



Publications of the Week

### AAV1-hOTOF Gene Therapy for Autosomal Recessive Deafness 9: A Single-Arm Trial

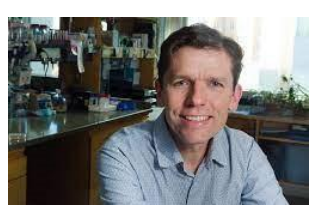
First Authors: Jun Lv and Hui Wang | Senior Authors: Zheng-Yi Chen (pictured), Wuqing Wang, Huawei Li, Renjie Chai, and Yilai Shi  
The Lancet | Harvard Medical School



Autosomal recessive deafness 9, caused by mutations of the *OTOF* gene, is characterised by congenital or prelingual, severe-to-complete, bilateral hearing loss. Here, researchers report the safety and efficacy of gene therapy with an adeno-associated virus (AAV) serotype 1 carrying a human *OTOF* transgene (AAV1-hOTOF) as a treatment for children with autosomal recessive deafness 9. [Abstract](#) | [Press Release](#)

### HIV-1 Capsids Enter the FG Phase of Nuclear Pores Like a Transport Receptor

First Authors: Liran Fu, Erika Weiskopf, and Onno Akkermans | Senior Authors: Thomas Schwartz (pictured) and Dirk Görlich  
Nature | MIT



HIV-1 infection requires nuclear entry of the viral genome. Previous evidence suggests that this entry proceeds through nuclear pore complexes (NPCs). Here, researchers show that HIV-1 capsid assemblies can target NPCs efficiently in an nuclear transport receptors-independent manner and bind directly to several types of phenylalanine-glycine (FG) repeats. [Abstract](#) | [Press Release](#)

### Enhancing Antibody Responses by Multivalent Antigen Display on Thymus-Independent DNA Origami Scaffolds

First Authors: Eike-Christian Wamhoff (pictured), Larance Ronsard, Jared Feldman, Grant Knappe, and Blake Hauser | Senior Authors: Aaron Schmidt, Daniel Lingwood, and Mark Bathe  
Nature Communications | MIT, Ragon Institute, Broad Institute, Harvard Medical School, and Koch Institute



Protein-based virus-like particles are commonly used to spatially organize antigens and enhance humoral immunity through multivalent antigen display. Here, researchers investigate thymus-independent DNA origami as an alternative material for multivalent antigen display using the receptor binding domain of the SARS-CoV-2 spike protein. [Abstract](#) | [Press Release](#)

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Awards

### Dr. Paola Arlotta Wins the 2024 Pradel Research Award

National Academy of Sciences



Dr. Paola Arlotta (pictured) has won the 2024 Pradel Research Award. The Pradel Research Award is presented annually to recognize mid-career neuroscientists whose work is making major contributions to our understanding of the nervous system. Dr. Arlotta's innovative work provides key insights into the fundamental principles that guide development of the cerebral cortex, the portion of the brain responsible for cognition. [Read More](#)

### MIT Faculty Founder Initiative Announces Finalists for Second Competition

MIT News



The MIT Faculty Founder Initiative has announced 12 finalists for the 2023-24 MIT-Royalty Pharma Prize Competition. The competition, which is supported by Royalty Pharma, aims to support female faculty entrepreneurs in biotechnology and provide them with resources to help take their ideas to commercialization. Among the 12 finalists is Dr. Ritu Raman (pictured). [Read More](#)

### Development of Lupus Biorepository Underway at Lupus Center at UMass Chan

UMass Chan Medical School



Dr. Roberto Caricchio (pictured) received a \$1.2 million award from Lupus Research Alliance to support the development of a biorepository and registry at the Lupus Center at UMass Chan Medical School. Dr. Caricchio is the Myles J. McDonough Chair in Rheumatology, Professor of Medicine, and Chief of the Division of Rheumatology in the Department of Medicine. [Read More](#)

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Local News

### Scientists Will Test a Cancer-Hunting mRNA Treatment

Wired



As the first vaccines for Covid-19 rolled out at the end of 2020, mRNA catapulted into public awareness. Now, interest in mRNA has exploded and scientists are hoping to use it to treat disease, not just prevent it. Boston-based Strand Therapeutics, co-founded by Dr. Ron Weiss (pictured), has figured out how to "program" mRNA much like computer code and intends to use this to target cancer. [Read More](#)

### Dr. Thanh Nguyen Elected President of the Society of Vascular and Interventional Neurology

Boston University Chobanian & Avedisian School of Medicine



Dr. Thanh Nguyen (pictured), Professor of Neurology, Radiology, and Neurosurgery, has been elected President of the Society of Vascular and Interventional Neurology. She is the first woman to serve in this role in its 17-year history. Dr. Nguyen's clinical and research interests include endovascular therapies for stroke, brain aneurysms, and arteriovenous diseases. [Read More](#)

### Could a GI Bug's Toxin Curb Hard-to-Treat Breast Cancer?

Boston Children's Hospital



*Clostridium difficile* can cause devastating inflammatory gastrointestinal infections, with much of the damage inflicted by a toxin the bug produces. But research led by Dr. Min Dong (pictured) from Boston Children's Hospital suggests that the same toxin could also be a useful tool for curbing highly aggressive triple-negative breast cancers that don't respond to chemotherapy. [Read More](#)

### Battling Antibiotic Resistance in the Lab and the Clinic

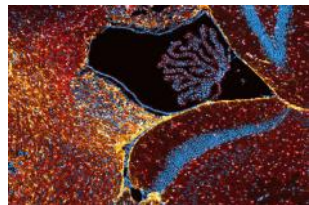
Broad Institute



In his lab at the Broad Institute, Dr. Roby Bhattacharyya (pictured) uses genomic technology to explore how bacteria become drug-resistant, to study how the immune system goes awry in sepsis, and to develop new molecular diagnostic approaches for bacterial infections. One of his main goals is to help physicians and patients better utilize antibiotics to slow down the evolution of drug-resistant strains. [Read More](#)

### 2023 MGRI Image Awards Winners

Bench Press



The Massachusetts General Research Institute (MGRI) presents the winners of the 2023 MGRI Image Awards. The Institute received 60 images from 17 departments, units, and centers this year. Pictured is a reactive astrocyte rushing in to support tumor cells by providing Glutamine synthetase (red), a critical protein to support growth that the tumor cells lack. This is the "A Closer Look" winning image submitted by Dr. Sonu Subudhi. [Read More](#)

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### Upcoming Events in Boston

- February 13 - 15 **5<sup>th</sup> RNAi-Based Therapeutics Summit**  
8:00 AM Hilton Boston Back Bay
- February 13 **My Heart in Your Hands**  
6:00 PM Broad Institute
- March 4 **McGovern-MEGIN Symposium: MEGnificent brain discoveries**  
1:00 PM Singleton Auditorium
- March 5 - 7 **GPCRs Targeted Drug Discovery Summit**  
8:00 AM Hilton Boston Back Bay
- March 19 - 21 **6<sup>th</sup> CKD Drug Development Summit 2024**  
8:00 AM Hilton Boston Back Bay

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### Science Jobs in Boston

- Laboratory Coordinator**  
LS Solutions
- Early Career Researchers, Research Associate I**  
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- QC Scientist, Microbiology**  
GenScript
- Associate Scientist, Early Preclinical Development, Inner Ear Biology**  
Lilly
- Scientist/Senior Scientist, LNP Discovery**  
Prime Medicine

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