

**Publications of the Week**
**Sex Differences in Gene Expression and Regulatory Networks across 29 Human Tissues**

First Author: Camila Lopes-Ramos | Senior Author: Dawn DeMeo *(pictured)*  
 Cell Reports | Brigham and Women's Hospital, Harvard Medical School and the Harvard School of Public Health



To understand the molecular basis of sex differences, the authors evaluated sex-biased gene regulation by constructing sample-specific gene regulatory networks in 29 human healthy tissues using 8,279 whole-genome expression profiles from the Genotype-Tissue Expression project. They found sex-biased regulatory network structures in each tissue. [Profile](#) | [Abstract](#)

**An Ecological Framework to Understand the Efficacy of Fecal Microbiota Transplantation**

First Author: Yandong Xiao | Senior Author: Yang-Yu Liu *(pictured)*  
 Nature Communications | Brigham and Women's Hospital, Harvard Medical School and Dana-Farber



The authors present an ecological framework to understand the efficacy of fecal microbiota transplantation (FMT) in treating conditions associated with a disrupted gut microbiota, using the recurrent *Clostridioides difficile* infection as a prototype disease. Their framework predicts several key factors that determine the efficacy of FMT. [Profile](#) | [Abstract](#)

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**Awards**
**Boston College Postdoc Selected as a Pew Latin American Fellow in Biomedical Sciences**

Boston College



Luisa Maria Nieto Ramirez *(pictured)*, a postdoctoral fellow in the laboratory of Associate Professor of Biology Tim van Opijnen at Boston College, has been named a 2020 Pew Latin American Fellow in the Biomedical Sciences. The program provides support for young scientists from Latin America to receive postdoctoral training in the United States. [Read More](#)

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**Local News**
**New Molecular Tool Precisely Edits Mitochondrial DNA**

Broad Institute



The precision editing technologies that have revolutionized DNA editing in the cell nucleus have been unable to reach the mitochondrial genome. Now, a team at the Broad Institute and the University of Washington School of Medicine has broken this barrier with a new type of molecular editor that can make precise C-G-to-T-A nucleotide changes in mitochondrial DNA. [Read More](#)

**The MIT Press and UC Berkeley Launch *Rapid Reviews: COVID-19***

MIT News



The MIT Press has announced the launch of *Rapid Reviews: COVID-19 (RR-C19)*, an open access, rapid-review overlay journal that will accelerate peer review of COVID-19-related research and deliver real-time, verified scientific information that policymakers and health leaders can use. Traditional peer review can take four or more weeks to complete, but *RR-C19's* editorial team will produce expert reviews in a matter of days. [Read More](#)

**New Treatment Strategy May Benefit Patients with Brain Cancer**

Massachusetts General Hospital



Patients with isocitrate dehydrogenase mutant gliomas can benefit from aggressive surgery, along with radiation and chemotherapy treatments, but these therapies are not curative in many cases. A team led by Dr. Daniel Cahill *(pictured)* at Massachusetts General Hospital has uncovered a potentially promising strategy to target these tumors and improve treatment. [Read More](#)

**250,000 COVID-19 Tests Have Been Processed at the Broad**

Broad Institute



250,000 COVID-19 tests have been processed at the Broad Institute. Over the course of two weeks in mid-March, Broadies in the Genomics Platform worked with teams across the Broad to transform their CLIA-certified lab into a high-throughput COVID-19 testing facility. Partnering with Massachusetts Department of Public Health and local hospitals, the team raced to create a solution to help increase the pace and scale of diagnostic testing. [Read More](#)

**Elon Musk Plans to Aid Local COVID-19 Drugmaker**

Boston Business Journal



Local drugmaker CureVac AG is getting a notable assistant in its mission to create a COVID-19 vaccine: Tesla CEO Elon Musk *(pictured)*. CureVac, which is based in Germany with a U.S. headquarters in Boston, is developing a preventive drug for the novel coronavirus. Tesla, the Palo Alto-based electric vehicle manufacturer, plans to create what Musk referred to as "rRNA microfactories" for CureVac and others. [Read More](#)

**Biogen Boosts Gene Therapy Strategy with Harvard Pact Focused on Inherited Eye Disease**

Fierce Biotech



Mutations in more than 270 genes have been implicated in inherited eye diseases like retinitis pigmentosa. Now, Biogen has formed a research pact with Harvard's Massachusetts Eye and Ear that's aimed at developing a gene therapy to help some patients with these blinding diseases. The gene at the center of the new agreement, *PRPF31*, has been linked to autosomal dominant retinitis pigmentosa. [Read More](#)

**Researchers Design Artificial Genes to Sense Cellular Responses to Drugs**

BU School of Medicine



Dr. Mikel Garcia-Marcos *(pictured)* and team at the BU School of Medicine have developed and implemented a new way to better understand how human cells communicate with each other, how this communication is disrupted in human diseases and how this can be corrected pharmacologically. Their method consists of a suite of "biosensors," which are artificial genes that can be introduced in cells to report in real time when an important group of signaling molecules is turned on. [Read More](#)

**Parasite Research Heats Up**

Whitehead Institute



Parasites need an influx of calcium in order to burst out of an infected host cell — a process called egress — and move through the host's body and invade other cells. Alice Herneisen *(pictured)*, a graduate student in Sebastian Lourido's lab at MIT, has used an approach called thermal proteome profiling to discover how enhancer 1 prevents *T. gondii* parasites from egress. [Read More](#)

**Whitehead Institute Welcomes Ruth Lehmann as Its Fifth Director**

Whitehead Institute



Whitehead Institute has welcome world-renowned developmental and cell biologist Ruth Lehmann *(pictured)* as its new Director. In her letter shared with the Institute, she says that this "marks a new beginning for me, as I assume the directorship of Whitehead Institute, but also a homecoming of sorts: a return to a place that was a crucial part of my training and early research, and my own journey as a scientist." [Read More](#)

**UMass Medical School Researchers Visualize New States of Ribosome Translation with Cryo-EM**

UMass Medical School



The stages in which ribosomes synthesize life-sustaining proteins have been revealed in unprecedented real-time detail by UMass Medical School structural biologists Dr. Andrei Korostelev and Dr. Anna Loveland *(pictured)*. Their new study of this fundamental molecular mechanism was captured using state-of-the-art, time-resolved, cryo-electron microscopy (cryo-EM). [Read More](#)

**Sniffing Out Smell: New Study Reveals How the Brain Organizes Information about Odors**

Harvard Medical School



A study by neurobiologists at Harvard Medical School has provided new insights into the mystery of scent. The researchers have described for the first time how relationships between different odors are encoded in the olfactory cortex, the region of the brain responsible for processing smell. The findings suggest a neurological mechanism that may explain why individuals have common but highly personalized experiences with smell. [Read More](#)

**A 360-Degree Approach to Lyme Disease**

Harvard Medical School



Harvard Medical School has received a \$5 million gift from the Fairbairns family for Lyme disease research and education. The gift, which will fund three tracks focused on immunology, mechanisms, and education, is aimed at propelling research into Lyme disease and improving public understanding of the most common vector-borne disease in the United States. [Read More](#)

**Merck Dangles Up to \$425 Million to Team with Flagship's Foghorn Therapeutics on Drugging the Shape of DNA**

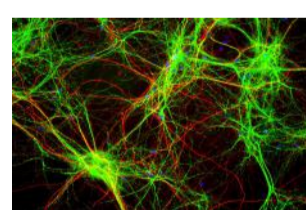
Endpoints News



Two years after it first emerged from stealth mode, Flagship's Foghorn Therapeutics, led by Adrian Gottschalk *(pictured)*, has nabbed its first Big Pharma partner as Merck signs on to the biotech's vision of drugging the very shape of DNA. The deal, worth up to \$425 million but with the upfront cash undisclosed, comes as Foghorn nears a pivot to a clinical stage biotech. [Read More](#)

**Seemingly Similar, Two Neurons Show Distinct Styles as They Interact with the Same Muscle Partner**

The Picower Institute



A new study by MIT neuroscientists into how seemingly similar neuronal subtypes drive locomotion in the fruit fly has revealed an unexpected diversity as the brain's commands were relayed to muscle fibers. A sequence of experiments revealed a dramatic difference between the two nerve cells — one neuron scrambled to adjust to different changes by the other, but received no reward in response when circumstances were reversed. [Read More](#)

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July 15 10:00 AM	<b>Webinar: Targeted Protein Degradation Virtual Symposium</b> Online
July 15 3:00 PM	<b>Tissue Talks: Dr. Robert Langer</b> Online
July 16 12:00 PM	<b>BioMaking Solutions: COVID-19 Seminar – Virus-like DNA Nanoparticle Vaccine for COVID-19</b> Online
July 16 7:00 PM	<b>Story Collider's First Science Story Slam</b> Online
July 17 9:00 AM	<b>LabLinks: Targeting the DNA Damage Response in Cancer</b> Online

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**Science Jobs in Boston**

<b>Research Scientist II, Human Gene Regulation Map</b> Broad Institute
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