

AGING BIOLOGY UPDATE

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UAB NATHAN SHOCK CENTER OF EXCELLENCE
IN THE BASIC BIOLOGY OF AGING

Featured

[Rats! Divergent mitochondrial genotypes alter responses to aging interventions](#)

Concept: [Human mitochondrial bc1 complex adaptation for reduced superoxide production](#)

Headline vs Study

Headline: [Hypertension Drug Shown to Extend Lifespan And Slow Aging in Animals](#)

Study: [Rilmenidine extends lifespan and healthspan in *Caenorhabditis elegans* via a nischarin I1-imidazoline receptor](#)

Headline: [Want to live longer? Consider planting a tree](#)

Study: [The association between tree planting and mortality: A natural experiment and cost-benefit analysis](#)

Headline: [Caloric Restriction May Slow Aging](#)

Study: [Effect of Long-Term Caloric Restriction on DNA Methylation Measures of Biological Aging in Healthy Adults: CALERIE™ Trial Analysis](#)

Headline: [Increasing Lifespan by 10%: Scientists Identify a New Promising Anti-Aging Drug](#)

Study: [Dietary supplementation of clinically utilized PI3K p110 \$\alpha\$ inhibitor extends the lifespan of male and female mice](#)

Contrary or Null Findings

[Community-level age bias associated with lower older adult mortality](#)

[No association between tooth loss and dementia in Canadian study](#)

[Rapamycin fails to affect age-related changes to adipose tissue and peripheral neuropathy in mice](#)

[Minimal impact of gut microbiota and associated metabolites on human health or longevity](#)

[Does tandem balance test predict cognitive impairment among older men and women? It's complicated](#)

Energetics/Nutrition

[Sex differences in speed duration relationship of elite runners across the lifespan](#)

[Higher dietary protein intake is associated with sarcopenia in \$\geq 60\$ -year-old British twins](#)

[Time of day determines postexercise metabolism in male mice](#)

Review: [Targeting "pillars" of human aging with exercise](#)

Basic Biology

[Reduced insulin signaling in neurons induces sex-specific health benefits in old mice](#)

[PI3K p110 \$\alpha\$ inhibitor extends median and maximum lifespan of male and female mice](#)

[Transcriptional reprogramming of aging mouse skeletal muscle stem cells by the niche environment](#)

[Clean cupboards vs disposable soma: impact of graded calorie restriction on protein expression in the liver](#)

[mRNA ageing shapes the Cap2 methylome in mammalian mRNA](#)

[A fractal time series model of human aging](#)

[Pharmaceutical ghrelin agonist extends life in male mice](#)

[Deletion of Sod1 in motor neurons accelerates dysfunction of neuromuscular junctions in mice of unreported sex](#)

[Reverse electron transfer contributes to aging and age-related diseases in IPS cells and fly Alzheimer's models .](#)

[Interacting with SKN-1, miR-229-66 mediates DR and low-IIS to extend lifespan in *C. elegans*](#)

[New molecule discovered that partially ameliorates a mouse version of Hutchinson-Gilford progeria](#)

Review: [Circular RNA in aging and longevity](#)

Review: [Chromosomal and gonadal factors regulate microglial sex effects in the aging brain](#)

Editorial: [Autophagy: prevention and treatment of endocrine-metabolic diseases of aging](#)

Ecology & Evolution

[Telomere dynamics in *Xenopus*—implications for measuring aging rates in organisms undergoing metamorphosis](#)

[Effect of food restriction on survival and reproduction of a termite.](#)

Emerging Aging Models

[Reproductive investment and ancestry are associated with reduced lifespan in dogs](#)

[The nose knows—testing canine olfaction, cognitive performance and aging](#)

[Activity patterns are associated with fractional lifespan, memory, and gait speed in aged dogs](#)

[Tools to assess healthspan in dogs](#)

[An aging glowing reporter and *klara* the transparent killifish](#)

Preprint: [Common laboratory diets differentially influence zebrafish sensitivity to pathogen exposure](#)

Protocol: [CRISPR-Cas9 genome editing in *Nothobranchius furzeri*](#)

Protocol [Handling Diapause Embryos of *Nothobranchius furzeri*](#)

Novel Organisms/Comparative

[Physiology of extreme longevity in mountain pine trees](#)

[Aging in slime molds](#)

[Can early-life telomere length predict survival? A case study and meta-analysis in Fairy-Wrens](#)

[The distribution of the Lansing Effect across 15 animal species](#)

Epidemiology/Demography

[Genetically downregulated Interleukin-6 signaling associated with reduced frailty](#)

[Platelet response to influenza vaccination reflects effects of aging](#)

[Linear, and nonlinear changes in DNA methylation patterns during human aging](#)

[Sex differences in human skeletal muscle-aging trajectory](#)

Preprint: [X-chromosome association study in Latin American cohort identifies new loci in Parkinson Disease](#)

[Epigenetic profile of Japanese supercentenarians reveals complex epigenetic profiles](#)

[Human DNA methylation-based age estimation: sex-specific differences and non-linear correlations](#)

[Not bad for baseball: one of three biological clocks slowed by human calorie restriction](#)

[Predicting parental longevity from phenotypic traits of Estonian children in mid-20th century](#)

[Sons are costly: reproduction and longevity patterns among Chinese centenarians](#)

[Conditional power: estimating likelihood of success during a clinical trial](#)

[A biphasic model of lifespan in nematode *C. elegans*](#)

[European data suggest social deprivation is directly associated with dementia risk](#)

[Race/ethnicity, sleep duration, and mortality risk in the United States.](#)

[A retrospective analysis of the age-at-death distribution across 18 OECD countries](#)

[Sex differences in dementia risk and risk factors across six continents](#)

[Excess Mortality Among US Physicians During the COVID-19 Pandemic](#)

[Food insecurity is associated with poor health among older adults in India](#)

[Location, location: dying too young through two centuries in the UK](#)

[Survival and mortality of captive former biomedical research chimpanzees](#)

Clinical

[Adverse Childhood Experiences are associated with frailty in later life](#)

[Hospitalized US older adults with dementia more likely than those without to be discharged to low-quality skilled nursing facilities](#)

[A risk score for predicting frailty risk in the short-term for care of people with HIV](#)

Review: [Comparison of non-pharmacological interventions for frailty](#)

Caregiving

[Dementia care vs. dementia cure: role for palliative care](#)

[Reducing rural isolation through music: telehealth music therapy for caregivers and people with dementia in Ireland](#)

[Factors associated with caregivers' wellbeing in assisted living and nursing homes in Alberta](#)

[Evaluation of an educational program for people with dementia and their caregivers.](#)

Policy/Ethics

[Dementia in custody: A historical and forensic approach](#)

Commentary

[Creativity as an antidote to research becoming too predictable](#)

Odd and Ends

[In memoriam: George M. Martin](#)

[The case for free-range lab mice](#)

Ageing Biology Update is brought to you by the UAB Nathan Shock Center and compiled by Kathleen Fischer, Jessica Hoffman, Heather Patterson, and Steven Austad.
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