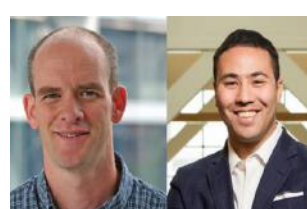


### Publications of the Week

#### Extracellular Matrix Plasticity as a Driver of Cell Spreading

First Author: Joshua Grolman (pictured, right) | Senior Author: David Mooney (pictured, left)  
 PNAS | The Wyss Institute and Harvard John A. Paulson School of Engineering and Applied Sciences



The authors present a nondegradable polymer architecture that specifically decouples irreversible creep from stress relaxation and modulus. They demonstrate that network plasticity independently controls mesenchymal stem cell spreading through a biphasic relationship dependent on cell-intrinsic forces, and this relationship can be shifted by inhibiting actomyosin contractility. [Abstract](#)

#### Absence of Survival and Motor Deficits in 500 Repeat C9ORF72 BAC Mice

First Author: Daniel Mordes (pictured) | Senior Author: Jeffrey Rothstein  
 Neuron | Harvard Stem Cell Institute, the Broad Institute and Massachusetts General Hospital



To determine the utility of transgenic mice harboring a large repeat expansion (C9-500) for understanding degenerative mechanisms, the authors validated and established two independent colonies of transgene carriers. However, extended studies of these animals for up to 1 year revealed no reproducible abnormalities in survival, motor function, or neurodegeneration, as was demonstrated in a recent study by another group. [Abstract](#)

#### Parallel Single-Cell RNA-Seq and Genetic Recording Reveals Lineage Decisions in Developing Embryoid Bodies

First Author: Ik Soo Kim | Senior Author: Bradley Bernstein (pictured)  
 Cell Reports | Massachusetts General Hospital, Harvard Medical School and the Broad Institute



Early developmental specification can be modeled by differentiating embryonic stem cells to embryoid bodies (EBs), a heterogeneous mixture of three germ layers. The authors combined single-cell transcriptomics and genetic recording to characterize EB differentiation. They mapped transcriptional states along a time course and modeled cell fate trajectories and branchpoints as cells progress to distinct germ layers. [Abstract](#)

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### Awards

#### National Academy of Medicine Elects 9 HMS Faculty Members

Harvard Medical School (HMS)



Nine HMS faculty members, including Dr. Judy Lieberman (pictured), are among 100 new members elected by the National Academy of Medicine (NAM). Considered one of the highest honors among scientists, engineers and health professionals, NAM membership recognizes individuals who have demonstrated commitment to service and outstanding professional achievement in the advancement of science, medicine, technology and health. [Read More](#)

#### Guangping Gao Makes List of Nature Biotechnology Top 20 Translational Researchers

UMass Med News



An influential scientific journal's list of top translational biotech researchers for 2019 includes Dr. Guangping Gao (pictured) from UMass Medical School. *Nature Biotechnology* notes that its ranking of the top 20 biotech researchers is based on total patents (European and U.S.) granted for the year, the researcher's top-cited patent over the past five years, and the researcher's H-index, a measurement of impact for published work over time. [Read More](#)

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### Local News

#### As COVID-19 Fuels Opioid Deaths, Researchers Look to Create an Anti-Opioid Vaccine

Boston Children's Hospital



A project that began one year ago at Boston Children's Hospital to develop an anti-opioid vaccine is starting to bear its first fruits. A team of addiction experts and vaccine developers across the Boston Children's research community were recently awarded a \$25 million research contract from the NIH's Helping to End Addiction Long-term Initiative to develop a vaccine to prevent overdose in opioid users and conduct a clinical trial when it is ready. [Read More](#)

#### Those Funky Cheese Smells Allow Microbes to "Talk" to and Feed Each Other

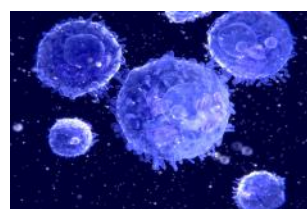
Tufts Now



Researchers at Tufts University have found that those distinctly funky smells from cheese are one way that fungi communicate with bacteria, and what they are saying has a lot to do with the delicious variety of flavors that cheese has to offer. The research team found that common bacteria essential to ripening cheese can sense and respond to compounds produced by fungi in the rind and released into the air, enhancing the growth of some species of bacteria over others. [Read More](#)

#### À la CAR-T

The Koch Institute



The Chen Lab at the Koch Institute has identified a promising target for chimeric antigen receptor T (CAR-T) cell-based therapies for acute myeloid leukemia. CAR-T cell-based therapies have produced remarkable responses in patients with certain blood cancers, but translating that success to the treatment of other cancers has proven challenging. [Read More](#)

#### RNA "Ticker Tape" Records Gene Activity Over Time

Broad Institute



As cells grow, divide, and respond to their environment, their gene expression changes; one gene may be transcribed into more RNA at one time point and less at another time when it's no longer needed. Now, researchers at MIT, Harvard, and the Broad Institute, led by Dr. Fei Chen (pictured), have developed a way to determine when specific RNA molecules are produced in cells. [Read More](#)

#### Vertex Abandons VX-814 Program for Treating Rare Liver Disease

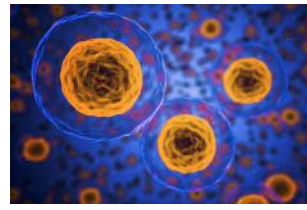
BioSpace



Vertex Pharmaceuticals has announced that based on early data of its Phase II trial of VX-814 in alpha-1 antitrypsin deficiency (AATD), it is halting the trial and ending development of the drug. AATD is a genetic disease resulting in a missing liver protein. The trial was in about 50 patients and was to evaluate the safety and pharmacokinetics of VX-814 and its ability to increase functional levels of alpha-1 antitrypsin over 28 days. [Read More](#)

#### Newly Discovered Mechanism for Cellular Migration Has Implications for Embryonic Development, Cancer Metastasis, and Tissue Regeneration

Harvard T.H. Chan School of Public Health



Researchers at Harvard T.H. Chan School of Public Health have discovered an altogether different biological program through which cells acquire migratory capacity. It is called the unjamming transition, or UJT. Rather than degrading cell-cell contacts, delaminating from the tissue of origin, and finally scattering as individual entities as they do after epithelial-to-mesenchymal transition, cells instead maintain cell-cell contacts, remain integrated within the tissue of origin, and migrate collectively after UJT. [Read More](#)

#### Nine-Story Biomedical Research and Education Facility to Be Built at UMass Medical School

UMass Med News



UMass Medical School has received approval from the University of Massachusetts Board of Trustees for a project that will change the face of the Worcester campus and accelerate research into new therapeutics for some of the most challenging diseases that humans face. A new, nine-story biomedical research and education facility will be built on campus to support laboratory research growth and the educational enterprise. [Read More](#)

#### The Obesity and Cancer Metastasis Connection

Tufts Now



Dr. Madeleine Oudin (pictured), an Assistant Professor of Biomedical Engineering at Tufts University, has made some fascinating discoveries about metastasis and how obesity may promote it. Her team has found that specific proteins in the scaffolding on which the cells grow, known as the extracellular matrix, may play an important role in triggering the invasion of cancer cells in the breast fat tissue of obese individuals. [Read More](#)

#### Sarepta, Continuing Its Gene Therapy Push, Helps Launch a Startup

BioPharma Dive



Sarepta Therapeutics, with help from a group of high-profile life sciences investors, has launched a startup focused on developing gene therapies for rare diseases. AavantBio joins a couple of large, powerful companies in the hunt for a gene therapy to treat Friedrich's ataxia. AavantBio will be headquartered in the greater Boston area, putting it close by Cambridge, Massachusetts-based Sarepta. [Read More](#)

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### Upcoming Events in Boston

October 27 5:00 PM	<b>Science for All Seasons – Gut Reactions: Using Chemistry to Decipher the Human Microbiome</b> Online
November 6 1:00 PM	<b>Tufts University Health &amp; Life Sciences Career Fair</b> Online
November 10 3:00 PM	<b>Amgen Biotech Seminar Series: Careers in Biotech</b> Online
November 12 8:00 AM	<b>Virtual Discover Brigham 2020</b> Online
November 12 6:00 PM	<b>Beyond Academia: A Career Panel Discussion for Life Science PhDs</b> Online

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### Science Jobs in Boston

- Research Project Manager**  
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- Senior Scientific Support Representative**  
STEMCELL Technologies
- Research Associate, Discovery Biology**  
Yumant Therapeutics
- Scientist I, mRNA Process Development**  
Bluebird Bio
- Research Scientist I, Cellular Pharmacology/Drug Discovery**  
Broad Institute

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