

Publications of the Week

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

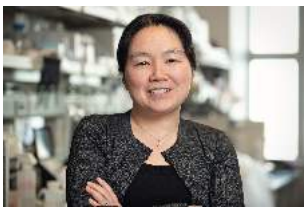
First Authors: Bokai Zhu, Sheng Gao, and Shuxiao Chen | Senior Authors: Garry Nolan, Sizun Jiang (pictured), and Zongming Ma
Nature Immunology | Ragon Institute, Broad Institute, Dana-Farber Cancer Institute, Beth Israel Deaconess Medical Center, Brigham and Women's Hospital, Harvard Medical School,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



Spatial omics technologies offer insights by capturing three complementary domains: single-cell molecular biomarker expression, cellular spatial relationships and tissue architecture. Here, researchers introduce Cell Local Environment and Neighborhood Scan (CellLENS), a self-supervised computational method that learns cellular representations by fusing information across three spatial omics domains. [Abstract](#) | [Press Release](#)

Intrinsically Weak Sex Chromosome Drive Through Sequential Asymmetric Meiosis

First Author: Xuefeng Meng | Senior Author: Yukiko Yamashita (pictured)
Science Advances | Whitehead Institute, Howard Hughes Medical Institute, and MIT



It has long been recognized that sex chromosome-linked drivers present a paradox: their success in transmission can severely distort populations' sex ratio and lead to extinction. Here, researchers show that *Stellate (Ste)* in *Drosophila melanogaster* represents a novel class of X chromosome-linked driver that operates with an inherent mechanism that weakens its drive strength. [Abstract](#) | [Press Release](#)

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Awards

Dr. David Pellman Elected to Prestigious EMBO Membership

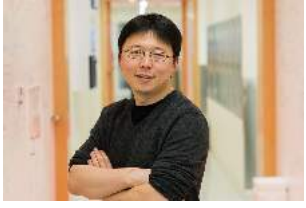
Dana-Farber Cancer Institute



Dr. David Pellman (pictured) has been elected as a new Associate Member of the European Molecular Biology Organization (EMBO)—a lifelong honor recognizing excellence in the life sciences. He is one of 69 scientists elected to the 2025 EMBO Membership class, which includes 60 members based in Europe and nine Associate Members from outside the region. [Read More](#)

Dr. Feng Zhang Elected to EMBO Membership

McGovern Institute



The European Molecular Biology Organization (EMBO), a professional non-profit organization dedicated to promoting international research in life sciences, announced its new members. Among the 69 new members recognized for their outstanding achievements is Dr. Feng Zhang (pictured), the James and Patricia Poitras Professor of Neuroscience at MIT and an investigator at the McGovern Institute. [Read More](#)

Dr. Andrew Murray Elected to EMBO Membership

Harvard University Department of Molecular and Cellular Biology



Dr. Andrew Murray (pictured) has been elected as an Associate Member of the European Molecular Biology Organization (EMBO), a distinction that honors more than 2,100 leading scientists from around the world for outstanding research and their engagement with the European scientific community. The prestigious EMBO membership acknowledges Dr. Murray's long-standing contributions to genetics and cell biology. [Read More](#)

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Local News

MIT and Mass General Brigham Launch Joint Seed Program to Accelerate Innovations in Health

MIT News



Leveraging the strengths of two world-class research institutions, MIT and Mass General Brigham (MGB) recently celebrated the launch of the MIT-MGB Seed Program. The new initiative will fund joint research projects led by researchers at MIT and MGB. These collaborative projects will advance research in human health, with the goal of developing next-generation therapies, diagnostics, and digital tools that can improve lives at scale. [Read More](#)

Researchers Present Bold Ideas for AI at MIT Generative AI Impact Consortium Kickoff Event

McGovern Institute



Launched in February of this year, the MIT Generative AI Impact Consortium saw over 30 funding recipients presenting their proposals to the greater MIT community at a kickoff event on May 13. These proposals are from researchers across MIT describing their ideas for innovative projects studying high-impact uses of generative AI models. [Read More](#)

UMass Chan Scientists Discover Process Controlling Cilia Development

UMass Chan Medical School



New research by Dr. Manu Ahmed, Dr. Sydney Fischer, Karyn Robert, and Dr. Sumeda Nandadasa (pictured, left to right) reveals how a key protein associated with Meckel-Gruber syndrome, nephronophthisis, Joubert syndrome, and other ciliopathies is cut in half to perform two separate functions. These findings shed new light on how cilia formation and cell signaling are finetuned. [Read More](#)

Dr. Sanjid Shahriar on Using Computational Biology to Cross the Blood-Brain Barrier

Wyss Institute



Dr. Sanjid Shahriar (pictured) is a full-time computational biologist in the Brain Targeting Program. He utilizes large datasets to identify potential targets that can be used as transport shuttles, ultimately helping therapeutics reach the brain. His work allows for the development of antibodies to bind to target proteins, which can carry drugs across the blood-brain barrier. [Read More](#)

Implantable Device Could Save Diabetes Patients From Dangerously Low Blood Sugar

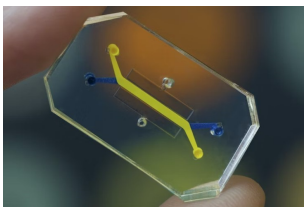
MIT News



For people with Type 1 diabetes, developing hypoglycemia, or low blood sugar, is an ever-present threat. As an emergency backup, for cases where patients may not realize that their blood sugar is dropping to dangerous levels, MIT engineers have designed an implantable reservoir that can remain under the skin and be triggered to release glucagon when blood sugar levels get too low. [Read More](#)

Precision Oncology Organ Chip Platform Accurately and Actionably Predicts Chemotherapy Responses of Patients Suffering From Esophageal Adenocarcinoma

Wyss Institute



Esophageal adenocarcinoma (EAC), one of two major forms of esophageal cancer, is the sixth most deadly cancer worldwide for which no effective targeted therapy exists. Now, a research collaboration has advanced a personalized medicine solution using organ chips with the potential to improve chemotherapy for EAC patients. [Read More](#)

New Postdoctoral Fellowship Program to Accelerate Innovation in Health Care

MIT News



The MIT Health and Life Sciences Collaborative (MIT HEALS) is launching the Biswas Postdoctoral Fellowship Program to advance the work of outstanding early-career researchers in health and life sciences. Supported by a gift from the Biswas Family Foundation, the program aims to help apply cutting-edge research to improve health care and the lives of millions. [Read More](#)

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Upcoming Events in Boston

July 23
5:00 PM

Biological Engineering: A Conversation on the Future of Medicine

Swissnex

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 18 - 21
8:00 AM

The Bioprocessing Summit 2025

Omni Hotel Boston at the Seaport

September 18
9:00 AM

The 2025 Aging Brain Initiative Symposium: The Neuro-Immune Axis and the Aging Brain

Singleton Auditorium

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Science Jobs in Boston

Associate Director, Oncology Discovery Biology

Bristol Myers Squibb

Staff Scientist I

Beth Israel Deaconess Medical Center

Scientist, Cardio-Renal Department, Kidney Group

Pfizer

Postdoctoral Associate, Xiao Wang Lab

Broad Institute

Innovation Postdoctoral Fellow, Oncology Drug Discovery

Novartis

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ALUMNI Summit
2025

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August 17 - 20, 2025

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