

Publications of the Week

## Distinct Longevity Mechanisms Across and within Species and Their Association with Aging

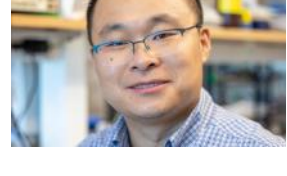
First Author: Alexander Tyshkovskiy | Senior Author: Vadim Gladyshev (*pictured*)  
Cell | Brigham and Women's and Harvard Medical School



The authors conducted multi-tissue RNA-seq analyses across 41 mammalian species, identifying longevity signatures and examining their relationship with transcriptomic biomarkers of aging and established lifespan-extending interventions. An integrative analysis uncovered shared longevity mechanisms within and across species, including downregulated *Igf1* and upregulated mitochondrial translation genes, and unique features. [Abstract](#)

## Epigenetic Suppression of PGC1 $\alpha$ (*PPARGC1A*) Causes Collateral Sensitivity to HMGR-Inhibitors Within BRAF-Treatment Resistant Melanomas

First Author: Jiaxin Liang (*pictured*) | Senior Authors: Hans Widlund and Pere Puigserver  
Nature Communications | Dana-Farber, Harvard Medical School, and Brigham and Women's



The authors provide data indicating that epigenetic suppression of PGC1 $\alpha$  defines an aggressive subset of chronic BRAF-inhibitor treated melanomas. A metabolism-centered pharmacological screen further identifies statins (HMGR inhibitors) as a collateral vulnerability within PGC1 $\alpha$ -suppressed BRAF-inhibitor resistant melanomas. [Abstract](#)

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Awards

## Ludwig Grants Fund Research on Neurodegeneration

Harvard Medical School



For the second year, the Carol and Gene Ludwig Family Foundation at Harvard Medical School has awarded grants for research on neurodegeneration through the Ludwig Neurodegenerative Disease Seed Grants Program. This year, three researchers, including Dr. Steven McCarroll (*pictured*), were each awarded just over \$400,000 for their proposed projects. [Read More](#)

## Michael Zulch Receives Corteva Showcase Award

BU Biology



Dr. Michael Zulch (*pictured*), a 4<sup>th</sup>-year PhD candidate in the Larkin lab, has received a travel award from Corteva Agriscience. Specializing in the quantitative relationship between plants and bacteria, Michael explores the impact of light and genetic engineering on quantitative relationship between plants and bacteria. [Read More](#)

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Local News

## Alzheimer's Disease Plasma Biomarker and Pathogenesis Contribute to Postoperative Delirium-Like Behavior in Rodents

Massachusetts General Hospital



Tauopathy is one of the hallmarks of Alzheimer's disease (AD) pathogenesis, and the phosphorylation of Tau at threonine 217 and 181 represents new plasma biomarkers capable of detecting early-stages of AD. "Ultimately, these findings hold promise for improving postoperative outcomes in patients and ensuring patient safety" says senior author Dr. Zhongcong Xie (*pictured*). [Read More](#)

## A Not-So-Selfish "Genetic Parasite" Helps to Preserve Fertility

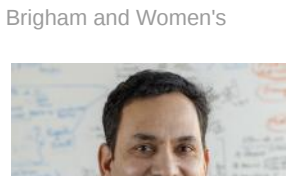
Whitehead Institute



Ribosomal DNA (rDNA) sequences are essential parts of many species' genomes. The highly repetitive nature of these DNA sequences makes them susceptible to shrinkage over time — and if they shrink too much, cells die. New research from Dr. Yukiko Yamashita (*pictured*) and postdoc Dr. Jonathan Nelson reveals rDNA's unlikely protector: a retrotransposon, a genetic element that had been thought of as a genetic parasite because it seems to exist only to replicate itself. [Read More](#)

## Gene Engineered "Off the Shelf" Cell Therapy Developed to Target Brain Metastatic Melanomas

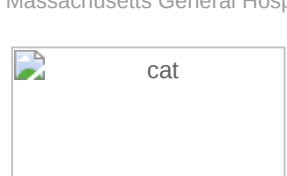
Brigham and Women's



Immunotherapies, which harness the power of the immune system to attack cancer cells, have garnered excitement in recent years for their potential to revolutionize the treatment of metastatic melanomas, but results from early clinical studies indicate that the prognosis for most patients remains poor. Now, scientists with Dr. Khalid Shah (*pictured*) have integrated multiple therapeutic approaches to more effectively target melanoma in the brain. [Read More](#)

## Gene Therapy Produces Long-Term Contraception in Female Domestic Cats

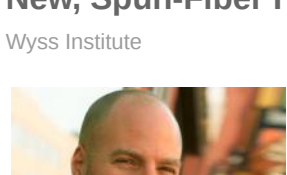
Massachusetts General Hospital



Currently there are no contraceptives capable of producing permanent sterilization in companion animals. Spaying, the surgical removal of the ovaries and uterus, is the most widely used strategy to control unwanted reproduction in female cats. For the first time, researchers demonstrated that a single dose of anti-Müllerian hormone gene therapy can induce long-term contraception in the domestic cat, potentially providing a safe and effective alternative to surgical spaying. [Read More](#)

## New, Spun-Fiber Heart Valve Is a Step Closer to Patients

Wyss Institute



Strep throat is a common and treatable childhood disease in the US, but in less wealthy countries, children afflicted with strep can develop rheumatic fever, in which runaway inflammation attacks the body's tissues. Dr. Kevin Kit Parker's (*pictured*) team vowed to fix this problem by creating an implantable heart valve that grows with a child, minimizing surgical complications and suffering. [Read More](#)

## Multi-Ancestry Study Reveals Genetic Risk Factors for Two Common Pregnancy Complications

Broad Institute



Pregnancy complications related to hypertension, or high blood pressure, affect 15 percent of childbearing women and are a leading cause of maternal death worldwide. Without prompt diagnosis and treatment, hypertensive disorders of pregnancy can lead to organ failure and potentially fatal complications. But scientists lack the tools to predict, prevent, and treat them. [Read More](#)

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## Upcoming Events in Boston

- June 12 - 13  
9:00 AM **Boston Bacterial Meeting**  
Harvard Science Center
- June 13  
7:00 PM **Public Symposium: Stem Cells at the Planetarium**  
Museum of Science
- June 14 - 17  
9:00 AM **ISSCR 2023**  
Boston Convention and Exhibition Center
- June 20 - 23  
8:00 AM **FOCIS 2023**  
Boston Marriott Copley Place
- June 23  
9:00 AM **Koch Institute Symposium 2023: Cancer Vaccines**  
Koch Institute

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## Science Jobs in Boston

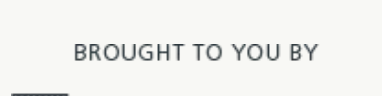
- Manager, Inside Sales, Immunology**  
STEMCELL Technologies
- Senior Scientific Support Representative**  
STEMCELL Technologies
- Scientific Inside Sales Representative**  
STEMCELL Technologies
- Vice President, Genome Engineering (Vector Genome)**  
Voyager Therapeutics
- Principal Scientist, Translational Modeling & Simulation**  
Novartis

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