

Publications of the Week

Plasma Exosomes in Insulin Resistant Obesity Exacerbate Progression of Triple Negative Breast Cancer

First Author: Pablo Liévenes | Senior Author: Gerald Denis (*pictured*)
BMC Cancer | Boston University



Triple-negative breast cancer (TNBC) is particularly aggressive and difficult to treat due to the absence of receptors for estrogen, progesterone, or human epidermal growth factor receptor 2. Emerging research underscores the exacerbating role of metabolic disorders on TNBC aggressiveness. Here, researchers investigate the critical cellular and molecular factors underlying this link. [Abstract](#) | [Press Release](#)

A Multi-Adjuvant Personal Neoantigen Vaccine Generates Potent Immunity in Melanoma

First Authors: Eryn Blass and Derin Keskin | Senior Author: Patrick Ott (*pictured*)
Cell | Dana-Farber Cancer Institute, Broad Institute, Harvard Medical School, Brigham and Women's Hospital, and Boston University



Personalized neoantigen-targeting vaccines have demonstrated great promise; however, improved immunogenicity is still needed. Since antigen availability and effective T cell priming are critical for maximal immunogenicity, researchers tested a synthetic long peptide vaccine formulated with Montanide, poly-ICLC, and locally administered ipilimumab in addition to systemic nivolumab in ten patients with melanoma. [Abstract](#) | [Press Release](#)

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Awards

Jared Tague Receives 2025 Master's Research Award

Boston University Biology



Jared Tague (*pictured*) of the Ho-Beffert Lab is this year's recipient of the Master's Research Award. This award provides a one-semester Research Assistantship to a continuing Biology MS student who stands out in their field of research. Jared studies the molecular mechanisms of reelin signaling and its implications in brain development and Alzheimer's disease. [Read More](#)

Drs. Dorothy Schafer and Travis Thomson Receive Riccio Fund Neuroscience Award

UMass Chan Medical School



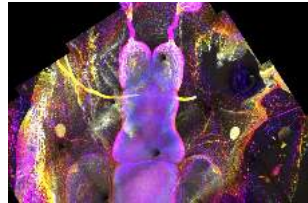
Two UMass Chan Medical School scientists are sharing an award of \$50,000 to support groundbreaking, interdisciplinary research in neuroscience. The award was presented to Drs. Dorothy Schafer (*pictured, left*) and Travis Thomson (*right*) for their project, "Investigating a novel liver-brain axis driven by extracellular vesicles". The award is possible thanks to the Dan and Diane Riccio Fund for Neuroscience. [Read More](#)

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Local News

Forging a Novel Therapeutic Path for Patients with Rett Syndrome Using AI

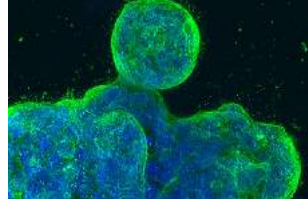
Wyss Institute



A highly multi-disciplinary research team at the Wyss Institute has made a significant breakthrough by leveraging an AI-driven drug discovery process in combination with innovative disease modeling. Their study identified a drug known as vorinostat as a promising treatment for Rett syndrome. The findings are published in *Communications Medicine*. [Read More](#)

Medicines That Unleash the Immune System to Fight Cancer

Harvard Medical School



In the 1990s, a series of discoveries paved the way for a new type of cancer treatment — one that harnesses the body's own immune system to fight cancer. Cancer immunotherapies have transformed cancer care and extended the lives of millions of patients. Immune checkpoint inhibitors began with science conducted in labs at Harvard Medical School and Dana-Farber Cancer Institute. [Read More](#)

Science in 60—Gayathri Muthukumar

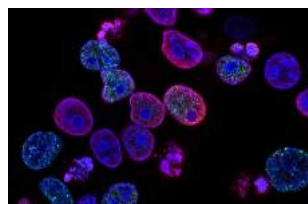
Whitehead Institute



Gayathri Muthukumar (*pictured*), a graduate student in Whitehead Institute Member Dr. Jonathan Weissman's lab, is investigating how the outer mitochondrial membrane (OMM), which is a hub for signaling proteins, helps regulate mitochondrial functions. Her research aims to uncover how changes in the OMM's protein make-up can fine-tune the behavior of individual mitochondria. [Read More](#)

Cell Density Speaks Volumes About Cancer Treatment Choices

Dana-Farber Cancer Institute



What if there were a quick test doctors could perform on an individual person's cancer to help determine which approved treatment would work best for them? This testing tool is in development now by Drs. Keith Ligon and Scott Manalis. Their team has created a functional precision medicine device that rapidly determines the density of live cells and provides a readout of their response to a medicine. [Read More](#)

The Dopamine Reset: Restoring What's Missing in AADC Deficiency

Boston Children's Hospital



Aromatic L-amino acid decarboxylase (AADC) deficiency is a rare neurological disorder prevents the brain from producing dopamine and serotonin, which are essential chemicals for controlling movement, mood, and basic body functions. Dr. Phillip Pearl (*pictured*) is overseeing the use of Kethylidi, the first gene therapy delivered directly to the brain to treat AADC deficiency, at Boston Children's. [Read More](#)

Through Innovative Bioinformatics Approach, ADA Forsyth Scientists Open New Doors for Exploration of the Oral Microbiome

ADA Forsyth



The microbiology lab led by ADA Forsyth's Drs. Jessica Mark Welch (*pictured*) and Gary Borisy takes genomic analysis to a new level through an innovative bioinformatics approach known as metapangenomics. Their approach enables them to map not only the genetic composition of individual species, but also their habitat preferences and patterns of gene expression within complex microbial communities. [Read More](#)

You Are What Your Great-Grandparents Ate

Harvard University Department of Molecular and Cellular Biology (MCB)



What if a gene program evolved that could predict the future? Would organisms use it to boost their reproductive success? Recent work from MCB sheds new light on how experience can be inherited across generations through non-genetic mechanisms. To study heritable responses to food change, Alexandria (Ali) Pete (*pictured, left*), a graduate student in Dr. Craig Hunter's (*right*) lab, developed a protocol to measure reproductive fitness on different bacterial foods. [Read More](#)

Scientists Discover Compounds That Help Cells Fight a Wide Range of Viruses

MIT News



Researchers at MIT and other institutions have identified compounds that can fight off viral infection by activating a defense pathway inside host cells. These compounds, they believe, could be used as antiviral drugs that work against not just one but any kind of virus."We're very excited about this work, which allows us to harness the stress response of the host cells to arrive at a means to identify and develop broad-spectrum antivirals," says Dr. James Collins (*pictured*). [Read More](#)

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📅 Upcoming Events in Boston

July 23 5:00 PM	Biological Engineering: A Conversation on the Future of Medicine Swissnex
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

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🏢 Science Jobs in Boston

Research Scientist II, Vallabh/Minikel Lab Broad Institute
Principal Scientist, Translational Computational Biology Bristol Myers Squibb
Innovation Postdoctoral Fellow, Neuromuscular Disease Therapeutics Novartis
Postdoctoral Fellow, Burstein Lab Beth Israel Deaconess Medical Center
Medical Director, Clinical Sciences, Plasma-Derived Therapies Takeda

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Summit 2025

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Cathleen Stone Island, Boston, MA
August 17 - 20, 2025

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