

Publications of the Week

A Multi-Ancestry Polygenic Risk Score Improves Risk Prediction for Coronary Artery Disease

First Authors: Aniruddh Patel and Minxian Wang | Senior Authors: Pradeep Natarajan and Amit Khera (*pictured*)
Nature Medicine | Massachusetts General Hospital, Harvard Medical School, Broad Institute, and Verve Therapeutics



The authors develop a new and significantly improved polygenic score for coronary artery disease (CAD), termed GPS_{Mult}, that incorporates genome-wide association data across five ancestries for CAD and ten CAD risk factors. GPS_{Mult} strongly associated with prevalent CAD in UK Biobank participants of European ancestry, identifying 20.0% of the population with 3-fold increased risk. [Abstract](#) | [Press Release](#)

ALK Peptide Vaccination Restores the Immunogenicity of ALK-Rearranged Non-Small Cell Lung Cancer

First Author: Ines Mota | Senior Author: Roberto Chiarle (*pictured*)
Nature Cancer | Boston Children's Hospital, Broad Institute, Dana-Farber Cancer Institute, Koch Institute, and Brigham and Women's Hospital



The authors identified immunogenic anaplastic lymphoma kinase (ALK) peptides to show that immune checkpoint inhibitors induced rejection of ALK⁺ tumors in the flank but not in the lung. A single-peptide vaccination restored priming of ALK-specific CD8⁺ T cells, eradicated lung tumors in combination with ALK tyrosine kinase inhibitors and prevented metastatic dissemination of tumors to the brain. [Abstract](#)

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Awards

Andrea Reboldi Awarded Burroughs Wellcome Fund Grant

UMass Chan Medical School



Dr. Andrea Reboldi (*pictured*), an Associate Professor of pathology, is one of eight recipients of the Investigators in the Pathogenesis of Infectious Disease, award from the Burroughs Wellcome Fund, a private foundation dedicated to advancing biomedical science by supporting research and education in the United States. [Read More](#)

2023 NSF Graduate Research Fellowship Recipients and Honorable Mention

Boston University Biology



The awardees and honorable mentions for the 2023 National Science Foundation (NSF) Graduate Research Fellowship Program competition were recently posted and several Biology students were recognized. Biology PhD student Erin Frates, Marine Science BA student Annabel Hughes, and Biology PhD student Renata Serio (*pictured*) were awarded with three-year graduate research fellowships. [Read More](#)

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Local News

It Takes Three To Tango: Transcription Factors Bind DNA, Protein, and RNA

Whitehead Institute



Transcription factors are a well-known family of proteins, but new research from Whitehead Institute's Dr. Richard Young (*pictured*) and colleagues shows that the picture we have had of them is incomplete. The researchers reveal that along with DNA and protein, many transcription factors can also bind RNA. They found that RNA binding keeps transcription factors near their DNA binding sites for longer, helping to fine tune gene expression. [Read More](#)

Produce Prescription Programs for Patients With Diabetes Could Save Billions in Healthcare Costs, Study Shows

Tufts Now



An apple a day not only keeps the doctor away, it also could save the United States at least \$40 billion in medical bills, reports Dr. Dariush Mozaffarian (*pictured*) and researchers. Their modeled implementation of a nationwide produce prescription program — which would provide free or discounted fruits and vegetables to eligible Americans living with diabetes — projected extensive reductions in national rates of cardiovascular disease and associated health care costs. [Read More](#)

Gut Microbiome of Pets Reveals Insights for Human Health

Harvard T.H. Chan School of Public Health



Dr. Curtis Huttenhower (*pictured*), a Professor of Computational Biology and Bioinformatics at Harvard T.H. Chan School of Public Health, studies the role that the microbiome plays in health and disease. He most often focuses on the human gut, but recently his research has expanded into pets, including dogs and cats. [Read More](#)

A Scientist Devotes Her Career to Tackling Inequity in Genomics

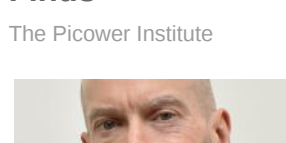
Broad Institute



Arriving in the Bay Area after a childhood in increasingly diverse surroundings, Dr. Alicia Martin (*pictured*) became acutely aware of health disparities and the profound differences in disease prevalence among different populations. "Seeing that massive gap, I was just really drawn to understanding the basis of those health disparities," Dr. Martin said. "I wanted to know how I could have any impact on studying genetic diversity." [Read More](#)

Brain Networks Encoding Memory Come Together via Electric Fields, Study Finds

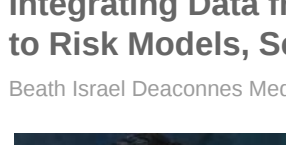
The Picower Institute



Dr. Earl Miller (*pictured*) and researchers showed that as animals played working memory games, the information about what they were remembering was coordinated across two key brain regions by the electric field that emerged from the underlying electrical activity of all participating neurons. The field, in turn, appeared to drive the neural activity, or the fluctuations of voltage apparent across the cells' membranes. [Read More](#)

Integrating Data from Magnetic Resonance Imaging Adds Prognostic Value to Risk Models, Scientists Demonstrate

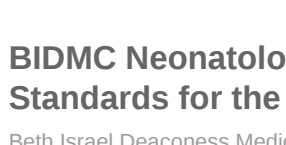
Beath Israel Deaconess Medical Center



Physician-researchers with Dr. Reza Nezafat (*pictured*) investigated whether radiomic data extracted from magnetic resonance imaging of people with a common heart condition may help predict arrhythmic events and potentially sudden death in these patients. Scientists determined that including radiomic features in risk models improved predictions and identified a previously unknown feature as a significant marker of sudden cardiac death. [Read More](#)

BIDMC Neonatologist Convened the Team of Experts To Develop New Standards for the American Academy of Pediatrics

Beath Israel Deaconess Medical Center (BIDMC)



New standards for levels of neonatal care that specify the personnel, equipment and services hospitals need to provide for newborns and families have been established by a team of neonatal leaders and experienced clinicians led by Dr. Ann Stark (*pictured*), a neonatologist at BIDMC, in her capacity as Medical Director of the NICU Verification Program for the American Academy of Pediatrics. [Read More](#)

First Large US Clinical Trial of Cytisinicline Finds the Smoking Cessation Medication Effective and Well Tolerated

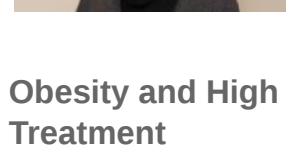
Massachusetts General Hospital





The first large-scale US clinical trial of cytisinicline, led by Dr. Nancy Rigotti (*pictured*) found the smoking cessation medication to be effective and well tolerated in adults who wished to break their nicotine dependence. In a Phase III study, researchers reported that cytisinicline could offer adults who smoke a potential new treatment option. [Read More](#)

Obesity and High Weight Linked to Adverse Outcomes in Leukemia Treatment

Dana-Farber Cancer Institute



As the US faces a growing obesity epidemic, scientists are taking a closer look at how body weight can affect health outcomes. New research led by Dr. Shai Shimony (*pictured*) highlights the potential association of elevated body mass index with inferior outcomes to treatment for acute lymphoblastic leukemia in adolescents and young adults. [Read More](#)

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Upcoming Events in Boston

- July 19
4:00 PM **Christmas in July — MassBioHub Open House**
MassBioHub
- July 20
1:00 PM **2023 MassBio Diversity, Equity, and Inclusion Conference**
MassBioHub and Online
- July 20
1:00 PM **FSHD University – Epic Bio's FSHD Program**
Online
- July 26 - 28
1:00 PM **3rd mRNA-Based Therapeutics Summit**
The Westin Boston Seaport District
- July 27 - 30
12:00 PM **18th SCCT Annual Scientific Meeting**
Hynes Convention Center

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Science Jobs in Boston

- Senior Manager, Medical Writing (Infectious Disease)**
Moderna
- Senior Clinical Scientist, Oncology Development**
Moderna
- Post Doctoral Fellow, US Early Development**
Sanofi
- Medical Science Liaison - Pulmonary New England**
Sanofi
- Administrative Director, Disease Center Operations**
Dana-Farber Cancer Institute

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