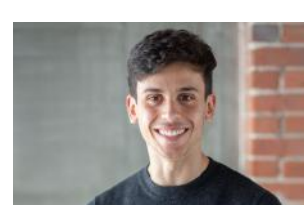


Publications of the Week
Toward Robust Mammography-Based Models for Breast Cancer Risk

First Author: Adam Yala (pictured) | Senior Author: Regina Barzilay
 Science Translational Medicine | MIT, Massachusetts General Hospital and Harvard Medical School



To bring deep learning risk models to clinical practice, we need to further refine their accuracy, validate them across diverse populations, and demonstrate their potential to improve clinical workflows. The authors developed Mirai, a mammography-based deep learning model designed to predict risk at multiple timepoints, leverage potentially missing risk factor information, and produce predictions that are consistent across mammography machines.

[Profile](#) | [Abstract](#) | [Press Release](#)

Discrete SARS-CoV-2 Antibody Titers Track with Functional Humoral Stability

First Author: Yannis Bartsch | Senior Author: Galit Alter (pictured)
 Nature Communications | MIT, Brigham and Women's Hospital and the Ragon Institute of MGH



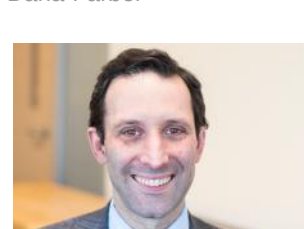
The authors report significant heterogeneity, but limited decay, across antibody titers amongst 120 identified seroconverters, most of whom had asymptomatic infection. Notably, neutralization, Fc-function, and SARS-CoV-2 specific T cell responses were only observed in subjects that elicited RBD-specific antibody titers above a threshold. The findings point to a switch-like relationship between observed antibody titer and function, where a distinct threshold of activity is required to elicit vigorous humoral and cellular response.

[Abstract](#) | [Press Release](#)

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Awards
Dana-Farber Medical Oncology Chair, Dr. Benjamin Ebert, Receives Sjöberg Prize for Cancer Research

Dana-Farber



Dr. Benjamin Ebert (pictured), Chair of Medical Oncology at Dana-Farber Cancer Institute, Professor of Medicine at Harvard Medical School, and Institute Member of the Broad Institute of Harvard and MIT, has been awarded the Sjöberg Prize, an annual international prize in cancer research. The prize was awarded for Dr. Ebert's discovery of the mode of action of lenalidomide in the treatment of hematological disorders. [Read More](#)

2021 Toffler Scholars in Neuroscience Announced

BU School of Medicine (BUSM)



Dr. Vijaya B. Kolachalama (pictured), Assistant Professor of Medicine and Computer Science at BUSM, along with Shangran Qu, Prajakta Joshi, Chonghua Xue and Matthew Miller, is a 2021 Toffler Scholar in Neuroscience grant recipient for the project, 'Alzheimer's Disease Classification Using Deep Learning'. Their work focuses on building AI models to identify brain regions that suggest Alzheimer's disease risk. [Read More](#)

Seward Rutkove, MD, Named Chair of Neurology at BIDMC

Beth Israel Deaconess Medical Center



Dr. Seward Rutkove (pictured) has been named Chair of the Department of Neurology at Beth Israel Deaconess Medical Center (BIDMC). Dr. Rutkove will lead the department's cutting-edge patient care, clinical and translational research, as well as foster innovative approaches to diagnostics and delivery of care. [Read More](#)

Laurie H. Glimcher, MD, Named to Modern Healthcare's Women Leaders Luminaries list

Dana-Farber



Dana-Farber has announced that Dr. Laurie Glimcher (pictured), President and CEO, has been recognized by Modern Healthcare as one of 2021's Women Leaders Luminaries. The list includes executives whose careers have been defined by reshaping the industry, who are also perennial figures in Modern Healthcare's recognition programs. The honorees are high achievers who are developing policy, leading change and guiding healthcare delivery improvement across the country. [Read More](#)

David Luzzi Elected Fellow of the National Academy of Inventors

Northeastern University



Dr. David Luzzi (pictured), an academic leader in innovation for more than two decades, has been elected a fellow of the National Academy of Inventors for his work creating and facilitating inventions and improving universities as research partners. "It's a great honor to be recognized," says Luzzi, who is also the Senior Vice Provost for research and helped lead the development of Northeastern's Innovation Campus. [Read More](#)

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Local News
Exhaled Respiratory Droplets Increase in Number with the Onset of COVID-19 Infection — And with Aging and Obesity

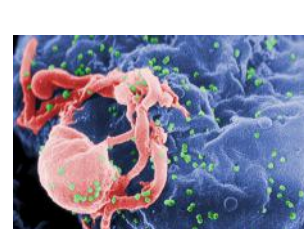
Massachusetts General Hospital



Superspreading events have distinguished the COVID-19 pandemic from the early outbreak of the disease. Now, research from Harvard University, Tulane University, MIT and Massachusetts General Hospital finds that a critical factor in these and other transmission events is the propensity of certain individuals to exhale large numbers of small respiratory droplets. The researchers found that age, obesity and COVID-19 infection all correlate with a propensity to breathe out more respiratory droplets. [Read More](#)

New Hope for Controlling HIV

Proto Magazine



Over the past decades, scientists have largely learned how to control HIV infection, which affects 38 million people around the globe, but how to actually cure a person of HIV has remained an elusive holy grail. In 2020, researchers moved one tantalizing step closer. A team at the Ragon Institute of MGH, MIT and Harvard documented how HIV can effectively be silenced in the body, and why that mechanism might open the door to a universal treatment. [Read More](#)

The Science of Siestas: New Research Reveals the Genetic Basis for Daytime Napping

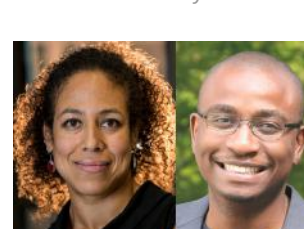
Massachusetts General Hospital (MGH)



How often a person takes daytime naps, if at all, is partly regulated by their genes, according to new research led by investigators at MGH and published in *Nature Communications*. The MGH team collaborated with several other institutions to identify dozens of gene regions that govern the tendency to take naps during the day. They also uncovered preliminary evidence linking napping habits to cardiometabolic health. [Read More](#)

Cassandra Extavour and Fanuel Mundi Among "1000 Inspiring Black Scientists in America"

Harvard University



Harvard University Drs. Cassandra Extavour (pictured, left), Fanuel Mundi (right), and 998 other Black scientists were recently highlighted in a blog post titled "1000 Inspiring Black Scientists in America" on *Cell Mentor*, a career development resource hosted by *Cell Press*. The post was compiled by an organization called The Community of Scholars, which is dedicated to promoting diversity, equity, and inclusion across STEM fields. [Read More](#)

New Immunotherapy Target Discovered for Malignant Brain Tumors

Dana-Farber



Scientists have discovered a potential new target for immunotherapy of malignant brain tumors, which so far have resisted the ground-breaking cancer treatment based on harnessing the body's immune system. The discovery, reported in the journal *Cell*, emerged from laboratory experiments and has no immediate implications for treating patients. The study was co-led by Dana-Farber's Dr. Kai Wucherpfennig (pictured). [Read More](#)

COVID-19 Can Affect the Blood. Its Spike Protein May be the Culprit

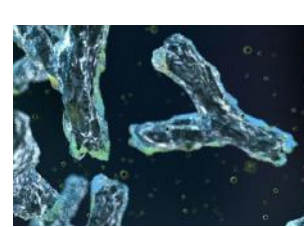
Northeastern University



Early on in the pandemic, Northeastern's Dr. Lee Makowski (pictured) read an article about the condition of people's bodies after dying of COVID-19, and he was shocked by what he learned — there was something very wrong with the patients' blood. He believes the spike protein found on the surface of the virus might mimic proteins that regulate blood vessels and control the formation of blood clots, which could explain many of the non-respiratory complications of COVID-19. [Read More](#)

How COVID-19 Is Shaping Antibiotic Resistance

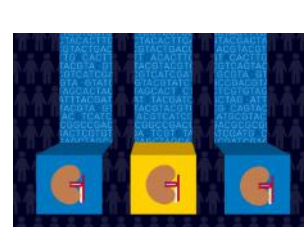
Harvard University



COVID-19 is unarguably devastating from any perspective. Even as we struggle to overcome the present challenges of the pandemic, COVID-19 is paving the way for other infectious agents to cause damage in the future. Although SARS-CoV-2 is a virus that cannot be treated with antibiotics, antibiotic usage has significantly increased throughout the pandemic. With increased usage, the prevalence of antibiotic resistance has also accelerated. [Read More](#)

Immunotherapy – Targeted Drug Combination Improves Survival in Advanced Kidney Cancer

Dana-Farber



Patients with advanced kidney cancer, who received a targeted drug combined with a checkpoint-blocker immunotherapy agent had longer survival than patients treated with the standard targeted drug. The survival benefit demonstrates that an immune checkpoint inhibitor together with a targeted kinase inhibitor drug is important in the first-line treatment of patients with advanced renal cell carcinoma. [Read More](#)

How Do Patients with Cystic Fibrosis Respond to COVID-19? An 'Airway in a Dish' May Give Answers

Boston Children's Hospital



Patients with cystic fibrosis (CF) don't appear to be especially susceptible to COVID-19. When they do get infected, they don't seem to get sicker. Dr. Ruobing Wang, who cares for patients with CF in the Division of Pulmonary Medicine at Boston Children's Hospital, thinks there is more to the story. "We know that when patients with CF got H1N1, some got very sick," she says. "Because the CF community has been so effective at social distancing, there is a lack of information on how they respond to SARS-CoV-2." [Read More](#)

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Upcoming Events in Boston

- February 23 9:30 AM Online **MIPS Seminar: Extracellular Vesicle: Novel Vaccination Platform against Viral Infectious Disease**
- February 24 8:00 AM Online **9th Annual Translational Science Symposium – In Memory of Dr. David Seldin**
- February 24 12:00 PM Online **Microbial Pathogenesis and Immunology Seminar Series**
- February 24 12:00 PM Online **Biomanufacturing @ MIT-CBI: Research Seminar Series 2021**
- February 26 1:00 PM Online **Creating a Successful Academic Spin-Out**

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Science Jobs in Boston

- Computational Scientist, Center for Protein Degradation**
Dana-Farber Cancer Institute
- Postdoctoral Associate, Fungal Genomics**
Broad Institute
- Lead Staff Scientist, Biomaterials & Process Development**
Harvard Medical School
- Research Scientist, Hematology**
Novartis
- Supervisor, Quality Control**
Moderna

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