



Publications of the Week

RNA Quality Control Factors Nucleate Ctr4/SUV39H and Trigger Constitutive Heterochromatin Assembly

First Author: Jasbeer Khanduja | Senior Author: Mo Motamedi (pictured)
Cell | Massachusetts General Hospital and Harvard Medical School



Constitutive heterochromatin is a major structural and functional feature of the eukaryotic genomes and plays a key role in the proper functioning of chromosomes, maintaining genomic stability, and regulating gene expression in organisms ranging from yeast to human. This data reveal that long noncoding RNAs and RNA quality control factors can nucleate heterochromatin and function as epigenetic silencers in eukaryotes. [Abstract](#) | [Press Release](#)

Viral Cis-Regulatory Elements As Sensors of Cellular States and Environmental Cues

First Authors: Jaice Rottenberg (pictured) and Tommy Taslim | Senior Author: Juan Fuxman Bass
Trends in Genetics | Boston University



Retroviruses and DNA viruses can intercept internal and external cues impinging on host transcription factors via cis-regulatory elements (CREs) in viral genomes. Here, researchers explore the characteristics of viral CREs, the classes of signals and host transcription factors that regulate them, and how this informs outcomes of viral replication, immune evasion, and latency. [Abstract](#)

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Awards

Dr. Stuart Orkin Awarded the Shaw Prize in Life Science & Medicine 2024 for Groundbreaking Hemoglobin Research

Dana-Farber Cancer Institute



Dr. Stuart Orkin, a researcher at Dana-Farber Cancer Institute, Harvard Medical School, and Boston Children's Cancer and Blood Disorders Center, has been honored with The Shaw Prize in Life Science & Medicine. This is in recognition for his pioneering work discovering the genetic and molecular mechanisms underlying the switch from fetal to adult hemoglobin. [Read More](#)

Ten with MIT Connections Win 2024 Hertz Foundation Fellowships

MIT News



The Fannie and John Hertz Foundation announced that it has awarded fellowships to ten PhD students with ties to MIT. Among the ten is Owen Dugan (pictured, top left), Kaylie Hausknecht (top center), Elijah Lew-Smith (top, right), Amani Maina-Kilaas (bottom left), Zoë Marschner (bottom center), and Zijian (William) Niu (bottom right). [Read More](#)

2024 ALS Scholars in Therapeutics

Sean M. Healey & AMG Center for ALS



The Sean M. Healey & AMG Center for ALS at Massachusetts General Hospital, ALS Finding a Cure®, and FightMND have selected three recipients for their global two-year ALS Scholars in Therapeutics program. This year's recipients are Drs. Jennilee Davidson, Kaya Matson (pictured), and Jay Ross. All ALS scholars become a part of the Healey & AMG Center community. [Read More](#)

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Local News

Harvard-Led Study IDs Statin That May Block Pathway to Some Cancers

The Harvard Gazette



Statins, commonly used cholesterol-lowering drugs, may block a pathway that leads to the development of cancer from chronic inflammation, according to a new study led by investigators from Harvard-affiliated Mass General Cancer Center. This study was led by Dr. Shawn Demehri (pictured) and has been published in *Nature Communications*. [Read More](#)

Clinical Trials Show Promise in Treating Central Nervous System Lymphoma, Breast Cancer, and Glioblastoma

Dana-Farber Cancer Institute



Dana-Farber Cancer Institute researchers are leading three separate studies with encouraging results in treating patients with central nervous system lymphoma, breast cancer, and glioblastoma. The studies support future research in these potential breakthroughs where treatment options may be limited. They utilize CAR T-cell therapy, checkpoint inhibitors, and drug-targeting proteins. [Read More](#)

Scientists Identify Mechanism Behind Drug Resistance in Malaria Parasite

MIT News



Researchers from the Singapore-MIT Alliance for Research and Technology (SMART) have discovered a new link between malaria parasites' ability to develop resistance to the antimalarial artemisinin through a cellular process called transfer ribonucleic acid (tRNA) modification. This process allows cells to respond rapidly to stress by altering RNA molecules within a cell. [Read More](#)

New Technique Reveals How Gene Transcription Is Coordinated in Cells

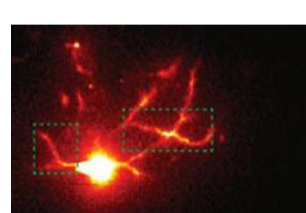
MIT News



The distance between genes and enhancers can make it difficult to map the complex interactions between them. To overcome that, MIT researchers have invented a new technique that allows them to observe the timing of gene and enhancer activation in a cell. When a gene is turned on around the same time as a particular enhancer, it strongly suggests the enhancer is controlling that gene. [Read More](#)

Microscope System Sharpens Scientists' View of Neural Circuit Connections

The Picower Institute



To study nerve plasticity, neuroscientists seek to track synapses at high resolution across whole cells, but slow microscopes struggle to keep pace and brain tissue is notorious for scattering light and making images fuzzy. In a paper in *Scientific Reports*, a collaboration of MIT engineers and neuroscientists describes a new microscopy system designed for fast, clear, and frequent imaging of the living brain. [Read More](#)

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Upcoming Events in Boston

- June 10 - 11 12:30 PM **Generative AI in Medical Research & Drug Development: Hype or Reality?**
Northeastern University
- June 12 - 13 8:00 AM **The Festival of Genomics & Biodata**
Boston Convention and Exhibition Center
- June 20 6:00 PM **Liquid Lab Art Workshops**
MIT Museum
- June 21 8:30 AM **Tumor Heterogeneity & Drug Resistance**
MIT
- June 24 - 27 8:00 AM **Arthur and Sandra Irving Cancer Immunology Symposium**
Boston Harbor Hotel

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Science Jobs in Boston

- Postdoctoral Fellowship, Molecular Neuroscience**
Brigham and Women's Hospital and Harvard Medical School
- Scientist II, Computational Biology**
Foundation Medicine
- Biostatistician**
Dana-Farber Cancer Institute
- Lab Assistant/Phlebotomist**
Beth Israel Lahey Health
- Faculty Biomedical / Health Translational Researcher**
Tufts Medicine

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