

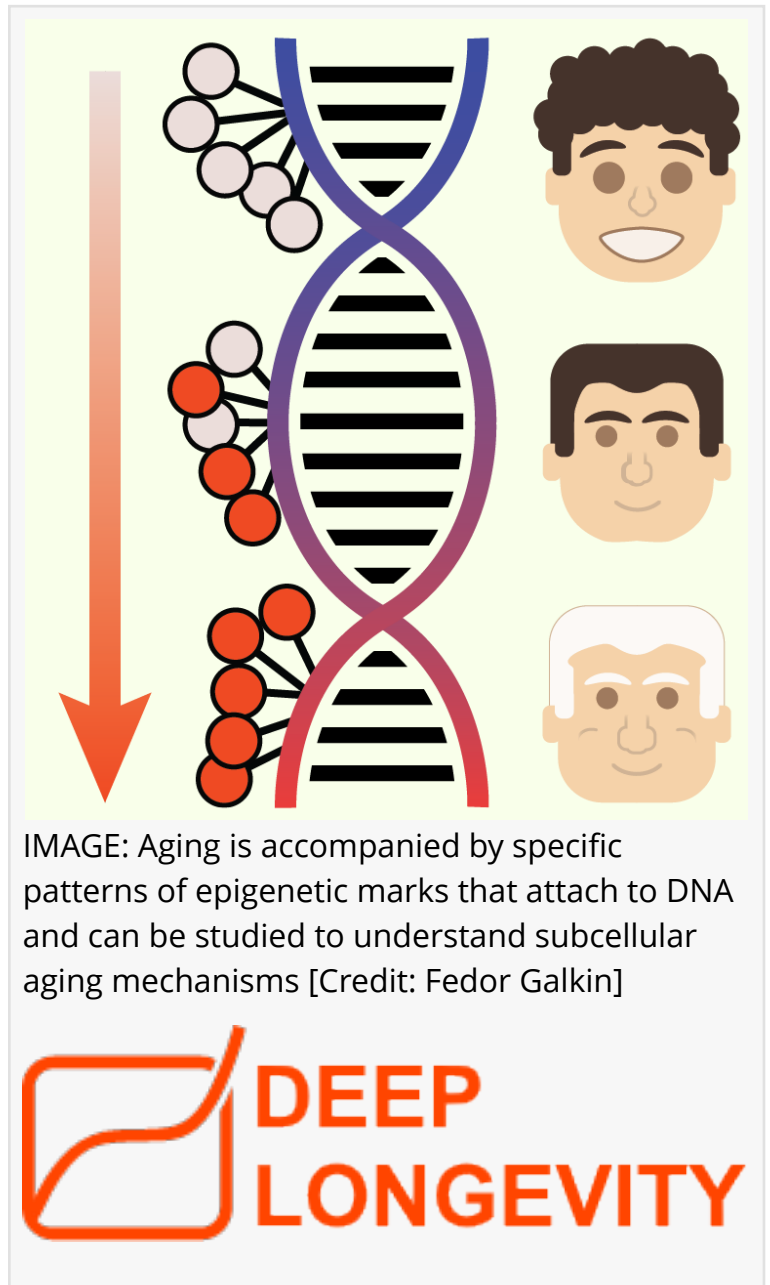
Deep Longevity publishes an epigenetic aging clock of unprecedented accuracy

DeepMAge is a DNA aging clock from the developers of a personalized longevity platform Young.AI

HONG KONG, HONG KONG, December 9, 2020 /EINPresswire.com/ -- Deep Longevity, a Hong-Kong based longevity startup, has published their research on the epigenetics of aging in the *Aging and Disease* journal.

The article about [DeepMAge](#) describes a novel aging clock that was trained to predict human age on more than 6'000 DNA methylation profiles [1]. By analyzing the methylation patterns it can estimate human age within a 3-year error margin, which is more accurate than any other human aging clock [2].

Aging clocks boom started in 2013 when the first DNA methylation aging clocks by Horvath and Hannum were published [3, 4]. They have proven to be an indispensable tool in aging research, letting scientists understand its mechanisms and develop longevity interventions. Unlike its predecessors, DeepMAge is a neural network that may prove to be more efficient in some other ways apart from prediction accuracy. In the original paper, DeepMAge deems people with certain conditions to be older, which may be useful for the development of early diagnostics tools. For example, women with ovarian cancer are on average predicted 1.7 years older than healthy women of the same chronological age, and likewise, multiple sclerosis patients are predicted 2.1 years older. Similar results have been obtained for several other



conditions: irritable bowel diseases, dementia, obesity.

Higher age predictions indicate a faster pace of aging in these conditions, which begs the question: is a higher aging rate a precondition to them or is it just an epigenetic footprint of the harm they cause? The authors plan to further investigate the links between epigenetics and longevity using DeepMAge.

According to an author of the published article, Fedor Galkin: " Aging clocks have come a long way since the first works by Horvath and Hannum in 2013. We are happy to contribute to this research field. Now, we are going to explore how epigenetic aging can be slowed down with the [interventions available to consumers](#)". Neural network architecture, which DeepMAge is based on, can be modified to digitally emulate the effects of fasting, taking longevity supplements, physical training, and other lifestyle changes.

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Deep Longevity also intends to eventually make DeepMAge available to the public at their web health platform Young.AI.

[1] Fedor Galkin, Polina Mamoshina, Kirill Kochetov, et al. (2020) DeepMAge: A Methylation Aging Clock Developed with Deep Learning. Aging and disease

[2] Galkin F, Mamoshina P, Aliper A, et al (2020) Biohorology and biomarkers of aging: Current state-of-the-art, challenges and opportunities. Ageing Res. Rev.

[2] Hannum G, Guinney J, Zhao L, et al (2013) Genome-wide methylation profiles reveal quantitative views of human aging rates. Mol Cell

[3] Horvath S (2013) DNA methylation age of human tissues and cell types. Genome Biol

[About Deep Longevity](#)

Deep Longevity is currently the subject of a conditional acquisition by Regent Pacific Group Limited (SEHK:0575.HK), a public company whose securities are listed in Hong Kong. Deep Longevity is developing explainable artificial intelligence systems to track the rate of aging at the molecular, cellular, tissue, organ, system, physiological, and psychological levels. It is also developing systems for the emerging field of longevity medicine enabling physicians to make better decisions on the interventions that may slow down, or reverse the aging processes. Deep Longevity developed Longevity as a Service (LaaS)© solution to integrate multiple deep biomarkers of aging dubbed "deep aging clocks" to provide a universal multifactorial measure of human biological age. Originally incubated by Insilico Medicine, Deep Longevity started its independent journey in 2020 after securing a round of funding from the most credible venture capitalists specializing in biotechnology, longevity, and artificial intelligence. ETP Ventures,

Human Longevity and Performance Impact Venture Fund, BOLD Capital Partners, Longevity Vision Fund, LongeVC, co-founder of Oculus, Michael Antonov, and other experts AI and biotechnology investors supported the company. Deep Longevity established a research partnership with one of the most prominent longevity organizations, Human Longevity, Inc. to provide a range of aging clocks to the network of advanced physicians and researchers. deeplongevity.com

About Regent Pacific (SEHK:0575.HK)

Regent Pacific is a diversified investment group based in Hong Kong currently holding various corporate and strategic investments focusing on the healthcare, wellness, and life sciences sectors. The Group has a strong track record of investments and has returned approximately US\$298 million to shareholders in the 21 years of financial reporting since its initial public offering. regentpac.com

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