



Publications of the Week

Gut Microbiome and Metabolome Profiling in Framingham Heart Study Reveals Cholesterol-Metabolizing Bacteria

First Author: Chenhao Li and Martin Stražar | Senior Author: Ramnik Xavier *(pictured)*
Cell | Broad Institute of MIT and Harvard, Massachusetts General Hospital, Harvard Medical School, Wyss Institute, and Brigham and Women's Hospital



Accumulating evidence suggests that cardiovascular disease (CVD) is associated with an altered gut microbiome. To comprehensively profile gut microbiome contributions to CVD, researchers generated stool metagenomics and metabolomics and identified blood lipids and cardiovascular health measurements associated with microbiome and metabolome composition. [Abstract](#) | [Press Release](#)

Neutrophils Bearing Adhesive Polymer Micropatches as a Drug-Free Cancer Immunotherapy

First Author: Ninad Kumbhojkar *(pictured)* | Senior Author: Samir Mitragotri
Nature Biomedical Engineering | Harvard University, MIT, and Brigham and Women's Hospital



Tumor-associated neutrophils can exert antitumor effects but can also assume a pro-tumoral phenotype in the immunosuppressive tumor microenvironment. Here, researchers show that neutrophils can be polarized towards the antitumor phenotype by discoidal polymer micrometric 'patches' that adhere to the neutrophils' surfaces without being internalized. [Abstract](#)

Skin Biopsy Detection of Phosphorylated α -Synuclein in Patients With Synucleinopathies

First Author: Christopher Gibbons *(pictured)* | Senior Author: Roy Freeman
Journal of the American Medical Association | Beth Israel Deaconess Medical Center, Harvard Medical School, and Boston Medical Center



Finding a reliable diagnostic biomarker for the disorders collectively known as synucleinopathies (Parkinson disease [PD], dementia with Lewy bodies [DLB], multiple system atrophy [MSA], and pure autonomic failure [PAF]) is an urgent unmet need. Researchers evaluated the positivity rate of cutaneous α -synuclein deposition in patients with PD, DLB, MSA, and PAF. [Abstract](#) | [Press Release](#)

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Awards

Physics Professor Dr. Mohamed Amine Gharbi Receives NSF CAREER Award

UMass Boston



Dr. Mohamed Amine Gharbi *(pictured)* has been honored with a Faculty Early Career Development (CAREER) award by the National Science Foundation (NSF) to advance the understanding of how interfaces impact the mobility of living microorganisms. This research opens avenues for the development of new functional systems applicable across various fields, such as biosensing, bioremediation, and disease treatment. [Read More](#)

Dr. Brandon DeKosky One of Five MIT Faculty Members Awarded by Cancer Grand Challenges

Ragon Institute



Cancer Grand Challenges announced five winning teams for 2024, including Ragon Institute core member Dr. Brandon DeKosky *(pictured)* and four other researchers from MIT: Drs. Michael Birnbaum, Regina Barzilay, Ömer Yilmaz, and Seychelle Vos. Each team is made up of interdisciplinary cancer researchers from across the globe and will be awarded \$25 million each over five years. [Read More](#)

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Local News

Reevaluating an Approach to Functional Brain Imaging

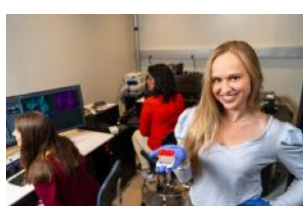
McGovern Institute



A new way of imaging the brain with magnetic resonance imaging (MRI) does not directly detect neural activity as originally reported, according to scientists at MIT's McGovern Institute. But, a study from the lab of McGovern Associate Investigator Dr. Alan Jasanoff *(pictured)* demonstrates that MRI signals produced by the new method are generated in large part by the imaging process itself, not neuronal activity. [Read More](#)

Dr. Ola Gutzeit on Improving Fertility

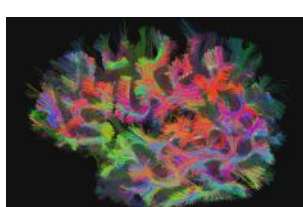
Wyss Institute



As a reproductive health specialist in the clinical setting, Dr. Ola Gutzeit *(pictured)* discovered a lack of effective methods for enhancing fertility care. Driven by a constant desire to seek innovative solutions for unmet clinical needs, she opted to find potential improvements by temporarily shifting away from medicine and delving into research at the Wyss Institute. [Read More](#)

Deep Brain Stimulation Didn't Work for a Young OCD Patient Until New Brain Maps Changed Everything

CNN



Deep brain stimulators have been used for two decades for movement disorders like Parkinson's disease and dystonia. More recently, their uses have been expanded to include neurological conditions such as Tourette's syndrome and Obsessive-Compulsive Disorder. "It's a hub for signals passing between the brain's outer and inner layers. It's like a switchboard," says Dr. Andreas Horn, a neurologist at the Brain Modulation Lab at Massachusetts General Hospital. [Read More](#)

Electron Microscopy Snapshots Reveal the Inner Workings of an Insect Fructose Receptor

Harvard University Department of Molecular and Cellular Biology



Insects affect human lives both positively and negatively, therefore understanding how they interact with their surroundings can help us better manage their effects on our lives. In a *Cell Reports* paper, researchers from the Gaudet Lab, including Heather Franks *(pictured, left)*, Sanket Walujkar *(middle)*, and Rachelle Gaudet *(right)*, presented structures of the fructose receptor from the silk moth *Bombyx mori* both in the presence and absence of fructose. [Read More](#)

Dr. Andrew Place Appointed as Dana-Farber/Boston Children's Cancer and Blood Disorders Center Vice President, Pediatric Chief Medical Officer

Dana-Farber Cancer Institute



Dr. Andrew Place *(pictured)* has been named as Vice President, Pediatric Chief Medical Officer at Dana-Farber Cancer Institute (within the Department of Pediatric Oncology) and Boston Children's Hospital (within the Division of Hematology/Oncology) for the Dana-Farber/Boston Children's Cancer and Blood Disorders Center. [Read More](#)

Unusual Labmates: Nature's Peter Pans

Whitehead Institute



Axolotls (*Ambystoma mexicanum*) are a critically endangered species of salamander. Axolotls have become popular both as pets and as model organisms in research. Axolotls are highly regenerative, able to regrow entire limbs, and this aspect of their biology is of interest to many researchers — including some at the Whitehead Institute. [Read More](#)

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Upcoming Events in Boston

- April 10 12:00 PM **Lunch 'n Learn: Women in Science**
MIT Museum
- April 17 5:00 PM **2024 MIT Research Slam Showcase**
MIT Welcome Center
- April 29 5:30 PM **Martinos Center Women in Science Networking Event**
Martinos CNY Building
- May 14 6:00 PM **Biotech Networks Scientific Speed Networking**
Lord Hobo Boston
- May 22 8:00 AM **Mutational Scanning Symposium 2024**
Broad Institute

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Science Jobs in Boston

- Field Application Scientist, BioPharma**
CYTENA
- Senior Scientist, Bioanalytical**
Stratacuity
- Scientist or Senior Scientist, Pluripotent Stem Cells**
Garuda Therapeutics
- Research Technician, Target and Antibody Discovery**
Dana-Farber Cancer Institute
- Associate Scientist/Scientist, Protein Science**
Schrödinger

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