cells, contributing to better aging. These include soy proteins, blueberries, resveratrol-rich grapes, omega-3-rich fish, apples, and broccoli. Moreover, passion fruit and krill oil were studied for their impact on preventing Alzheimer's disease. These specific foods could provide protective properties that may help safeguard cognitive health and promote overall well-being as you age.

Physical activity

Regular physical activity has been shown to have a significant positive impact on longevity. Studies on mice have revealed that exercising three times a week can increase their lifespan by restoring cyclin D1 function (an important regulator of cell cycle progression). The study suggests that inducing cyclin D1 may replicate the beneficial effects of exercise. Furthermore, genes like ACTN3 and R577X, commonly

found in more athletic individuals, may play a role in promoting longevity. Exercise also triggers the release of Interleukin 6 (a molecule that plays a role in the immune system), which enhances glucose intake and promotes lipolysis, contributing to overall health. Additionally, regular physical activity can lead to positive epigenetic changes in gene expression, while splicing alterations associated with aging can be regulated through calorie restriction and exercise. Lastly, physical activity is associated with increased taurine levels, an amino acid which plays a role in slowing down cell aging.

Drugs for longevity

Many drugs were presented. These included rapalogs called Next Generation Tornado, which inhibit a protein complex that tends to be dysregulated with age (TORC1). Claromer presented MXB-22,510, a potential substitute for the antimicrobial peptide LL-37, that shows promise in enhancing the immune system. Spermidine, through its role in enhancing CD8 functions and autophagy, may reduce the risk of memory loss and dementia in old age. Nicotinamide mononucleotide (NMN) has gained attention for its ability to increase NAD levels and prevent cellular senescence. Nintedanib is being explored as an anti-senescence drug. Quercetin and fisetin are being studied for their anti-inflammatory properties. These molecules represent exciting avenues in the pursuit of extending lifespan and promoting healthy aging. And last but not least 1500 mg of Metformin per day for those over 50 could have a positive impact on cancer, diabetes, and long COVID.

A few blind spots

It can be regretted that the global decrease in life expectancy ([see our last newsletter](#)) was practically never approached during the conferences.

In the same "not concrete enough" perspective, sadly most of the interventions concerning new therapies and how promising they are, are short of proving real progress of life expectancy in mice (and even less in humans). It is sometimes spectacularly disappointing that measures by biomarkers sustain strong affirmations of longevity, but not confirmed by measures of real longevity.

Luckily, there are exceptions, the biggest one being [the experiment made with 1,000 old mice by the Longevity Escape Velocity Foundation](#).

Gene therapies, regulation of metabolic pathways and expression of genes.

The gene therapy received by Liz Parrish focuses its action on telomerase, which improves genomic stability, reduces senescence and may even prevent cancer, follistatin, which increases and improves muscle mass and reduces frailty, and klotho, an enzyme that optimises brain functions and eliminates the damage caused by oxidative stress

There have been many promising advancements in the field of rejuvenation. One of the most spectacular recent experiments approached during the conferences is the

transfer of genes [from naked mole rats to mice](#) with a (moderate) life extension effect.

Also extremely promising is the research affirming that different chemical "cocktails" may restore a youthful genome-wide transcript profile and reverse transcriptomic age without compromising cellular identity. This should be far simpler than using the Yamanaka factors.

Conclusion:

There were never so many and so interesting and diverse conferences in such a short time, never so much diversity of scientists, especially young individuals and women, and never so many sponsors and industrials actively working on longevity.

All this, more cooperation and the rapid rise of AI could announce golden times for human healthy longevity. This is in a relatively near future.

The good news of the month: The quest for rejuvenation without reprogramming progresses

In 2012 Professor Shinya Yamanaka of Kyoto University won the 2012 Nobel Prize in Physiology or Medicine. He discovered that mature cells can be reprogrammed to induce pluripotent stem cells (iPSCs), which can differentiate into any type of cell by introducing 4 reprogramming factors (c-Myc, Klf4, Oct3/4, and Sox2).

The scientists of the organization Clock.bio affirm that a [cocktail of existing drugs may hold the key to restoring all the hallmarks of aging](#).

For more information

- [Heales](#), [Longevity Escape Velocity Foundation](#), [International Longevity Alliance](#), [Longecity](#) and [Lifespan.io](#)
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