



Publications of the Week

Chemical and Topological Design of Multicapped mRNA and Capped Circular RNA to Augment Translation

First Authors: Hongyu Chen, Dangliang Liu, Abhishek Aditham | Senior Author: Xiao Wang (*pictured*)
Nature Biotechnology | Broad Institute, MIT, Howard Hughes Medical Institute, and McGovern Institute



Protein and vaccine therapies based on mRNA would benefit from an increase in translation capacity. Here, researchers report a method to augment translation named ligation-enabled mRNA–oligonucleotide assembly. They systematically screen different chemotopological motifs and find that a branched mRNA cap effectively initiates translation on linear or circular mRNAs without internal ribosome entry sites. [Abstract](#) | [Press Release](#)

Loss of *Kmt2c* or *Kmt2d* Drives Brain Metastasis via KDM6A-Dependent Upregulation of MMP3

First Author: Marco Seehawer | Senior Author: Kornelia Polyak (*pictured*)
Nature Cell Biology | The Broad Institute, Harvard Medical School, Brigham and Women's Hospital, and Dana-Farber Cancer Institute



KMT2C and *KMT2D* are among the most commonly mutated genes in triple-negative breast cancer (TNBC). However, how these mutations may shape epigenomic and transcriptomic landscapes to promote tumorigenesis is largely unknown. Here, researchers describe that deletion of *Kmt2c* or *Kmt2d* in non-metastatic murine models of TNBC drives metastasis, especially to the brain. [Abstract](#) | [Press Release](#)

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Awards

New BU Postdoctoral Awards Celebrate Excellence in Mentorship and Research

The Brink



In recognition of her deep commitment to the professional and personal development of postdoctoral researchers at Boston University (BU), Dr. Mary Dunlop (*pictured*) has been awarded BU's first-ever Award for Excellence in Mentoring Postdocs. Dr. Dunlop received this honor at BU's National Postdoc Appreciation Celebration. [Read More](#)

Harvard Medical School Researcher Wins 2024 Lasker Award for Work That Led to GLP-1 Therapies

Harvard Medical School



Harvard Medical School's Dr. Joel Habener (*pictured*) has won the 2024 Lasker–DeBakey Clinical Medical Research Award for his discovery of glucagon-like peptide-1 (GLP-1), a molecule that has become the basis for therapies which have transformed the treatment of obesity. Lasker awards are among the world's most prestigious biomedical and clinical research awards. [Read More](#)

Career Development Professorships Awarded to Five BU Researchers

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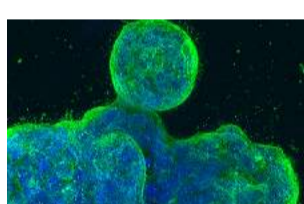
Five rising star Boston University (BU) faculty are winners of Career Development Professorships. The high-caliber awards recognize "talented junior educators emerging as future leaders within their respective fields." Among this year's cohort is Dr. Brian Cleary (*pictured*). Dr. Cleary investigates the nature of molecular, cellular, and tissue processes by integrating computational and algorithmic tools into biology research. [Read More](#)

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Local News

Overriding Tumors' Genetic Changes to Fight Cancer

Harvard Medical School



It's become clear that tumors can modify their own genes to evade detection and attack by the immune system. A new study in mice reveals how these changes happen and identifies for the first time a comprehensive list of the genes affected. The work provides a roadmap for developing therapies that override these genetic changes and restore the immune system's ability to fight cancer. [Read More](#)

Q&A: How Terra Became a Backbone of Public Health Pathogen Surveillance

The Broad Institute



To detect important changes in the SARS-CoV-2 genome, labs needed tools for secure, scalable, robust genome data management and analysis right away. As it turned out, software engineering teams at the Broad Institute had already created a solution — Terra, an open, secure, and collaborative environment created in a collaboration between the Broad Institute, Verily, and Microsoft, where users can analyze and share biomedical and public health data. [Read More](#)

Computational Neurobiologist Dr. Na Sun Appointed As Whitehead Institute's First AI Fellow

Whitehead Institute



The Whitehead Institute has appointed Dr. Na Sun (*pictured*) as the inaugural AI Fellow within the Whitehead Fellows Program. The Whitehead Fellows Program provides highly talented and accomplished recent PhDs and MDs the opportunity to launch their own research programs, instead of working as postdoctoral researchers in a senior scientist's lab. [Read More](#)

Dana-Farber Cancer Institute Raises More than \$2 Billion in Record-Breaking Fundraising Campaign to Defy Cancer

Dana-Farber Cancer Institute



Dana-Farber Cancer Institute has announced the completion of one of the largest fundraising campaigns focused entirely on cancer, raising a record \$2.5 billion. The Dana-Farber Campaign has funded clinical trials, addressed increased patient volume and cancer diagnoses, and is supporting prevention, early detection, and interception among other groundbreaking initiatives to further its mission. [Read More](#)

Companion Papers on Immune Response Spotlight Innovative Research

UMass Chan Medical School



A pair of recently published studies examining immune response in *C. elegans* reveal broad implications for understanding pathogen detection in higher animals and evolutionary origins of immunity itself. The research, co-authored by Samantha "Sammy" Tse-Kang (*pictured, right*) and Dr. Read Pukkila-Worley (*left*), uncovered a mechanism of effector-triggered immunity in animals. [Read More](#)

Meiotic Homologous Chromosome Pairing Involves Rapid Local Juxtapposition and Temporal Linkage of Pairing and Crossover Patterning

Harvard University Department of Molecular and Cellular Biology



Work spearheaded by Dr. Tadasu Nozaki (*pictured, left*) and Dr. Nancy Kleckner (*right*) was recently published in *Nature*. They used a powerful new approach to examine pairing of homologous chromosomes during meiosis, in real time, at individual loci. These findings led researchers to a new conceptual framework for pairing that could be general to many organisms. [Read More](#)

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Upcoming Events in Boston

- October 7 - 9 7:00 AM **Digital Health & AI Innovation Summit**
Boston Marriott Cambridge
- October 8 - 10 8:00 AM **Executive Decision Making for Pharma & Biotech 2024**
Royal Sonesta Boston
- October 8 6:00 PM **Anna Von Mertens at Harvard University**
Jefferson Lab 250
- October 9 - 10 8:00 AM **Wilson Sonsini's Biotech Summit 2024**
The Newbury Boston
- October 10 8:00 AM **2024 Boston Symposium on Organic and Bioorganic Chemistry**
Sanofi

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Science Jobs in Boston

- Research Technician, Biochemistry**
Boston University
- Staff Scientist**
Beth Israel Deaconess Medical Center
- Scientist I**
Dana-Farber Cancer Institute
- Research Technician, Catherine Othieno Sempa Memorial Post-Baccalaureate Fellowship**
Massachusetts General Hospital
- Scientist, Oligonucleotide Bioanalytics**
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