

Publications of the Week

High-Throughput Engineering of Bispecific Antibodies to Enhance Macrophage-Mediated Cytotoxicity of B Cell Lymphoma

First Authors: Carlota Pagès-Gelí (pictured) and Juliano Ribeiro | Senior Author: Kipp Weiskopf | Nature Communications | Harvard Medical School, Beth Israel Deaconess Medical Center, Dana-Farber Cancer Institute, Whitehead Institute, and the Broad Institute



Macrophages are critical effectors of antibody therapies for lymphoma, but the best targets to engage their function remain unknown. Here, researchers develop a ‘tactical surfaceome profiling’ strategy to define a comprehensive repertoire of surface antigens on B cell lymphoma that can be targeted with antibodies to provoke macrophage attack. [Abstract](#) | [Press Release](#)

Environmental Chemical Mixtures Reprogram Mammary Epithelial Development to Epigenetic States Associated With Breast Cancer

First Authors: Meadow Parrish (pictured) and Meloryn Seraj | Senior Author: Charlotte Kuperwasser | Proceedings of the National Academy of Sciences | Tufts University and Boston University



Environmental exposures occur as complex mixtures, yet the mechanisms by which they alter human tissue development and generate cancer-relevant tissue states remain poorly defined. Here, researchers establish a physiologically relevant 3D human breast organoid high-content screening platform that relates exposure-induced developmental disruption to cancer-relevant cell states. [Abstract](#) | [Press Release](#)

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Awards

UMass Chan Scientists Named Recipients of Prestigious Young Investigators Award

UMass Chan Medical School



Two early-career scientists from UMass Chan Medical School, Drs. Caitlyn Edwards (pictured, left) and Travis Faust (right), have been named recipients of a Brain & Behavior Research Foundation Young Investigator Grant supporting their research in neuroscience. The \$70,000, two-year award is designed to assist talented young investigators as they extend their research training or begin careers as independent research faculty. [Read More](#)

MCB Professor Ahmad (Mo) Khalil Receives Prestigious NIH Director’s Pioneer Award

Harvard University Department of Molecular and Cellular Biology (MCB)



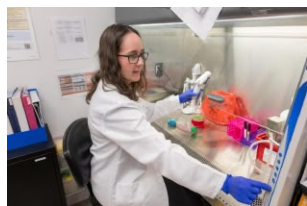
Dr. Ahmad (Mo) Khalil (pictured) has received a National Institutes of Health Director’s Pioneer Award to develop a new technology that could transform how scientists study proteins and their roles in health and disease. Inspired by CRISPR’s ability to systematically investigate gene function, Dr. Khalil and his team aim to develop a comparable approach for studying proteins. [Read More](#)

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Local News

She Scours Genes to Find What’s Behind a Rare Eye Cancer

Tufts Now



Sebaceous gland carcinoma, like many rare cancers, is difficult to diagnose and challenging to study. The cancer impacts as few as one in 500,000 people per year, but it can look shockingly similar to more common and innocuous conditions like conjunctivitis. “The can gets kicked down the road for a little while as far as diagnostics are concerned,” says Dr. Cornelia Peterson (pictured), who studies the disease. [Read More](#)

BU Alzheimer’s Disease Research Center Receives \$24 Million in Fresh Funding

The Brink



The National Institute on Aging (NIA) has approved a nearly \$24 million grant to fund Boston University’s Alzheimer’s Disease Research Center for the next five years. The NIA has been the primary funder of the center since its founding 30 years ago. “The center is really the nucleus for all Alzheimer’s and neurodegenerative disease research across BU,” says its Director Dr. Ann McKee. [Read More](#)

From Gene Discovery to Patient Impact: A Conversation with Dr. Susan Slaughaupt

Bench Press



What inspires a scientist to dedicate more than three decades to the study of rare genetic diseases? In this Q&A, Dr. Susan Slaughaupt (pictured), an investigator at Mass General Brigham and President of the American Society of Human Genetics, reflects on her unexpected journey into genetics research, the discoveries that have shaped her career and the patients, and families who motivate and inspire her work. [Read More](#)

AI Model Decodes the Language Cells Use to Communicate

MIT News



In a new study led by Dr. Pulin Li (pictured) and graduate student Nicholas Hutchins, researchers have discovered that each cell signaling pathway leaves behind a unique “fingerprint” — a distinctive pattern of gene activity that reflects the particular signals the cell has encountered. Importantly, these fingerprints are consistent across different cell types for the same signaling pathway. [Read More](#)

How the Biggest Alzheimer’s Risk Gene Disrupts the Process of Insulating Neurons

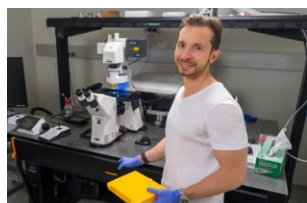
The Picower Institute



With evidence from human cell cultures, post-mortem brain samples and mice, MIT researchers show that the APOE4 gene variant suppresses molecular signaling needed for oligodendrocytes to myelinate neurons. They also demonstrate a proof-of-concept fix. The research team is led by Picower Professor Dr. Li-Huei Tsai (pictured) and study lead author Leyla Akay, a former graduate student in Dr. Tsai’s lab. [Read More](#)

Reversing Age by Reprogramming Gene Expression Networks

Wyss Institute



Every organ and tissue progressively loses function and integrity as it ages. In fact, researchers have identified “hallmarks of aging” that not only present specific processes impacted by age, but could help turn back the aging clock and result in tissue rejuvenation. “In reprogramming, there is a fundamental tradeoff between rejuvenation and cell identity; achieving one without losing the other requires walking a fine line,” said Dr. Alex Plesa (pictured). [Read More](#)

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Upcoming Events in Boston

|                        |                                                                                    |
|------------------------|------------------------------------------------------------------------------------|
| October 29<br>6:00 PM  | <b>Discovery After Dark</b><br>Broad Institute                                     |
| October 30<br>9:00 AM  | <b>ACORN Summit</b><br>Boston University                                           |
| November 4<br>9:00 AM  | <b>Comparative Neuroscience: Lessons from Biodiversity</b><br>Singleton Auditorium |
| November 5<br>6:00 PM  | <b>Living Water: A Lo-TEK Experience</b><br>MIT Museum                             |
| November 12<br>6:00 PM | <b>After Dark: Decoding Whales and Dolphins</b><br>MIT Museum                      |

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Science Jobs in Boston

|                                                                               |
|-------------------------------------------------------------------------------|
| <b>Research Study Technician, Pulmonary Center</b><br>Boston University       |
| <b>Translational Research Project Manager</b><br>Dana-Farber Cancer Institute |
| <b>Program Coordinator I, Newborn Medicine</b><br>Boston Children’s           |
| <b>Laboratory Operations Associate</b><br>Serif Biomedicines                  |
| <b>Research Lab Technician</b><br>Mass General Brigham                        |

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