

Publications of the Week

Microglia and Complement Mediate Early Corticostriatal Synapse Loss and Cognitive Dysfunction in Huntington's Disease

First Author: Daniel Wilton | Senior Author: Beth Stevens (*pictured*)
 Nature Medicine | Boston Children's Hospital, Broad Institute, and Harvard



Huntington's disease (HD) is a devastating monogenic neurodegenerative disease characterized by early, selective pathology in the basal ganglia despite the ubiquitous expression of mutant huntingtin. Here, researchers show that the loss of synaptic between the cortex and striatum in patients with HD is associated with the increased activation and localization of complement proteins, innate immune molecules, to these synaptic elements. [Abstract](#) | [Press Release](#)

The Sporadic Early-Onset Alzheimer's Disease Signature of Atrophy: Preliminary Findings from the Longitudinal Early-Onset Alzheimer's Disease Study (LEADS) Cohort

First Author: Alexandra Touroutoglou (*pictured*) | Senior Author: Bradford Dickerson
 Alzheimer's & Dementia | Massachusetts General Hospital and Harvard Medical School



Magnetic resonance imaging (MRI) research has advanced our understanding of neurodegeneration in sporadic early-onset Alzheimer's disease (EOAD) but studies have not focused on developing an MRI biomarker. Researchers found that the EOAD-signature atrophy is a reliable and clinically valid biomarker of AD-related neurodegeneration that could be used in clinical trials for EOAD. [Abstract](#) | [Press Release](#)

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Awards

New Research Could Be Key in Unlocking Better Treatment for Alzheimer's

Northeastern Global News



There are still many unknowns surrounding Alzheimer's disease, including just how it progresses. Dr. Lee Makowski (*pictured*), Chair of Northeastern University's Bioengineering Department, received a grant from the National Institutes of Health to study the changes to the molecular structure of the amyloid plaques and neurofibrillary tangles that grow throughout the brain over the course of the disease. [Read More](#)

Dr. Thumbi Ndung'u Honored with Chan School Retrovirology Awards

Ragon Institute



Ragon Associate Member Dr. Thumbi Ndung'u (*pictured, right*) was recently awarded the 2023 Leadership Award in Public Health Practice by the Harvard T.H. Chan School of Public Health as well as the K.T. Jeang Retrovirology Prize from a committee constituted by the editorial board of the journal *Retrovirology*. Both awards were given in recognition of Dr. Ndung'u's impressive dedication to research and public health over his decades-long career. [Read More](#)

Eight Harvard Medical School Researchers Receive NIH Awards

Harvard Medical School



Eight Harvard Medical School researchers, including Dr. Humsa Venkatesh (*pictured*), have been awarded High-Risk, High-Reward Research program grants by the National Institutes of Health (NIH). The program supports investigators at each career stage who propose innovative research that, due to its inherent risk, may struggle in the traditional NIH peer-review process. [Read More](#)

Mark Bear Wins SfN's Julius Axelrod Prize

The Picower Institute



The Society for Neuroscience announced that it has named Picower's Dr. Mark Bear (*pictured*) a co-recipient of the 2023 Julius Axelrod Prize. This is in recognition of his research, which advances understanding of how the brain changes with experience by altering the strength of connections among neurons, a phenomenon called "synaptic plasticity". [Read More](#)

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Local News

Pursuing Three Gene Therapies for Rare Inherited Disease

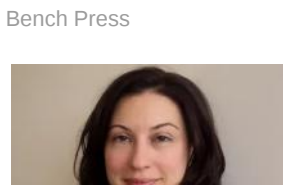
Harvard Medical School



When Neurobiologist Dr. David Corey (*pictured*) showed up at a rare disease conference in 2017, he had no idea that he would enter a race against time to develop a treatment for it. The conference was for Usher syndrome type 1F. Patients with this condition have a gene mutation that causes them to be born deaf and gradually lose their vision as they grow up. Dr. Corey had devoted decades to studying the defective gene in a different context. [Read More](#)

How A Small Fish Could Lead to Better Strategies to Repair Tendon Tears

Bench Press



While torn tendons do heal, in almost all cases the mechanical properties of the original tendon are never fully restored and there's a greater risk of reinjury. Massachusetts General Hospital researcher Dr. Jenna Galloway (*pictured*) is working to better understand the healing process after tendon tears with the hope of identifying new therapies that could help. [Read More](#)

Moving the Needle on Appendiceal Cancer

Koch Institute



Cancer of the appendix is a rare disease, several types of which have a poor prognosis. Depending on the type of appendiceal cancer, the five-year survival rate may be as low as 27%. Currently, there are only about ten clinical trials for appendiceal cancer therapies. Last spring, stakeholders across academia, industry, patient advocacy groups, and regulatory spaces gathered at MIT to discuss how to change this. [Read More](#)

Virally Mediated Gene Therapy Treats Genetic Hearing Loss in Aged Mouse Model

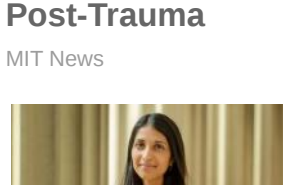
Massachusetts General Hospital



Gene therapies delivered by adeno-associated virus (AAV) have been used extensively to treat mouse models of human genetic hearing loss. Most of these therapies, though, have been successful only when administered to neonatal or young animals. Dr. Zheng-Yi Chen (*pictured*) and their team have become the first to demonstrate robust hearing rescue with AAV-mediated gene therapy in an aged mouse model. [Read More](#)

Light-Activated Muscle Grafts Show Promise in Aiding Muscle Recovery Post-Trauma

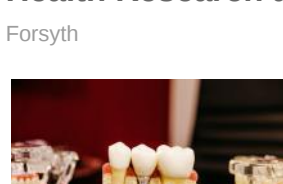
MIT News



Severe traumatic injuries that destroy large volumes of muscle can impact a person's health, mobility, and quality of life for a lifetime. Promising new research co-led by Dr. Ritu Raman (*pictured*), the d'Arbellof Career Development Assistant Professor of Mechanical Engineering, and MIT collaborators aims to restore mobility for those who have lost muscle through disease or trauma. [Read More](#)

Announcing the ADA Forsyth Institute: A World-Class Organization for Oral Health Research and Innovation

Forsyth



The American Dental Association (ADA) and the Forsyth Institute announced the formation of the ADA Forsyth Institute, which brings together unparalleled talent, visionary research opportunities, and dynamic innovation prospects. This new institute is dedicated to advancing oral health through scientific innovation and research. [Read More](#)

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📅 Upcoming Events in Boston

- November 8 12:00 PM **2023 Discover Brigham – Poster Session**
Brigham & Women's Hospital
- November 9 2:00 PM **Sing for Science at the MIT Museum**
MIT Museum
- November 9 6:00 PM **Broad Discovery Series**
Broad Institute & Online
- November 11 6:30 PM **High Hopes Gala**
SoWa Power Station
- November 16-17 9:00 AM **Liquid Biopsy: Beyond Cell-Free Tumor DNA**
Koch Institute for Integrative Cancer Research

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📁 Other Science Jobs in Boston

- Scientist II, Scientific Writer**
Dana-Farber Cancer Institute
- Staff Scientist, Patents**
Scismic
- Science Writer**
Boston University
- Scientist, Discovery Biology**
Karuna Therapeutics
- Research Scientist and Academic Innovation Lead**
MIT

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