

Publications of the Week
Proteomic and Functional Analyses of the Periodic Membrane Skeleton in Neurons

 First Authors: Ruobo Zhou and Boran Han | Senior Author: Xiaowei Zhuang *(pictured)*
 Nature Communications | Harvard University and Tufts University

 Actin, spectrin, and associated molecules form a membrane-associated periodic skeleton (MPS) in neurons. The molecular composition and functions of the MPS remain incompletely understood. Using co-immunoprecipitation and mass spectrometry, the authors identified hundreds of potential candidate MPS-interacting proteins that span diverse functional categories. [Abstract](#)
Integrating Multi-Omics Data Reveals Function and Therapeutic Potential of Deubiquitinating Enzymes

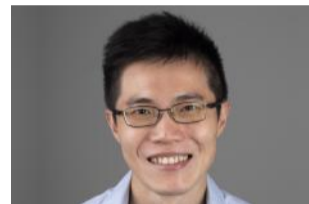
 First Author: Laura Doherty | Senior Author: Peter Sorger *(pictured)*
 eLife | Harvard Medical School and Dana-Farber Cancer Institute

 Deubiquitinating enzymes (DUBs), ~100 of which are found in human cells, are proteases that remove ubiquitin conjugates from proteins, thereby regulating protein turnover. To assemble a knowledgebase of DUB activities, co-dependent genes, and substrates, the authors combined targeted experiments using CRISPR libraries and inhibitors with systematic mining of functional genomic databases. [Abstract](#)
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Awards
McGovern Fellows Recognized With Life Sciences Innovation Award

McGovern Institute


 McGovern Institute Fellows Drs. Omar Abudayyeh *(pictured, left)* and Jonathan Gootenberg *(right)* have been named the inaugural recipients of the Termeer Scholars Awards, which recognize “emerging biomedical researchers that represent the future of the biotechnology industry.” The Termeer Foundation is a nonprofit organization focused on connecting life science innovators and catalyzing the creation of new medicines. [Read More](#)
[View All Awards](#)
Local News
Scientists Develop New Approach to Imaging Mechanisms of Viral Infection

Beth Israel Deaconess Medical Center (BIDMC)


 To better understand the mechanisms and pathology of HIV persistence, researchers including Dr. Sizun Jiang *(pictured)*, a Principal Investigator in the Center for Virology and Vaccine Research at BIDMC, developed a new approach that allowed the team to characterize the viral reservoir and immune responses within tissues infected with a related virus compared to un-infected control tissues. [Read More](#)
Food-Packaging System Reduces Health Risks and Saves Food

Wyss Institute


 Researchers from the Harvard John A. Paulson School of Engineering and Applied Sciences, the Harvard T.H. Chan School of Public Health, and the Wyss Institute, led by Dr. Kit Parker *(pictured)*, have developed a biodegradable, antimicrobial food packaging system that both extends the shelf life of food and eliminates microbial contamination. [Read More](#)
Cranking Up the Resolution

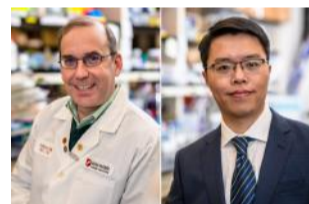
MIT Center for Microbiome Informatics & Therapeutics


 A unique assembly of bacteria and other tiny lifeforms resides in each of our digestive systems, helping to determine what foods we can tolerate, how we absorb nutrients, and what ailments we might be prone to. Characterizing these invisible communities relies on our ability to decipher the genomes of each member, but technical constraints in how we gather microbial DNA have long limited scientists' ability to conduct such surveys. [Read More](#)
Study Finds Breast Cancers With Low Levels of HER2 Protein Are Not a Distinct Subtype of the Disease

Dana-Farber Cancer Institute


 When researchers discovered that breast cancers with lower levels of HER2 often respond to a trastuzumab-and-chemotherapy drug conjugate, they wondered whether such tumors represent a distinct subtype of breast cancer, with its own unique behavior and prognosis. New research by Dr. Sara Tolaney *(pictured)* and other investigators at Dana-Farber Cancer Institute suggests they do not. [Read More](#)
New Strategy Aims to 'Soften Up' Tumors for Attack by Natural Killer Cells

Dana-Farber Cancer Institute


 Treating cancer using natural killer (NK) cells from healthy donors has shown promise, but currently successes have been limited and the cells lack staying power in the body. While some researchers are working to improve the potency and endurance of NK cells, a team of Dana-Farber scientists led by Drs. Tony Letai *(pictured, left)* and Rongqing 'Aaron' Pan *(right)* has taken a different tack. [Read More](#)
Study Shows That Genomic Tumor Profiling of Pediatric Tumors Can Enhance Clinical Care

Dana-Farber Cancer Institute


 Reporting in *Nature Medicine*, Drs. Katherine Janeway *(pictured, right)* and Alanna Church *(left)* at Dana-Farber/Boston Children's Cancer and Blood Disorders Center said molecular profiling of solid tumors found clinically significant genetic variations in 298, or 86% of 345 pediatric patients. In 240 patients, the genetic “fingerprint” or pattern of cancer-related changes in the tumor’s DNA could be used to choose a targeted, precision therapy matched to those alterations. [Read More](#)
Modeling a Devastating Childhood Disease on a Chip

Wyss Institute


 Millions of children in low- and middle-income nations suffer from environmental enteric dysfunction (EED), a chronic inflammatory disease of the intestine that is the second leading cause of death of children younger than five years of age. A team of researchers at the Wyss Institute has created an *in vitro* human model of EED in a microengineered intestine chip device, providing a window into the complex interplay between malnutrition and genetic factors driving the disease. [Read More](#)
Pregnant Mothers Who Get COVID-19 Vaccines Are Also Protecting Their Babies

Boston Children's Hospital


 Recent studies have shown that COVID-19 vaccination is safe for expectant mothers and can protect them against infection, severe illness, and death from COVID-19. We also know that mothers vaccinated during pregnancy pass coronavirus antibodies to their babies. The latest research — drawing on 30 children's hospitals in 22 states — now confirms that vaccinating pregnant mothers protects their babies from severe COVID-19. [Read More](#)
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Upcoming Events in Boston

July 6–8 9:00 AM	2022 International Summer School & Genome Architecture and Function Workshop Boston Marriott Cambridge
July 12 1:30 PM	Boston Life Sciences Roundtable MassBio
July 19 8:00 AM	Turning Great Ideas into Dollars: The Life-Cycle of a Start-Up – Part Two MassBioHub
July 18–20 8:00 AM	LEAP HR: Life Sciences East 2022 Hilton Boston Logan Airport
August 2 11:00 AM	American Heart Association Funding Webinar Online

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Science Jobs in Boston
Postdoctoral Research Fellow, Biostatistics
 Harvard T. H. Chan School of Public Health

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 Broad Institute

Flow Cytometry Core Facility Manager
 Sana Biotechnology

Senior / Principal Business Analyst
 Nimbus Therapeutics

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 FL79

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