

Publications of the Week

A Scalable Platform for the Development of Cell-Type-Specific Viral Drivers

First Author: Sinisa Hrvatin | Senior Author: Michael Greenberg *(pictured)*
eLife | Harvard Medical School



Enhancers are the primary DNA regulatory elements that confer cell type specificity of gene expression. The authors have developed PESCA, a scalable and generalizable method that leverages ATAC- and single-cell RNA-sequencing protocols, to characterize cell-type-specific enhancers that should enable genetic access and perturbation of gene function across mammalian cell types. [Abstract](#)

Discordance Between eNOS Phosphorylation and Activation Revealed by Multispectral Imaging and Chemogenetic Methods

First Author: Emrah Eroglu | Senior Author: Thomas Michel *(pictured)*
PNAS | Harvard Medical School



Nitric oxide (NO) synthesized by the endothelial isoform of nitric oxide synthase (eNOS) is a critical determinant of vascular homeostasis but the real-time detection of intracellular NO has been difficult. The authors pursued multispectral imaging approaches using biosensors to visualize intracellular NO and Ca²⁺ and exploited chemogenetic approaches to define the relationships between NO synthesis and eNOS phosphorylation in cultured endothelial cells. [Abstract](#)

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Awards

Josh Tenenbaum Receives 2019 MacArthur Fellowship

MIT News



Dr. Josh Tenenbaum *(pictured)*, a Professor in MIT's Department of Brain and Cognitive Sciences who studies human cognition, has been named a recipient of a 2019 MacArthur Fellowship. The fellowships, often referred to as "genius grants," come with a five-year, \$625,000 prize, which recipients are free to use as they see fit. There are a very small number of cognitive scientists who have received it so far. [Read More](#)

Tessa Montague Chosen as 2019 Hanna Gray Fellow by HHMI

Harvard University



MCO graduate program alum Dr. Tessa Montague *(pictured)* has been selected as a recipient of Howard Hughes Medical Institute's prestigious Hanna Gray Fellowship. The fellowship provides up to 1.4 million dollars in funding and up to 8 years support for exceptional early career scientists who hail from groups underrepresented in science faculty. Montague is one of just 15 early career scholars in the fellowship's 2019 class. [Read More](#)

Bertha Madras Receives Innovator Award from the College on Problems of Drug Dependence

McLean Hospital



The College on Problems of Drug Dependence (CPDD) has presented McLean Hospital's Dr. Bertha K. Madras *(pictured)* with its Innovator Award. CPDD recognized Madras for her work as the discoverer of a class of compounds called phenyltropanes, which can be used for brain PET and SPECT imaging of dopamine neurons. [Read More](#)

Three BU Research Teams Win First Kilachand Fund Awards

BU School of Medicine



The Rajen Kilachand Fund for Integrated Life Sciences and Engineering supports interdisciplinary research and solutions to some of today's most vexing societal woes and medical diseases. Now, the first three teams to receive Kilachand awards through a University competition will use the funding to develop new solutions in multicellular design, biosensors, and modeling the human brain. One of the teams is led by Christine Cheng *(pictured)*. [Read More](#)

Dr. Michael Lodato Announced as Allen Institute Next Generation Leader!

Allen Institute for Brain Science



The Allen Institute today debuted the 2019 Next Generation Leaders, a group of six early-career neuroscientists who will participate in a special advisory council for the Allen Institute for Brain Science, a division of the Allen Institute: Dr. Michael Lodato *(pictured)* amongst them. Next Generation Leaders are selected each year through a competitive process that includes applications from around the world. [Read More](#)

Megan Young Receives AMA Inspiration Award

BU School of Medicine



Dr. Megan Young *(pictured)*, Assistant Dean for Student Affairs and Assistant Professor of Medicine in the Section of Geriatrics, has received the 2019 Women Physicians Section Inspiration Award from the American Medical Association (AMA). The award honors and acknowledges physicians who have offered their time, wisdom and support throughout the professional careers of fellow physicians, residents and students. [Read More](#)

[View All Awards](#)

Interesting Articles

U.S. EPA to Eliminate All Mammal Testing by 2035

Science Magazine



The U.S. Environmental Protection Agency (EPA) in Washington, D.C., has announced that it will stop conducting or funding studies on mammals by 2035. The move, which is already eliciting strong reactions from groups supporting or opposing experiments on animals, makes EPA the first federal agency to put a hard deadline on phasing out animal research. [Read More](#)

Local News

Technique Can Image Individual Proteins Within Synapses

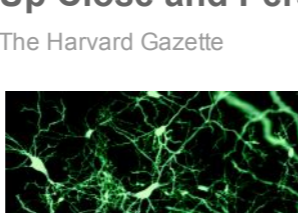
MIT News



Our brains contain trillions of synapses — the connections that transmit messages from neuron to neuron. Within these synapses are hundreds of different proteins, and dysfunction of these proteins can lead to conditions such as schizophrenia and autism. Researchers at MIT and the Broad Institute of Harvard and MIT have now devised a new way to rapidly image these synaptic proteins at high resolution. [Read More](#)

Up Close and Personal with Neuronal Networks

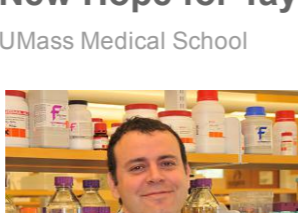
The Harvard Gazette



How our brain cells, or neurons, use electrical signals to communicate and coordinate for higher brain function is one of the biggest questions in all of science. Researchers from Harvard University have developed an electronic chip that can perform high-sensitivity intracellular recording from thousands of connected neurons simultaneously. [Read More](#)

New Hope for Tay-Sachs Disease at UMass Medical School

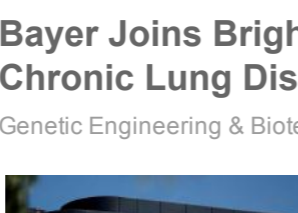
UMass Medical School



A new Voices of UMassMed podcast highlights the progress being made at UMass Medical School in developing gene therapy for Tay-Sachs disease. Dr. Miguel Sena-Esteves *(pictured)* Associate Professor of Neurology, has been a leading force behind more than a decade of collaborative research toward better understanding Tay-Sachs disease with an eye toward finding a treatment using gene therapy. [Read More](#)

Bayer Joins Brigham and Women's, Mass General to Create Lab for Chronic Lung Disease R&D

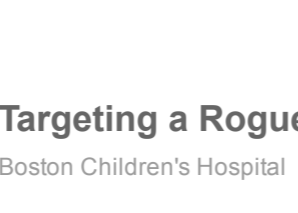
Genetic Engineering & Biotechnology News



Bayer will spend more than \$30 million over the next five years to fund joint research projects with Brigham and Women's Hospital and Massachusetts General Hospital at a new joint lab opened by the three to research new drug candidates to treat chronic lung diseases. The new joint lab is designed to combine Bayer's capabilities in drug discovery and development with complementary clinical expertise. [Read More](#)

Targeting a Rogue T Cell Prevents and Reverses Multiple Sclerosis in Mice

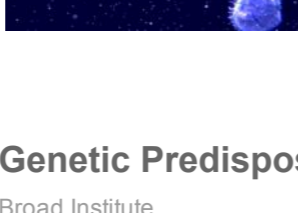
Boston Children's Hospital



Multiple sclerosis (MS) is an autoimmune disease affecting both adults and children. It's driven by "helper" T cells, white blood cells that mount an inflammatory attack on the brain and spinal cord, degrading the protective myelin sheath that covers nerve fibers. Researchers at Boston Children's Hospital have now pinpointed the specific helper T cells that cause MS, as well as a protein on their surface that marks them. [Read More](#)

Genetic Predisposition Unveiled in Diabetic Kidney Disease

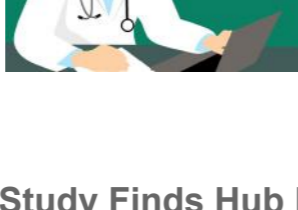
Broad Institute



One out of four adults with diabetes will ultimately develop kidney disease that can lead to kidney failure. These patients are often told that keeping their blood sugar levels under control should keep diabetic kidney disease (DKD) at bay. However, even when they do this, many patients still end up developing DKD. An international team of researchers discovered 16 new genetic regions that are linked to DKD and are independent of the degree of glucose control. [Read More](#)

Study Finds Hub Linking Movement and Motivation in the Brain

MIT News



A new study by MIT neuroscientists at the Picower Institute for Learning and Memory at MIT identifies a well-connected brain region as a crucial link between circuits guiding goal-directed movement and motivated behavior. The research shows that the lateral septum directly encodes information about the speed and acceleration of an animal as it navigates and learns how to obtain a reward in an environment. [Read More](#)

An Advance for Drug-Eluting Contact Lenses: Delivery to the Back of the Eye

Boston Children's Hospital



Drug-eluting contact lenses, which gradually release drugs into the eye, offer a promising alternative to daily eye drops, which can be unpleasant and hard for patients to properly administer. New work from Massachusetts Eye and Ear and Boston Children's Hospital extends these findings to the harder-to-reach back of the eye, particularly diseases of the retina. [Read More](#)

Mass General to Begin ALS Trials That Test Several Drugs at Once

Boston Globe



Massachusetts General Hospital (MGH) will soon start the first clinical trial that simultaneously tests multiple potential ALS medicines in the hopes of getting results faster at lower costs. The elite Boston teaching hospital plans to launch the first "platform trial" in early 2020 at the Sean M. Healey & AMG Center for ALS, which was founded last year with \$40 million in donations. The trial will be run by MGH, start off with five medicines, and take place at 54 clinical sites in the country. [Read More](#)

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Upcoming Events in Boston

- October 1 8:00 AM **Training Course – Introduction to Downstream Techniques and Bioprocessing**
GE Healthcare – Fast Trak Training Center
- October 2 3:00 PM **CO-OP + CAREER Fair: Hire the best STEAM new talent in Boston!**
Wentworth Institute of Technology
- October 2 6:00 PM **Biorelevant? 2019**
Downtown Harvard Club of Boston
- October 3 11:30 AM **10th Annual Tufts Neuroscience Symposium & William Shucart Lecture**
Behrakis Auditorium, Jaharis Building
- October 7 2:00 PM **LRIG New England 2019 Fall Seminars and Exhibitions**
Boston Marriott Cambridge

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- Scientific Sales Representative, Cell Culture Products (Cambridge, MA)**
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Other Science Jobs in Boston

- Scientist/Senior Scientist, Process Development (Cell Therapy)**
Beam Therapeutics
- Senior Scientist, Process Development**
Investigo Life Sciences
- Clinical Trial Manager, Emerging Program Team, Oncology**
Bluebird Bio
- Scientist I, Hematopoietic Stem Cell Analytics**
Bluebird Bio
- Sr. Engineer Late Stage Cell Therapy Process and Technology Development**
CRISPR Therapeutics

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