

Publications of the Week

Pan-Cancer Analysis of Post-translational Modifications Reveals Shared Patterns of Protein Regulation

First Author: Yifat Geffen | Senior Authors: Francois Aguet, Lewis Cantley, Li Ding, Gad Getz (*pictured*)
Cell | The Broad Institute, MIT, Massachusetts General Hospital, and Harvard Medical School



Advances in mass spectrometry enable high-throughput, accurate, and sensitive measurement of post-translational modification (PTM) levels to better understand their role, prevalence, and crosstalk. Here, they authors analyze the largest collection of proteogenomics data from 1,110 patients with PTM profiles across 11 cancer types. Their study reveals pan-cancer patterns of changes in protein acetylation and phosphorylation involved in hallmark cancer processes. [Abstract](#) | [Press Release](#)

Delayed and Attenuated Antibody Responses to Coronavirus Disease 2019 Vaccination with Poor Cross-Variant Neutralization in Solid-Organ Transplant Recipients—A Prospective Longitudinal Study

First Author: May Liew | Senior Authors: Jacob Lemieux and Marcia Goldberg (*pictured*)
Open Forum Infectious Diseases | The Broad Institute, MIT, Massachusetts General Hospital, and Harvard Medical School



Therapeutically immunosuppressed transplant recipients exhibit attenuated responses to SARS-CoV-2 vaccines. To elucidate the kinetics and variant cross-protection of vaccine-induced antibodies in this population, the authors conducted a prospective longitudinal study in heart and lung transplant recipients receiving the SARS-CoV-2 messenger RNA 3-dose vaccination series. [Abstract](#)

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Awards

Pamela Garcia Lopez Recipient of Kilachand Doctoral Fellowship

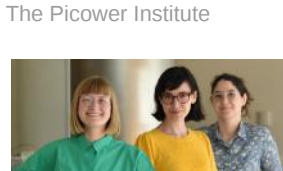
Boston University Biology



Pamela Garcia Lopez (*pictured*) recently received the Kilachand Doctoral Fellowship. Her research aims to decipher the rules of cofactor recruitment by transcription factors in mammalian cells. She's particularly interested in the design of synthetic cofactors with the goal of building integrators of endogenous signaling pathways to understand how multicellular systems respond to signaling environments. [Read More](#)

Summer Research Opportunity Can Be a Springboard to Advanced Studies

The Picower Institute



Doctoral studies at MIT aren't a calling for everyone, but they can be for anyone who has had opportunities to discover that science and technology research is their passion and to build the experience and skills to succeed. For Taylor Baum (*pictured, left*), Karla Alejandra Montejo (*center*), and Josefina Correa Menéndez (*right*), a pivotal opportunity came via the MIT Summer Research Program in Biology and Neuroscience. [Read More](#)

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Local News

Summer Undergraduate Research Students Highlight Collaboration, Diversity at UMass Chan

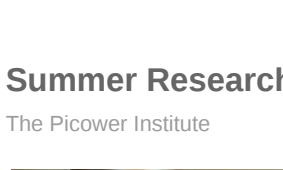
UMass Chan Medical School



Spending 10 weeks of their summer immersed in biomedical research at UMass Chan Medical School has helped define career perspectives for the 40 participants in the 2023 Summer Undergraduate Research Program. Adrián Márquez Hernández (*pictured, left*), Catharine Wingle (*center*), and Raheem Sheikh (*right*) are high-achieving college undergraduates pursuing careers in medicine and science. [Read More](#)

Summer Research Opportunity Can Be a Springboard to Advanced Studies

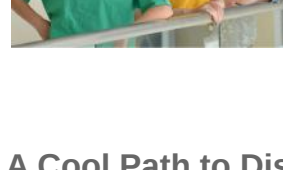
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A Cool Path to Disease Deceleration

MIT News



"My experience led me to a significant medical problem: How can we eventually shift the medical paradigm to develop treatments that consider not only one specific pathway or problem but contextualize systemic tissue or organ dysfunction?" To engage with this problem, Dr. Kathrin Kajderowicz (*pictured*) studies animals uniquely adapted to handle different stressors and environments, possibly modeling human disease states. [Read More](#)

DADA2: Working Together to Unpack a Rare Mystery Illness

Boston Children's Hospital



When months of fever and weight loss brought Vanessa to Boston Children's emergency room, she was admitted for evaluation and seen by Dr. Pui Lee (*pictured*), a rheumatology Fellow. He and Rheumatology Program Director Dr. Robert Sundel diagnosed her with periodic fever syndrome — meaning Vanessa's immune system was activated despite no apparent infection. [Read More](#)

AI-Powered Arm Band to Detect Opioid Use Disorder, Withdrawals in Development at UMass Chan, URI

UMass Chan Medical School



The ability to detect if patients are taking their medications for opioid use disorder is the driving force behind a wearable device being developed by Dr. Stephanis Carreiro (*pictured*) and researchers at UMass Chan Medical School in collaboration with the Wearable Biosensing Lab at the University of Rhode Island (URI). The goal of the device is to help improve medication adherence and prevent overdose deaths. [Read More](#)

Meet a Whitehead Postdoc: Pavana Rotti

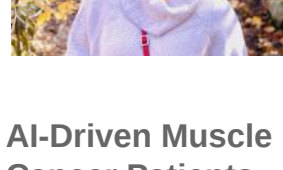
Whitehead Institute



Dr. Pavana Rotti (*pictured*) is studying the neurobiology of opioid use disorder. "There have been a lot of studies indicating that changes in the genome are associated with opioid use disorder, but nobody really knows the impact of those changes. How do those genes contribute to opioid use disorder, and what are the cellular mechanisms impacted? That's what I'm trying to understand." [Read More](#)

AI-Driven Muscle Mass Assessment Could Improve Care for Head and Neck Cancer Patients

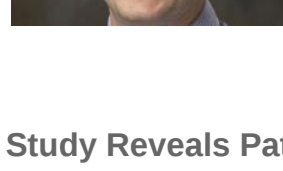
Dana-Farber Cancer Institute



Researchers with Dr. Benjamin Kann (*pictured*) at Dana-Farber Cancer Institute have found a way to use artificial intelligence (AI) to diagnose muscle wasting, called sarcopenia, in patients with head and neck cancer. AI provides a fast, automated, and accurate assessment that is too time-consuming and error-prone to be made by humans. The tool could be used by doctors to improve treatment and supportive care for patients. [Read More](#)

Study Reveals Patients Hospitalized with COVID-19 Faced Nearly Twice the Rates of Death After Discharge as Patients with Flu

Beth Israel Deaconess Medical Center



National Medicare data was used to characterize the long-term risk of death and hospital readmission after being hospitalized with COVID-19 among beneficiaries 65 years and older. "Since the early days of the pandemic, it has been evident that older adults bear a disproportionate burden of COVID-19 and our study provides several important insights into the longer-term clinical consequences of the disease in this vulnerable population," says Dr. Dhruv Kazi (*pictured*). [Read More](#)

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📅 Upcoming Events in Boston

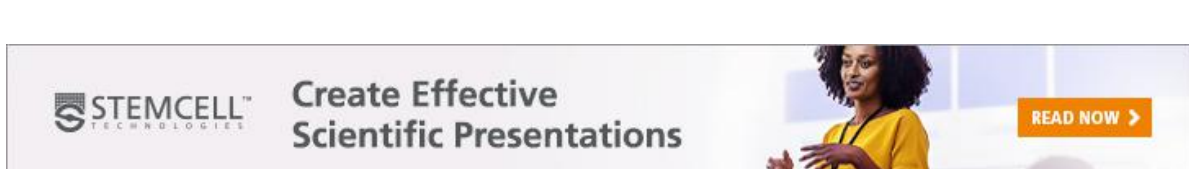
August 28 - 29 8:00 AM	The mRNA Conference 2023 DoubleTree by Hilton Hotel
Sept 7 - 10 7:30 AM	Hypertension Scientific Sessions 2023 Sheraton Boston Hotel
Sept 18 - 21 9:30 AM	BioTech Week Boston Convention and Exhibition Center
Sept 20 - 21 10:00 AM	BIOMEDevice Boston 2023 Boston Convention and Exhibition Center
Sept 27 - 30 6:00 AM	AACR Special Conference: Pancreatic Cancer Westin Copley Place

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📁 Science Jobs in Boston

Cell & Gene Therapy Specialist STEMCELL Technologies	Cellular Therapy Strategic Account Manager Novartis
Research Assistant, Cell Culture and Host-Microbiome Interactions Harvard Medical School	Research Assistant, Blood-Brain Barrier Harvard Medical School
Principal Data Scientist, Applied Clinical Biomarker Analytics Novartis	

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