

Publications of the Week

Identification of Environmental Factors that Promote Intestinal Inflammation

First Authors: Liliana Sanmarco, Chun-Cheih Chao, Yu-Chao Wang, and Jessica Kenison | Senior Author: Francisco Quintana *(pictured)*
Nature | Brigham and Women's Hospital, Harvard University, Dana-Farber Cancer Institute, and the Broad Institute



The identification of environmental factors relevant to inflammatory bowel disease and the mechanisms by which they influence disease has been hampered by the lack of platforms for their systematic investigation. The authors describe an integrated systems approach, combining publicly available databases, zebrafish chemical screens, machine learning, and mouse preclinical models to identify environmental factors that control intestinal inflammation. [Profile](#) | [Abstract](#) | [Press Release](#)

The Landscape of mRNA Nanomedicine

First Authors: Xiangang Huang, Na Kong, and Xingcai Zhang | Senior Author: Wei Tao *(pictured)*
Nature Medicine | Brigham and Women's Hospital, Harvard University, and MIT



Messenger RNA (mRNA) is an emerging class of therapeutic agent for the prevention and treatment of a wide range of diseases. In this review, the authors present the latest advances and innovations in the growing field of mRNA nanomedicine, in the context of ongoing clinical translation and future directions to improve clinical efficacy. [Abstract](#)

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Awards

NTSAD to Honor Guangping Gao for Lifetime Work on Canavan Disease, as Gene Therapy Trial Shows Promise

UMass Chan Medical School



Dr. Guangping Gao *(pictured)* was honored by the National Tay-Sachs & Allied Diseases Association (NTSAD) for his work in identifying the Canavan gene, revitalizing gene therapy, and his many accomplishments leading to potential treatments for Canavan disease and many rare diseases at the nonprofit organization's "Imagine & Believe" gathering in Boston on November 10. [Read More](#)

John Dowling Honored with 2022 Muse Prize for Excellence in Ophthalmology

Harvard University Department of Molecular and Cellular Biology (MCB)



The 2022 Albert C. Muse Prize has been awarded to MCB's Dr. John Dowling *(pictured)* for extraordinary contributions to the field of ophthalmology by the Eye and Ear Foundation at the University of Pittsburgh. Dr. Dowling has spent his seven decades of research — beginning as an undergraduate and eventually as the Gordon and Llura Gund Professor of Neurosciences Emeritus — studying the vertebrate retina as a model piece of the brain. [Read More](#)

Adam Dionne from the Prigozhin Lab Honored with Prestigious Undergraduate Research Award

Harvard University Department of Molecular and Cellular Biology



First year School of Engineering and Applied Sciences graduate student Adam Dionne *(pictured)* is a 2022 LeRoy Apker Awardee for his undergraduate research in active fluid transport networks within a slime mold. Only two Apker awards, supported by the American Physical Society, are given out each year to undergraduates who have displayed excellence in research and the potential for future scientific accomplishment. [Read More](#)

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Local News

New Leader Charts Course for Neurobiology

Harvard Medical School (HMS)



As the leader of a busy research lab devoted to studying the sense of touch, becoming the Department Chair of Neurobiology was not part of Dr. David Ginty's *(pictured)* plans. However, after nearly a decade at HMS, Dr. Ginty has gained deep knowledge about the ins and outs of the department and the school while forging close connections and collaborations with many of his fellow faculty. So when Chair Dr. Michael Greenberg decided to step down to focus more fully on his research, Dr. Ginty stepped up. [Read More](#)

Study Finds That Patients with Cancer and a Suppressed Immune System Are at High Risk for Severe COVID If Treated with Systemic Drug Therapies

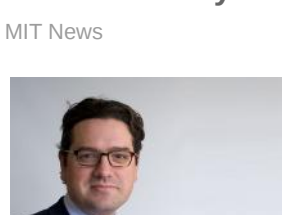
Dana-Farber Cancer Institute



Patients with cancer and a weakened immune system who are treated with immunotherapies tend to fare far worse from COVID-19 than those who haven't received such therapies in the three months before their COVID diagnosis, show findings in a new study by researchers at Dana-Farber Cancer Institute, and across the US, Canada, and Mexico. [Read More](#)

An Easier Way to Remove Medical Devices

MIT News



By taking advantage of a phenomenon that leads to fractures in metal, MIT researchers led by Dr. Giovanni Traverso *(pictured)* have designed medical devices that could be used inside the body as stents, staples, or drug depots, then safely broken down on demand when they're no longer needed. The researchers showed that biomedical devices made from aluminum can be disintegrated by exposing them to a liquid metal known as eutectic gallium-indium. [Read More](#)

Chromosomal Testing Expands Options for Exploring Causes of SIDS

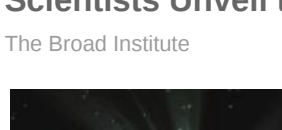
Boston Children's Hospital



Increasing evidence suggests that some cases of sudden infant death syndrome (SIDS) reflect an underlying genetic condition. Dr. Richard Goldstein, who directs Robert's Program on Sudden Unexpected Death in Pediatrics at Boston Children's, recently led a study that performed DNA sequencing on samples from deceased children. While some of the children had known risk factors for SIDS, 11 percent had genetic changes that likely played a role in their deaths. [Read More](#)

Scientists Unveil the Functional Landscape of Essential Genes

The Broad Institute



A team of scientists at the Whitehead and the Broad Institutes have systematically evaluated the functions of over 5,000 essential human genes using a novel, pooled, imaged-based screening method. Their analysis harnesses CRISPR/Cas9 to knock out gene activity and forms a first-of-its-kind resource for understanding and visualizing gene function in a wide range of cellular processes with both spatial and temporal resolution. [Read More](#)

Nanosensors Target Enzymes to Monitor and Study Cancer

MIT News



In work recently published in *Nature Communications*, researchers in Dr. Sangeeta Bhatia's *(pictured)* lab at the Koch Institute have developed a set of enzyme-targeting nanoscale tools to monitor cancer progression and treatment response in real time, map enzyme activity to precise locations within a tumor, and isolate relevant cell populations for analysis. [Read More](#)

Genetown and Biotech Bay Reel in Series A Funds in 2022

BioSpace



After reaching a record high in 2021, venture capital dollars have tailed off in 2022. That said, a few biopharma hotbeds have still seen sizeable launches and subsequent rounds. The Genetown region of Massachusetts has drawn the highest-funded new companies, while Biotech Bay (San Francisco and Northern California) has also seen a smattering of significant Series As. [Read More](#)

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Upcoming Events in Boston

- November 15
8:00 AM **Understanding How the Inflation Reduction Act Impacts the Ecosystem**
MassBioHub & Online
- November 15
5:00 PM **Taking an Engineer's Approach to Understanding Biology**
Broad Institute & Online
- November 15
5:30 PM **Women's Health, Women Leaders: A Conversation with Paula Johnson, President, Wellesley College**
Whitehead Institute
- November 15
6:00 PM **Examining CRISPR: The Power and Promise of a Gene Editing Tool**
Massachusetts General Hospital
- November 16
10:00 AM **Dana-Farber's Center for BRCA and Related Genes Scientific Symposium**
Dana-Farber Cancer Institute & Online

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Science Jobs in Boston

- Senior Program Associate, Science in the City**
STEMCELL Technologies
- Associate Scientist, Cell Biology**
Civetta
- Senior Research Associate, *In Vivo* Studies and Sample Processing**
Broad Institute
- Graduate Research Assistant**
Massachusetts General Hospital
- Senior Scientist, Analytical Development LCMS**
Sanofi

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