



Publications of the Week

Overcoming Immunogenic Gaps in Malaria Subunit Vaccines by Broadening CSP Regions Targeted

First Authors: Ja-Hyun Koo and Prabhanshu Tripathi | Senior Author: Facundo Batista *(pictured)*
Journal of Experimental Medicine | The Ragon Institute, Harvard Medical School, and MIT



The first approval of malaria vaccines RTS,S/AS01 and R21/Matrix M marked a major milestone. Both vaccines present a portion of the *Plasmodium falciparum* circumsporozoite protein (PICSP) containing an immunodominant major repeat region. Using B cell receptor knock-in mice, researchers found that the R21-included PICSP epitope elicited robust B cell responses to the immunodominant major repeats but not to other highly protective epitopes. [Abstract](#) | [Press Release](#)

scAmp Enables Focal Gene Amplification Analysis From Single-Cell Data

First Authors: Matthew Jones *(pictured)* and Natasha Weiser | Senior Author: Howard Chang
Nature Communications | Koch Institute and MIT



Oncogene amplification on extrachromosomal DNA is a common driver of tumor progression and is associated with acquired drug resistance and poor patient survival. It remains challenging to study the subclonal heterogeneity and functional consequences of extrachromosomal DNA on tumors. To address this, researchers introduce *scAmp*: a probabilistic algorithm for detecting and analyzing extrachromosomal DNA from single-cell datasets. [Abstract](#)

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Awards

Dr. Chao Zhang Awarded \$2.2M NIH Grant

Boston University Chobanian & Avedisian School of Medicine



Dr. Chao Zhang *(pictured)* has received a five-year, \$2.2M R35 grant from the National Institutes of Health's (NIH) National Institute of General Medical Sciences for his project, "A Deep Learning Framework for Discovering Temporal Changes in Host-Microbiome Interactions." With this new grant, Dr. Zhang will develop novel AI frameworks to investigate how host-microbiome interactions change over time. [Read More](#)

Humphries Lab Awarded \$8 Million in NIH Grants

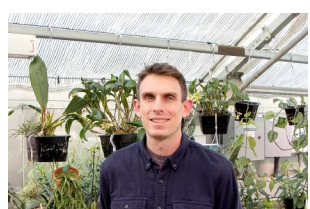
UMass Chan Medical School



Research projects exploring potential treatments for Parkinson's disease, lupus and sepsis are underway at UMass Chan Medical School in the lab of Dr. Fiachra Humphries *(pictured)*, Assistant Professor of Medicine. Dr. Humphries is a principal investigator on three National Institutes of Health (NIH) grants issued over a six-week period starting June 11, totaling nearly \$8 million. [Read More](#)

Dr. Ryan Nett Receives NSF CAREER Award to Study Ancient Plants with Modern Medical Promise

Harvard University Department of Molecular and Cellular Biology (MCB)



How do plants that first appeared hundreds of millions of years ago produce molecules that may one day help treat human disease? That question is at the heart of a new five-year National Science Foundation (NSF) CAREER Award to MCB's Assistant Professor Ryan Nett *(pictured)*, whose lab studies the remarkable chemistry of clubmosses. [Read More](#)

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Local News

Global Collaboration Doubles Number of Patient-Derived Cancer Models to Accelerate Research

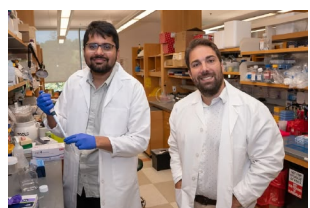
Harvard Medical School



A team co-led by Dr. Keith Ligon *(pictured)* has developed 665 next-generation cancer models — lab-grown cells derived from patients' tumors — across 27 common and rare forms of cancer. The resource, which the team has made publicly available, doubles the number of such models available for scientists to use to accelerate advances in cancer research and treatment. [Read More](#)

mRNA Immunotherapy Developed by UMass Chan Scientists Eliminates Pancreatic Tumors in Mice

UMass Chan Medical School



Inspired by the work of the RNA Therapeutics Institute at UMass Chan Medical School and the development of the COVID vaccine, Drs. Marcus Ruscetti *(pictured, right)* and Chaitanya Naimesh Parikh *(left)* have developed an immunotherapy using a cocktail of mRNA. This therapy could potentially be transformative for pancreatic cancer treatment. [Read More](#)

AI Model Streamlines Prime Editing

Broad Institute



Members of Dr. David Liu's *(pictured)* lab have developed OptiPrime, a machine learning model that can predict the performance of prime editing guide RNAs (pegRNAs) based on their sequence and prioritize those predicted to work best. This tool has the potential of saving the costly and time-consuming step of generating and testing hundreds of pegRNAs in the lab. [Read More](#)

How 'Good' Bacteria From Fecal Transplants Reduce Peanut Allergy

Boston Children's Hospital



Some 33 million Americans have severe food allergies. Now, researchers at Boston Children's Hospital may have found a promising solution. In a small clinical trial, Dr. Rima Rachid *(pictured, left)*, Dr. Talal Chatila *(right)*, and their colleagues found that some participants with peanut allergies experienced a higher tolerance to peanuts months after receiving a fecal transplant from a healthy donor without food allergies. [Read More](#)

Drug That Targets an Inflammatory Enzyme Could Help Prevent Lung Cancer

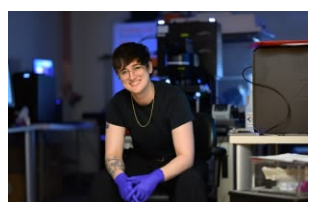
MIT News



In an advance that could help prevent lung cancer deaths, MIT researchers have shown that blocking an enzyme involved in lung inflammation appears to reduce the risk of developing tumors. This enzyme, caspase-1, is active in developing tumors in mice. Dr. Sangeeta Bhatia *(pictured)* is the senior author of the new study. [Read More](#)

Tackling Rare Genetic Disorders With Patient-Focused Science

McGovern Institute



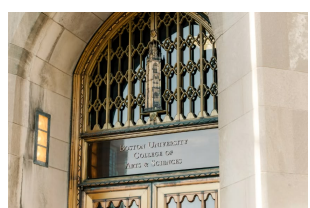
Shannon Knight *(pictured)* is working on developing a novel gene therapy for childhood-onset epilepsy, specifically *SYNGAP1* haploinsufficiency. This rare genetic disorder is caused by a mutation in the *SYNGAP1* gene, rendering one of the two copies of the gene nonfunctional. *SYNGAP1* is important for brain development and neuronal communication, and the disorder leads to seizures in children starting as young as 4 months old. [Read More](#)

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Interesting Articles

Boston University Announces New Convergent Research Programs

The Brink



Boston University is launching two new programs to support convergent research across its numerous schools, colleges, and research centers. The programs, which are the result of a yearlong process by the University's Task Force on Convergent Research and Education, feature new funding opportunities for research faculty and a strategic hiring push over the next year. [Read More](#)

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📅 Upcoming Events in Boston

October 6 - 7 9:00 AM	FASI 10: Catalyst for a Cure – The Food Allergy Science Innovation Summit Broad Institute
November 4 9:00 AM	Comparative Neuroscience: Lessons from Biodiversity Singleton Auditorium
October 18 - 21 9:00 AM	The Medtech Conference 2026 Boston Convention and Exhibition Center
November 19 - 20 8:00 AM	Pharma Partnering US Summit Hilton Boston Logan Airport

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🏢 Science Jobs in Boston

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- Research Scientist, Lentiviral Vector Purification and Analytics**
Novartis
- Scientist, Cancer Immunology/Immunotherapy**
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- Research Assistant II, DNA Imaging**
Harvard University
- Associate Scientist II, Delivery Biology**
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