



Publications of the Week

From Hit to Vial: Precision Discovery and Development of an Imidazopyrimidine TLR7/8 Agonist Adjuvant Formulation

First Author: Dheeraj Soni | Senior Authors: David Dowling and Ofer Levy *(pictured)*
 Science Advances | Boston Children's Hospital, Harvard Medical School, Dana-Farber Cancer Institute, and the Broad Institute



Adjuvants enhance vaccine responses, but currently, the path to their advancement and development is incremental. Researchers used a phenotypic small-molecule screen using THP-1 cells to identify nuclear factor- κ B (NF- κ B)-activating molecules followed by counterscreening lead target libraries with a quantitative tumor necrosis factor immunoassay using primary human peripheral blood mononuclear cells.

[Abstract](#) | [Press Release](#)

CAR Memory-Like NK Cells Targeting the Membrane Proximal Domain of Mesothelin Demonstrate Promising Activity in Ovarian Cancer

First Author: Mubin Tarannum | Senior Author: Rizwan Romee *(pictured)*
 Science Advances | Dana-Farber Cancer Institute, Harvard Medical School, Koch Institute, and MIT



Epithelial ovarian cancer (EOC) remains one of the most lethal gynecological cancers. Cytokine-induced memory-like (CIML) natural killer (NK) cells have shown promising results in preclinical and early-phase clinical trials. In the current study, CIML NK cells demonstrated superior antitumor responses against a panel of EOC cell lines. [Abstract](#)

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Awards

HHMI Names 50 Gilliam Fellows in Milestone Year

The Howard Hughes Medical Institute



The Howard Hughes Medical Institute (HHMI) congratulates 50 graduate students in science and their advisers who were named to the 2024 cohort of the Gilliam Fellows Program. Olumide Fagboyegun *(pictured)* and Ella Perrault from Harvard Medical School as well as Mingus Zoller from MIT are among the 2024 cohort. They are recognized for their outstanding research. [Read More](#)

Fellowship Supports Student's Work to Advance Alzheimer's Research and Equity

The Picower Institute



With strong personal motivation and up to three years of support from the Howard Hughes Medical Institute Gilliam Fellows Program, graduate student Mingus Rae Zoller *(pictured)* will probe mysteries of Alzheimer's and its possible treatment. The fellowship also provides her and her adviser Dr. Li-Huei Tsai with a number of resources to promote diversity, equity, and inclusion in the sciences. [Read More](#)

Dr. Kazuki Nagashima Wins Noster-Science Microbiome Prize

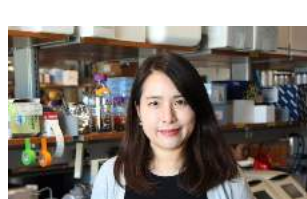
Harvard University Department of Molecular and Cellular Biology



Dr. Kazuki Nagashima *(pictured)*, who will join the Department of Molecular and Cellular Biology as new faculty on August 1st, has won the NOSTER-Science Microbiome Prize. Aimed at early career microbiome researchers, contest entrants write an essay describing their recent research into microbiota. Winning essays appear in an issue of the journal *Science*. [Read More](#)

Dr. Jeeyun Chung Earns Klingenstein-Simons Fellowship and Charles H. Hood Foundation Grant

Harvard University Department of Molecular and Cellular Biology



Dr. Jeeyun Chung *(pictured)* has both received a Klingenstein-Simons Fellowship Award in Neuroscience and a Charles H. Hood Foundation Child Health Research Award. The Klingenstein-Simons award provides funding to early career researchers who are establishing their own labs in the basic or clinical neurosciences. [Read More](#)

Congratulations to the 2024 Henry I. Russek Student Achievement Award Winners

Boston University Chobanian & Avedisian School of Medicine



Graduate Medical Sciences and the Russek Foundation have awarded nine high-achieving graduate students and recent alumni with 2024 Henry I. Russek Student Achievement Awards. This year's cohort include Robert Fisher, Yi Guan, Remi Janicot, Daniel Kirsch, Lucy Peterson, Anna Smith, Erika Smith-Mahoney, Kelton Wilmerding, and Annalise Miner *(pictured)*. [Read More](#)

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Local News

"Vaults" Within Germ Cells Offer More than Safekeeping

Whitehead Institute



Whitehead Institute Director Dr. Ruth Lehmann *(pictured)* studies how germ cells form and transmit their genetic information across generations. Her lab is particularly interested in understanding how germ granules in embryos localize and regulate maternal mRNAs. Now, Dr. Lehmann has uncovered that the role of germ granules in fruit flies extends beyond safeguarding maternal mRNAs. [Read More](#)

Sidney Farber Scholar Pursues Innovative Treatments for Leukemia

Dana-Farber Cancer Institute



Physician-scientist Dr. Franziska Wachter *(pictured)* came to Dana-Farber 10 years ago as a postdoctoral fellow with a vision. In the clinic, she cares for children with hard-to-treat cases of acute myeloid leukemia. In the laboratory, her eyes are on the molecular drivers of the disease. Wachter's training blends stem cell transplant, biochemistry, and structural biology — a unique combination that positions her to focus on drug development. [Read More](#)

Researchers Identify Cause of Serious Brain Bleeding Condition in Premature Newborns

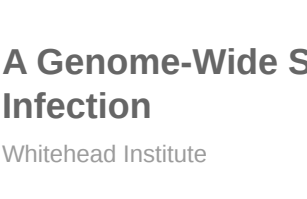
Massachusetts General Hospital



A new study by investigators from Massachusetts General Hospital reveals insights that could lead to new treatments for a serious brain bleeding condition that's common in newborns with very low birth weight. The findings are published in *Brain*. "The pathophysiology of brain injury leading to intraventricular hemorrhage in prematurely born infants is unclear—therefore, providing effective intervention is challenging," said senior author Dr. Kevin Staley *(pictured)*. [Read More](#)

A Genome-Wide Screen in Live Hosts Reveals New Secrets of Parasite Infection

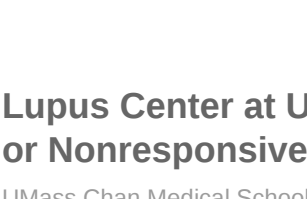
Whitehead Institute



Apicomplexan parasites are a common cause of disease, infecting hundreds of millions of people each year. They are responsible for spreading malaria, cryptosporidiosis, and toxoplasmosis. Apicomplexan parasites are very good at infecting humans and many other animals, and persisting inside of them. The more that researchers can learn about how apicomplexans infect hosts, the better they will be able to develop effective treatments against the parasites. [Read More](#)

Lupus Center at UMass Chan Investigating CAR T Cell Therapy for Severe or Nonresponsive Lupus Nephritis

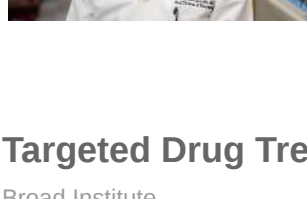
UMass Chan Medical School



The Lupus Center at UMass Chan is one of five national sites participating in a trial sponsored by Kyverna Therapeutics. Dr. Roberto Caricchio *(pictured)* is principal investigator of the CAR T cell therapy trial in lupus at UMass Chan. "This treatment is not for everyone. It is for those patients who unfortunately have gone through several treatments that we have available and somehow the lupus does not seem to be matched by them," Dr. Caricchio said. [Read More](#)

Targeted Drug Treatment Leads Tumor Cells to Imitate Viral Infection

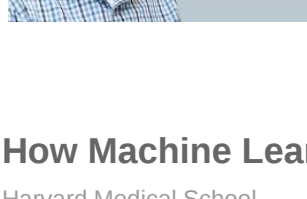
Broad Institute



A number of cancers, including certain brain and liver tumors, are driven by mutations in the enzyme isocitrate dehydrogenase 1, or IDH1. Drugs that block mutated IDH1 have recently come onto the market and effectively slow tumor growth, but the exact mechanism at work to stall tumors is still unclear. Reporting in *Science*, Boston researchers led by Dr. Nabeel Bardeesy *(pictured)* have made a surprising discovery about these drugs. [Read More](#)

How Machine Learning Is Propelling Structural Biology

Harvard Medical School



For Dr. Lucas Farnung *(pictured)*, there is no question more fascinating than how a single fertilized egg develops into a fully-functioning human. As a structural biologist, he is studying this process on the smallest scale: the trillions of atoms that must synchronize their work to make it happen. "I don't see a big difference between solving a 5,000-piece jigsaw puzzle and the research we are doing in my lab," says Dr. Farnung. [Read More](#)

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Upcoming Events in Boston

July 29 8:00 AM	Psychedelics Bootcamp 2024: Key Topics in Law, Medicine, Research, Regulations, and Advocacy Harvard Medical School
July 31 12:00 PM	Plotting like a Pro: Data Visualization with ggplot2 Online
August 1 2:00 PM	Biotech in Boston: Leading the Way in Life Sciences The Ritz-Carlton
August 19 - 22 8:00 AM	The Bioprocessing Summit 2024 Sheraton Hotel
September 18 8:30 AM	The 2025 Aging Brain Initiative Symposium: The Neuro-Immune Axis and the Aging Brain Singleton Auditorium

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Science Jobs in Boston

- Clinical Research Assistant I**
The Vascular Anomalies Centre, Boston Children's Hospital
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