



Publications of the Week

Dopamine and Serotonin Inversely Modulate D2 Medium Spiny Neurons to Regulate Cocaine Reward

First Authors: Daniel Cardozo Pinto (*pictured*) and Michaela Guo | Senior Author: Neir Eshel and Robert Malenka
Nature Communications | Harvard University



Classic theories propose opponent functions for striatal dopamine (DA) and serotonin (5-hydroxytryptamine; 5HT), with DA promoting approach and 5HT promoting patience or avoidance. Here, researchers mapped striatal 5HT receptor expression in mice to reveal preferential enrichment of putatively excitatory, G^q-coupled 5HT receptors on medium spiny neurons expressing inhibitory D2 DA receptors. [Abstract](#) | [Press Release](#)

Cell Painting for Cytotoxicity and Mode-Of-Action Analysis in Primary Human Hepatocytes

First Author: Jessica Ewald | Senior Author: Shantanu Singh (*pictured*)
Cell Systems | Broad Institute of MIT and Harvard



Scalable, human-relevant approaches for detecting compound modes of action are needed to improve chemical safety evaluation. Here, researchers apply image-based profiling (Cell Painting) alongside two cytotoxicity assays in primary human hepatocytes exposed to eight concentrations of 1,085 compounds spanning pharmaceuticals, pesticides, and industrial chemicals. [Abstract](#) | [Press Release](#)

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Awards

UMass Chan Junior Faculty Receive Child Health Research Grants From Hood Foundation

UMass Chan Medical School



A pair of UMass Chan Medical School junior faculty members are being recognized with prestigious awards for research projects aimed at addressing chronic conditions and disorders in children. Drs. Silvia Galván Peña (*pictured, left*) and Jin Zhang (*right*) are two of five recipients of 2026 Charles H. Hood Foundation Child Health Research Awards. [Read More](#)

Dana-Farber Chair of Pathology, Dr. Kathleen Burns, Elected as Fellow of the American Association for the Advancement of Science

Dana-Farber Cancer Institute



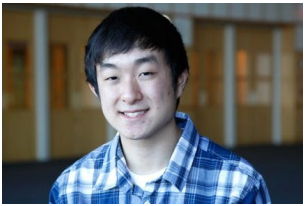
Dr. Kathleen Burns (*pictured*), Chair of Pathology at Dana-Farber Cancer Institute, has been named a Fellow of the American Association for the Advancement of Science (AAAS). Election as an AAAS Fellow is a distinguished lifetime honor bestowed upon AAAS members by their peers. Dr. Burns is recognized within Medical Sciences for pioneering contributions to understanding the role that mobile genetic elements play in human disease. [Read More](#)

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Local News

A New View Into Viruses in the Body

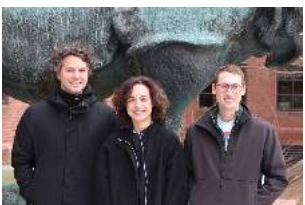
Broad Institute



Some viruses make us sick and are cleared within days by the immune system, but other viruses lurk in our bodies for a lifetime and can re-emerge later to cause new problems. In a new paper, scientists from the Broad Institute, including Nolan Kamitaki (*pictured*), report the largest analysis to date of the human DNA virome — the collection of viruses in the body that have DNA as their genetic material. [Read More](#)

Evolutionary Clues Reveal How a Key Hearing Protein Adapted for Function

Harvard University Department of Molecular and Cellular Biology



New work sheds light on how a critical protein underlying hearing evolved to perform its specialized role in vertebrate sensory systems, offering a rare link between molecular evolution and cellular function. In this study, Drs. Nick Bellono, Nurunisa Akyuz, and Trey J. Scott (*pictured, left to right*) focus on TMC1, a protein essential for mechanotransduction in hair cells. [Read More](#)

BIDMC Researchers Identify Gene Driving Colorectal Cancer Development

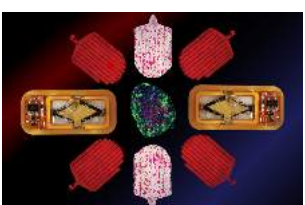
Beth Israel Deaconess Medical Center (BIDMC)



Scientists at BIDMC have answered a question that has puzzled cancer researchers for decades: Does a genetic defect found in nearly all human colorectal cancers simply accompany the disease, or does it actually trigger its development? “We’ve demonstrated that losing this single gene, [COSMC], is enough to trigger the entire disease process,” said senior author Dr. Richard Cummings (*pictured*). [Read More](#)

Implantable Islet Cells Could Control Diabetes Without Insulin Injections

MIT News



Most diabetes patients must carefully monitor their blood sugar levels and inject insulin multiple times per day, to help keep their blood sugar from getting too high. As a possible alternative to those injections, MIT researchers are developing an implantable device that contains insulin-producing cells. The device encapsulates the cells, protecting them from immune rejection, and it also carries an on-board oxygen generator to keep the cells healthy. [Read More](#)

Study Reveals Why Some Cancer Therapies Don’t Work for All Patients

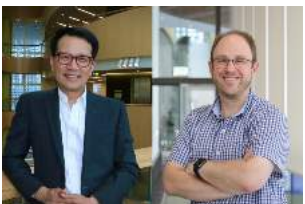
MIT News



Drugs that block enzymes called tyrosine kinases are among the most effective targeted therapies for cancer. However, they typically work for only 40 to 80 percent of the patients who would be expected to respond to them. In a new study, MIT researchers led by Dr. Forest White (*pictured*) have figured out why those drugs don’t work in all cases. [Read More](#)

Kwon Lab Study Reveals How a Live Bacterial Therapy Reshapes the Vaginal Microbiome and Identifies Predictors of Treatment Success

Ragon Institute



A new study from Drs. Douglas Kwon (*pictured, left*) and Seth Bloom (*right*) provides the most detailed picture yet of how a promising bacterial therapy works to prevent recurrent bacterial vaginosis (BV) and why it works better for some women than others. BV is the most common vaginal condition worldwide, affecting more than 25% of reproductive-age women. [Read More](#)

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Upcoming Events in Boston

April 17 9:00 AM	2026 Annual Microbiome Symposium Schwarzman College of Computing
April 25 8:00 AM	NOVA 2026 Harvard University
April 27 - 28 8:00 AM	Digital Healthcare Innovation Summit Seaport Hotel Boston
April 30 8:00 AM	USAIC’s 20th Annual BioPharma Summit The Newbury Boston Hotel
May 28 7:00 PM	AI and the Future of Cancer Treatments Museum of Science

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