

Publications of the Week
Network Tau Spreading Is Vulnerable to the Expression Gradients of APOE and Glutamatergic-Related Genes

First Author: Victor Montal (pictured) | Senior Author: Jorge Sepulcre
 Science Translational Medicine | Harvard Medical School, Massachusetts General Hospital, and Brigham and Women's Hospital



Intracellular tau protein accumulation and spreading in the brain contribute to neurodegeneration and cognitive impairments in Alzheimer's disease. However, the mechanisms governing tau spreading are not fully elucidated. The authors analyzed tau-positron emission tomography (PET) in two cohorts of cognitively normal elderly participants and first established the tau-PET network across cortical areas in the aging brain. [Abstract](#)

Polysaccharide and Conjugate Vaccines to Streptococcus pneumoniae Generate Distinct Humoral Responses

First Author: Lelela Davies | Senior Author: Gail Alter (pictured)
 Science Translational Medicine | Ragon Institute and Brigham and Women's Hospital



Streptococcus pneumoniae is a major cause of disease in older adults, for which two vaccines, a polysaccharide vaccine and a glycoconjugate vaccine, are available. Both vaccines have shown efficacy but differ in their ability to protect against nasopharyngeal carriage and noninvasive pneumonia. The authors used systems serology to compare immune responses to the two vaccines head to head. [Abstract](#)

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Local News
Karuna Therapeutics' Schizophrenia Drug Achieves Study Goals, Heralding New Treatment Approach

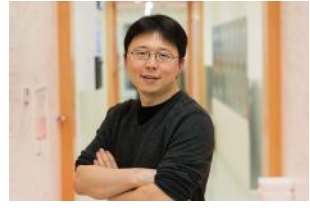
STAT News



Karuna Therapeutics has announced that a novel combination pill reduced psychosis and related symptoms experienced by patients with schizophrenia, achieving the main goals of a late-stage clinical trial. With positive study results in hand, the Boston-based biotech intends to submit a marketing application with the FDA by the middle of next year. [Read More](#)

Scientists Discover New Antiviral Defense System in Bacteria

Broad Institute



Bacteria use a variety of defense strategies to fight off viral infection, and some of these systems have led to groundbreaking technologies, such as CRISPR-based gene-editing. Scientists predict there are many more antiviral weapons yet to be found in the microbial world. A team led by Dr. Feng Zhang (pictured) has discovered and characterized one of these unexplored microbial defense systems. [Read More](#)

New Test May Predict COVID-19 Immunity

Dana-Farber Cancer Institute



Most people in the US have some degree of immune protection against COVID-19, either from vaccination, infection, or a combination of the two. But, just how much protection does any individual person have? Researchers led by Dr. Huijun Li (pictured) have now developed an easy-to-use test that may be able to answer that question. [Read More](#)

Brigham and Women's Surgeon Bertagnoli Appointed Director of the National Cancer Institute

Brigham and Women's Hospital



Dr. Monica Bertagnoli (pictured), a surgeon at Brigham and Women's Hospital in the Department of Surgery and the Dana-Farber Brigham Cancer Center, has been appointed by President Biden as the next director of the National Cancer Institute. A surgical oncologist, clinical researcher, and the Richard E. Wilson Professor of Surgery in the Field of Surgical Oncology at Harvard Medical School, Dr. Bertagnoli has dedicated her career to improving the lives of patients with cancer. [Read More](#)

Culture and Collaboration

Ragon Institute



The state-of-the-art Biosafety Level 3 (BSL-3) laboratory at the Ragon Institute is where experiments can be performed on pathogens that have the potential to cause serious or even fatal infections, such as SARS-CoV-2. "While you can process blood samples and things like that in BSL-2-plus, actually trying to grow virus needs to be done in a BSL-3 lab," says Dr. Julie Boucau (pictured, left), Senior Research Scientist at the Ragon and Co-Director of the BSL-3 with Dr. Yong (Mike) Xie (right). [Read More](#)

Many Paths to Failure

Harvard Medical School



Many conditions that make it difficult for the heart to pump blood — such as dilated cardiomyopathy and arrhythmogenic cardiomyopathy — can lead to heart failure, but treatments for patients with heart failure do not take these distinct conditions into account. Dr. Christine Seidman (pictured) and a team of investigators from Harvard Medical School and Brigham and Women's Hospital set out to identify molecules and pathways that may contribute to heart failure, with the aim of informing more effective and personalized treatments. [Read More](#)

Study Reverses Long-Held Ideas About Relationship Among Diabetes, Fat, and Cardiovascular Disease

Joslin Diabetes



In a paper published in *Circulation Research*, scientists at Joslin Diabetes Center describe a series of studies designed to determine the relationship among insulin, fats, and the vascular system. The team, led by Dr. George King (pictured), Chief Scientific Officer and Director of Research at Joslin, identified a new pathway in which the cells lining the blood vessels — called endothelial cells — drive the body's metabolism. [Read More](#)

How Microglia Contribute to Alzheimer's Disease

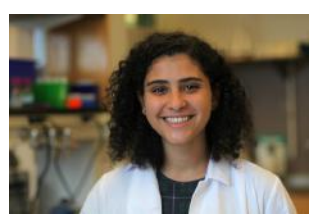
The Picower Institute



A new study from MIT shows how a type of cells called microglia contribute to the slowdown of neuron activity in Alzheimer's disease. "APOE4 is a major genetic risk factor, and many people carry it, so the hope is that by studying APOE4, that will also provide a bigger picture of the fundamental pathophysiology of Alzheimer's disease and what fundamental cell processes that have to go wrong to result in Alzheimer's disease," says Dr. Li-Huei Tsai (pictured). [Read More](#)

New Portable Diagnostic Detects SARS-CoV-2 RNA and Antibodies at the Same Time

Wyss Institute



A new point-of-care diagnostic device created by Devora Najjar (pictured) and other members of the Wyss Institute combines the Institute's eRapid and SHERLOCK technologies into a single, postcard-sized system that can simultaneously detect the presence of both SARS-CoV-2 RNA and antibodies against the virus in a patient's saliva, and potentially multiple other biomarkers. [Read More](#)

Molecular Map Reveals Insights into the Genetic Drivers of Chronic Lymphocytic Leukemia

Broad Institute



A newly constructed map of the landscape of genetic changes in chronic lymphocytic leukemia provides a better understanding of this complex malignancy that could lead to more accurate prognoses for patients, improved diagnostics, and novel treatments. The work was conducted by an international collaboration including Drs. Gad Getz and Catherine Wu (pictured) from the Broad Institute. [Read More](#)

Ready-Made CAR T Cells

Harvard Medical School



Chimeric antigen receptor (CAR) T cell immunotherapy is a powerful approach for treating certain leukemias and lymphomas, but it's not available for many patients who need it. A new technique developed by researchers at Harvard Medical School and Boston Children's Hospital could make CAR T cell therapy more widely accessible. The new technique — developed by the lab of Dr. George Daley (pictured) and colleagues — uses induced pluripotent stem cells to make generic CAR T cells that could be produced at scale for use in multiple patients. [Read More](#)

Meet a Whitehead Postdoc: Marine Krzisch

Whitehead Institute



Dr. Marine Krzisch (pictured) is a postdoc in Dr. Rudolf Jaenisch's lab who works on making better models with which to study neurological diseases including Fragile X syndrome, which can cause intellectual disability, and the neurodegenerative diseases Alzheimer's and Parkinson's. One reason there is no cure for any of these diseases yet is the fact that they cannot be exactly reproduced in animal models. [Read More](#)

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August 18 4:00 PM	Bits in Bio @ Vertex Vertex Pharmaceuticals
September 15–16 8:00 AM	Forsyth Dentech 2022 Forsyth Institute & Online
September 20 10:00 AM	Precision Medicine 2022: The New "Normal"? Joseph B. Martin Conference Center & Online
September 23–24 12:45 PM	15th Annual Inflammatory Bowel Disease: The Art and Science in the Diagnosis and Treatment 2022 Boston Park Plaza Hotel & Online
September 26 8:00 AM	The Economics of Job Acquisition or "What's Going On with This Job Market?!" MassBioHub & Online

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Voyager Therapeutics
- Senior Scientist, Discovery Chemistry**
Sarepta Therapeutics
- Senior Scientist/Principal Scientist, Downstream Purification Development (CMC)**
Carmine Therapeutics
- Research Assistant III, Cell Culture and Host/Microbiome Interactions**
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