



Publications of the Week

### The Dynamics of Hematopoiesis over the Human Lifespan

First Author: Hojun Li | Senior Author: Grant Rowe *(pictured)*  
 Nature Methods | Dana-Farber Cancer Institute, Boston Children's Hospital, Harvard Medical School, Koch Institute, MIT, Brigham and Women's Hospital, and the Broad Institute



Over a lifetime, hematopoietic stem cells adjust their lineage output to support age-aligned physiology. How the properties of hematopoietic stem and progenitor cells change over the human lifespan remains unclear. To address this gap, researchers profiled individual transcriptome states of human hematopoietic stem and progenitor cells spanning gestation, maturation, and aging.

[Abstract](#) | [Press Release](#)

### Development of an FKBP12-Recruiting Chemical-Induced Proximity DNA-Encoded Library and Its Application to Discover an Autophagy Potentiator

First Author: Zher Yin Tan | Senior Authors: Stuart Schreiber and Ramnik Xavier *(pictured)*  
 Cell Chemical Biology | Broad Institute, Novartis Institutes for BioMedical Research, Massachusetts General Hospital, and Harvard Medical School



An expanded repertoire of therapeutic tools is needed to explore and alter the function of proteins contributing to diseases. Chemical inducers of proximity (CIPs) induce interactions between two proteins, imparting new functionalities by recruiting a protein that asserts its function on a target protein. Researchers describe the development of an FKBP12-recruiting CIP-DNA encoded library for discovery of CIPs aimed at modulating protein-protein interactions. [Abstract](#) | [Press Release](#)

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Awards

### Dr. Caroline Block of Dana-Farber Recognized with the 2024 Arthur T. Skarin Award

Dana-Farber Cancer Institute



Dr. Caroline Block *(pictured)*, Clinical Director of the Breast Oncology Program at Dana-Farber Cancer Institute has been selected by The Massachusetts Society of Clinical Oncologists as the recipient of this year's Arthur T. Skarin Award. This prestigious honor, formerly known as the Oncologist of the Year Award, recognizes Dr. Block's distinguished career in oncology, which has profoundly influenced cancer care in the Commonwealth and beyond. [Read More](#)

### Drs. Angela Belcher and Paula Hammond Win 2024 National Medals of Science and Technology

Koch Institute



The Koch Institute congratulates the National Medals of Science and Technology laureates, Drs. Angela Belcher and Paula Hammond *(pictured)*. Dr. Belcher was honored for her work designing novel materials for applications that include solar cells, batteries, and medical imaging, while Dr. Hammond was honored for developing methods for assembling thin films that can be used for drug delivery, wound healing, and many more applications. [Read More](#)

### Drs. Loranzie Rogers and Colin Kim Chosen As Hanna H. Gray Fellows by HHMI

Harvard University Department of Molecular and Cellular Biology



Postdocs Dr. Loranzie Rogers *(pictured, right)* of the Bellono Lab and Dr. Colin Kim *(left)* of the Nett Lab, have been awarded prestigious Hanna H. Gray Fellowships from the Howard Hughes Medical Institute (HHMI). Hanna H. Gray Fellows receive up to 1.5 million dollars in funding as they complete their postdocs and begin their careers as independent investigators. [Read More](#)

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Local News

### Imperiali Lab News Brief: Combining Bioinformatics and Biochemistry

MIT Biology



New research from Dr. Barbara Imperiali's *(pictured)* lab combines bioinformatics and biochemistry to reveal critical players in assembling glycans, the large sugar molecules on bacterial cell surfaces responsible for behaviors such as evading immune responses and causing infections. Their work predicted clusters of "like-minded" phosphoglycosyl transferases and verify which sugars they will use in the first step of glycan assembly. [Read More](#)

### Faculty Spotlight: Dr. Marissa Gredler — Unraveling the Mysteries of Embryonic Development

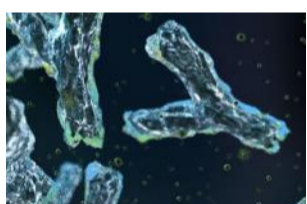
Harvard University Department of Molecular and Cellular Biology (MCB)



On January 1, 2025, Dr. Marissa Gredler *(pictured)* officially joined MCB as an Assistant Professor. Dr. Gredler's research focuses on understanding how cells transition from one state to another, particularly during epithelial-mesenchymal transition and its reverse, both of which are crucial in development and disease. Her work follows small groups or neighborhoods of cells to understand how they exhibit core modules of behavior. [Read More](#)

### A New Computational Model Can Predict Antibody Structures More Accurately

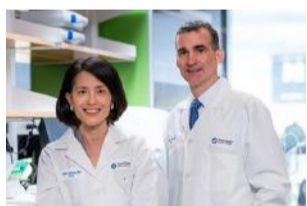
MIT News



By adapting artificial intelligence models known as large language models, researchers have made great progress in their ability to predict a protein's structure from its sequence. However, this approach hasn't been as successful for antibodies, in part because of their hypervariability. To overcome that limitation, MIT researchers have developed a computational technique that allows large language models to predict antibody structures more accurately. [Read More](#)

### Dana-Farber Launches Center for RAS Therapeutics to Target the RAS Oncogene in Cancer

Dana-Farber Cancer Institute



Dana-Farber Cancer Institute will launch the Center for RAS Therapeutics, a multidisciplinary initiative to advance scientific investigation, translational research, and clinical care approaches for patients with RAS-driven cancers. The new Center brings Dana-Farber scientists and clinicians together with industry partners and other academic centers to accelerate drug development to improve outcomes for patients with RAS mutant cancers. [Read More](#)

### Watching Ion Channels in Action

Harvard University Department of Molecular and Cellular Biology



Potassium ion channels are responsible for the rapid, selective flow of potassium (K<sup>+</sup>) ions through cell membranes, making it possible for spikes of electric activity (action potentials) to rapidly travel along membranes to coordinate the action of our hearts, brains, and muscle. But how does that work? Dr. Doeke Hekstra *(pictured)* is using electric field-stimulated time-resolved X-ray crystallography to find out. [Read More](#)

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Interesting Articles

### New Report Addresses Misinformation About Science

Harvard T.H. Chan School of Public Health



The National Academies of Sciences, Engineering, and Medicine released a report that explored the nature and scope of misinformation about science, and offered recommendations for limiting its spread and reducing its potential harms. Dr. K. Vish Viswanath *(pictured)*, Lee Kum Kee Professor of Health Communication at Harvard T.H. Chan School of Public Health and Chair of the Report Committee, recently spoke about its findings. [Read More](#)

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### Upcoming Events in Boston

- January 15 8:00 AM **8<sup>th</sup> Annual Neurophotonics Center Symposium**  
Boston University
- January 16 10:00 AM **AI, Health Equity, and Ethics Symposium**  
1 Main St.
- January 27 2:30 PM **Beyond the Lab: Journey from Scientist to Founder**  
MIT Media Lab
- January 27 5:00 PM **2025 Economic Outlook Forum**  
MassBioHub
- February 19 - 21 8:00 AM **Optimizing Upstream & Downstream Process Development for Cell & Gene Therapies**  
Hilton Boston Back Bay

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### Science Jobs in Boston

- Research Associate I, Peptide Synthesis**  
UCB
- Research Assistant II**  
Wyss Institute
- Laboratory Manager, Microbiology**  
Boston University
- CVRM Science Communications Director**  
AstraZeneca
- Scientist**  
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**Article: To Postdoc or Not to Postdoc?**  
Decision-Making Tips



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