



Publications of the Week

Hypoxia Ameliorates Neurodegeneration and Movement Disorder in a Mouse Model of Parkinson's Disease

First Author: Eizo Marutani | Senior Authors: Vamsi Mootha (*pictured*) and Fumito Ichinose
Nature Neuroscience | Massachusetts General Hospital, Harvard Medical School, and the Broad Institute



Patients with Parkinson's disease (PD) anecdotally experience symptom improvement at high altitude; chronic hypoxia prevents the development of Leigh-like brain disease in mice with mitochondrial complex I deficiency. Here, researchers report that intrastriatal injection of α -syn preformed fibrils in mice resulted in neurodegeneration and movement disorder, which were prevented by continuous exposure to 11% oxygen. [Abstract](#) | [Press Release](#)

Protective Antigen–Mediated Delivery of an Anti-CRISPR Protein for Precision Genome Editing

First Author: Axel Vera (*pictured*) | Senior Authors: Amit Choudhary and Ronald Raines
Proceedings of the National Academy of Sciences | Broad Institute, Harvard Medical School, Brigham and Women's Hospital, and MIT



Precise control over the dosage of Cas9-based technologies is essential. Type II anti-CRISPR proteins (Acrs) inhibit and control Cas9 but are generally impermeable to the cell membrane. Moreover, existing Acr delivery methods are long-lived and operate within hours or require external devices. To address these problems, researchers developed a protein-based anti-CRISPR delivery platform, LFN-Acr/PA, for delivery within minutes. [Abstract](#) | [Press Release](#)

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Awards

UMass Chan Postdoc Receives Competitive Award from Quebec Research Foundation

UMass Chan Medical School



A UMass Chan Medical School postdoctoral fellow is one of fourteen researchers from Quebec working in the United States to receive a prestigious award from the Fonds de recherche du Québec-Santé. Dr. Tara Delorme (*pictured*), a postdoc in the lab of Dr. Ryan Logan, received the award for advanced sequencing techniques to study individual cell types in the brain. [Read More](#)

Dr. Ryan Nett Named Pew Scholar for Innovative Research on Plant-Derived Molecules

Harvard University Department of Molecular and Cellular Biology (MCB)



MCB faculty member Dr. Ryan Nett (*pictured*) has been named a 2025 Pew Scholar in the Biomedical Sciences, one of 22 early-career scientists selected nationwide for their promising and innovative work. The Pew Scholars Program supports bold research aimed at advancing human health, and Dr. Nett's selection highlights the growing impact of his lab's efforts to decode the biochemical language of plants. [Read More](#)

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Local News

Study Highlights the Severity of Acute Necrotizing Encephalopathy in Kids with the Flu

Boston Children's Hospital



For most children, influenza (flu) usually means unpleasant symptoms like a fever, sore throat, and achy muscles. But for a small subset of kids, the flu can trigger a rare but serious complication called influenza-associated acute necrotizing encephalopathy (ANE). Findings of a multicenter study at Boston Children's Neuroimmunology Center suggest that ANE is often fatal in these children — despite intensive treatment. [Read More](#)

How a Scientist Followed Curiosity (and Love) to Build an Innovative Tool to Track Changes in the Gut Microbiome

Bench Press



Drs. Travis Gibson and Younhun Kim (*pictured*) studying how bacteria change and evolve by looking closely at bacterial DNA, efforts that have led to the development of a new tool called ChronoStrain. By understanding how the population levels of individual bacteria strains change over time, ChronoStrain could improve how physicians treat infections, prevent disease outbreaks, and even develop new medical treatments for patients. [Read More](#)

Advancing Global Health: Using AI to Detect Heart Disease in Children

Boston Children's



In many low- and middle-income countries, pediatric cardiologists can't help children with congenital heart conditions because of a critical hurdle. They don't have easy access to advanced diagnostic technology. With studies showing that as many as 90% of children in those countries receive limited heart care, a new Boston Children's initiative aims to close that gap by creating and using AI tools that can support pediatric cardiology care worldwide. [Read More](#)

Dana-Farber Cancer Institute Unveils Groundbreaking Blood Test for Multiple Myeloma

Dana-Farber Cancer Institute



Researchers led by Dr. Irene M. Ghobrial (*pictured*) at Dana-Farber Cancer Institute have developed a blood test that could transform the diagnosis and monitoring of multiple myeloma and its precursor conditions. The new method, known as SWIFT-seq, utilizes single-cell sequencing to profile circulating tumor cells in the blood, offering a non-invasive alternative to traditional bone marrow biopsies. [Read More](#)

Possible Clue into Movement Disorders Like Parkinson's, Others

The Harvard Gazette



For decades, neuroscientists have known that master movements through practice require a cluster of brain areas known as the basal ganglia. According to a new study led by Dr. Bence Ölveczky (*pictured*), this so-called "learning machine" speaks in two different codes — one for recently acquired learned movements and another for innate "natural" behaviors. [Read More](#)

How Mice Make Foraging Decisions: Uchida Lab Reveals Neural Mechanism Underlying “Stay or Go” Choices

Harvard University Department of Molecular and Cellular Biology



A new study by Drs. Michael Bukwich, Malcolm Campbell, and Nao Uchida (*pictured, left to right*) provide an unprecedented look at how the brain makes foraging decisions — choices between sticking with a dwindling resource or venturing elsewhere. The work combined virtual reality, high-density neural recordings, and behavioral modeling to uncover how the brain solves foraging problems by integrating noisy evidence over time. [Read More](#)

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Upcoming Events in Boston

August 17 - 20
11:00 AM

2025 Nucleate Summit
Cathleen Stone Island

August 18 - 21
8:00 AM

The Bioprocessing Summit 2025
Omni Hotel Boston at the Seaport

August 28
7:00 PM

Where Biology Ends and Bias Begins: A Conversation on the Science of Human Difference
Museum of Science

September 11
8:00 AM

Thriving in Biotech: Building Bridges, Breaking Barriers
LabCentral

September 18
9:00 AM

The 2025 Aging Brain Initiative Symposium: The Neuro-Immune Axis and the Aging Brain
Singleton Auditorium

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