

Publications of the Week

A Bioelectrical Phase Transition Patterns the First Vertebrate Heartbeats

First Author: Bill Jia | Senior Author: Adam Cohen *(pictured)*
Nature | Harvard



A regular heartbeat is essential to vertebrate life. In the mature heart, this function is driven by an anatomically localized pacemaker. Using all-optical electrophysiology, researchers captured the very first heartbeat of a zebrafish and analysed the development of cardiac excitability and conduction around this singular event. [Abstract](#) | [Press Release](#)

Fluorescence Lifetime of Injected Indocyanine Green as a Universal Marker of Solid Tumors in Patients

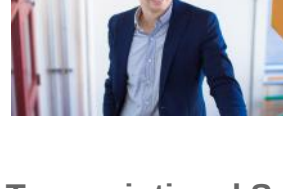
First Author: Rahul Pal | Senior Author: Anand Kumar *(pictured)*
Nature Biomedical Engineering | Massachusetts General Hospital and Harvard Medical School



The surgical resection of solid tumors can be enhanced by fluorescence-guided imaging. Here researchers show that, after systemic injection of the near-infrared dye indocyanine green in patients with various types of solid tumour, the fluorescence lifetime (FLT) of tumor tissue is longer than the FLT of non-cancerous tissue. [Abstract](#) | [Press Release](#)

A Conserved Complex of Microneme Proteins Mediates Rhoptyry Discharge in Toxoplasma

First Author: Dylan Valleau | Senior Author: Sebastian Lourido *(pictured)*
The European Molecular Biology Organization Journal | The Whitehead Institute and MIT



Apicomplexan parasites discharge specialized organelles called rhoptries upon host cell contact to mediate invasion. The events that drive rhoptyry discharge are poorly understood, yet essential to sustain the apicomplexan parasitic life cycle. Here, researchers examine the function of the microneme protein CLAMP and demonstrate its essential role in rhoptyry discharge. [Abstract](#) | [Press Release](#)

Transcriptional Suppression of Sphingolipid Catabolism Controls Pathogen Resistance in C. elegans

First Author: Mohamad Nasrallah *(pictured)* | Senior Author: Read Pukkila-Worley
PLOS Pathogens | University of Massachusetts Chan Medical School



Sphingolipids are required for diverse biological functions and are degraded by specific catabolic enzymes. However, the mechanisms that regulate sphingolipid catabolism are not known. Here, researchers characterize a transcriptional axis that regulates sphingolipid breakdown to control resistance against bacterial infection. [Abstract](#)

[View All Publications](#) ➔

Awards

Dr. Deborah Lang Receives Grant to Examine How Some Genes Are Disrupted at the DNA, RNA Level, Cause Melanoma

Boston University



Dr. Deborah Lang *(pictured)*, Associate Professor of Dermatology, has been awarded a two-year, \$300,000 Discovery Boost Grant from the American Cancer Society for her research project “Exploring roles for PAX3 in regulating gene expression on a post transcriptional level.” Dr. Lang will investigate the role of PAX3 in stems cells and cancer. [Read More](#)

Dr. Pradeep Natarajan to Receive the 2023 Joseph A. Vita Award

American Heart Association



The American Heart Association will present its 2023 Joseph A. Vita Award to Dr. Pradeep Natarajan *(pictured)* of Massachusetts General Hospital and Harvard Medical School. The award is given annually to recognize scientists who have led research that has had a major impact on the field of cardiovascular biology or cardiovascular health during the past five years and whose work has been published in journals of the Association. [Read More](#)

MIT Scientists Receive NIH BRAIN Initiative Grants

MIT News



The National Institutes of Health (NIH) recently announced a new program to support research projects that have the potential to reveal an unprecedented and dynamic picture of the connected networks in the brain. Four of these grants have been awarded to MIT researchers affiliated with the McGovern Institute. They are Dr. Guoping Feng, Dr. Ila Fiete, Dr. Ian Wickersham, and Dr. Satra Ghosh *(pictured, left to right)*. [Read More](#)

Harvard Medical School Professor Receives National Medal of Science

Harvard Medical School



Dr. Gregory Petsko *(pictured, left)*, Harvard Medical School Professor of Neurology at Brigham and Women's Hospital, has been awarded a 2022 National Medal of Science. Dr. Petsko and 20 other new National Medal of Science and National Medal of Technology and Innovation laureates received their medals from President Joe Biden *(right)* in a ceremony at the White House. [Read More](#)

Dana-Farber Cancer Institute Named to the 2023 Top 100 Women-Led Businesses in Massachusetts

Dana-Farber Cancer Institute



Dana-Farber Cancer Institute and Dr. Laurie H. Glimcher *(pictured)*, President and CEO of Dana-Farber, are number five on the 2023 Top 100 Women-Led Businesses in Massachusetts. The list is compiled annually by the Women's Edge and the Globe Magazine to celebrate the state's leading companies and nonprofits run by women. [Read More](#)

[View All Awards](#) ➔

Local News

Bayer and Broad Institute Extend Cancer Therapy Research Collaboration

Broad Institute



Bayer and the Broad Institute of MIT and Harvard have renewed their research alliance, adding five years to a ten-year collaboration that has already yielded three clinical oncology candidates. This research collaboration is aimed at identifying cancer targets and exploring novel therapeutic approaches in oncology with the goal of bringing more medicines to patients. [Read More](#)

The Power of Representation and Connectivity in STEM Education

MIT News



In mid-October, an event called Bridging Talents and Opportunities took place at MIT. It was part of an initiative led by MIT Latinx professors and students aimed at providing talented Latinx high school students from the greater Boston area and various Latin American countries a unique chance to explore the world of science and innovation within MIT's campus. [Read More](#)

UMass Chan Generates \$2.2 Billion in Economic Activity in Massachusetts

UMass Chan Medical School



UMass Chan Medical School generated more than \$2 billion in economic activity in Massachusetts in 2022, according to the recently released UMass Economic Contribution Analysis report. The report, conducted by the UMass Amherst-based Donahue Institute, is the first post-pandemic analysis of the system's statewide economic contribution. [Read More](#)

[View All Local News](#) ➔ | [Submit an Article](#) ➔

📅 Upcoming Events in Boston

- November 14-15 **EmTech MIT 2023**
9:00 AM MIT Kresge Auditorium
- November 16-17 **Liquid Biopsy: Beyond Cell-Free Tumor DNA**
9:00 AM Koch Institute for Integrative Cancer Research
- November 16 **MGB Gene and Cell Therapy Research Symposium**
8:30 AM 399 Revolution Drive
- November 20 **Stem Cell Therapies Town Hall**
8:30 AM Boston Children's Hospital
- December 1 **Minisymposium: Deep Learning for Bioimage Analysis**
9:00 AM Broad Institute of MIT and Harvard

[View All Events](#) ➔

📁 Science Jobs in Boston

- Predoctoral Research Fellow/Research Associate**
MIT
- Surgical Science Liaison, Ophthalmology**
BlueRock Therapeutics
- Rodent Core Histologist**
Harvard Medical School
- Infectious Diseases Basic Scientist**
Boston University
- Clinical Trial Coordinator CONTRACT-TO-HIRE**
MedaSource

[View 49 Other Science Jobs](#) ➔



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