



Publications of the Week

### Viral DNA Polymerase Structures Reveal Mechanisms of Antiviral Drug Resistance

First Author: Sundarshankar, Junhua Pan, Pan Yang, and Yuemin Bian | Senior Author: Jonathan Abraham (*pictured*)  
Cell | Harvard Medical School, Broad Institute, and Brigham and Women's Hospital



DNA polymerases are important drug targets, and many structural studies have captured them in distinct conformations. However, a detailed understanding of the impact of polymerase conformational dynamics on drug resistance is lacking. Researchers determined cryoelectron microscopy structures of DNA-bound herpes simplex virus polymerase holoenzyme in multiple conformations, including interacting with antivirals in clinical use. [Abstract](#) | [Press Release](#)

### RAD21 Promotes Oncogenesis and Lethal Progression of Prostate Cancer

First Author: Konrad Stopsack | Senior Author: Xiaofeng Su (*pictured*)  
Proceedings of the National Academy of Sciences | MIT, Harvard Medical School, Brigham and Women's Hospital, and Dana-Farber Cancer Institute



Chromosome arm 8q is the most frequently gained chromosome arm in aneuploid prostate cancer and is associated with worse prognosis. Using population science and laboratory approaches, researchers identified increased *RAD21* expression in prostate cancer as a key adverse prognostic factor related to 8q gains that enables tumors to sustain proliferation despite oncogenic stress and DNA damage from oncogenic mutations. [Abstract](#)

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Awards

### Four Graduate Students Win 2024 Student Group Presidents' Awards

MIT Chemistry



Four graduate students in the Department of Chemistry have been named the winners of the 2024 Student Group Presidents' Awards. This list includes Bella Borgula (*pictured*), Christa Imrich, So Young Lee, and Molly Warndorf. The award recipients are students who have demonstrated long-lasting commitment to and leadership within the Department of Chemistry's student groups. [Read More](#)

### Dr. Samara Vilca Receives NIH D-SPAN Award to Further Independent Neuroscience Research

UMass Chan Medical School



Postdoctoral fellow Dr. Samara Vilca (*pictured*) has been awarded the second phase of the National Institutes of Health (NIH) Blueprint and BRAIN Initiative Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) Award. Dr. Vilca is studying molecular rhythms in microglia in substance use disorders in the lab of Dr. Ryan Logan, Professor of Psychiatry and Neurobiology. [Read More](#)

### Olúmidé Fagboyegun Awarded Gilliam Fellowship

Boston Children's Hospital



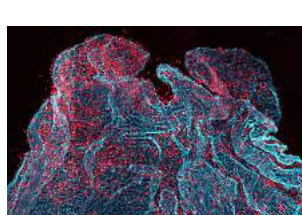
In his short, prolific neuroscience career, Olúmidé Fagboyegun (*pictured*) has always sought community. He and his supervisor, Dr. Beth Stevens, were recently awarded a Gilliam Fellowship through the Howard Hughes Medical Institute as a mentee-mentor pair. Fagboyegun will receive \$53,000 in annual support for his dissertation research, with Dr. Stevens as his advisor. [Read More](#)

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Local News

### Humble Cells in a Little-Known Organ Manage Brain Inflammation

Boston Children's Hospital



Deep in the brain, sheets of tissue known as the choroid plexus produce cerebrospinal fluid (CSF) and act as a protective barrier between the brain and CSF. But the lab of Dr. Maria Lehtinen at Boston Children's Hospital has shown that the little-known choroid plexus does much more. For example, it secretes factors that promote the health of the brain and CSF and influence the brain as it develops. [Read More](#)

### Young GENEiuses: SummerLab Gives Teens a Chance to Learn About State-of-the-Art CRISPR Technology

BU Today



Teenagers experimenting with gene editing technology over their summer break sounds like it could be the plot of a B-level science fiction movie. But at Boston University, it was real life. Welcome to SummerLab, where high school students spent two weeks on the Charles River Campus learning about gene editing using the Nobel Prize-winning CRISPR technology. [Read More](#)

### Pursuing the Secrets of a Stealthy Parasite

MIT News



*Toxoplasma gondii*, the parasite that causes toxoplasmosis, is believed to infect as much as one-third of the world's population. Why this single-celled parasite is so widespread, and what triggers it to reemerge, are questions that intrigue Dr. Sebastian Lourido (*pictured*), an Associate Professor of Biology at MIT and Member of the Whitehead Institute for Biomedical Research. [Read More](#)

### Getting Their Hands Dirty in the Lab — and in the Charles River

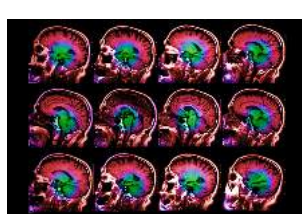
The Brink



The Charles River serves as the backdrop of Boston University's mile-long campus, yet many BU students only experience it from afar—and after learning how many antibiotic-resistant bacteria live there, you might not blame them. The Brink gets a behind-the-scenes look at how antibiotic-resistant bacteria go from the Charles River to the lab, giving researchers critical data surrounding this public health threat. [Read More](#)

### Scientists Find Neurons That Process Language on Different Timescales

McGovern Institute



Using a precise technique that involves recording electrical activity directly from the brain, MIT neuroscientists have identified different clusters of neurons that appear to process different amounts of linguistic context. These "temporal windows" range from just one word up to about six words. The temporal windows may reflect different functions for each population, researchers say. [Read More](#)

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### Upcoming Events in Boston

- September 18 8:30 AM **The 2025 Aging Brain Initiative Symposium: The Neuro-Immune Axis and the Aging Brain**  
Singleton Auditorium
- September 23 8:00 AM **2024 Rosamund Stone Zander Translational Neuroscience Center Symposium**  
Joseph B. Martin Conference Center
- September 23 - 25 9:00 AM **The Biotech Event Accelerating Fresh Ideas, Partnerships, and Opportunities**  
Hynes Convention and Exhibition Center
- September 24 - 25 9:00 AM **Kuggie Vallee Distinguished Lectures and Workshops**  
Singleton Auditorium
- October 7 - 9 7:00 AM **Digital Health & AI Innovation Summit**  
Boston Marriott Cambridge

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### Science Jobs in Boston

- Assistant/Associate Editor, Molecular Cancer Research**  
American Association for Cancer Research
- Research Fellow**  
Point32Health
- Science Writer/Editor**  
Dana-Farber Cancer Institute
- Director Clinical Scientist Immunology Cell Therapy**  
AstraZeneca
- Postdoctoral Fellow, Nagashima Lab**  
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