



Publications of the Week

Single-Cell Image-Based Screens Identify Host Regulators of Ebola Virus Infection Dynamics

First Authors: Rebecca Carlson (*pictured*) and J. J. Patten | Senior Authors: Robert Davey and Paul Blainey
Nature Microbiology | Broad Institute, Boston University, Massachusetts General Hospital, Koch Institute, and MIT



Filoviruses such as Ebola virus (EBOV) give rise to frequent epidemics with high case fatality rates while therapeutic options remain limited. Earlier genetic screens aimed to identify potential drug targets for EBOV relied on systems that may not fully recapitulate the virus life cycle. Here, researchers applied an image-based genome-wide CRISPR screen to identify 998 host regulators of EBOV infection in 39,085,093 cells. [Abstract](#) | [Press Release](#)

Brain Endothelial Gap Junction Coupling Enables Rapid Vasodilation Propagation During Neurovascular Coupling

First Authors: Trevor Krolak and Luke Kaplan | Senior Author: Chenghua Gu (*pictured*)
Cell | Howard Hughes Medical Institute, Harvard Medical School, and the Broad Institute



To meet the brain's moment-to-moment energy demand, neural activation rapidly increases local blood flow. This process, known as neurovascular coupling, involves rapid, coordinated vasodilation of the brain's arterial network. Here, researchers demonstrate that endothelial gap junction coupling enables long-range propagation of vasodilation signals through the vasculature during neurovascular coupling. [Abstract](#) | [Press Release](#)

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Awards

PhD Student Claire Shamber Awarded Prestigious NSF Grant to Advance Metabolic Research

UMass Chan Medical School



PhD student Claire Shamber (*pictured*) has been awarded a National Science Foundation Graduate Research Fellowship to fund her research redefining the mammalian metabolome and investigating metabolic adaptations in mammalian disease states. Shamber will receive three years of funding support over a five-year fellowship period. [Read More](#)

MIT Launches a “Moonshot for Menstruation Science”

MIT News



The MIT Health and Life Sciences Collaborative has announced the establishment of the Fairbairn Menstruation Science Fund, supporting a bold, high-impact initiative designed to revolutionize women's health research. Dr. Linda Griffith (*pictured*) leads one of the funded projects and focuses on immunology and the uterus. [Read More](#)

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Local News

Whitehead Institute Podcast Series

Whitehead Institute



The Whitehead Institute's two podcasts, AudioHelicase and BioGenesis, are helping make science accessible. AudioHelicase is unwinding the science and the people behind some of the Institute's most exciting discoveries. Meanwhile, BioGenesis is the podcast where we get to know a biologist, where they came from, and where they're going next. [Read More](#)

Study Paves Path to Improved Diagnosis, Treatment of NUT Carcinoma

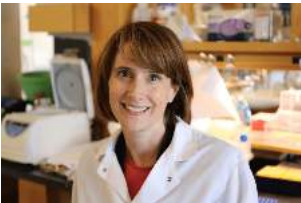
Dana-Farber Cancer Institute



The diagnosis of a suspected lung, head, and neck cancer called NUT carcinoma should include additional testing capable of detecting gene fusions that are definitive markers of the disease, according to a study led by Dr. Jia Luo (*pictured*). The study showed that more than 75% of patients with NUT carcinoma may not be immediately diagnosed because standard-of-care DNA testing does not detect NUT carcinoma fusion genes. [Read More](#)

Why Do We Get Allergies? Mass General Brigham Scientist Explains the Surprising Science Behind the Itch

Bench Press



Despite how common they are, scientists still don't fully understand why some people develop allergies while others don't, or why symptoms vary so widely from person to person. Dr. Caroline Sokol (*pictured*), a Physician-Investigator in the Division of Allergy & Immunology at Massachusetts General Hospital, is working to answer those questions. [Read More](#)

Northeastern Researcher Uses Light to Target and Kill Cancer Cells

Northeastern Global News



A Northeastern University researcher has identified a way to target two of the deadliest cancer types, melanoma and triple negative breast cancer, with chemotherapy drugs but without the harms associated with chemotherapy. Dr. Fleury Augustin Nsole Biteghe (*pictured*) found that by attaching a light-sensitive drug to a protein called MTT and bathing the drug-infused protein in near-infrared light, cancer cells die. [Read More](#)

Federal Funding Fuels Key Research at Harvard Chan School on Lowering Risk of Cancer, Heart Disease, Early Death

Harvard T.H. Chan School of Public Health



For more than a century, Harvard T.H. Chan School of Public Health faculty have conducted groundbreaking research that has led directly to vaccines, treatments, policies, and programs that have saved lives by the millions, in the U.S. and around the world. This series highlighting two long-term cohort studies based at Harvard Chan School and how they have helped shed light on lowering the risk of cancer, other serious diseases, and premature death. [Read More](#)

In a Pioneering Effort, ADA Forsyth Scientists Examine Episymbiotic Microbial Interactions on a Molecular Scale

ADA Forsyth



In a new study, ADA Forsyth researchers performed targeted mutations on an episymbiosis-determining pathway for the first time. “We’re developing innovative tools to look at the symbiosis factors that allow Saccharibacteria to interact with bacterial hosts,” said the paper's first author Dr. Alex Grossman (*pictured*), a postdoctoral fellow in the Bor Lab at ADA Forsyth. [Read More](#)

Early Exposure to Anesthesia May Shift Brain Development

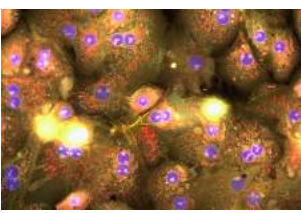
Harvard University Department of Molecular and Cellular Biology (MCB)



MCB researchers show GABA-based sedation in newborns speeds up brain development, confirming decades of animal research in a human cohort. A new longitudinal study by Drs. Takao Hensch (*pictured, left*) and Laurel Gabard-Durnam (*right*) in children that had to have surgery as newborns provides compelling evidence that repeated exposure to general anesthesia can prematurely trigger critical periods of development. [Read More](#)

Collaboration Aims to Reduce Animal Use in Drug Safety Testing

The Broad Institute



The Omics for Assessing Signatures for Integrated Safety (OASIS) consortium is using cell-based models and integrating cutting-edge cellular, transcriptomic, proteomic, and AI technologies to better predict damaging effects of various compounds on the liver. This will reduce the need for animal testing in drug development. [Read More](#)

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Upcoming Events in Boston

August 5 4:30 PM	Fundraising Amid the Turmoil: Resilient Strategies for Health Innovators Greenberg Traurig, LLP
August 14 6:00 PM	After Dark: AI & Discovery MIT Museum
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

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Science Jobs in Boston

Scientist- Oncology Research Bayer
Scientist, In Vivo Pharmacology, Oncology Targeted Discovery AstraZeneca
Staff Scientist, Protein Sciences Sanofi
Scientist/Sr. Scientist, Translational Development Bristol Myers Squibb
Postdoctoral Scientist Beth Israel Deaconess Medical Center

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