



Publications of the Week

Meta-Analysis of Genome-Wide Associations and Polygenic Risk Prediction for Atrial Fibrillation in More than 180,000 Cases

First Authors: Carolina Roselli, Ida Surakka, Morten Olesen, Gardar Sveinbjornsson, and Nicholas Marston | Senior Authors: Christian Ruff, Henning Bundgaard, Cristen Willer, Kari Stefansson, and Patrick Ellinor *(pictured)*
 Nature Genetics | Broad Institute, Brigham and Women's Hospital, Harvard Medical School, Boston University, and Mass General Brigham



Atrial fibrillation (AF) is the most common heart rhythm abnormality and is a leading cause of heart failure and stroke. This large-scale meta-analysis of genome-wide association studies increased the power to detect single-nucleotide variant associations and found more than 350 AF-associated genetic loci. Researchers identified candidate genes related to muscle contractility, cardiac muscle development, and cell-cell communication at 139 loci. [Abstract](#) | [Press Release](#)

Cultivated Autologous Limbal Epithelial Cell Transplantation for Limbal Stem Cell Deficiency: A Phase I/II Clinical Trial of the First Xenobiotic-Free, Serum-Free, Antibiotic-Free Manufacturing Protocol Developed in the US

First Author: Ula Jurkunus *(pictured)* | Senior Author: Jerome Ritz
 Nature Communications | Harvard Medical School, Dana-Farber Cancer Institute, and Boston Children's Hospital



Researchers developed a two-stage manufacturing process utilizing cultivated autologous limbal epithelial cells, the first xenobiotic-free, serum-free, antibiotic-free protocol developed in the US. This work aims to treat blindness caused by unilateral limbal stem cell deficiency and was conducted as a single-center, single-arm, phase I/II clinical trial. [Abstract](#) | [Press Release](#)

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Awards

Dr. Leslie Vosshall Awarded the 2025 Scolnick Prize in Neuroscience

McGovern Institute



The McGovern Institute announced that the 2025 Edward M. Scolnick Prize in Neuroscience will be awarded to Dr. Leslie Vosshall *(pictured)*. Dr. Vosshall is being recognized for her discovery of the neural mechanisms underlying mosquito host-seeking behavior. The Scolnick Prize is awarded annually by the McGovern Institute for outstanding achievements in neuroscience. [Read More](#)

Blavatnik Therapeutics Challenge Awards Fuel Translational Research

Harvard Medical School



Three research teams have been selected as recipients of the 2024 Blavatnik Therapeutics Challenge Awards, an annual awards program that aims to progress promising discovery science at Harvard Medical School toward the creation of new medicines that could be life-changing for patients. The awardees are Drs. Jeannie Lee, John Khair *(pictured, left)*, Yifeng Peng *(right)*, and Kevin Hodgetts. [Read More](#)

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Local News

Modeling Urinary Tract Disorders on a Chip: Dr. Zohreh Izadifar

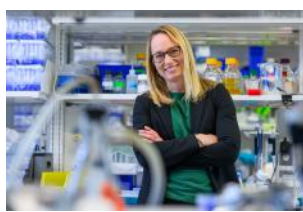
Boston Children's Hospital



When a new tissue sample arrives from the Department of Urology, Dr. Zohreh Izadifar's *(pictured)* lab springs into action. The tissue, from a child with urinary tract pathology, is whisked into the tissue culture room and the cells that form the inner wall of the urinary tract are isolated. They then seed the cells into an organ-on-a-chip device, which allows them to study urinary diseases in depth. [Read More](#)

Helping the Immune System Attack Tumors

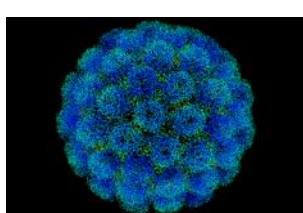
MIT News



Once they are established, tumor cells often send out immunosuppressive signals, which leads T cells to become "exhausted" and unable to attack the tumor. Dr. Stefani Spranger *(pictured)* is trying to figure out how those tumors are able to suppress immune responses, in hopes of finding new ways to galvanize T cells into attacking them. [Read More](#)

A Surprising Link Between Crohn's Disease and the Epstein-Barr Virus

Boston Children's Hospital



Crohn's disease, a debilitating inflammatory bowel disease, has many known contributing factors, including bacterial changes in the microbiome that foster an inflammatory environment. Now, for the first time, Crohn's disease been tied to a virus—specifically, Epstein-Barr virus, best known for causing infectious mononucleosis. [Read More](#)

Knitted Microtissue Can Accelerate Healing

MIT News



Treating severe or chronic injury to soft tissues such as skin and muscle is a challenge in health care. Steve Gillmer *(pictured)* is part of a research team searching a stretchable material that could be implanted to promote healing. He is working with Professor Ming Guo at MIT to knit new kinds of fabrics that can uncrimp and move just as human tissue does. [Read More](#)

Dual Duty Microneedles

Koch Institute



A new study from Dr. Anderson Jaklencic's *(pictured)* lab demonstrated novel microneedle patches that can be applied to the skin to deliver mRNA drugs and store billions of bits of anonymous and reliable information. This technology could be used to enhance healthcare in low resource settings, while addressing critical challenges related to reliability and privacy of traditional paper and digital database systems for patient information. [Read More](#)

Microplastics Could Be Fueling Antibiotic Resistance, BU Study Finds

The Brink



Microplastics—tiny shards of plastic debris—are all over the planet. Scientists have been racing to uncover the unforeseen impacts of so much plastic in and around us. In a startling discovery, a team of Boston University researchers led by Dr. Muhammad Zaman *(pictured)* found that bacteria exposed to microplastics became resistant to multiple types of antibiotics commonly used to treat infections. [Read More](#)

Effect of Arginine on *P. gingivalis* Could Guide Further Knowledge of Periodontitis Based on ADA Forsyth Research

ADA Forsyth



One of the most notorious pathogens on the radars of dentists and periodontists is *Porphyromonas gingivalis*. This pathogen, known as a major agent of periodontitis, tricks human cells, taking them over to create conditions that allow periodontitis to progress. Dr. Mary Ellen Davey *(pictured)* at the ADA Forsyth Institute has dedicated over a decade of her career to exploring this pathogen and its interactions within the oral microbiome. [Read More](#)

UMass Chan-Led Study Finds Regularly Updating Cognitive Data Improves Ability to Predict Alzheimer's Disease

UMass Chan Medical School



In a study led by Dr. Honghuang Lin *(pictured)*, researchers developed a dynamic prediction model for Alzheimer's disease based on continually monitoring and updating information on cognitive functions. Many risk prediction models rely on single-time measurements of risk factors. However, Alzheimer's is a progressive neurodegenerative disorder, and single-time models may not effectively capture the dynamic changes in risk factors over time. [Read More](#)

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Upcoming Events in Boston

- March 24 - 26 8:00 AM **11th Annual: Latest Advancements and Data in Immuno-Oncology**
Sheraton Boston Hotel
- March 30 8:00 AM **The New England Science Symposium**
Harvard Medical School
- April 2 - 4 8:00 AM **Bio-IT World Conference & Expo**
Omni Hotel Boston at the Seaport
- April 8 2:00 PM **AI: Advancing Foundational Biology**
Whitehead Institute for Biomedical Research
- May 4 - 7 8:00 AM **2025 AAPS National Biotechnology Conference**
The Westin Boston Seaport District

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Science Jobs in Boston

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- Senior Research Associate, RNAi Discovery**
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