



Publications of the Week

Multidimensional Profiling of Heterogeneity in Supratentorial Ependymomas

First Authors; Daeun Jeong and Sara Danielli | Senior Authors: Kristian Pajtler, Varun Venkataramani, and Mariella Filbin *(pictured)*
Nature | Dana-Farber Boston Children's Cancer and the Broad Institute



The developmental signatures, microenvironmental factors, underlying aberrant cellular transformation, and behaviour of supratentorial ependymomas are unclear. Here, researchers integrated single-cell and spatial transcriptomics, as well as *in vitro* and *in vivo* live-cell imaging, to define supratentorial ependymoma cell states, spatial organization, and dynamic behaviour within the neural microenvironment. [Abstract](#) | [Press Release](#)

The E3 Ubiquitin Ligase Mechanism Specifying Targeted MicroRNA Degradation

First Authors: Jakob Farnung and Elena Slobodyanyuk | Senior Author: David Bartel *(pictured)*
Nature | Whitehead Institute, Howard Hughes Medical Institute, and MIT



MicroRNAs (miRNAs) associate with Argonaute (AGO) proteins to form complexes that down-regulate target RNAs. Within each complex, the miRNA pairs to target RNAs, and AGO provides effector functions while also protecting the miRNA from cellular nucleases. One pathway that regulates miRNAs involves unusual targets called 'trigger' RNAs, which reverse the canonical regulatory logic and instead down-regulate miRNAs. [Abstract](#) | [Press Release](#)

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Awards

Dr. Maxim Prigozhin Awarded 2026 MIND Prize to Advance Nanoscale Brain Imaging in Neurodegeneration

Harvard University Department of Molecular and Cellular Biology (MCB)



Dr. Maxim Prigozhin *(pictured)*, Assistant Professor in MCB and Applied Physics, has been awarded the 2026 Maximizing Innovation in Neuroscience Discovery (MIND) Prize for a bold proposal to transform how scientists visualize the brain at the nanoscale. The competitive award supports high-risk, high-impact ideas in neuroscience, with a particular focus this year on neurodegenerative disease. [Read More](#)

Announcing the 2026 Giuliani Scholars Taking on Global Health Challenges

Ragon Institute



The Ragon Institute has announced the 2026 recipients of the Giammaria and Sabrina Giuliani Faculty Support Fund, an endowed fund dedicated to advancing transformative research at the Institute. This year's awardees are Drs. Amy Barczak, Gaurav Gaiha, Douglas Kwon, and Sophia Liu *(pictured)*. The work of these four exceptional scientists is shaping the future of immunology and global health. [Read More](#)

BeWonderNow Brings Hope to the Fight Against Brain Cancer

Wyss Institute



The blood-brain barrier blocks more than 98% of drugs from entering the brain, making immunotherapy a challenge for treating brain tumors. A team of researchers led by Dr. Natalie Artzi *(pictured)* have developed a promising solution: a sticky hydrogel to deliver medications that surgeons can spray directly into the brain during tumor removal. The gel slowly releases drugs and nanoparticles that activate the body's immune system. [Read More](#)

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Local News

Improving Cartilage Repair Through Cell Therapy

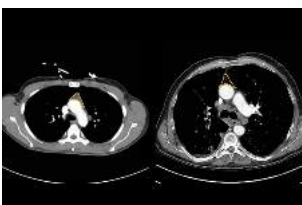
MIT News



Researchers including Dr. Yanmeng Yang *(pictured)* have developed a new method for monitoring iron flux in stem cells known as mesenchymal stromal cells (MSCs). The system can provide insights within a minute about a cell's ability to grow cartilage tissue for cartilage repair. The breakthrough offers a promising pathway toward more consistent and efficient manufacturing of high-quality MSCs for regenerative therapies to treat joint diseases. [Read More](#)

Thymus May Be Critical for Longevity and Cancer Immunotherapy Response

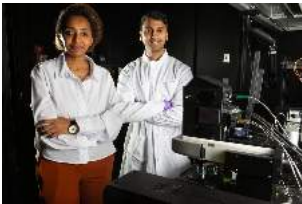
Harvard Medical School



Two new studies challenge a decades-old assumption that the thymus, an organ best known for its role in establishing immune function in childhood, becomes irrelevant in adulthood. "The thymus has been overlooked for decades and may be a missing piece in explaining why people age differently and why cancer treatments fail in some patients," said Dr. Hugo Aerts, corresponding author on both papers. [Read More](#)

New Sensor Sniffs Out Pneumonia on a Patient's Breath

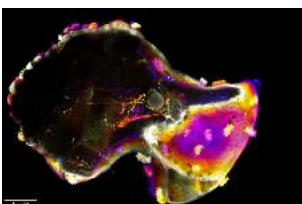
MIT News



Diagnosing some diseases could be as easy as breathing into a tube. Dr. Aditya Garg *(pictured, right)* and Dr. Loza Tadesse's *(pictured)* lab at MIT have developed a test to detect disease-related compounds in a patient's breath. The new test could provide a faster way to diagnose pneumonia and other lung conditions. The new breath test is a portable, chip-scale sensor that traps and detects biomarkers. [Read More](#)

Scientists Create Novel Organism With Primitive Nervous System

TuftsNow



In 2020, scientists at Tufts created tiny novel living forms called xenobots from frog cells, capable of traversing a watery environment, healing their own injuries, and even gathering other cells to build xenobot siblings. Now, they have taken the quest to reimagine life forms a step further, adding nerve cells and observing how they self-organize and alter xenobot behavior. [Read More](#)

Simple Blood Tests May Predict Response to Lymphoma Treatment

Tufts Now



A new study in pet dogs treated with promising novel treatment regimens for diffuse large B cell lymphoma suggests that immune signatures found in blood samples could help identify poor responders early. The findings, led by Dr. Jillian Richmond *(pictured)*, point toward a future in which blood tests could help guide more personalized treatment decisions in both veterinary and human cancer care. [Read More](#)

How Inflammation May Prime the Gut for Cancer

Broad Institute



Chronic inflammation can raise a person's risk of cancer, and a new study reveals key details about how that might happen in the gut and points to better ways to identify and reduce risk. Dr. Jason Buenostro *(pictured)* and his team have revealed in mice that after colitis, seemingly healed gut tissues may retain the memory of earlier inflammation through molecular "scars" that make it easier for cancer to take hold later on. [Read More](#)

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Upcoming Events in Boston

March 31 8:00 AM	23rd Annual Strategic Alliance Management Congress Aloft Boston Seaport District
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

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Dana-Farber Cancer Institute
- QC Scientist I**
Pfizer
- Research Associate II, The Stevens Lab**
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