

Researchers to reveal aging's origins on global stage

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Four of the biologists who described the underlying causes of aging will soon share their findings with an international audience during a symposium at the upcoming World Congress of Gerontology and Geriatrics, taking place from July 5-9, 2009, in Paris, France.

The presentation, titled "Ageing Is no Longer an Unsolved Problem," is being supported by the Ellison Medical Foundation and co-sponsored by The Gerontological Society of America (GSA).

Among the speakers will be former GSA President Leonard Hayflick, PhD, a professor of anatomy at the University of California, San Francisco. He said that the accumulation of new insights has made it possible, for the first time, to understand the biological reasons for the aging of animals and humans.

"Aging occurs because the complex [biological molecules](#) of which we are all composed become dysfunctional over time as the energy necessary to keep them structurally sound diminishes. Thus, our molecules must be repaired or replaced frequently by our own extensive repair systems," Hayflick said.

"These repair systems, which are also composed of complex molecules," he explained, "eventually suffer the same molecular dysfunction. The time when the balance shifts in favor of the accumulation of dysfunctional molecules is determined by [natural selection](#) — and leads to the manifestation of [age](#) changes that we recognize are characteristic

of an old person or animal. It must occur after both reach reproductive maturity, otherwise the species would vanish."

Hayflick also noted that these repair and maintenance systems are called "determinants of longevity," which is a phenomenon different from the aging process itself.

"These fundamental molecular dysfunctional events lead to an increase in vulnerability to age-associated disease," he said. "Therefore, the study, and even the resolution of age-associated diseases, will tell us little about the fundamental processes of aging."

Hayflick's discoveries — described in his book, "How and Why We Age" — have been reinforced by several other leading biologists, who will join him at the Paris symposium.

These co-presenters include Robin Holliday, PhD, of the Australian Academy of Science, author of "Understanding Ageing"; Steven Austad, PhD, of the University of Texas Health Science Center at San Antonio, author of "Why We [Age](#)"; and Thomas Kirkwood, PhD, of Newcastle University, author of "Time of Our Lives."

Source: The Gerontological Society of America

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