



Publications of the Week

Widespread Neuroanatomical Integration and Distinct Electrophysiological Properties of Glioma-Innervating Neurons

First Author: Annie Hsieh (*pictured*) | Senior Authors: Marcia Haigis and Bernardo Sabatini
 Proceedings of the National Academy of Sciences | Harvard Medical School and Massachusetts General Hospital



Researchers developed a system utilizing rabies virus–based monosynaptic tracing to visualize neurons that synapse onto human gliomas implanted in the mouse brain. This approach maps and quantitatively analyzes glioma-innervating neurons across the brain and overcomes previous barriers to their molecular and electrophysiological analysis. [Abstract](#) | [Press Release](#)

The *Dlk1-Dio3* Noncoding RNA Cluster Coordinately Regulates Mitochondrial Respiration and Chromatin Structure to Establish Proper Cell State for Muscle Differentiation Icon for the Forest of Biologists

First Author: Amanda Pinheiro (*pictured*) | Senior Author: Francisco Naya
 Development | Boston University



The imprinted *Dlk1-Dio3* noncoding RNA (ncRNA) cluster has been associated with metabolism in various progenitor cells, suggesting it functions as a regulator of metabolism and cell state. Here, researchers directly demonstrate that the *Dlk1-Dio3* ncRNA cluster coordinates mitochondrial respiration and chromatin structure to maintain proper cell state. [Abstract](#)

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Awards

Dr. Victor Ambros Receives Nobel Prize for Discovery of microRNA's Role As Conductor of 'Cellular Orchestra'

UMass Chan Medical School



Dr. Victor Ambros (*pictured*) and his longtime collaborator Dr. Gary Ruvkun were awarded the Nobel Prize in Physiology or Medicine for their discovery of microRNA, the uniquely short, single-stranded RNA molecules that are now understood to be instrumental in post-transcriptional gene regulation. The Nobel Prize ceremony was broadcasted from Stockholm, Sweden, on Tuesday, December 10. [Read More](#)

Congratulations to the Winners of the 2024 Postdoc Scholars Award for Excellence in Mentoring

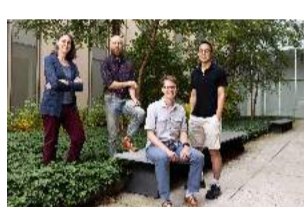
Brigham and Women's Hospital



Brigham and Women's Hospital congratulates the four awardees of the 2024 Postdoc Scholars Award for Excellence in Mentoring, which recognizes postdoctoral fellows' efforts in mentoring fellow postdocs, students, or interns on research projects or career development. The 2024 awardees are Drs. Cassandra Clift (*pictured*), Anurag Jamaiyar, Kaia Mattioli, and Camila Veronica Souza Freire. [Read More](#)

Dr. Joe Larkin Receives 2024 Rajen Kilachand Fund for Integrated Life Sciences & Engineering Award

Boston University Biology



Principal Investigators Drs. Mary Dunlop, Douglas Holmes, Joseph Larkin, and Harold Park (*pictured, left to right*) formed a research team to focus on horizontal gene transfer and the single-cell level events that are involved in making an individual bacterium transition from being drug-susceptible to drug-resistant. Their project earned a 2024 Rajen Kilachand Fund for Integrated Life Sciences & Engineering Award. [Read More](#)

Collaborative Asthma Project Between Brigham and Women's Hospital and the Wyss Institute Advances with New Grant Support

Wyss Institute



Asthma affects more than 260M people worldwide and nearly 28M people in the US alone. A research collaboration between clinical immunologist Drs. Tanya Laidlaw (*pictured, front right*) and Rushdy Ahmad (*front left*) set out to shed new light on causes of asthma that defy known categories. The team has received a grant from Sanofi that will allow them to investigate distinguishing protein biomarkers for different forms of asthma. [Read More](#)

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Local News

Introducing MIT HEALS, a Life Sciences Initiative to Address Pressing Health Challenges

MIT News



The new MIT Health and Life Sciences Collaborative, or MIT HEALS, will bring together researchers from all over the Institute to find new solutions to challenges in health care. HEALS will draw on MIT's strengths in life sciences and other fields, including artificial intelligence and chemical and biological engineering, to accelerate progress in improving patient care. [Read More](#)

#WhyScience Q&A: A Computational Biologist's World Travels Have Shaped Her Approach to Research

Broad Institute



As an associate computational biologist in the Beroukhim lab at the Broad Institute, Wolu Chukwu (*pictured*) is developing tools to analyze cancer genomes and find mutation patterns that can be used to improve cancer diagnosis and treatment. In this WhyScience Q&A, the Broad Institute spoke with Chukwu about her career journey so far, her research, and how she brings a community mindset to her work. [Read More](#)

PARP Inhibition Shows Long-Term Survival Benefits for Patients with High-Risk, BRCA-Positive Breast Cancer

Dana-Farber Cancer Institute



Patients with high-risk, BRCA-positive breast cancer who received olaparib after standard treatment continued to have better survival outcomes than those who received placebo after a median follow-up of 6.1 years, according to the latest results from the Phase III OlympiA clinical trial. Dr. Judy Garber (*pictured*) from Dana-Farber Cancer Institute led the study. [Read More](#)

Model Enables Study of Age-Specific Responses to COVID mRNA Vaccines in a Dish

Boston Children's Hospital



mRNA vaccines clearly saved lives during the COVID-19 pandemic, but several studies suggest that older people had a somewhat reduced immune response to the vaccines when compared with younger adults. Why? Researchers at Boston Children's Hospital found some answers while providing proof-of-concept of a new system that can model mRNA vaccine responses in a dish. [Read More](#)

Addition of CDK 4/6 Inhibitor Benefits Patients with HR+, HER2+ Metastatic Breast Cancer, New Study Shows

Dana-Farber Cancer Institute



The addition of a CDK 4/6 inhibitor to standard therapy in patients with "double-positive" metastatic breast cancer significantly extended the time the disease did not progress according to new data. The results of the Phase III PATINA trial have been presented by Dr. Otto Metzger (*pictured*) from the Dana-Farber Cancer Institute, Principal Investigator of the trial. [Read More](#)

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Upcoming Events in Boston

- January 11 1:00 PM **Science, Technology, & Ethics in the Real World** MIT
- January 15 8:00 AM **8th Annual Neurophotonics Center Symposium** Boston University
- January 16 10:00 AM **AI, Health Equity, and Ethics Symposium** 1 Main St.
- January 27 2:30 PM **Beyond the Lab: Journey from Scientist to Founder** MIT Media Lab
- January 27 5:00 PM **2025 Economic Outlook Forum** MassBioHub

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Science Jobs in Boston

- Senior Research Support Associate, Flavell Lab** MIT
- Research Assistant I** Harvard School of Dental Medicine
- Research Study Coordinator** Boston University
- Research Animal Specialist I, Pathology** Brigham & Women's Hospital
- Postdoctoral Research Fellow** Beth Israel Deaconess Medical Center

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