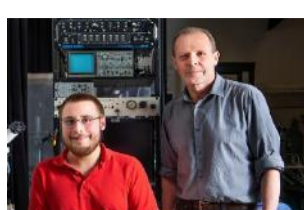


Publications of the Week
Nociceptive Neurons Respond to Multimodal Stimuli in *Manduca Sexta*

 First Author: Daniel Caron | Senior Author: Barry Trimmer (pictured, right)
 Journal of Experimental Biology | Tufts University


Manduca sexta produces a highly stereotyped strike behavior in response to noxious thermal or mechanical stimuli to the abdomen. This rapid movement is targeted to the site of the stimulus, but the identities of the nociceptive sensory neurons are currently unknown. The authors show that the likelihood of a strike increases with the strength of the stimulus and that activity in nerves innervating the body wall increases rapidly in response to noxious stimuli. [Abstract](#)

Heart-on-a-Chip Model with Integrated Extra-and Intracellular Bioelectronics for Monitoring Cardiac Electrophysiology Under Acute Hypoxia

 First Author: Haitao Liu | Senior Author: Brian Timko (pictured)
 Nano Letters | Tufts University


The authors demonstrated a bioelectronic heart-on-a-chip model for studying the effects of acute hypoxia on cardiac function. A microfluidic channel enabled rapid modulation of medium oxygenation, which mimicked the regimes induced by a temporary coronary occlusion and reversibly activated hypoxia-related transduction pathways in HL-1 cardiac model cells. This platform represents a significant advance. [Abstract](#)

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Awards
Hannah Aichelman Receives Dana Wright Fellowship

Boston University



Hannah Aichelman (pictured) of the Davies Lab at Boston University is this year's recipient of the Dana Wright Fellowship. Hannah's research interests are broadly focused on understanding resilience and responses to rapid climate change of the coral animal and its symbiotic algae. Her current work uses physiological and molecular tools to answer these questions in both tropical and temperate marine ecosystems. [Read More](#)

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Local News
New Sensors Could Offer Early Detection of Lung Tumors

MIT News



People who are at high risk of developing lung cancer, such as heavy smokers, are routinely screened with computed tomography, which can detect tumors in the lungs. However, this test has an extremely high rate of false positives, as it also picks up benign nodules in the lungs. Researchers at MIT have developed a new approach for early diagnosis of lung cancer: a urine test that can detect the presence of proteins linked to the disease. [Read More](#)

RA Capital, OrbiMed Join Autoimmune Disorder Biotech's \$80M Round

Boston Business Journal



A local Boston biotech is rethinking how to treat autoimmune diseases. It has raised \$80 million to do it. Pandion Therapeutics has closed its Series B round, raising money from Access Technology, Boxer Capital, RA Capital and OrbiMed, as well as its previous investors. The funds will help the four-year-old biotech conduct its first clinical trials, to advance its treatment for the inflammatory bowel disease ulcerative colitis into a Phase 1b study, while also moving forward a second drug candidate. [Read More](#)

Newly Discovered Enzyme "Square Dance" Helps Generate DNA Building Blocks

MIT News



Ribonucleotide reductase (RNR), is responsible for converting RNA building blocks into DNA building blocks. RNR is a target for anti-cancer therapies, as well as drugs that treat viral diseases like HIV/AIDS. Now, researchers have trapped RNR in its active state and observed how the enzyme changes shape, bringing its two subunits closer together and transferring the energy needed to produce the building blocks for DNA assembly. [Read More](#)

"Living Drug Factories" Might Treat Diabetes and Other Diseases

MIT News



One promising way to treat diabetes is with transplanted islet cells that produce insulin when blood sugar levels get too high. However, patients who receive such transplants must take drugs to prevent their immune systems from rejecting the transplanted cells. MIT researchers have devised a way to encapsulate therapeutic cells in a flexible protective device that prevents immune rejection while still allowing oxygen and other critical nutrients to reach the cells. [Read More](#)

Targeting Infections

Boston College



Using a single-atom-thick sheet of graphene to track the electronic signals inherent in biological structures, a team led by Boston College researchers has developed a platform to selectively identify deadly strains of bacteria, an advance that could lead to more accurate targeting of infections with appropriate antibiotics. The prototype demonstrates the first selective, rapid, and inexpensive electrical detection of various pathogenic bacterial on a single platform. [Read More](#)

Chemical Mystery Solved: Researchers Discover Molecule's Unusual Cell-Killing Mechanism

Broad Institute



Scientists in Dr. Stuart Schreiber's (pictured) lab believed that understanding how the small molecule ML210 can kill cells by turning on ferroptosis could unlock secrets for how to develop drugs for treating cancers resistant to existing therapies, or prevent resistance in the first place. In collaboration with scientists at Bayer, they have solved this chemical conundrum. [Read More](#)

An Experimental Peptide Could Block COVID-19

MIT News



In hopes of developing a possible treatment for COVID-19, a team of MIT chemists has designed a drug candidate that they believe may block coronaviruses' ability to enter human cells. The potential drug is a short protein fragment, or peptide, that mimics a protein found on the surface of human cells. The researchers have shown that their new peptide can bind to the viral protein that coronaviruses use to enter human cells, potentially disarming it. [Read More](#)

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Northeastern Models Are Helping Shape US COVID-19 Policy

News@Northeastern



Northeastern researchers are part of the network of teams creating models to advise the Trump administration on the COVID-19 outbreak in the United States, according to White House officials. Data from their models has formed the basis of President Donald J. Trump's decision to extend the "social distancing" guidelines he set two weeks ago, through the end of April. The modeling estimates have made it possible to see what these mitigations could do. [Read More](#)

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April 7 8:00 AM	HMX Pro Genetics – Cancer Genomics and Precision Oncology Online
April 7 8:00 AM	HMX Pro Immunology – Immuno-Oncology Online
April 15 1:00 PM	Webinar: The Modern Mentor Online
April 21 1:00 PM	Vascular Specification and Development Online
April 22 12:00 PM	Every Cell Has Its Place: <i>In Situ</i> Sequencing of Tissue Samples at Single-Cell Resolution Online

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Sanofi
- Research Fellow, Berbeco Lab**
Dana-Farber Cancer Institute
- Associate Director, Scientific Communications, Sickle Cell Disease**
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