



Publications of the Week

Germline Genetic Variation Impacts Clonal Hematopoiesis Landscape and Progression to Malignancy

First Author: Jie Liu | Senior Authors: Daniel Link, Zsafia Stadler, Alexander Bick, Pradeep Natarajan (*pictured*), and Kelly Bolton
Nature Genetics | Broad Institute



With age, clonal expansions occur pervasively across normal tissues yet only in rare instances lead to cancer, despite being driven by well-established cancer drivers. Here researchers studied the impact of germline genetic variation on clonal hematopoiesis (CH) in 731,835 individuals. They identified 22 new CH-predisposition genes, most of which predispose to CH driven by specific mutational events. [Abstract](#)

CellLENS Enables Cross-Domain Information Fusion for Enhanced Cell Population Delineation in Single-Cell Spatial Omics Data

First Authors: Bokai Zhu, Sheng Gao, and Shuxiao Chen | Senior Authors: Garry P. Nolan, Sizun Jiang (*pictured*), and Zongming Ma
Nature Immunology | Ragon Institute, Broad Institute, Dana-Farber Cancer Institute, Boston Children's Hospital, Harvard Medical School, Brigham and Women's Hospital, and MIT



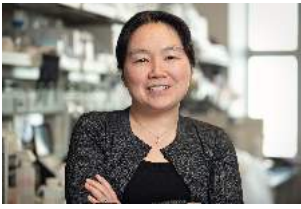
Researchers have introduced Cell Local Environment and Neighborhood Scan (CellLENS), a self-supervised computational method that learns cellular representations by fusing information across three spatial omics domains (expression, neighborhood, and image). CellLENS markedly enhances *de novo* discovery of biologically relevant immune cell populations at fine granularity. [Abstract](#) | [Press Release](#)

[View All Publications](#) ➔

Awards

Five MIT Faculty Elected to the National Academy of Sciences for 2025

MIT News



The National Academy of Sciences has elected 120 members and 30 international members, including five MIT faculty members and thirteen MIT alumni. Dr. Yukiko Yamashita (*pictured*), a Professor of Biology at MIT, a Core Member of the Whitehead Institute for Biomedical Research, and an Investigator at the Howard Hughes Medical Institute, is among those selected. [Read More](#)

Chemistry Alum Reuben Saunders Wins Hertz Thesis Prize for Mapping Gene Function in Living Tissues

MIT Chemistry



Dr. Reuben Saunders (*pictured*) was awarded the 2024 Hertz Thesis Prize by the Hertz Foundation for his research mapping gene function in living tissues. This work is detailed in his doctoral thesis, "Pooled genetic screens with rich readouts at scale and *in vivo*." Awarded annually, the prestigious Hertz Thesis Prize recognizes fellows with exemplary, transformative doctoral theses. [Read More](#)

[View All Awards](#) ➔

Local News

What Are PFAS? And Could Fiber Supplements Help Remove Them from Our Bodies?

The Brink



For all their amazing properties, PFAS have a dark side: nature, including human bodies, can't figure out how to break them down. They are forever chemicals. But Dr. Jennifer Schlezinger (*pictured*) may have discovered a potential way to flush them out of our systems. In a new study, she found taking a fiber supplement with meals could reduce the levels of PFAS in the body. [Read More](#)

Researchers Unlock a Possible Non-Surgical Treatment Pathway for Degenerative Spinal Disease

Bench Press



Degenerative spinal disease is a condition in which patients experience pain, stiffness and a loss of mobility due to arthritis in the bones, ligaments, and discs of the spine. A new study led by Drs. Muhamed Hadzipasic and Ganesh Shankar (*pictured*) takes a closer look at how mechanical forces drive changes to the spine that lead to degenerative spinal disease and identifies a signaling pathway that could potentially be targeted as a new, non-surgical treatment. [Read More](#)

A Bionic Knee Integrated into Tissue Can Restore Natural Movement

McGovern Institute



MIT researchers have developed a new bionic knee that can help people with above-the-knee amputations walk faster, climb stairs, and avoid obstacles more easily than they could with a traditional prosthesis. Unlike prostheses in which the residual limb sits within a socket, the new system is directly integrated with the user's muscle and bone tissue. [Read More](#)

How to More Efficiently Study Complex Treatment Interactions

MIT News



MIT researchers, including Jiaqi Zhang (*pictured*), have developed a new theoretical framework for studying the mechanisms of treatment interactions. Their approach allows scientists to efficiently estimate how combinations of treatments will affect a group of units, such as cells, enabling a researcher to perform fewer costly experiments while gathering more accurate data. [Read More](#)

Connect or Reject: Extensive Rewiring Builds Binocular Vision in the Brain

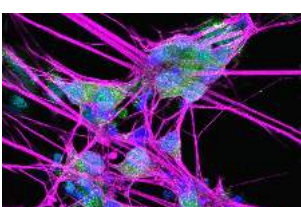
MIT News



Scientists have long known that the brain's visual system isn't fully hardwired from the start, it becomes refined by what babies see. However, the authors of a new MIT study still weren't prepared for the degree of rewiring they observed when they took a first-ever look at the process in mice as it happened in real-time. The researchers tracked hundreds of "spine" structures housing individual network connections. [Read More](#)

Hope in Sight for Autosomal Dominant Optic Atrophy

Boston Children's Hospital



Autosomal dominant optic atrophy, the most common genetic optic neuropathy, is an insidious disease. It can lead to irreversible vision loss in both eyes. New research led by Drs. Thomas Schwarz and Chen Ding of the Schwarz Lab at Boston Children's Hospital has identified a promising therapeutic target to stop the damage to retinal ganglion cells. [Read More](#)

[View All Local News](#) ➔ | [Submit an Article](#) ➔

📅 Upcoming Events in Boston

August 5
4:30 PM

Fundraising Amid the Turmoil: Resilient Strategies for Health Innovators

Greenberg Traurig, LLP

August 14
6:00 PM

After Dark: AI & Discovery

MIT Museum

August 17 - 20
11:00 AM

2025 Nucleate Summit

Cathleen Stone Island

August 18 - 21
8:00 AM

The Bioprocessing Summit 2025

Omni Hotel Boston at the Seaport

August 28
7:00 PM

Where Biology Ends and Bias Begins: A Conversation on the Science of Human Difference

Museum of Science

[View All Events](#) ➔ | [Submit an Event](#) ➔

📁 Science Jobs in Boston

Principal Scientist, Cancer Immunology

Bristol Myers Squibb

Postdoctoral Scientist

Beth Israel Deaconess Medical Center

Associate Director/Director, Clinical Scientist

CRISPR Therapeutics

Research Associate III, Stanley Center

The Broad Institute

Senior Scientist, High Throughput Antibody Production, R&D

Lila Sciences

[View 66 Other Science Jobs](#) ➔ | [Submit a Job](#) ➔

8th Annual
**Genome Editing
Therapeutics Summit**

Your Gateway to the
Future of *In Vivo* & *Ex
Vivo* Gene Editing

VIEW THE NEW PROGRAM

Submit your articles and events by reaching out to us at info@scienceinboston.com.

BROUGHT TO YOU BY



STEMCELL Technologies

Products | Services

STEMCELL Science News

Free Weekly Updates on Your Field

The Stem Cell Podcast

Interviews and Updates
on Stem Cell Science