



Publications of the Week

### Genetic Drivers of Heterogeneity in Type 2 Diabetes Pathophysiology

First Authors: Ken Suzuki, Konstantinos Hatzikotoulas, Lorraine Southam, Henry Taylor, Xianyong Yin, Kim Lorenz, and Ravi Mandla | Senior Authors: Mark McCarthy, James Meigs, Anubha Mahajan, Cassandra Spracklen, Josep Mercader (pictured), Michael Boehnke, Jerome Rotter, Marijana Vujkovic, Benjamin Voight, Andrew Morris, and Eleftheria Zeggini Nature | Massachusetts General Hospital, Broad Institute, Brigham and Women's Hospital, Harvard Medical School, and Beth Israel Deaconess Medical Center



Type 2 diabetes (T2D) is a heterogeneous disease that develops through diverse pathophysiological processes and molecular mechanisms that are often specific to cell type. These findings show the value of integrating multi-ancestry genome-wide association study data with single-cell epigenomics to disentangle the aetiological heterogeneity that drives the development and progression of T2D. [Abstract](#) | [Press Release](#)

### SOX17 Enables Immune Evasion of Early Colorectal Adenomas and Cancers

First Author: Norihiro Goto | Senior Authors: Judith Agudo (pictured) and Ömer Yilmaz Nature | Koch Institute, Massachusetts General Hospital, Beth Israel Deaconess Hospital, and Harvard Medical School



A hallmark of cancer is the avoidance of immune destruction. Little is known about how pre-malignant or early invasive tumors evade immune detection. Here, to understand this process in early colorectal cancers, researchers investigated how naive colon cancer organoids that were engineered *in vitro* to harbor *Apc*-null, *Kras*<sup>G12D</sup>, and *Trp53*-null mutations adapted to the *in vivo* native colonic environment. [Abstract](#)

### Proteogenomic Characterization of Primary Colorectal Cancer and Metastatic Progression Identifies Proteome-Based Subtypes and Signatures

First Author: Atsushi Tanaka | Senior Authors: Michael Roehrl (pictured) Cell Reports | Beth Israel Deaconess Medical Center, Genuity Science, and Harvard Medical School



Metastatic progression of colorectal adenocarcinoma (CRC) remains poorly understood and poses significant challenges for treatment. To overcome these challenges, researchers performed multiomics analyses of primary CRC and liver metastases. This study characterizes both primary and metastatic CRCs and provides a large proteogenomics dataset of metastatic progression. [Abstract](#)

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Awards

### Drs. David Felson and Tuhina Neogi Awarded NIH Grant to Further the Understanding of Osteoarthritis

Boston University Chobanian & Avedisian School of Medicine



Drs. David Felson and Tuhina Neogi (pictured), Professors of Medicine, have been awarded a U19 grant from the National Institutes of Health's (NIH) National Institute on Aging. The five-year, \$46 million award will support their study "Novel Insights into Osteoarthritis, Pain, and Function: The Multicenter Osteoarthritis Study." [Read More](#)

### Dr. Joseph Mizgerd Awarded \$2.9 Million to Better Understand Pneumonia

Boston University Chobanian & Avedisian School of Medicine



Dr. Joseph Mizgerd (pictured) has been awarded a four-year, \$2.9 million RO1 grant from the National Institutes of Health's National Heart, Lung, and Blood Institute for his research "Fibrin in the Infected Lung." Dr. Mizgerd's research focuses on lung immunology and respiratory infection with broad goals of elucidating pathways that determine pneumonia susceptibility and outcome. [Read More](#)

### 2024 Toffler Scholar

Boston University Chobanian & Avedisian School of Medicine



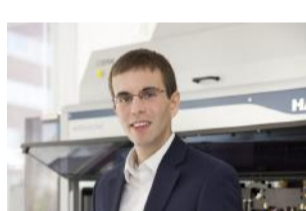
Dr. Ignaty Leshchiner (pictured), Assistant Professor of Medicine, is the 2024 Toffler Assistant Professor. The Toffler Scholar Program was established by the Karen Toffler Charitable Trust to support promising young medical researchers, physicians, and scientists working on early-stage, future-focused brain science with funding and a vital, relevant network through an internal competition at the school. [Read More](#)

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Local News

### Developing Liquid Biopsies to Detect Cancer

MIT Alumni



Cancer patients who undergo surgery are often left with a frightening question: Did the surgeons get all the cancerous cells? No one wants a recurrence of disease, but additional treatments such as radiation or chemotherapy have significant side effects. That's why Dr. Viktor Adalsteinsson (pictured) has been developing tools called "liquid biopsies" that can detect the presence of cancer from a simple blood test. [Read More](#)

### Ragon Faculty Study Finds Combination of Two Drugs Increases the Vulnerability of HIV-1 Reservoir Cells to the Immune System

Ragon Institute



Ragon faculty Drs. Mathias Lichterfeld (pictured) and Xu Yu have co-authored a paper published in *Cell* which found evidence that a combination of two drugs increases the vulnerability of HIV-1 reservoir cells to the immune system — which shows promising results in targeting and reducing the HIV-1 reservoir in people living with HIV. [Read More](#)

### A Noninvasive Treatment for "Chemo Brain"

The Picower Institute



Stimulating gamma brain waves may protect cancer patients from memory impairment and other cognitive effects of chemotherapy. "The treatment can reduce DNA damage, reduce inflammation, and increase the number of oligodendrocytes, which are the cells that produce myelin surrounding the axons," says Dr. Li-Huei Tsai (pictured) who leads the study. [Read More](#)

### Paving the Way for a New Class of Antibiotics

Harvard Medical School



Harvard University Chemist Dr. Daniel Kahne (pictured, left) has spent much of his career studying the fundamentals of how bacteria thrive and evade attack. His lab has a special interest in gram-negative bacteria, which have an outer membrane that many antibiotics cannot cross. Dr. Kahne and colleagues, including Dr. Andrew Kruse (right), are working to usher in a new class of antibiotics to combat the *Acinetobacter baumannii* superbug. [Read More](#)

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### Upcoming Events in Boston

- March 13  
1:00 PM

**Lunch 'n' Learn: Your Path to Power & Influence**  
Francois-Xavier Bagnoud Building
- 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
- March 19  
9:00 AM

**Variant to Function Symposium**  
Broad Institute
- March 20  
12:00 PM

**Closing Out Your Research: Managing Data Transfer Between Collaborators**  
Online


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### Science Jobs in Boston

- Principal Scientist, Translational Science Program Lead Immunology**  
Johnson and Johnson
- Senior Research Associate**  
Broad Institute
- Scientist, Biology/Bioengineering**  
ODDITY LABS
- Fall 2024 Co-op, Protein Sciences**  
Prime Medicine
- Scientist II, Antibody Discovery/Assay Development**  
Dana-Farber Cancer Institute

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