

Publications of the Week
Intercellular Nanotubes Mediate Mitochondrial Trafficking between Cancer and Immune Cells

First Author: Tammy Saha | Senior Author: Shiladitya Sengupta (pictured)
 Nature Nanotechnology | Brigham and Women's Hospital, Blavatnik Institute, Harvard, Mass General Cancer Center, Center for Engineered Therapeutics, and Dana-Farber Cancer Institute



Cancer progresses by evading the immune system. Elucidating diverse immune evasion strategies is a critical step in the search for next-generation immunotherapies for cancer. The authors report that cancer cells can hijack the mitochondria from immune cells via physical nanotubes, and that this could be a novel target for developing next-generation immunotherapy agents for cancer.

[Abstract](#)
Glucose Metabolism and Pyruvate Carboxylase Enhance Glutathione Synthesis and Restrict Oxidative Stress in Pancreatic Islets

First Author: Accalia Fu | Senior Author: Nika Danial (pictured)
 Cell Reports | Dana-Farber Cancer Institute and Harvard Medical School



Glucose metabolism modulates the islet β cell responses to diabetogenic stress, including inflammation. The authors probed the metabolic mechanisms that underlie the protective effect of glucose in inflammation by interrogating the metabolite profiles of primary islets from human donors and identified *de novo* glutathione synthesis as a prominent glucose-driven pro-survival pathway.

[Abstract](#)
[View All Publications](#)
Awards
Natasha Hochberg Honored by the American Society of Tropical Medicine

BU School of Medicine



Dr. Natasha Hochberg (pictured), Associate Professor of Medicine, has received the 2021 Bailey K. Ashford Medal from the American Society of Tropical Medicine and Hygiene. The honor is awarded annually for distinguished work in tropical medicine. Dr. Hochberg, who also is an Associate Professor of Epidemiology at the School of Public Health, is one of two recipients this year. [Read More](#)

Jeff Marlow Receives DOE Grant

BU Biology



Congratulations to Dr. Jeff Marlow (pictured) for receiving a grant from the Department of Energy (DOE) for his research on microbial communities. The Marlow lab's research seeks to understand microbial communities and how they contribute to Earth's environmental processes, as well as how they support life on Earth. Dr. Marlow and his team focus on microbial communities in hard to reach places, like the deep sea and volcanoes. [Read More](#)

Anand Devaiah Elected to American College of Surgeons' Board of Governors

BU School of Medicine



Dr. Anand Devaiah (pictured), Professor of Otolaryngology-Head & Neck Surgery and Neurosurgery, was elected to the American College of Surgeons' Board of Governors representing the Fellows in the Society of University Otolaryngologists. As a Specialty Society Governor, he will serve a three-year term as a liaison between the Fellows of the College and the members of the Board of Governors including participating in workshops and meetings. [Read More](#)

[View All Awards](#)
Local News
Machine Learning May Help Identify People at Risk of Thoracic Aortic Aneurysm

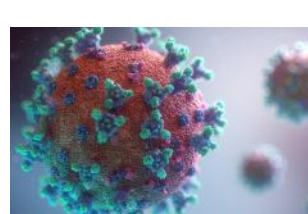
Massachusetts General Hospital



Researchers have identified genetic variants linked to the diameter of the aorta, the blood vessel that carries blood from the heart to the rest of the body. When the investigators combined the genetic variants into what's called a polygenic score, people with a higher score were more likely to be diagnosed with aortic aneurysm, or an abnormally enlarged aorta that increases the risk of sudden cardiac death. [Read More](#)

Breakthrough SARS-CoV-2 Cases Clear More Quickly, Less Likely to Spread Infection over Time

Harvard T. H. Chan School of Public Health



People who are vaccinated for SARS-CoV-2 but get breakthrough infections may be less likely to spread the virus because they shed it for a shorter period than unvaccinated people who are infected, according to a new study led by Harvard T.H. Chan School of Public Health. The researchers also determined that the Delta variant's infectiousness is likely not due to high virus production in people who are infected. [Read More](#)

Researchers Identify Key RNA "Gatekeeper" in Gene Expression, Pointing to Possible New Drug Targets

Massachusetts General Hospital



An important player in the healthy development of female embryos turns out also to play a key role in regulating the behavior of chromosome loops and gene expression in both sexes, according to a new study by led by Dr. Jeannie Lee (pictured) at Massachusetts General Hospital. These findings could help create new targets for drug development. [Read More](#)

Evasive Maneuvers

Harvard Medical School



In an effort to predict future evolutionary maneuvers of SARS-CoV-2, a research team led by investigators at Harvard Medical School has identified several likely mutations that would allow the virus to evade immune defenses, including natural immunity acquired through infection or from vaccination, as well as antibody-based treatments. [Read More](#)

Study Reveals a Protein's Key Contribution to Heterogeneity of Neurons

The Picower Institute



A new study led by Dr. Troy Littleton (pictured) at the Picower Institute for Learning and Memory of MIT shows how just one protein situated on the front lines of neural connections can profoundly change how some neurons communicate and implement plasticity. "If you break the synapse on the postsynaptic side, the presynaptic neuron will recognize that and generate more output to keep the overall synaptic response the same. This critical type of adaptive plasticity requires tomosyn," said Dr. Littleton. [Read More](#)

MIT Future Founders Initiative Announces Prize Competition to Promote Female Entrepreneurs in Biotech

MIT News



The MIT Future Founders Initiative has announced the MIT Future Founders Prize Competition, and named the MIT faculty cohort that will participate in this year's competition. One member of the cohort is Dr. Kristin Knouse (pictured), an Assistant Professor in the Department of Biology at MIT and the Koch Institute for Integrative Cancer Research. [Read More](#)

Team Builds First Living Robots — That Can Reproduce

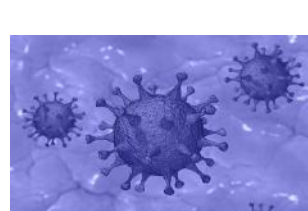
Wyss Institute



Scientists at Tufts University and the Wyss Institute for Biologically Inspired Engineering at Harvard University, led by Dr. Michael Levin (pictured), have discovered an entirely new form of biological reproduction, and applied their discovery to create the first-ever, self-replicating living robots. The results of the new research were published in the *Proceedings of the National Academy of Sciences*. [Read More](#)

Repurposing a Familiar Drug for COVID-19

Harvard Medical School



New research led by investigators at Harvard Medical School and Boston Children's Hospital points to a well-known and widely available drug called disulfiram as a possible treatment for COVID-19. Patients taking disulfiram for alcoholism were less likely to become infected with SARS-CoV-2, and those who did get infected were less likely to die from COVID-19 than those not taking the drug. [Read More](#)

Researchers Report Novel Findings for Breast Cancer Patients with Obesity, Diabetes

BU School of Medicine



For the first time, researchers, led by Dr. Gerald Denis (pictured), have found that exosomes are involved in breast cancer progression and treatment resistance. "We have identified a potential biological difference that might explain this higher risk and inform clinical decision making. This novel biology may also suggest new drugs or treatments to reduce risk for metastasis in cancer patients who are also obese and diabetic," explained Dr. Denis. [Read More](#)

[View All Articles](#) | [Submit an Article](#)
Upcoming Events in Boston

 December 7
 1:00 pm

Aligning Financial Management Systems to the Biotech Lifecycle: From Pre-Commercial to High Growth

Online

 December 8
 3:00 pm

The Broken Bridge: Restoring the Connection between Science and the Public

Online

 December 9
 4:00 pm

Artificial Intelligence for Pathology

Online

 December 10
 12:30 pm

Gene Drives, Human Health, and the Environment

Online

 December 12
 1:00 pm

The Science of Making and Saving Memories

Online

[View All Events](#) | [Submit an Event](#)
Science Jobs in Boston
Lead Research Associate, *In Vivo*

Dana-Farber Cancer Institute

Research Associate I, Cell Biology, Kidney Disease Initiative

Broad Institute

Postdoctoral Associate, Stem Cell Biology / Neurobiology

Broad Institute

Scientist II / Senior Scientist, Molecular Biology

Vesigen Therapeutics

Principal Scientist / Associate Director, Biochemistry

Rheos Medicines

[View 98 Other Science Jobs](#) | [Submit a Job](#)

 Submit your articles and events by reaching out to us at info@scienceinboston.com.

BROUGHT TO YOU BY


STEMCELL Technologies

Products | Services

STEMCELL Science News

Free Weekly Updates on Your Field

The Stem Cell Podcast

Interviews and Updates on Stem Cell Science