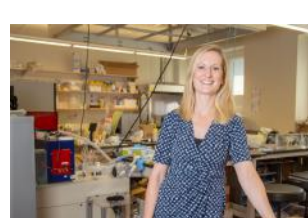


Publications of the Week

An Organosynthetic Dynamic Heart Model with Enhanced Biomimicry Guided by Cardiac Diffusion Tensor Imaging

First Author: Clara Park | Senior Author: Ellen Roche (pictured) | Science Robotics | MIT, Harvard Medical School, and Boston Children's Hospital



The authors introduce a biorobotic hybrid heart that preserves organic intracardiac structures and mimics cardiac motion by replicating the cardiac myofiber architecture of the left ventricle. The heart model is composed of organic endocardial tissue from a preserved explanted heart with intact intracardiac structures and an active synthetic myocardium that drives the motion of the heart.

[Abstract](#)

A Widely Distributed Metalloenzyme Class Enables Gut Microbial Metabolism of Host- and Diet-Derived Catechols

First Author: Vayu Maini Rekdal | Senior Author: Emily Balskus (pictured) | eLife | Harvard University



Catechol dehydroxylation is a central chemical transformation in the gut microbial metabolism of plant- and host-derived small molecules. However, the molecular basis for this transformation and its distribution among gut microorganisms are poorly understood. The authors characterize a molybdenum-dependent enzyme from the human gut bacterium *Escherichia coli* that dehydroxylates catecholamine neurotransmitters. [Abstract](#)

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Spotlight

A Discussion on Ketogenic Diet and Anaplastic Thyroid Cancer with Dr. Abha Aggarwal



Dr. Abha Aggarwal (pictured) is a Research Fellow in Surgery at Brigham and Women's Hospital in Boston, Massachusetts. Her research focuses on drug testing using biomarkers and metabolic inhibitors to develop adjuvant therapies for anaplastic thyroid cancer. We sat down with Dr. Aggarwal to discuss her research and general developments in the field. [Read More](#)

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Awards

Boston College Researchers Receive \$2.69 Million in National Science Foundation Funding

Boston College



Boston College faculty members, Drs. Sara Cordes (pictured), Joshua Hartshome, and Jaclyn Ford of the Department of Psychology and Neuroscience, have received a combined \$2.69 million in National Science Foundation grants to support their research projects that focus on different aspects of human learning and memory. [Read More](#)

Local News

Enabling Coronavirus Detection Using CRISPR-Cas13: An Open-Access SHERLOCK Research Protocol

The Broad Institute



The recent coronavirus outbreak presents enormous challenges for global health. To aid the global effort, the Broad Institute of MIT and Harvard, the McGovern Institute for Brain Research at MIT, and their partner institutions have committed to freely providing information that may be helpful, including by sharing information that may be able to support the development of potential diagnostics. [Read More](#)

Right Place, Right Time

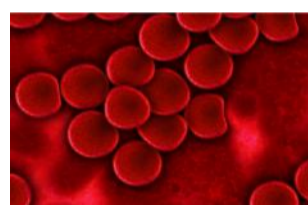
Harvard Medical School



Harvard Medical School neuroscientists have discovered a control mechanism in the brains of mice that ensures adequate blood flow to areas of heightened neural activity in a rapid and precise manner. Their experiments reveal that arteries in the brain actively regulate neurovascular coupling in response to neural activity, and that the protein Msd2a, previously implicated as a key regulator of the protective blood-brain barrier, is critical for this process. [Read More](#)

Blood Disorder Startup Files for \$86M IPO

Boston Business Journal



Imara Inc., a blood disorder-focused Cambridge startup, is planning on raising \$86M through an IPO. Imara is developing a daily pill for two blood disorders: sickle cell disease, which affects approximately 4.4 million people worldwide, and beta thalassemia, which affects roughly 288,000 people worldwide. It is currently running two mid-stage clinical trials of the potential treatment. [Read More](#)

Novel Targeted Drug Shows Promise in Advanced Kidney Cancer

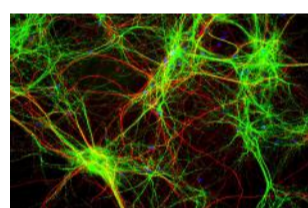
Dana-Farber Cancer Institute



Scientists at Dana-Farber Cancer Institute have reported promising activity of a novel drug that targets a key molecular driver of clear cell renal cell carcinoma in patients with metastatic disease. They found a response rate of 24 percent across all risk categories of patients given an oral first-in-class agent that targets hypoxia-inducible factor 2- α , which promotes new blood vessel growth that fuels kidney tumors. [Read More](#)

New Study Offers the First Evidence of Brain Inflammation in Veterans with Gulf War Illness

Massachusetts General Hospital



In a new discovery, researchers at Massachusetts General Hospital have detected widespread inflammation in the brains of veterans diagnosed with Gulf War Illness (GWI). These findings could serve as a guidepost for identifying and developing new therapies for people with GWI, as well as many other chronic conditions that have recently been linked to inflamed brain tissue, or neuroinflammation. [Read More](#)

Trump Science Advisor Meets with Top Boston Academic Research Officials

The Brink



Kelvin Droegemeier, the Director of the White House Office of Science and Technology Policy, recently held a meeting with senior research officials from Boston University, Harvard, Tufts, MIT, Northeastern, Massachusetts General Hospital, Brigham and Women's Hospital, Boston Children's Hospital, and Beth Israel Deaconess Medical Center to discuss the work of the National Science and Technology Council's Joint Committee on the Research Environment. [Read More](#)

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Interesting Articles

Trump Restrictions on Fetal Tissue Research Unsettle Key Studies and Scientists

The Washington Post



A recent Trump administration decision to limit funding of research that uses fetal tissue is already disrupting research into major diseases, including AIDS, Down syndrome and diabetes, scientists say. The controversial federal funding rules, announced seven months ago, are reshaping scientists' research paths and the grants they seek from the National Institutes of Health. [Read More](#)

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Upcoming Events in Boston

- February 25 8:00 AM **Leading the Change to Continuous Manufacturing of Small Molecules** Ragon Auditorium
- February 26-27 8:00 AM **8th Neurodegenerative Drug Development Summit** Hyatt Regency Boston
- February 27-28 9:00 AM **AI Powered Drug Discovery and Manufacturing Conference 2020** MIT Samberg Conference Center
- February 28 10:00 AM **2020 Rare Disease Day** Omni Parker House
- March 9-12 8:00 AM **Environmental Health Risk: Analysis and Applications** Harvard T.H. Chan School of Public Health

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Other Science Jobs in Boston

- Assistant/Associate Professor, Data Sciences, Genomics** Dana-Farber Cancer Institute
- Postdoctoral Scholar, RNA Biology and Gene Regulation** Brandeis University
- Research Scientist, Tools and Assay Development** Manus Bio
- Associate Scientist I (Engineer), Cell Culture** AbbVie
- Delivery Innovation & Process Development Internship** Intellia Therapeutics

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