



Publications of the Week

### Genetic Architecture and Biology of Youth-Onset Type 2 Diabetes

First Author: Soo Heon Kwak (*pictured*) | Senior Author: Jason Flannick  
Nature Metabolism | Broad Institute, Massachusetts General Hospital, Harvard Medical School, and Boston Children's Hospital



The prevalence of youth-onset type 2 diabetes (T2D) and childhood obesity has been rising steadily, producing a growing public health concern that disproportionately affects minority groups. The genetic basis of youth-onset T2D and its relationship to other forms of diabetes are unclear. Here, researchers report a detailed genetic characterization of youth-onset T2D by analysing exome sequences and common variant associations. [Abstract](#) | [Press Release](#)

### Integrative Analyses of Tumor and Peripheral Biomarkers in the Treatment of Advanced Renal Cell Carcinoma

First Author: Amber Donahue | Senior Author: Toni Choueiri (*pictured*)  
Cancer Discovery | Dana-Farber Cancer Institute



Researchers provide novel insights into the different immunomodulatory mechanisms governing responses in patients treated with avelumab and axitinib or sunitinib. This research highlights the contribution of tumor biology to the complexity of the roles and interactions of infiltrating immune cells in response to these treatment regimens. [Abstract](#)

### Distinct Negative Elongation Factor Conformations Regulate RNA Polymerase II Promoter-Proximal Pausing

First Author: Bonnie Su | Senior Author: Seychelle Vos (*pictured*)  
Molecular Cell | Howard Hughes Medical Institute and MIT



Metazoan gene expression regulation involves pausing of RNA polymerase (Pol II) in the promoter-proximal region of genes and is stabilized by DRB-sensitivity inducing factor (DSIF) and negative elongation factor (NELF). Here, researchers report cryoelectron microscopy structures of Pol II-DSIF-NELF complexes with NELF in two distinct conformations corresponding to paused and poised states. [Abstract](#) | [Press Release](#)

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Awards

### Physics Professor Receives \$608K in NCI Funding to Develop Medical Device for Screening and Treating Oral Cancers

UMass Boston



In his efforts to advance the development of a low-cost, compact medical device for screening and treating oral cancers, Professor of Physics Dr. Jonathan Celli (*pictured, right*) has been awarded \$608,000 from the National Cancer Institute of the National Institutes of Health. This project aims to create an affordable, user-friendly handheld device for photodynamic therapy. [Read More](#)

### 2024 Dahod Awards Announced

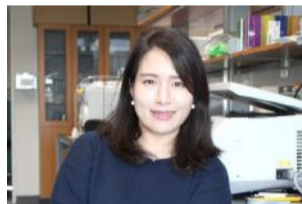
Boston University Chobanian & Avedisian School of Medicine



In August 2008, Shamim Dahod and her husband Ashraf gave \$10.5M to the school to establish the Shamim and Ashraf Dahod Breast Cancer Research Center, as well as these programs and endowments. This year's Dahod Assistant Professorship has been awarded to Dr. Samuel Beck (*pictured*). The Dahod International Scholar and Dahod Pilot Grant Awardees have also been announced. [Read More](#)

### Interdisciplinary and Inter-Institutional Partnership Studying Neurodegenerative Diseases Wins Support from Chan Zuckerberg Initiative

Harvard University Department of Molecular and Cellular Biology (MCB)



Work from the lab of Dr. Jeeyun Chung (*pictured*), MCB Assistant Professor, on lipid droplets' roles in neurodegenerative diseases will be supported by a Chan Zuckerberg Initiative Collaborative Paris Pilot Project Award. The project, titled "Spatial and functional identities of lipid droplets in brains," will receive \$200,000 for a pilot phase lasting 18 months with the goal of developing a Phase II project plan. [Read More](#)

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Local News

### Dr. Fen-Biao Gao Details How Frontotemporal Dementia Changes the Brain and Explores Its Genetic Causes

UMass Chan Medical School



Around 55 million people worldwide suffer from dementia such as Alzheimer's disease. Dr. Fen-Biao Gao (*pictured*) is a researcher who studies the development of frontotemporal dementia (FTD) and related disorders. He discusses how uncovering the similarities in pathology and genetics between FTD and amyotrophic lateral sclerosis could lead to new ways to treat both diseases. [Read More](#)

### Craig McFarland (Neuroscience '25) Honored As Early Career Policy Ambassador by Society for Neuroscience

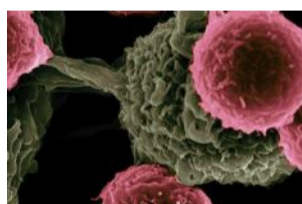
Harvard University Department of Molecular and Cellular Biology (MCB)



Harvard undergraduate Craig McFarland ('25), was recently elected to the Society for Neuroscience's 2024 Early Career Policy Ambassador program (ECPA), one of just ten individuals selected nationwide. The ECPA is a ten-month program for early career scientists to interact with neuroscience advocates and policymakers and create an extensive personal network of neuroscience advocates. [Read More](#)

### Reexposing a Cancer Protein to Enhance Immunotherapy

Harvard Medical School



Successful immunotherapy for cancer involves activating a person's own T cells to identify telltale proteins called antigens on the surface of a tumor and attack it. But some tumors have a trick: They hide themselves from the immune system by preventing their antigens from being displayed. A team led by Harvard Medical School researchers has now found a way around this defense in mice. [Read More](#)

### Understanding the Connection Between the Gut Microbiome and Alzheimer's

UMass Chan Medical School



In a new Voices of UMass Chan podcast, physician-scientist Dr. John Haran (*pictured*) and MD/PhD student Ethan Loew explain research on the connection between the gut microbiome and cognitive health, particularly how it impacts older people. "By understanding the role of the microbiome, we can understand how bacteria in the gut might be communicating to the body in a way that leads to ailments of aging," said Loew. [Read More](#)

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### Upcoming Events in Boston

- March 5 - 7  
8:00 AM **GCPRs Targeted Drug Discovery Summit**  
Hilton Boston Back Bay
- March 5  
10:00 AM **AI for Protein Structure Prediction**  
Gordon Hall
- March 13  
1:00 PM **Lunch 'n' Learn: Your Path to Power & Influence**  
Online
- March 14  
4:00 PM **Soma Weiss Student Research Day**  
Office of Scholarly Engagement
- March 19 - 21  
8:00 AM **6<sup>th</sup> CKD Drug Development Summit 2024**  
Hilton Boston Back Bay


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### Science Jobs in Boston

- Director/Senior Director, Pharmacovigilance and Drug Safety**  
Xenon Pharmaceuticals
- Molecular Sciences Group Lead**  
Dana-Farber Cancer Institute
- Scientist II, Drug Product Development**  
Takeda
- In Vitro Scientist, Obesity Research**  
Lilly
- Scientist, Amplicon-Seq Lead**  
Intellia Therapeutics

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