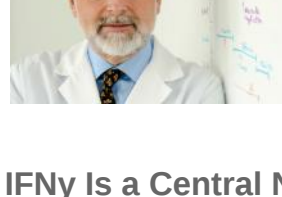


Publications of the Week

Multiplexed Analysis of EV Reveals Specific Biomarker Composition with Diagnostic Impact

First Authors: Joshua Spitzberg and Scott Ferguson | Senior Author: Ralph Weissleder *(pictured)*
Nature Communications | Massachusetts General Hospital



Exosomes and extracellular vesicles (EV) are increasingly being explored as circulating biomarkers, but their heterogenous composition will likely mandate the development of multiplexed EV technologies. The authors developed a multiplexed analysis of EV technique to interrogate thousands of individual EVs during five cycles of multi-channel fluorescence staining for 15 EV biomarkers. [Abstract](#)

IFN γ Is a Central Node of Cancer Immune Equilibrium

First Author: Michael Walsh | Senior Authors: David Knipe and Stephanie Dougan *(pictured)*
Cell Reports | Blavatnik Institute, Harvard Medical School, Massachusetts General Hospital, and Dana-Farber Cancer Institute



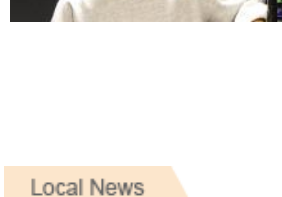
Tumors in immune equilibrium are held in balance between outgrowth and destruction by the immune system. The equilibrium phase defines the duration of clinical remission and stable disease, and escape from equilibrium remains a major clinical problem. Using a non-replicating HSV-1 vector expressing interleukin-12, the authors developed a mouse model of therapy-induced immune equilibrium, a phenomenon previously seen only in humans. [Abstract](#)

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Awards

Uchida Lab Postdoc Iku Kimura Receives Funding from Japan Science and Technology Agency

Harvard University Department of Molecular and Cellular Biology



Postdoctoral fellow Dr. Iku Kimura *(pictured)* of the Uchida lab has been awarded a prestigious fellowship from the Japan Science and Technology Agency. The fellowship program, named "Promoting Individual Research to Nurture Seeds of the Future", supports early career Japanese researchers as they pursue high-impact basic research. [Read More](#)

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Local News

First Nasal Monoclonal Antibody Treatment for COVID-19 Shows Promise for Treating Virus, Other Diseases

Brigham and Women's Hospital



A pilot trial by investigators from Brigham and Women's Hospital tested the nasal administration of the drug Foralumab, an anti-CD3 monoclonal antibody. Investigators found evidence that the drug dampened the inflammatory T cell response and decreased lung inflammation in patients with COVID-19. "Our center has spent decades looking for novel ways to treat disease where there is abnormal inflammation in a way that is safe and effective," says senior author Dr. Howard Weiner *(pictured)*. [Read More](#)

The Case for Female Mice in Neuroscience Research

Harvard Medical School



Historically, researchers have favored male mice over female mice in experiments, in part due to concern that the hormone cycle in females causes behavioral variation that could throw off results. But new research from Dr. Sandeep Robert Datta's *(pictured)* team at Harvard Medical School challenges this notion and suggests that for many experiments, the concern may not be justified. [Read More](#)

How Does Infection Change Social Behavior?

The Harvard Gazette



As COVID has demonstrated, when pathogens are moving through the population, we adjust, limiting interactions, even isolating, and generally changing the way we associate with one other. Humans are not alone. New research from Dr. Yun Zhang *(pictured)* and a team of Harvard scientists provides some insight into how pathogens change animal social behaviors. [Read More](#)

How Gut Microbes Help Mend Damaged Muscles

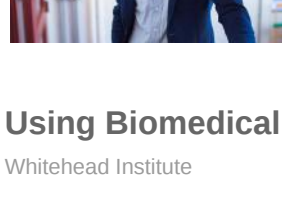
Harvard Medical School



The human immune system is incredibly versatile. Among its most skilled multitaskers are T cells, known for their role in everything from fighting infection to reining in inflammation to killing nascent tumors. Now, in a surprising new discovery, Harvard Medical School researchers have found that a class of regulatory T cells made in the gut play a role in repairing injured muscles and mending damaged livers. [Read More](#)

Anticipating and Countering Infectious Diseases

Whitehead Institute



Unfortunately, existing lab models are of limited value in assessing where zoonotic pathogens will spread and in evaluating their risk to humans. Researchers in the labs of Drs. Rudolf Jaenisch and Sebastian Lourido *(pictured)* are helping overcome this limitation by leveraging expertise in stem-cell technology and in host-pathogen interactions. [Read More](#)

Using Biomedical Research to Mitigate the Effects of Climate Change

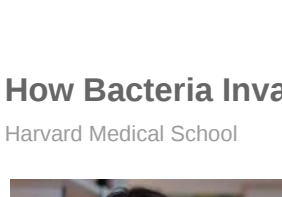
Whitehead Institute



"Huge segments of the world's population will be at risk if global society cannot learn to anticipate and mitigate climate change's multifaceted effects on human health," says Whitehead Institute President and Director Dr. Ruth Lehmann *(pictured)*. "For that reason, Whitehead Institute is helping create the fundamental scientific knowledge and tools necessary to protect human health in the face of this swiftly emerging challenge." [Read More](#)

New Research Supports Finding Explaining Why Some Patients May Test Positive for COVID-19 Long After Recovery

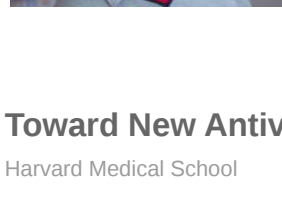
Whitehead Institute



SARS-CoV-2, the virus that causes COVID-19, seems to have become a permanent presence in our lives. Drs. Rudolf Jaenisch *(pictured)*, Liguang Zhang, and colleagues have shown that when the virus infects people, it is capable of integrating parts of its genetic code into the human genome through a process called reverse transcription. This genomic integration is rare, but due to how many hundreds of millions of people have been infected, it has likely occurred many times. [Read More](#)

How Bacteria Invade the Brain

Harvard Medical School



A new study led by Dr. Isaac Chiu's *(pictured)* team at Harvard Medical School details the step-by-step cascade that allows bacteria to break through the brain's protective layers — the meninges — and cause brain infection, or meningitis, a highly fatal disease. The research, conducted in mice and published in *Nature*, shows that bacteria exploit nerve cells in the meninges to suppress the immune response and allow the infection to spread into the brain. [Read More](#)

Toward New Antiviral Drugs

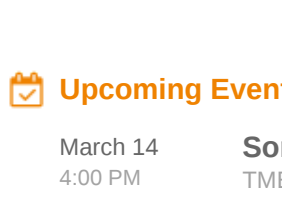
Harvard Medical School



Scientists have taken an important step forward in understanding the features within a human cell that allow for coronavirus infections. Investigators at Harvard Medical School, Dana-Farber Cancer Institute, and the Yale School of Medicine have identified a critical mechanism in human and other animal cells that regulates the expression of the ACE2 receptor, the entry point used by SARS-CoV-2 and other coronaviruses to enter cells and cause infections in humans and other animals. [Read More](#)

#WhyScienceQ&A: A Psychologist Integrates Her Clinical Perspectives with Her Research on Autism and Schizophrenia

Broad Institute



It was early in her career when Dr. Susan Kuo *(pictured)* began learning about how people experience developmental differences and mental health challenges. At the University of British Columbia as an undergraduate student, she joined labs studying brain functioning in schizophrenia, and after graduating with a bachelor's degree in cognitive science, spent a year doing research and volunteering for a crisis and suicide hotline. [Read More](#)

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Upcoming Events in Boston

March 14 4:00 PM	Soma Weiss Student Research Day TMEC Atrium
March 34 12:30 PM	Cell Therapies for Parkinson's Disease: How Far Have We Come, and Where Are We Going? Online
March 29 4:00 PM	How Small RNAs Regulate Genes – And Could Treat Disease Online
April 26 12:00 PM	Is It Possible to Bioprint Human Hearts? Online
April 29 9:00 AM	Microbial Sciences 20th Annual Symposium Northwest Labs

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Science Jobs in Boston

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STEMCELL Technologies
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Sanofi
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Using Social Media to Advance Your Scientific Career

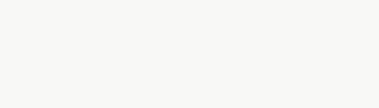
Webinar by Dr. Kristina McBurney and Leanna Bedell



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