

Publications of the Week

Human Oral Lectin ZG16B Acts as a Cell Wall Polysaccharide Probe to Decode Host–Microbe Interactions with Oral Commensals

First Author: Soumi Ghosh | Senior Authors: Laura Kiessling and Barbara Imperiali *(pictured)*
PNAS | MIT



The authors developed a microbial glycan analysis probe from a predominant oral cavity lectin zymogen granule protein 16B (ZG16B) and applied the probe to interrogate the interactions of ZG16B. ZG16B binds to commensal bacteria including *Streptococcus vestibularis* through cell surface glycoconjugates and regulates its growth. [Abstract](#) | [Press Release](#)

Cancer-Associated Mesothelial Cells are Regulated by the Anti-Müllerian Hormone Axis

First Author: Maeva Chauvin | Senior Author: David Pepin *(pictured)*
Cell Reports | Massachusetts General Hospital and Harvard Medical School



The authors found in mouse and human ovarian tumors, cancer cells express anti-Müllerian hormone (AMH) while cancer-associated mesothelial cells (CAMCs) express its receptor AMHR2, suggesting a paracrine axis. Factors secreted by cancer cells induce AMHR2 expression during their reprogramming into CAMCs in mouse and human *in vitro* models. [Abstract](#) | [Press Release](#)

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Awards

So Young Bae Receives 2023 Denton Award

Boston University Biology



So Young Bae *(pictured)* of the Tolan Lab was selected as the winner of the 2023 Denton Award for her master's research thesis in Molecular Biology, Cell Biology, and Biochemistry titled "Mode of Substrate Binding and Specificity for Ketoheokinase across Isozymes Implies an Induced-Fit Mechanism." This award is given for excellence in scholarship and research accomplishment during a master's thesis. [Read More](#)

2023 Dr. Marion R. Kramer Scholarship Winners

Boston University Biology



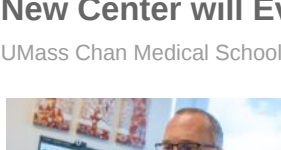
The three recipients of this year's Dr. Marion R. Kramer Scholarships are Hannah Axten, Alanna Carey, and Yuan Tian *(pictured)*. Hannah studies a member of the forkhead box family of transcription factors, FOXR1, and its role in neurodevelopment. Alanna's research project aims to gain an understanding of the neurobiology of individual differences. Yuan's research focuses on Autism Spectrum Disorder associated with the overexpression of Ube3A. [Read More](#)

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Local News

New Center will Evaluate, Accelerate Technology to Reduce Suicide

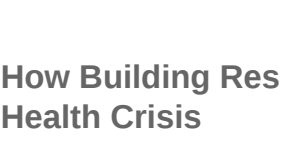
UMass Chan Medical School



The nearly \$17 million National Institute of Mental Health (NIMH)-funded Center for Accelerating Practices to End Suicide through Technology Translation includes a network of organizations working with UMass Chan. "The NIMH grant is really focused primarily on figuring out how to accelerate best practices into clinical care across a range of health care settings....," said psychologist Dr. Edwin Boudreaux *(pictured)*. [Read More](#)

How Building Resiliency in Young Adults Could Help Address a Mental Health Crisis

Bench Press



According to the National Institute of Mental Health, nearly one in ten youth in the US, aged six to 17 years, have experienced a major depressive episode in the past year. Suicide is the second leading cause of death among individuals aged 10-34. Dr. Daphne Holt *(pictured)* and her team are working on ways to identify the early signs of psychiatric disorders in youth and provide them with tools to manage their mental health. [Read More](#)

How Tau Tangles Form in the Brain

MIT Chemistry



Many neurodegenerative diseases, including Alzheimer's, are characterized by tangled proteins called Tau fibrils. In a new study, MIT chemists with Dr. Mei Hong *(pictured)* have gained insight into how these fibrils form, and identified a potential target for drugs that could interfere with this formation. They discovered that one segment of the Tau protein is more flexible than expected, and this flexibility helps the fibrils take on a variety of different shapes. [Read More](#)

Brigham Researchers Engineer Nanostructures to Enhance the Immune System's Ability to Combat Cancer

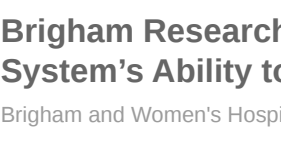
Brigham and Women's Hospital



Although potentially revolutionary, there remain critical hurdles to overcome before stimulator of interferon genes (STING) agonism can be employed as treatment option for patients. Dr. Natalie Artzi *(pictured)* and investigators have now designed stimuli-responsive nanoparticle structures, allowing STING agonist drugs to be released when reaching the target cells. [Read More](#)

Seeking a Path Forward for Custom Genetic Treatments

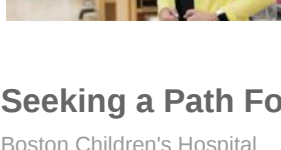
Boston Children's Hospital



Languishing from Batten disease, a rare, fatal neurodegenerative disorder, 7-year-old Mila Makovec received an antisense oligonucleotide drug designed to silence her genetic mutation, injected into the fluid around her spine through a lumbar puncture in 2018. A team led by Dr. Timothy Yu *(pictured)* created the drug within the space of a year — a first in medicine. It was dubbed milasen. [Read More](#)

From Bench to Bedside: A Promising Option for Unremitting Ulcerative Colitis

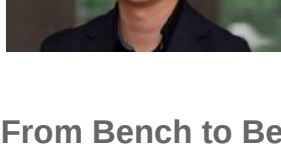
Boston Children's Hospital



In high doses, interleukin-2 is pro-inflammatory and is used to fight cancer. But in low doses, it stimulates the T regulatory cells that suppress inflammation and are thought to be in short supply in ulcerative colitis. "The current therapeutic arsenal for ulcerative colitis is grossly inadequate; more than half of patients do not go into long-term sustained remission," says Dr. Scott Snapper *(pictured)*. [Read More](#)

'Doctors Need to Get on Top of This': GPT-4 Displays Bias in Medical Tasks

Stat



Healthcare leaders already rushing to deploy GPT-4 should slow down and proceed with caution. When the tool was asked to drum up likely diagnoses, or come up with a patient case study, it in some cases produced problematic, biased results. "GPT-4, being trained off of our own textual communication, shows the same — or maybe even more exaggerated — racial and sex biases as humans," said Dr. Adam Rodman. [Read More](#)

Aspartame: What You Need to Know

Dana-Farber Cancer Institute



Alongside gasoline engine exhaust and radiofrequency waves from cell phones, aspartame, the sweetener found in diet sodas and many sugar-free foods, is now categorized as "possibly carcinogenic". Dr. Timothy R. Rebbeck *(pictured)* was asked to put the categorization into perspective when it comes to everyday choices like, should you have that diet soda...or not? [Read More](#)

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📅 Upcoming Events in Boston

July 26 - 28 1:00 PM	3rd mRNA-Based Therapeutics Summit The Westin Boston Seaport District
July 27 - 30 12:00 PM	18th SCCT Annual Scientific Meeting Hynes Convention Center
August 2 - 4 8:00 AM	BioC2023: the Bioconductor Annual Conference Dana-Farber Cancer Institute & Online
Aug 3 9:00 AM	The Annual Chemistry and Pharmacology of Drug Abuse Conference Sheraton Boston Hotel
Aug 7 7:30 AM	Immuno-Oncology Summit 2023 Seaport Hotel

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📁 Science Jobs in Boston

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Environmental, Health and Safety Specialist Broad Institute
Principal/Senior Principal Biostatistician Novartis
Associate Director of HMS MEDscience Harvard Medical School
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